Identities as Lenses: How Organizational Identity Affects Audiences' Evaluation of Organizational Performance

Edward Bishop Smith
University of Michigan

This study calls into question the completeness of the argument that economic actors who fail to conform to certain identity-based logics—such as the categorical structure of markets—garner less attention and perform poorly, beginning with the observation that some nonconforming actors seem to elicit considerable attention and thrive. By reconceptualizing organizational identity as not just a signal of organizational legitimacy but also a lens used by evaluating audiences to make sense of emerging information, I explore the micro, decision-making foundations on which both conformist and nonconformist organizations may come to be favored. Analyzing the association between organizational conformity and return on investment and capital flows in the global hedge fund industry, 1994–2008, I find that investors allocate capital more readily to nonconforming hedge funds following periods of short-term positive performance. Contrary to prediction, nonconforming funds are also less severely penalized for recent poor performance. Both "amplification" and "buffering" effects persist for funds with nonconformist identities despite steady-state normative pressure toward conformity. I explore the asymmetry of this outcome, and what it means for theories related to organizational identity and legitimacy, in the discussion section.●

The economic cost of organizational nonconformity is apparent from the disregard, misunderstanding, and devaluation of those market participants that fail to align with prevailing market logics (Meyer and Rowan, 1977; Hannan and Carroll, 1992; Zuckerman, 1999). One logic that has been the focus of much recent empirical work centers on the notion of organizational identity (Albert and Whetten, 1985; Hsu and Hannan, 2005). Organizations that do not present clear identities to evaluating audiences face the possibility of being miscategorized, misunderstood, and, ultimately, ignored. The empirical association between identity and audiences' evaluations has gained much attention because it underlies one of the primary insights of organizational and economic sociology: organizational isomorphism in markets is in part the result of the normative and cognitive constraints generated and applied by market audiences about what constitutes an acceptable or legitimate organizational identity (DiMaggio and Powell, 1983; Thomas, Walker, and Zelditch, 1986).

Nevertheless, atypical organizations not only persist in many markets, they sometimes elicit significant attention and thrive (Chen and MacMillan, 1992; Miller and Chen, 1996). The emergence of microbreweries as a counter to large-scale commercial brewing (Carroll and Swaminathan, 2000) and the divergence from tradition of French nouvelle cuisine (Rao, Monin, and Durand, 2003) offer just two prominent examples from the recent literature of organizational nonconformity. Examples from industry include the historical case of Apple Computer and its revolutionary graphical user interface and, more recently, the unquestionably atypical shoe company, Vibram, whose "fivefingers" shoes look more like gloves than traditional shoes. Such instances of organizational atypicality present a problem for sociological theories of the marketplace

0001-8392/11/5601-0061/$3.00.

●

I have benefited from the advice of Wayne Baker, Matt Bothner, Ron Burt, Jerry Davis, Joseph Gerakos, Mike Hannan, Michael Jensen, Steve Kahl, Ed Laumann, Greg Liegel, John Levi Martin, Damon Phillips, Maxim Sytch, and Jim Westphal. I gratefully acknowledge financial support from the Ewing Marion Kauffman Foundation. I especially thank Huggy Rao, Linda Johanson, and three anonymous reviewers for their feedback and guidance during the revision process. Correspondence may be directed to Ned Smith, Stephen M. Ross School of Business, University of Michigan, 701 Tappan St., #4446, Ann Arbor, MI 48019; nedsmith@umich.edu.

that existing research has only partially solved. Existing attempts to accommodate the occurrence of organizational nonconformity look to variations in the level of constraint posed by audiences' expectations and market, or categorical boundaries (e.g., Pontikes, 2008; Kovacs and Hannan, 2010; Negro, Hannan, and Rao, 2010). For instance, Ruef and Patterson (2009) argued that membership in multiple market categories—a variant of organizational nonconformity—and the resulting ambiguity in one's identity, is less damaging for organizations when the categories themselves are emerging or in flux. Lounsbury and Rao (2004) established that tolerance for heterogeneity among new market entrants in the mutual fund industry was afforded only after market categories began to break down. Explanations like these, however, are confined to either the most nascent organizational environments or to environments that are already changing. In more stable settings in which "all audiences hold the same expectations," theory predicts that "violations of standards are met with particularly sharp devaluations" (Hsu and Hannan, 2005: 476).

And yet even stable markets are populated by organizations that vary in the extent to which they might be considered conformist or nonconformist. Apple is still regarded as something of an atypical computer company, at the very least when compared with the likes of the Wintel standard. Glove-like shoes do not appear to be turning the shoe industry upside down—traditional shoes are still the norm—and yet Vibram does not seem to be experiencing the sort of devaluation that existing theories would predict. To understand the success of nonconformity, then, we must consider more than just how audiences use identity to sort organizations, deeming some legitimate and others illegitimate. The longevity of some nonconformists may result from differences in the way audiences evaluate emerging information when it is associated with atypical organizations.

According to the traditional, sociological view, organizational identity is primarily a filtering, screening, or sorting device. Once "sorted," conformist organizations are rewarded and nonconformists ones are ignored. But identity may also be conceptualized as a lens through which various kinds of information pass and take on meaning. Just as two lenses that vary in shape can receive identical beams of light and yet refract that light in markedly dissimilar ways, equivalent information may be differentially interpreted and reacted to when applied to organizations with dissimilar identities. This observation—that the identity of something affects the way new information about that something is interpreted—is not new to this paper. Homans (1961) long ago observed that the reward an individual receives for performing a given role is a function not only of the quality of the role performance but also of the performer's social identity. Since then, variations on the theme can be readily found in disciplines as varied as sociology (Burt, 1998; Zuckerman, 2004), management and organizational theory (e.g., Dutton and Dukerich, 1991; Ashforth and Humphrey, 1997), behavioral economics (e.g., Kahneman, Knetsch, and Thaler, 1990), and finance (e.g., Chevalier and Ellison, 1997; Berk and Green, 2004).

Given its ubiquity, then, it is surprising that this basic insight has not been more fully incorporated into research linking organizational and categorical identity with audiences' evaluations. There seems to be two reasons for this omission. First, existing research focuses primarily on identifying a main effect of organizational identity. The result of this work is a strong and unified statement that economic actors failing to conform to some kind of prevailing order face certain penalties (e.g., Chen and Hambrick, 1995; Zuckerman, 1999). Second, researchers in this area typically study organizational identity in implied states of equilibrium. This is not to say that organizational identities are fixed in time (cf. Elsbach and Kramer, 1996; Corley and Gioia, 2004). Rather, the relationship between organizational identity and audiences' evaluations is typically analyzed in such a way that the regular, informational feedback (e.g., performance) of functional markets is ignored. As a result, whereas prior studies have focused largely on the effects of organizational identity at the mean of other information-related covariates—that is, holding them constant—viewing identity as a lens leads to a treatment of identity that is about the active sensemaking and interpretation of such information.

In undertaking such a treatment of identity here, my aims are twofold. I use a comparative static analysis to explore the relationship between organizational identity and performance and audience evaluation and, in doing so, the micro foundation of the proliferation of organizational nonconformity. In this respect, Zuckerman's (1999) study of securities analysts offers a useful base on which to build. He showed that organizations operating in multiple market segments were more difficult to interpret, garnered less attention from the right kinds of analysts, and were devalued in turn. His results are indicative of an "imperative" to present a clear, unambiguous categorical identity. Failure to do so results in illegitimacy and makes it difficult to gather the resources necessary for survival (see also Thomas, Walker, and Zelditch, 1986; Stryker, 1994). In what is perhaps a relatively overlooked section of the same paper, however, Zuckerman (1999: 1402–1403) also conjectured that "while conforming to audience expectations is generally wise, the greatest returns likely flow to those who innovate by creating new categories and corresponding interfaces."

Conditions may even exist under which the gains to organizational nonconformity will outstrip those of conformity (cf. Phillips and Zuckerman, 2001). This statement may seem obvious to scholars in strategic management for whom organizational nonconformity presents far less of a problem (e.g., Porter, 1985; Lieberman and Montgomery, 1988), but my aim is different. Rather than demonstrate the competitive advantage of differentiation, I explore possible behavioral mechanisms by which otherwise punishable nonconformity may be tolerated and even rewarded by organizational evaluators. To identify and explore such conditions, this paper makes use of an unusual analogy—the similarity of the movement of fishing boats to financial markets—and suggests ways that organizational identity may moderate the relationship between organizational performance and audience

evaluation. I develop hypotheses about the amplification effect of organizational nonconformity on the already positive (or negative) relationship between positive (or negative) organizational performance and audiences' evaluation. I test the hypotheses in a study of the global hedge fund industry in the period of 1994–2008.

REWARDS TO PERFORMANCE FOR CONFORMISTS AND NONCONFORMISTS

In the early days of sonar technology, finding fish in the ocean wasn't easy. In addition to using rudimentary sonar equipment, fishing boat captains—whose primary responsibility was to steer the boat toward the fish—based their decisions on information gathered from ecological cues (e.g., hovering seagulls, circling whales), technological cues (e.g., radio reports from research vessels), and, importantly, social cues (e.g., following the movements of other fishing boats). Highlighting the peculiarity of the social factor in particular, anthropologist Frederik Barth (1966: 10) observed about the movement of fishing boats off the coast of his native Norway, "The pattern of movement of vessels on the fishing banks is so extreme that it cannot fail to strike an observer immediately: the several hundred vessels of the fleet constantly tend to congregate in small areas of the immense, and potentially bountiful, expanse of sea; most attention is concentrated on discovering the movements of *other vessels*, and most time is spent chasing other vessels to such unplanned and fruitless rendezvous."

The imagery Barth's observation brings to mind—tight clusters of boats intent on tracking not fish but one another—has significant parallels to theories of the marketplace. One parallel is organizational "herding," or the oversaturation by firms of a particular market segment (Brunnermeier, 2001). But whereas the notion of herding is typically used to explain the rise (and eventual burst) of market bubbles, there is nothing bubble-like in Barth's account. Organizational clustering in markets need not be a temporary anomaly; it may reflect the steady state, as it does in the fishing industry.

A second parallel is White's theory of production markets (White, 1981, 2008; Leifer and White, 1987) wherein producers base their everyday production decisions not on an estimation of consumer demand but rather on observations of peer producers. More generally, Barth's observations are an example of the importance of "social proof" (Rao, Greve, and Davis, 2001; Cialdini, 2001) whereby increasing instances of a particular and, importantly, observable outcome signal the appropriateness of that outcome. In both accounts, markets and fishing, imperfect or unavailable information about demand—where consumers (or fish) are located and how much they are willing to buy (or bite)—help to drive the decision-making process of producers. Because peer behavior is more observable than consumer (and certainly fish) behavior, mimicking peers' decisions serves as a basis for organizational action (DiMaggio and Powell, 1983).

For Barth, however, imperfect information about the location of fish is only the root of the complexity in the series of

decisions and evaluations that follow. Compounding the information problem, the skipper is forced to make his decision—join the cluster, deviate from the cluster, or else stay on the dock and forego any possibility of making a catch—within the context of "important transactionally determined constraints" (Barth, 1966: 10). Transactional constraints stem from two sources. The first is that of the skipper's relationship with his crew: "Without special information to justify the move, [if the skipper] decides to go elsewhere than where other vessels go, he demands more trust in his transaction with the crew. They are asked to respect his judgment, as opposed to that of the other skippers; they are thus asked to make greater presentations of submission than they would otherwise have to do" (Barth, 1966: 10). In effect, crew members aboard a vessel charting its own course are asked to ignore evident "social proof."

The second constraint relates to the skipper's calculation of his anticipated payoffs. Certain risks are weighed against only potential rewards:

> The skipper . . . risks more by not joining the cluster: if a few vessels among many make a catch, the crew . . . can claim that it might have been them, had the skipper only given them the chance. If the vessel on the other hand follows the rest, they are no worse off than most, and the onus of failure does not fall on the skipper. Secondly, the absence of a catch matters less, so long as other vessels also fail—the measure of a skipper's competence and success is not absolute, but relative to the catch of other vessels. (Barth, 1966: 10)

In Barth's estimation, the risk inherent in nonconformity—as well as the associated trust and obedience demanded from crew members—amplifies a crew's evaluation of its captain. Barth contends that conditional on making a catch, the additional risk associated with deviating from the cluster begets additional reward. In the absence of a catch, however, much like the release of a pressure value, the supplemental trust and obedience required on board boats located outside the cluster rapidly transition to anger and rejection of the captain. Even though many of the boats in the cluster will also inevitably fail to make a catch, the crew on the vessel charting its own course is left to wonder if they may have been among the successful. Refuting social proof and failing to make a catch may have dire consequences for the captain.

Thinking in terms of an organizational analog to the scene Barth describes is useful in identifying the mechanisms to which he alludes and constructing testable hypotheses about the behavior of market actors. In the context of financial markets, specifically, we can think of fund managers as comparable to boat captains, investors as similar to a boat's crew (i.e., evaluating audience), and fish akin to returns (i.e., performance). Boat captains have two goals: to attract the best crew and catch the most fish. In constructing and managing their portfolios, fund managers similarly strive to attract investors and to generate returns. Moreover, like boat captains, fund managers use ecological cues (e.g., density of the market), technological cues (e.g., algorithms, historical analysis, Bloomberg terminals, wire reports, etc.), and social

cues (e.g., index benchmarking, comparisons with fund products already in the market) to make their decisions.

At the point of critical decision making—pushing out from the dock each day or launching a new fund—the captain and fund manager have two options. They can opt to join the cluster, should one exist, or they can strike out on their own. As Barth notes, doing the latter demands more trust (and submission) from an audience. But this isn't all. As a consequence of the captain's or fund manager's initial decision, he or she (and the boat or fund, by extension) acquires an identity that is either conformist or nonconformist.[1] The person who joins the cluster is conformist and typical. The one who deviates from it is nonconformist and atypical. Two performance outcomes are possible for either type. Conformist and nonconformists alike may catch fish (or produce positive returns) or fail to catch fish (or produce no returns or negative returns). Evaluations (by crew members or investors) ensue in real time. Captains deemed highly capable will be able to recruit the best crew. Fund managers seen as possessing the skills necessary to generate above-normal returns will benefit from greater inflows of investor capital and a reduction in the rate and size of capital redemptions. The conceptualization of identity as conformist or nonconformist can have different effects on audiences' evaluations depending on whether identity is used as a signal for evaluating an entity or whether it is used as a lens through which to interpret information about an entity. In other words, evaluations are likely to be contingent on the focal entity's identity relative to other entities in the competitive environment.

Identity as a Signal

If nonconformity engenders misunderstanding, illegitimacy, and ultimately disregard, then there should be a positive association between the conformity signaled by an organization's identity and its evaluation by an audience (e.g., Suchman, 1995; Miller and Chen, 1996; Henderson, 1999; Zuckerman, 1999; Rao, Monin, and Durand, 2003; Hsu, 2006). In the context of financial markets and the hedge fund industry, there are several reasons to expect a positive effect of organizational conformity on audiences' evaluations. First, investors' search costs should be lower for conformist, or typical funds. Even though managers of atypical funds might offset this additional cost by lowering their fees, typical funds should still be more visible to investors than atypical ones. Second, atypical funds are further disadvantaged due to the difficulties associated with educating potential investors about things with which they are not already familiar (cf. Miller and Chen, 1996: 1217). One theme that emerged in a series of interviews I conducted with hedge fund managers in the three major alternative investing markets—the U.S., U.K., and Asia Pacific—was the inconvenience of having to teach potential investors about hedge fund investment strategies, which are more complex than traditional investment vehicles such as mutual funds. Hedge funds can employ complex trading strategies such as short selling and operate in non-traditional asset markets such as real estate, derivatives, or even art. One London-based manager noted, "It's kind of a sad part of our industry . . . the gap between what managers do and the

1
An anonymous reviewer pointed out the similarities between this conceptualization of identity and corporate strategy more generally (e.g., Miles and Snow, 1978). Henderson (1999), for instance, classified technological firms into "standards-based" (conformists) and "proprietary" (nonconformists) groups. Several network studies of organizations have adopted similar treatments (e.g., Podolny and Stuart, 1995; Podolny, Stuart, and Hannan, 1996).

knowledge from the management side and either a consultant or an investor. It's pretty big. I'm usually fairly disappointed when I walk out of the room in terms of that person's ability to truly grasp what we're up to." To overcome the resulting knowledge asymmetries, and in the absence of social proof, managers devote significant time and resources to educating potential investors. By contrast, a manager of a more typical fund can say, "We do the same basic trades as the majority of long/short equity funds, only we do them better," but atypical fund managers must spend more time educating investors to generate comparable levels of investment.

The same sorts of category-based constraints identified in other markets (e.g., Zuckerman, 1999; Hsu, 2006) should function in the hedge fund industry. Search costs aside, many investors simply lack the cognitive flexibility necessary to comprehend and appreciate funds that deviate significantly from the majority of other funds in a given reference group. Industry consultants and "cap-intro" specialists (intermediaries responsible for introducing end-capital investors to fund managers) are likely to account for some of this effect. Another fund manager I interviewed offered a telling example: "We trade this GTAA product. It's a top-down, country level, global macro strategy. We decided to start trading single stocks within Euroland, so large-cap equities within continental Europe, and the consultants did not want that bolted into the GTAA strategy. They wanted it as a separate product, because we wouldn't fit as nicely into their GTAA box." In spite of the fact that the manager believed the combination would offer distinct benefits to clients, the additional focus was ultimately launched as a separate fund product. A third fund manager echoed these sentiments even more directly, noting, "We feel like the . . . consultants are the biggest bottleneck in having to keep strategies within a well-defined box." Identity that is well defined, however, acts as a signal that allows audiences to evaluate it easily and should lead to a positive evaluation:

Hypothesis 1 (H1): The higher the typicality of an organization's identity, the more positively it should be evaluated by an audience.

Identity as a Lens

The analogy to Barth's fishing boats is even more useful when identity is conceptualized as a moderator, or a lens through which certain kinds of information pass, take on meaning, and are ultimately evaluated. In this respect, identity may be likened to a "sensemaking device," as the phrase is used in organizational psychology (Fiske and Taylor, 1991; Weick, 1995; Gioia and Thomas, 1996; see also Dutton and Dukerich, 1991). Organizational identities offer a tool by which to assign differential meaning and draw differential interpretations of otherwise comparable information.

According to Barth's observations, we should expect successful nonconformists to be the ones evaluators most revere and unsuccessful nonconformists to be the ones they most despise, such that organizational nonconformity should amplify both positive and negative reactions to positive and negative emerging information, respectively. In the former

case, at least, Barth's expectation is consistent with both Zuckerman's (1999) aforementioned caveat and Schumpeter's proposition well before him: the greatest gains may flow to those that successfully innovate. From the standpoint of the audience or evaluator, this statement implies that one is drawn to the new and different if and when the new and different demonstrates competence. For the producer, the same statement might be interpreted to mean that the additional risk assumed by the act of violating social proof amounts to additional reward when things go right.

Prior research in both finance and economic sociology complements the basic risk-reward account just offered. In studies of mutual and hedge fund industries, for instance, research has shown that fund age significantly attenuates the association between fund returns and investor capital flows in both positive and negative directions (Chevalier and Ellison, 1997; Berk and Green, 2004). The argument relies on a kind of Bayesian learning thesis and suggests that because investors have more information about older funds than younger funds, they should be less affected by new information about the former. As a result, younger funds benefit more, receiving additional capital inflows from investors, following recent positive performance and are penalized more, facing additional capital outflows, following recent negative performance. In both cases, positive and negative, new information simply means more to those doing the evaluating.

In economic sociology, research has demonstrated a similar effect with respect to organizational status (e.g., Podolny and Stuart, 1995; Stuart, Hoang, and Hybels, 1999). Much like the young funds above, new information generally tends to affect the perception and evaluation of low-status organizations much more than high-status organizations, unless the high-status organization is being scrutinized for a particular transgression. Status also tends to be a more salient indicator of firm survival—and, presumably as a precursor, audiences' evaluations—in uncrowded market niches (Podolny, Stuart, and Hannan, 1996). This result is due in part to the inherent uncertainty involved in evaluating firms in new or marginal market segments. In a related application, Zuckerman (2004) linked uncertainty at the level of individual stocks to trading volatility, suggesting that greater diversity in the set of mental models used by investors to assess "incoherent stocks" should lead to different interpretations of the same information. By extension, organizational nonconformity—itself an important determinant of uncertainty for an evaluating audience—is likely to amplify both the positive and negative associations between positive and negative performance and audiences' evaluations.

Hypothesis 2 (H2): Organizational nonconformity should moderate the effect of performance on subsequent evaluation such that successful nonconformists are excessively rewarded.

Hypothesis 3 (H3): Organizational nonconformity should moderate the effect of performance on subsequent evaluation such that unsuccessful nonconformists are excessively penalized.

METHODS

Hedge Funds

The choice of hedge funds as a research setting was not an arbitrary one. Following Sirri and Tufano (1998: 1589), I view the fund industry as a "laboratory in which to study the actions of individual investors who buy fund shares." Based on a small number of variables, we can learn a lot about investors' preferences for certain kinds of organizational offerings. Moreover, we can examine how these preferences change, react to, and are shaped by various conditions.

Despite a lack of attention in the sociological literature (for an exception, see Hardie and MacKenzie, 2007), the hedge fund industry is a useful setting in which to test both the direct and indirect effects of categorical identity on audiences' evaluations for a number of reasons. First, identity, fund performance, and investor evaluation are readily identifiable and, importantly, analytically distinguishable. I define identity as a fund's correspondence to the central tendency of a specified reference set of other hedge funds (cf. Miller and Chen, 1996). Reference sets comprise funds that self-identify as being in the same primary investment style. Typical funds have a high level of correspondence to the resulting central tendency. Atypical funds do not. Performance is a fund's returns. Audience evaluation is measured by capital flows into and out of a fund on behalf of investors (i.e., investment). Second, unlike many industries, the hedge fund industry is relatively free from legal and other formal institutional pressures that might otherwise complicate analysis. This specific feature should contribute to greater variation along the identity dimension I call typicality. Finally, although no comprehensive database exists that covers the entire hedge fund industry, existing data, perhaps because it is targeted foremost at practitioners, tends to be thorough and systematic, not to mention obtainable by other researchers for further exploration or replication.

Data

Because most hedge funds are not obligated to report to a regulatory body, data on the industry must be obtained from one or more private data collection services. I used data from the Tremont Advisors Statistical Services (TASS) hedge fund database. Liang (2000) suggested using the TASS database for academic research, in particular because it is the most complete and most accurate with respect to information on returns, assets, fees, and fund characteristics. The sample I used consists of monthly return data and total estimated assets for funds from January 1994 to December 2008. I used January 1994 as a starting point because this was the first year for which TASS maintained a "graveyard" database. Prior to 1994, liquidated funds and funds that stopped reporting to TASS were dropped from the database. Including data prior to 1994 in an analysis such as the one here would result in an obvious survivor bias (see Vaupel and Yashin, 1985; Ackerman, McEnally, and Ravenscraft, 1999; Capocci and Hubner, 2004, for a more complete discussion of this particular bias with respect to performance).

Two remaining biases that must be acknowledged are self-selection with respect to funds' likelihoods of reporting to TASS and "instant history" (Fung and Hsieh, 2000; Lawson and Peterson, 2008). Studies primarily concerned with measuring the average or aggregate performance of the hedge fund industry are attuned to a self-selection bias, as overreporting by well-performing funds will result in an overstatement of performance. Underreporting by well-performing funds will have the opposite effect. The analyses in this paper, though not concerned with industry-level performance, may be similarly biased if hedge funds differ in their likelihoods of reporting along a dimension correlated with my measure of fund typicality. There is no systematic way to account for this possibility, but there are several reasons to believe that any bias resulting from it is likely to be small. Funds with categorical identities that are exact replicas of those already in the market (i.e., funds having maximum typicality at the time of market entry) may have an incentive to veil their complete lack of differentiation. Similarly, highly atypical funds may choose not to report in order to hide from investors the fact that they are radically different from competing funds. The lower likelihood of reporting among funds at both extremes of the distribution may offset any resulting bias (see Fung and Hsieh, 2000, for a comparable argument with respect to returns).

A third important bias, "instant history," results from the "back-filling" of returns for funds whose managers choose to report to a database such as TASS sometime after the fund's inception. Back-filling returns will upwardly bias return estimates if funds misrepresent or smooth past returns data or, more commonly, only report past returns when they reflect well on the fund. The TASS data show some evidence of an instant history bias. Among the funds used in the analyses here, average monthly returns for funds in their first year are 0.73 percent higher than in all other years. This figure is slightly smaller than the one Fung and Hsieh (2000) calculated, indicating that hedge funds opting to report to TASS in more recent years were more likely to do so from inception. Following convention, I dropped from the analysis the first 12 months of data from each of the funds. Including these months has no discernible effect on the substantive claims of the paper.

After excluding funds based on the guidelines above, and dropping from the dataset any funds with significant omissions or irregularities in their reported assets under management, 6,562 funds remained with which to perform most of the analyses in this paper. When aggregated at the quarter level, as are all of the analyses, this number equates to 92,226 fund-quarter observations. I note variations to this N when applicable.

Dependent Variable: Audience Evaluation

I used capital flows to measure investors' evaluations of a given fund or fund manager. Capital flows refer to increases, by way of additional investment, and decreases, by way of capital redemption or divestment, in the amount of invested capital in a fund. Flows were calculated as the intertemporal

change in total net assets (TNA) above and beyond what can be attributed to returns (R). Algebraically,

$$FLOW_{it} = \frac{TNA_{it} - TNA_{it-1} * (1 + R_{it})}{TNA_{it-1}},$$

where TNA_{it} is fund *i*'s total net assets at time *t*, and R_{it} is fund *i*'s return over the prior period. $FLOW_{it}$ has a theoretical lower bound of –100 percent that corresponds to the scenario in which all investors redeem all capital allocated to fund *i* in the period between *t-1* and *t*. Following Sirri and Tufano (1998) and others (e.g., Fung et al., 2008), I assume by construction of the measure that flows are realized at the end of each period. Periods are quarters.

Although nearly all prior studies reveal a strong association between fund performance and capital flows (for studies using data on mutual funds, see Chevalier and Ellison, 1997; Sirri and Tufano, 1998; for hedge funds, see Agarwal, Daniel, and Naik, 2007; Fung et al., 2008), this association is not necessarily symmetric with respect to positive and negative returns. Capital inflows respond more to positive returns than capital outflows do to negative returns. There are several reasons for this asymmetry. One is purely mechanical: whereas capital outflows, usually associated with negative returns, are attributable only to current investors in a fund, capital inflows result from both current and new investors. Another relates to the practice, common among hedge funds, of restricting the flow of investor capital. Such "liquidity terms" are typically in the form of lockup periods—invested capital must stay in a fund for a predetermined number of months—and redemption notice periods—investors must give a manager sufficient warning before withdrawing invested capital. In addition, several other factors also affect capital flows. Lower-fee funds grow faster than higher-fee funds (e.g., Sirri and Tufano, 1998). Funds with more strict liquidity terms reduce capital outflows. Beating a specified (even an incorrectly specified) benchmark increases capital flows (e.g., Sensoy, 2009; Fung et al., 2008). Finally, size predicts capital flows, although evidence on the effect of fund size is mixed (see Getmansky, Lo, and Makarov, 2004).

Independent Variables

Hedge fund identity. Research in organizational theory and economic sociology has employed three basic and overlapping identity concepts: identity as a set of core organizational features (Albert and Whetten, 1985; Whetten, 2006), identity as membership claims to particular social categories (Tajfel and Turner, 1986; White, 2008), and identity as dynamic and imputed via constituent audiences over the course of an organization's life (Hsu, 2006; Briscoe and Safford, 2008). The measurement of hedge fund identity I used combines elements from each of these three conceptions. I refer to the measure as fund *typicality*.

The process of identification begins with group membership. In the case of hedge funds, groups are primary investment styles. Table 1 describes each style. There are several

Table 1

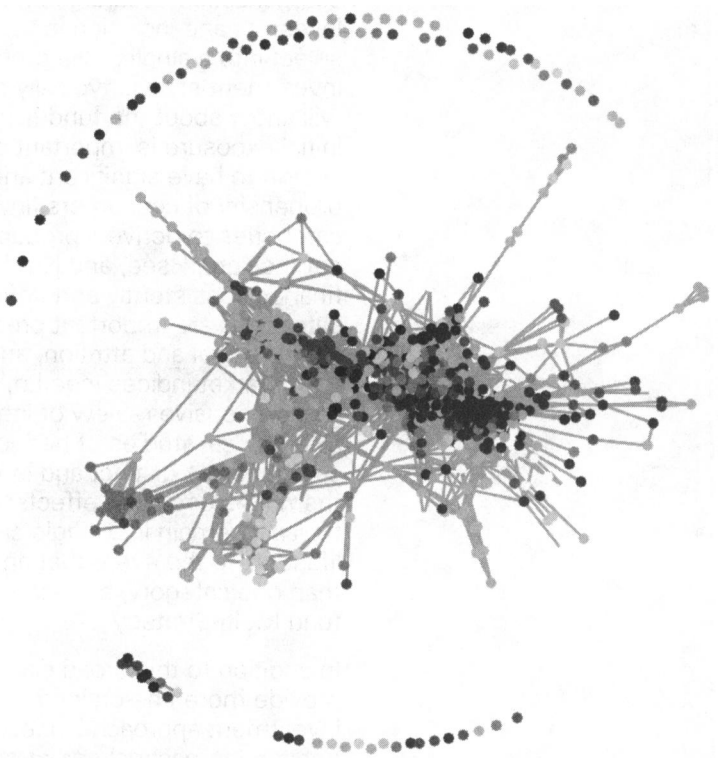
Definitions from TASS of Primary Investment Styles (Definition of Fund of Funds from Barclay's Hedge)

Style and definition
Convertible Arbitrage funds aim to profit from the purchase of convertible securities and the subsequent shorting of the corresponding stock when a pricing error is made in the conversion factor of the security. Managers typically build long positions of convertible and other equity hybrid securities and then hedge the equity component of the long securities positions by shorting the underlying stock or options. The number of shares sold short usually reflects a delta neutral or market neutral ratio. As a result, under normal market conditions, the arbitrageur generally expects the combined position to be insensitive to fluctuations in the price of the underlying stock.
Dedicated Short Bias funds take more short positions than long positions and earn returns by maintaining net short exposure in long and short equities. Detailed individual company research typically forms the core alpha generation driver of dedicated short bias managers, and a focus on companies with weak cash flow generation is common. To [facilitate] the short sale, the manager borrows the stock from a counterparty and sells it in the market. Short positions are sometimes implemented by selling forward. Risk management consists of offsetting long positions and stop-loss strategies.
Emerging Markets funds invest in currencies, debt instruments, equities, and other instruments of countries with "emerging" or developing markets (typically measured by GDP per capita). Such countries are considered to be in a transitional phase between developing and developed status. Examples of emerging markets include China, India, Latin America, much of Southeast Asia, parts of Eastern Europe, and parts of Africa. There are a number of sub-sectors, including arbitrage, credit and event driven, fixed income bias, and equity bias.
Equity Market Neutral funds take both long and short positions in stocks while minimizing exposure to the systematic risk of the market (i.e., a beta of zero is desired). Funds seek to exploit investment opportunities unique to a specific group of stocks while maintaining a neutral exposure to broad groups of stocks defined, for example, by sector, industry, market capitalization, country, or region. There are a number of sub-sectors, including statistical arbitrage, quantitative long/short, fundamental long/short, and index arbitrage. Managers often apply leverage to enhance returns.
Event Driven funds invest in various asset classes and seek to profit from potential mispricing of securities related to a specific corporate or market event. Such events can include mergers, bankruptcies, financial or operational stress, restructurings, asset sales, recapitalizations, spin-offs, litigation, regulatory and legislative changes, as well as other types of corporate events. Event Driven funds can invest in equities, fixed income instruments (investment grade, high yield, bank debt, convertible debt and distressed), options, and various other derivatives. Many managers use a combination of strategies and adjust exposures based on the opportunity sets in each sub-sector.
A Fund of Funds hedge fund is an investment vehicle whose portfolio consists of shares in a number of hedge funds. How the underlying hedge funds are chosen can vary. A fund of hedge funds may invest only in hedge funds using a particular management strategy. Or a fund of hedge funds may invest in hedge funds using many different strategies in an attempt to gain exposure to all of them. The benefit of owning any fund of fund is experienced management and diversification. A portfolio manager uses his or her experience and skill to select the best underlying funds based on past performance and other factors.
Fixed Income Arbitrage funds attempt to generate profits by exploiting inefficiencies and price anomalies between related fixed income securities. Funds limit volatility by hedging out exposure to the market and interest rate risk. Strategies include leveraging long and short positions in similar fixed income securities that are related either mathematically or economically. The sector includes credit-yield-curve relative-value-trading involving interest rate swaps, government securities and futures; volatility trading involving options; and mortgage-backed securities arbitrage (the mortgage-backed market is primarily U.S.-based and over the counter).
Global Macro funds focus on identifying extreme price valuations, and leverage is often applied on the anticipated price movements in equity, currency, interest rate, and commodity markets. Managers typically employ a top-down global approach to concentrate on forecasting how political trends and global macroeconomic events affect the valuation of financial instruments. Profits are made by correctly anticipating price movements in global markets and having the flexibility to use a broad investment mandate, with the ability to hold positions in practically any market with any instrument. These approaches may be a systematic trend following models, or discretionary.
Long/Short Equity funds invest on both long and short sides of equity markets, generally focusing on diversifying or hedging across particular sectors, regions, or market capitalizations. Managers have the flexibility to shift from value to growth; small to medium to large capitalization stocks; and net long to net short. Managers can also trade equity futures and options as well as equity-related securities and debt, or build portfolios that are more concentrated than traditional long-only equity funds.
Managed Futures funds (often referred to as Commodity Trading Advisors or CTAs) focus on investing in listed bond, equity, commodity futures, and currency markets, globally. Managers tend to employ systematic trading programs that largely rely upon historical price data and market trends. A significant amount of leverage is employed since the strategy involves the use of futures contracts. CTAs do not have a particular bias toward being net long or net short any particular market.
Multi-Strategy funds are characterized by their ability to allocate capital based on perceived opportunities among several hedge fund strategies. Through the diversification of capital, managers seek to deliver consistently positive returns regardless of the directional movement in equity, interest rate, or currency markets. The added diversification benefits reduce the risk profile and help smooth returns, reduce volatility, and decrease asset-class and single-strategy risks. Strategies adopted in a multi-strategy fund may include, but are not limited to, convertible bond arbitrage, equity long/short, statistical arbitrage, and merger arbitrage.

reasons to believe that primary investment styles constitute the most important and visible dimension on which categorization occurs. First, for the purpose of marketing to investors and inclusion in various databases, all funds self-select into a single style grouping, so a fund's primary investment style is typically the first thing a potential investor will know about the fund from its offering documents. This initial exposure is important on a cognitive level as it has been shown to have significant and long-lasting effects on the propensity of consumers (investors, in this case) to use stated categories to derive a product's or organization's reference set (Leclerc, Hsee, and Nunes, 2005). Second, research in finance consistently and definitively illustrates that style categories are important predictors of risk, return, rates of fund survival and attrition, and levels of returns' correlation with market indices (see Lo, 2008: chaps. 1–2, for a comprehensive review of literature and findings). As a result, all empirical studies of hedge funds treat style-based categories as distinct and important groups and adjust for them (i.e., use fixed effects) accordingly. Finally, funds typically remain in a single categorical group for their entire lifespan. In the event that an individual fund fits into more than one category, a manager can choose to designate the fund Multi-Strategy.

In addition to this broad classificatory schema, funds also provide more fine-grained information on their particular investment approaches (i.e., sub-strategies and/or specific trading approaches) and strategic focuses. TASS collects a total of 33 investment approach and strategic focus attributes. In addition to offering a dimension on which to differentiate funds within a given style category, these attributes are also useful for further demonstrating the importance of primary styles in segmenting or categorizing the industry. Figures 1 and 2 are intended to illustrate this point. Figure 1 uses the Fruchterman-Reingold (1991) algorithm to plot the cluster distribution of a sample cross section of data on funds from 1995, in which individual funds (denoted as individual nodes and shaded by primary investment style) are positioned according to their composition of attributes. Funds are shown as clustered when there is a significant (95 percent) overlap in their investment approach and strategic focus attributes, which generates a graph with an approximately 5 percent density. The resulting plot indicates that many, though not all, primary styles are composed of funds that are relatively similar to one another and relatively dissimilar from funds in other styles. The exceptions are Multi-Strategy, Funds of Funds, and Emerging Markets, which show no discernible clustering. Figure 2 is a multidimensional scaling plot that uses a cross section of the data from 2005. Unlike figure 1, the nodes in figure 2 are primary styles. The number printed inside the nodes is the number of funds in a style during the given cross section. Node size is proportional to the amount of heterogeneity among funds of a given style with respect to their investment approach and strategic focus attributes. Large nodes thus denote styles with significant heterogeneity among funds. Smaller nodes indicate homogeneity among funds. As one might expect, Multi-Strategy, Funds of Funds, and Emerging Markets prove to be the most heterogeneous

Figure 1. Cluster plot of the TASS hedge fund database, 1995, with funds positioned relative to one another according to similarity in strategic focus and investor approach attributes.*



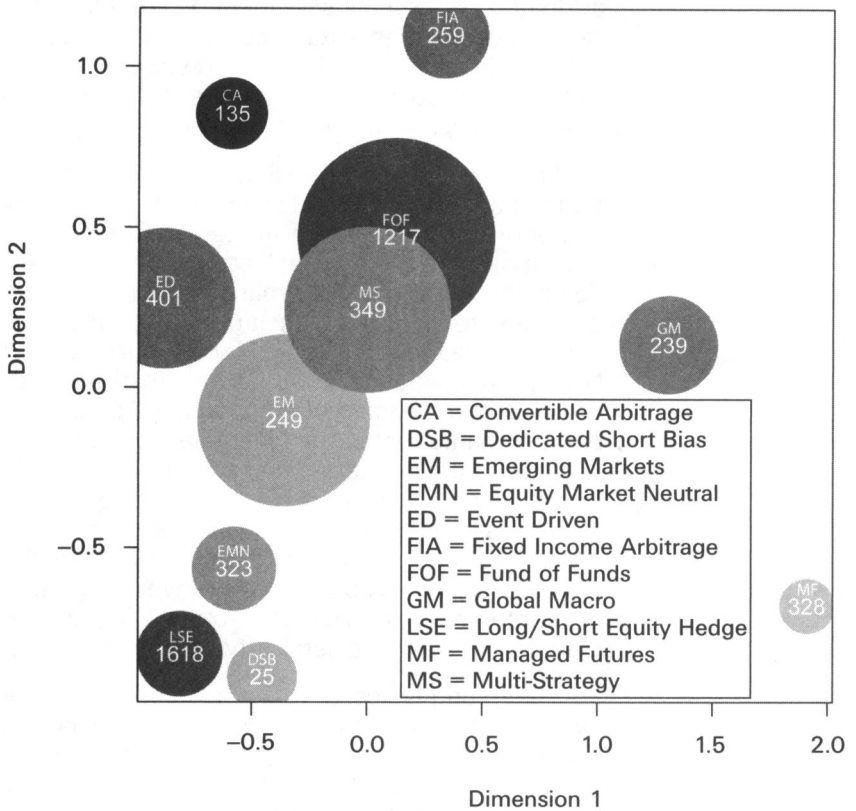
* Distinct clustering is visible for several styles: Long/Short Equity (dark shade in middle right), Fixed Income Arbitrage (light shade in lower middle), Global Macro (mid-shade in lower left), Managed Futures (mid-light shade in upper left), and Convertible Arbitrage (small cluster of black shaded nodes above LSE cluster).

styles. Style nodes are positioned relative to one another according to their similarity, as determined by the composition of attributes of the underlying individual funds. In addition to visually illustrating the salience of the primary style, figure 2 indicates the possibility that heterogeneous styles (i.e., large nodes) may not constitute meaningful reference groups, a possibility I explore after testing the three primary hypotheses.

By combining coarse- (style) and fine-grained (attributes) information, it is possible to grade hedge funds on the extent to which they match up against other funds in the same primary style grouping. The idea that organizational identity can be graded in terms of likenesses or typicality follows from Rosch's (1973) notion of webs of sameness and is conceptually similar to Miller and Chen's (1996: 1210) measure of organizational nonconformity as deviation from "industry central tendencies or de facto norms," as well as Hannan's (2010) more recent formalizations of organizational "grades of membership."

Finally, I treated identities as dynamic over time and dependent on changes among other funds in a focal fund's proximity. Complete control over one's identity is afforded only at the moment of market entry. Subsequent valuations of a fund's level of typicality are the result of comparisons with

Figure 2. MDS plot of the 2005 TASS hedge fund database, by primary investment style.*



* Nodes are primary investment styles. The number of individual funds is indicated within the node. Node size represents the amount of heterogeneity among funds in the style category with respect to their underlying strategic focus and investment approach attributes.

other entities in the environment and thus depend on the movements of those entities. The measurement technique I used is readily generalizable to other settings, though for the sake of simplicity and interpretability, I discuss it formally below in the specific context of hedge funds.

Typical funds have combinations of attributes that are similar to an average, hypothetical fund of the same style. Atypical funds do not. If we represent each hedge fund in the database as a vector of binary indicators that correspond to its strategic focus and investment approach attributes, then we can compare it against all other funds in its primary style category at a given point in time. I did this by first constructing a two-mode, rectangular matrix for every style-quarter combination, in which columns represent unique funds and rows are strategic and investment focus attributes. The number of rows in the resulting matrix is fixed and equals 33, or the number of possible attributes from TASS. The number of columns is equal to the number of funds in a particular style category in operation during a given quarter.

For each style-quarter combination, I generated a hypothetical fund by averaging across the rows in the rectangular matrix. If 100 funds of style X exist in quarter T, and 90 of them indicate the presence of attribute Y, then in the resulting hypothetical fund, the vector element corresponding to attribute Y

would equal .9. If only 10 of the 100 indicate the presence of attribute Z, by comparison, then the corresponding hypothetical fund vector element Z would be .1. For illustration, the columns in table 2 are the resulting 33 attribute vectors from TASS for the Convertible Arbitrage style during the first quarter of each of the years shown.

At this level of analysis—using the 33 attributes as opposed to, for instance, the actual securities held by a fund—a fund's vector of attributes can be treated as fixed over time.[2] One reason given in the finance literature as to why this assumption is tenable is that fund managers will more readily close down and reopen a fund than make changes to a focal fund's underlying sub-strategies and focuses (Agarwal, Daniel, and Naik, 2007; Klebanov, 2008: 7). This feature has an interesting effect on the measure of fund identity I propose. After the point of market entry, fund identities respond solely to changes in the market around a focal fund. As a fund's reference group moves away from it (in terms of sub-strategies and focuses) through the entry of new funds and exit of old funds, its degree of typicality will decline. By contrast, a fund will become more typical when new funds in its reference group cluster around it. Typical funds are like the boats in Barth's cluster. Atypical funds sail alone.

Formally, fund typicality was measured as the amount of overlap between the fund vector and the hypothetical average, or central tendency vector for the fund's primary category. There are several techniques for computing similarities between vectors. The one I used is a Dice coefficient (Dice, 1945):

$$T_A = S_{A,B} = \frac{2|A \cap B|}{|A| + |B|} = \frac{2p}{a + b}$$

where A and B represent the individual fund and the average fund, respectively, p is equal to the number of attributes that are present for both A and B, and a and b are equal to the number of attributes present in A but not B, and B but not A, respectively. Vector elements in A are binary. An actual focal fund either has the attribute or it does not. Vector elements in B have upper and lower bounds of 0 and 1, but may take any fractional value in between as well, as demonstrated in table 2. The intersection of vector elements across A and B will naturally take the fractional value in B, should one exist. The similarity between a focal fund A and the hypothetical fund B will thus be greater when two corresponding elements across the vectors are 1 and .9 versus 1 and .1. Because of this implicit weighting, investors (who I expect to both perceive and respond to the fund typicality) need not conceptualize the complexity of typicality in 33 dimensions but may zero in on a few of the more important attributes to distill a fund's approximate level of conformity. This measurement feature enhances the robustness of the typicality construct by allowing investors to use any number of (unobservable) cognitive schemas to evaluate a given fund. Having said that, the substantive empirical results presented in the next section can be replicated using measures of typicality computed with the Jaccard coefficient and Euclidean distance.

2
This particular feature of the hedge fund industry—relatively fixed organizational attributes over time—need not hold for the measure of typicality to be applied to other settings.

Table 2

Average or "Central Tendency" Fund Vector as Computed for All Convertible Arbitrage Funds in TASS during Q1, 1994–2008, Using the Strategic and Investment Focus Attributes

Convertible Arbitrage	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Arbitrage	.60	.67	.72	.74	.83	.82	.73	.78	.75	.77	.77	.73	.70	.72	.69
Bottom Up	.67	.54	.47	.46	.40	.38	.36	.35	.35	.33	.33	.39	.37	.35	.41
Contrarian	.00	.00	.00	.00	.00	.00	.06	.08	.07	.06	.06	.04	.05	.04	.06
Directional	.13	.08	.06	.06	.04	.03	.01	.02	.02	.01	.02	.03	.03	.04	.04
Discretionary	.20	.17	.16	.14	.06	.05	.09	.10	.12	.13	.14	.17	.19	.15	.10
Diversified	.20	.21	.19	.20	.12	.11	.12	.09	.07	.08	.10	.12	.09	.12	.14
Fundamental	.40	.33	.25	.26	.19	.18	.22	.26	.27	.27	.30	.36	.36	.32	.43
Long Bias	.20	.12	.09	.11	.12	.11	.10	.10	.12	.13	.14	.15	.16	.16	.24
Market Neutral	.53	.54	.62	.63	.63	.57	.55	.53	.50	.46	.44	.37	.34	.34	.31
Non-Directional	.47	.58	.62	.66	.63	.59	.56	.50	.43	.41	.40	.36	.36	.34	.27
Opportunistic	.13	.21	.16	.14	.10	.10	.16	.13	.12	.11	.13	.13	.15	.13	.16
Other	.13	.12	.09	.09	.10	.08	.05	.04	.03	.03	.02	.03	.03	.04	.00
Relative Value	.33	.38	.28	.29	.37	.36	.42	.38	.38	.36	.38	.35	.34	.35	.37
Short Bias	.13	.12	.09	.14	.17	.15	.13	.10	.12	.16	.15	.15	.16	.15	.24
Systematic Quant	.20	.17	.09	.11	.12	.11	.21	.25	.22	.19	.19	.13	.11	.12	.12
Technical	.13	.12	.12	.14	.08	.07	.09	.09	.10	.10	.08	.05	.05	.06	.06
Top Down Macro	.20	.25	.22	.20	.17	.18	.18	.15	.15	.16	.15	.18	.19	.21	.35
Trend Follower	.00	.04	.03	.03	.00	.02	.01	.01	.00	.00	.00	.00	.00	.00	.00
Bankruptcy	.00	.00	.00	.00	.04	.03	.06	.05	.04	.04	.04	.03	.04	.02	.04
Capital Structure Arbitrage	.00	.00	.03	.06	.12	.13	.22	.26	.25	.26	.28	.23	.17	.13	.18
Distressed Bonds	.00	.00	.03	.03	.06	.05	.08	.08	.07	.06	.07	.06	.07	.05	.04
Distressed Markets	.13	.17	.12	.11	.08	.07	.09	.08	.08	.07	.08	.09	.07	.05	.04
Equity Derivative Arbitrage	.00	.04	.06	.06	.08	.07	.06	.11	.13	.14	.14	.15	.14	.14	.12
High Yield Bonds	.27	.25	.19	.17	.12	.11	.16	.16	.19	.17	.17	.21	.21	.15	.10
Merger Arbitrage Risk Arbitrage	.60	.58	.50	.49	.50	.41	.38	.29	.26	.23	.20	.19	.16	.15	.16
Mortgage Backed Securities	.07	.08	.06	.06	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Multi-Strategy	.00	.00	.00	.00	.00	.00	.04	.03	.07	.07	.08	.09	.08	.05	.00
Pairs Trading	.00	.00	.00	.00	.00	.03	.05	.05	.03	.03	.03	.02	.02	.02	.02
Regulation D	.00	.00	.00	.00	.00	.02	.01	.01	.02	.02	.02	.03	.03	.01	.00
Share Holder Activist	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Socially Respon-sible	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Special Situations	.20	.21	.19	.20	.15	.13	.14	.11	.12	.14	.14	.13	.13	.13	.12
Statistical Arbitrage	.00	.04	.03	.03	.00	.02	.01	.01	.01	.01	.01	.01	.02	.02	.04

Conformity is captured in $S_{A,B}$, which is a measurement of the similarity between the focal fund vector and the hypothetical fund vector, though because all funds in a given categorical group (and at the same time) are compared with the same average vector, the resulting value may be interpreted as fund A's degree of typicality. T_A is bound by zero and one. For any given cross section, funds in the same reference style will be arrayed with respect to their degree of typicality. Although it may appear counterintuitive to the reader, zero level typicality is possible (though very rare in the data) because all funds are obliged to identify with one primary style category, even if the combination of attributes they report are similar to none of them. Descriptive statistics for a single cross section in the data are presented in table 3. Funds are grouped in this table by primary style.

Performance. I computed several measures of fund performance following conventional approaches in the finance literature. Variations across measures amount to the degree of risk adjustment included in the measures themselves. For instance, in some cases it may be useful to know a fund's returns in excess of one or more specified benchmarks. If a fund reports a net-of-fees return of 6 percent for a period when the S&P500 returned 10 percent, we might think of the fund's actual returns as something more like –4 percent. By contrast, if a fund posts 6 percent returns over a period of time when the S&P500 fell 5 percent, then it might be more accurate to think of the fund as having returns around 11 percent. In addition to the S&P500, researchers have used several other benchmarking factors against which to study returns, including various foreign exchanges, as well as treasury and corporate bonds, and alternative investment rates.

Whether to adjust returns is a potentially complex decision when modeling investor behaviors such as capital allocation. If we believe that investors respond primarily to raw, net-of-fees return figures, then returns should not be adjusted using any benchmarking factors. If there is reason to believe that investors consider returns only in comparison with the returns of one or more investment benchmarks, then returns should be adjusted accordingly. For simplicity and interpretation, I

Table 3

Cross Section of Fund Typicality by Style (Year = 2000)

Style	Funds	Mean typicality	S.D.	Min.	Max.
Convertible Arbitrage	56	0.298	0.088	0.022	0.435
Dedicated Short Bias	16	0.290	0.247	0	0.578
Emerging Markets	200	0.281	0.100	0	0.438
Equity Market Neutral	170	0.301	0.102	0	0.456
Event Driven	200	0.335	0.125	0	0.504
Fixed Income Arbitrage	137	0.286	0.106	0	0.447
Fund of Funds	922	0.277	0.122	0	0.453
Global Macro	151	0.309	0.127	0	0.497
Long/Short Equity	978	0.331	0.130	0	0.527
Managed Futures	230	0.348	0.132	0	0.510
Multi-Strategy	321	0.272	0.098	0	0.439

used raw, net-of-fees returns in the analyses presented in this paper. However, because I also included time-period fixed effects in all of the models, the choice to use raw returns data does not indicate a strong assumption about investors' propensities to benchmark. Period fixed effects have the advantage of soaking up all variations in the dependent variable that are the result of macro conditions as well as contemporaneous movements of equity markets and thus greatly diminish the importance of the benchmarking question. Results of the primary analyses are consistent when reanalyzed using standard, single-factor—S&P 500—risk-adjusted returns.

Hypothesis Testing

Having defined the three primary variables for the analysis—fund identity as typicality, performance information as returns, and evaluation as capital flows—it is useful to restate the hypotheses derived above using language specific to the hedge fund industry. First, there is the main effect: (H1) The higher a hedge fund's level of typicality, the greater its capital inflows. Second, there are the interactions: (H2) The effect of recent positive returns on capital inflows is greater among atypical funds; and (H3) The effect of recent negative returns on capital outflows is greater among atypical funds. Hypothesis 2 reflects hedge fund managers who strike out on their own and are successful. Investors are not only drawn to positive returns, they are drawn to positive returns in unexpected places. Hypothesis 3 calls to mind the disappointment, disdain, and eventual flight by investors in funds whose managers dismissed the social information available to them and failed. In either case, whether joining the cluster or going alone, typicality should amplify the association between performance and evaluation.

Model

I analyzed the link between typicality and returns and flows using a linear time-series regression framework applied to fourteen years of fund-level data. In each of the analyses, I fit some variation of the following model:

$$FLOW_{i,t} = (T_{i,t-1}, R_{i,t-1}, T_{i,t-1} * R_{i,t-1}),$$

where $FLOW_{i,t}$ represents the capital flows into or out of fund i in period t, $T_{i,t-1}$ and $R_{i,t-1}$ are the typicality and percentage returns of fund i in the preceding period, and $T_{i,t-1} * R_{i,t-1}$ represents the interaction between the two. Following convention, $R_{i,t-1}$ is split into two variables, one accounting for positive returns and one for negative. In the former case, observations having negative returns are set to zero. In the latter, observations having positive returns are set to zero. This approach is standard in the financial literature (Chevalier and Ellison, 1997; Abdellaoui, Bleichrodt, and Paraschiv, 2007; Lo, 2008) and is used to adjust for the potential nonlinear association between returns and capital flows that occurs around the point of zero returns. Note that one should expect positive coefficient estimates for both returns variables. On the right-hand side of the zero point, a positive coefficient indicates that increasing (more positive) returns should result

in greater (more positive) capital flows. Equivalently, a positive coefficient on the left-hand side indicates that increasing (less negative) returns should result in greater (less negative) capital flows. The result of this adjustment from a regression standpoint is that all models include two returns parameters and two interactions between returns (positive and negative) and fund typicality, or:

$$FLOW_{i,t} = (T_{i,t-1}, R^{+}_{i,t-1}, R^{-}_{i,t-1}, T_{i,t-1} * R^{+}_{i,t-1}, T_{i,t-1} * R^{-}_{i,t-1})$$

All models contain several control variables. These variables include fund age measured in years since inception, fund size measured as the log of total fund assets, percentage management and incentive fees, liquidity terms measured in days of lockup and redemption notice periods, and fund family size.[3] Fund family size is simply a count of the number of additional funds currently operated by the same management company. In addition to these, two additional variables are included as measures of funds' long-term performance. One is a rolling 12-month returns average that is calculated over the year-long period ending two quarters before the focal quarter so that there is no overlap between $R_{i,t-1}$ and this more long-term metric. The other is the standard deviation of the monthly returns (i.e., volatility). These adjustments are useful for two reasons. First, they amount to an additional control for managers' skill. To the greatest extent possible, I wanted to ensure against the possibility that an effect of fund typicality on capital flows is due to managers' skill and not fund typicality. In a robustness test, I assessed this even more strongly by including a fixed effect for every unique fund in the data. Second, incorporating longer-term performance parameters emphasizes the short-term nature of the hypothesized effects.

Importantly, all models include fixed effects for primary style categories. Fixed effects eliminate all between-style variation. This adjustment is necessary given evidence, noted above, that styles yield systematically different risk-return profiles. Additionally, I adjusted for all types of temporal heterogeneity, such as macroeconomic conditions, by including quarterly fixed effects. Because the models were estimated on the entire dataset, standard errors are clustered at the level of individual funds and are heteroskedasticity-consistent. This is necessary, as individual fund-quarter observations may not be independent of one another.

RESULTS

Table 4 includes descriptive statistics for all variables used in the analyses and the correlations among those variables. Following convention, I eliminated observations having capital flows greater or less than three standard deviations from the mean. Results do not differ when these observations are included in the analysis, but their exclusion guards against undue influence of outlying data points. Table 5 presents results from the primary analyses.

Model 1 includes only the control variables. Model 2 tests hypothesis 1 and assesses the effect of recent returns on

3
A reviewer noted the importance of controlling for total net assets to account for possible floor or ceiling effects, in addition to capturing an important fund characteristic. If, for instance, atypical funds are generally smaller, then greater inflows following positive performance might indicate more room to grow among atypical funds, less room to grow among comparably performing typical funds, or a combination of the two. On the opposite side of the performance spectrum, atypical funds might actually benefit from a size-based floor effect: if a small, atypical fund performs poorly, it may be difficult for investors to fault it more than before the failure was observed. In addition to using the single control for fund size, I also ran models (not shown but available from the author) including an interaction between fund size and fund typicality. The coefficient on the interaction term was far from significant, thus indicating that the results described in the next section are not the result of size-based floor or ceiling effects.

Table 4

Descriptive Statistics and Correlations

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12
1. Capital flow	3.82	22.45												
2. Age	3.68	2.90	−.19											
3. Log assets	17.17	1.94	−.05	.30										
4. Management fee	1.45	0.63	.00	−.02	−.03									
5. Incentive fee	16.77	6.77	.01	−.03	−.01	.06								
6. Lockup period	3.40	6.43	.04	−.02	.03	−.07	.11							
7. Redemption period	36.77	26.87	.06	.00	.13	−.12	−.07	.29						
8. Number in family	3.80	5.82	−.02	.00	.12	.05	.12	−.06	−.07					
9. Rate of return, 12	0.81	1.57	.23	−.08	−.01	.01	.08	.06	.04	−.01				
10. Volatility, 12	3.01	2.85	−.03	−.03	−.18	.08	.16	.02	−.16	−.02	.16			
11. (+) Return qtr.	3.46	4.58	.17	−.04	−.05	.02	.10	.05	−.01	−.01	.47	.28		
12. (−) Return qtr.	−1.43	3.57	.15	−.03	.06	−.03	−.03	.01	.07	.00	.34	−.37	.30	
13. Typicality	0.34	0.13	.02	.01	.00	.00	.16	.02	−.07	.04	.05	.13	.06	−.03

capital flows. Model 3 tests hypotheses 2 and 3. Model 4 tests the robustness of the results in model 3 by reestimating the regression as a change model. This approach involves including a lagged dependent variable on the right-hand side of the regression equation. To further control against unobservable and unmeasured differences in quality at the level of the fund manager, I included a fixed effect at the level of the fund in model 5. Models 6 and 7 are additional robustness checks designed to account for possible endogeneity in the prior specifications.

The results of model 1 are consistent with prior findings. Fund age and size have a negative effect on capital flows. The two effects of fees are opposite each other. Whereas higher management fees—typically between 1 percent and 2 percent of total assets—are associated with increased capital flows, incentive fees—typically around 20 percent of total profits—have a negative effect on capital flows. Both liquidity restrictions have a positive effect on capital flows—only the redemption notice period is robustly significant at a 5-percent level—which are likely driven by the negative association between strict liquidity and capital outflows. Being part of a large fund family decreases capital inflows, but only marginally. Finally, the rolling 12-month return and volatility measures have large positive and large negative effects on capital flows, respectively. Controlling for volatility, funds posting strong long-term returns are rewarded. Controlling for returns, increased volatility reduces capital inflows.

Model 2 introduces prior quarter returns as well as fund typicality. The results support both implicit and stated hypotheses and are consistent with prior research on both the mutual fund and hedge fund industries. Capital flows respond more to positive recent returns (.447, $t = 19.43$) than to negative recent returns (.122, $t = 4.52$). A 1-percent increase

Table 5

Robust OLS Regression Predicting Capital Flows at t+1*

Variable	1	2	3	4	5	6	7
Capital flow				0.266	0.185***		
				(0.005)	(0.005)		
Age	–1.247***	–1.260***	–1.261***	–0.547***	–1.061***	–1.099***	–1.272***
	(0.038)	(0.038)	(0.038)	(0.030)	(0.307)	(0.028)	(0.039)
Log assets	–0.129**	–0.131**	–0.132**	–0.415***	–4.153***	–0.040	–0.131**
	(0.052)	(0.052)	(0.052)	(0.043)	(0.121)	(0.041)	(0.052)
Management fee	0.468**	0.463**	0.458**	0.239		0.386***	0.457**
	(0.190)	(0.188)	(0.188)	(0.149)		(0.122)	(0.188)
Incentive fee	–0.041**	–0.047**	–0.048**	–0.048***		–0.055***	–0.048**
	(0.019)	(0.019)	(0.019)	(0.015)		(0.013)	(0.019)
Lockup period	0.024	0.019	0.019	0.015		0.007	0.020
	(0.017)	(0.017)	(0.017)	(0.013)		(0.012)	(0.017)
Redemption period	0.035***	0.034***	0.034***	0.026***		0.032***	0.033***
	(0.004)	(0.004)	(0.004)	(0.003)		(0.003)	(0.004)
Number in family	–0.046**	–0.045**	–0.045**	–0.030*		–0.046***	–0.045**
	(0.023)	(0.023)	(0.023)	(0.018)		(0.013)	(0.023)
Rate of return, 12	3.198***	2.532***	2.530***	1.805***	1.797***	2.282***	2.527***
	(0.094)	(0.092)	(0.092)	(0.082)	(0.073)	(0.082)	(0.092)
Volatility, 12	–0.473***	–0.552***	–0.552***	–0.368***	–0.454***	–0.531***	–0.550***
	(0.042)	(0.046)	(0.046)	(0.039)	(0.058)	(0.042)	(0.046)
(+) Return qtr.		0.447***	0.712***	0.654***	0.557***	0.528***	0.721***
		(0.023)	(0.065)	(0.061)	(0.056)	(0.021)	(0.063)
(–) Return qtr.		0.122***	–0.114	–0.072	–0.057	0.137***	–0.054
		(0.027)	(0.070)	(0.064)	(0.068)	(0.028)	(0.068)
Typicality†		2.485***	6.064***	5.223***	16.527***		5.302***
		(0.812)	(1.048)	(0.901)	(4.386)		(0.979)
(+) Return qtr. × Typicality†			–0.731***	–0.605***	–0.544***		–0.724***
			(0.164)	(0.152)	(0.140)		(0.152)
(–) Return qtr. × Typicality†			0.668***	0.628***	0.592***		0.480***
			(0.177)	(0.161)	(0.171)		(0.164)
(+) Return qtr., t–1						0.389***	
						(0.050)	
(–) Return qtr., t–1						0.123*	
						(0.070)	
Typicality, t–1						3.829***	
						(0.803)	
(+) Return qtr., t–1 × Typicality, t–1						–0.280**	
						(0.124)	
(–) Return qtr., t–1 × Typicality, t–1						0.343**	
						(0.174)	
N, observations	92,226	92,226	92,226	83,245	83,245	84,446	92,226
N, funds	6562	6562	6562	6353	6353	6367	6562
Quarterly fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Style fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fund fixed effect	No	No	No	No	Yes	No	No
R^2	0.107	0.113	0.114	0.170	0.277	0.118	0.113

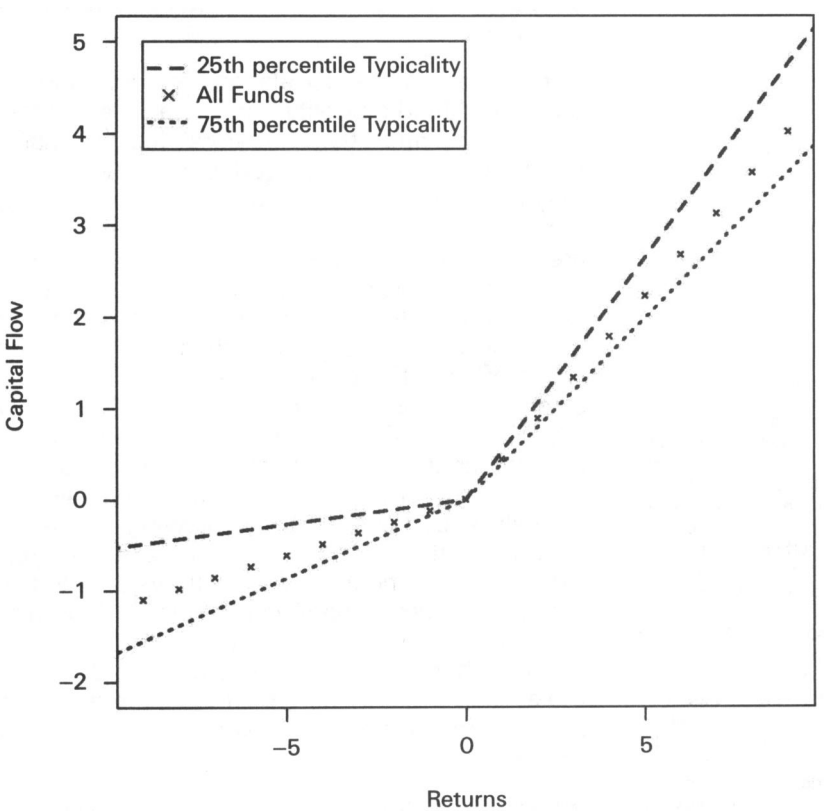
* $p < .10$; ** $p < .05$; *** $p < .01$.
* Heteroskedasticity-consistent robust standard errors are in parentheses, clustered by fund.
† In model 7, typicality is fixed as the point of fund entry, which affects the typicality term and the two interactions involving typicality.

in positive returns is associated with about a half-percent increase in subsequent inflows. A 1-percent decrease in negative returns generates just under an eighth-percent decrease in outflows. As for fund identity, there is a positive effect of fund typicality on capital flows (2.485, t = 3.06). Other things held constant, atypical funds elicit fewer capital inflows.

This result supports the argument that investors—either directly or via consultants—do consider something like my measure of typicality when making capital allocation decisions. In the absence of this main effect, justifying this paper's main claim—that investors interpret market information through the lens that identity offers—would be more difficult.

Model 3 presents a direct test of the moderating capacity of typicality by including the two interaction terms, typicality by prior quarter positive returns and typicality by prior quarter negative returns. According to H2, we should find a negative coefficient estimate on the interaction term with positive performance. Atypical funds should be more rewarded for positive recent performance than typical funds. Results strongly support this proposition (–.731, t = –4.46). H3 suggests this effect should be symmetric about the zero returns point: whereas atypical funds are in fact more rewarded for positive returns, they should also be more penalized for negative returns. The coefficient estimate on the second interaction term does not support this expectation (.668, t = 3.77). Rather, atypical funds appear to be less penalized, or buffered, with respect to capital outflows for equivalently poor recent performance. Figure 3 illustrates visually that atypical funds are both more rewarded and less penalized for positive and negative returns, respectively.

Figure 3. Relationship between prior quarterly returns and capital flows, using results from model 3.*



*Trajectories are not adjusted for the main-effect parameter estimate of typicality, only the parameter estimate of returns that is based on both the main returns effect and the interaction between returns and typicality.

Both results, the expected amplification for positive returns and the unexpected buffering for negative ones, are significant even when adding a lagged dependent variable to the right-hand side of the regression equation (model 4) and when including a fixed effect at the level of the fund (model 5). With a lagged dependent variable as a regressor, the other variables in the model now predict quarter-by-quarter change in capital flows into and out of a fund, rather than the level of capital flows in a focal quarter. Results indicate that flows are correlated from one quarter to the next, even after accounting for the effect of the control variables.[4] Importantly, the changes in both models 4 and 5 do not affect the primary findings from model 3.

What the interaction terms alone conceal, however, is the main effect of fund typicality. This omission is potentially important and should be accounted for to make sense of the complex relationship between fund typicality and fund performance and capital flows. In fact, if the main effect of typicality on capital flows is large enough, then despite the implications of model 3, atypical funds may never be in a position to benefit from their atypicality. The greatest inflows should accrue to atypical funds that produce excessively positive returns in the prior quarter. The greatest outflows, by contrast, are found among the most typical funds that post excessively negative returns in the prior quarter. A different pattern takes shape, however, around the point of zero returns. If we consider only a narrow distribution of quarterly returns, then the main effect of typicality outweighs the potential for either excess reward or buffering among atypical funds.

Due to the negative correlation between redemption notice period and fund typicality, there is a potential for liquidity restrictions, rather than investors' decision making, to drive the buffering effect observed among atypical funds: capital may flow from atypical funds more slowly following periods of negative returns simply because investors in these funds are more restricted, on average. But certain features of the data and analysis render this alternative unlikely. The distribution of redemption notice periods across all funds in the database indicates that more than 98 percent of them have redemption notice periods that are less than 90 days, or a single quarter. The median is 30 days. As a result, even though redemption notice periods are slightly longer among atypical funds, we might still reasonably assume that capital outflows that are the result of losses in a given quarter should be realized by the end of the following quarter, or 90 days later. Nevertheless, model 6 addresses this alternative explanation by modeling capital flows at time t+1 on fund typicality, returns, and the interaction between them at time t–1, controlling for returns at the intermediate period, time t. Model 6 thus accounts for an additional 90 days of "drag" in the association between the interaction terms and outcome. Results are statistically weaker but generally consistent with model 3.

An additional identification concern arises largely as a consequence of the mathematical dependency in the assignment of fund typicality, that is, change in a fund's level of typicality is

4
Positive first-order autocorrelation is present in the data, as expected. I tested for autocorrelation using the Durbin-Watson statistic (= 1.22) for models not including the lagged dependent variable. For models with a lagged dependent variable, I also assessed autocorrelation using a Wooldridge test for autocorrelation in panel data (Durbin-Watson is an invalid measure of autocorrelation because including a lagged dependent variable constitutes a strong violation of the exogeneity assumption). Because the presence of positive first-order autocorrelation when left uncorrected may downwardly bias estimated standard errors, I ran a series of Prais-Winsten AR(1) and Cochrane-Orcutt AR(1) models, in addition to model 4 in the text, to account for first-order autocorrelation. Results of these additional models were entirely consistent with those in the text. Models and details are available from the author.

determined by the entry and exit of other funds in its primary style category. An endogeneity concern presents itself and is rooted in the fact that fund foundings are probably driven in part by observations of which funds were relatively more successful in the past. This statement is consistent, of course, with the premise that entry into a market will continue until the marginal actor in that market fails to realize an economic profit. As a result, endogeneity will be a concern if fund typicality in any way causes fund performance. In supplemental analyses available from the author it is clear that this association is not present (beta = 0.165, $p = 0.439$), thus eliminating much of the basis for concern. Model 7 addresses this endogeneity concern even more directly, however. Due to the sheer size of the sample and moderate rate of turnover, most variation in typicality is between funds. A simple control for the concern just raised then is to fix fund typicality at the point of fund entry, thus alleviating any possible confounding arising from the complex interdependencies between performance, changes in fund typicality as a result of changes in the competitive landscape, and capital flows.[5] The results of model 7 are again consistent with model 3.

Models 8 and 9 in table 6, as well as models 10 through 13 in table 7, add additional nuance to the principal empirical results in model 3. In table 6, I investigate the duration of the buffering effect by sampling from funds that have two and three consecutive quarters with negative returns. The model on the left-hand side of table 6 replicates model 3 from table 5 and serves as a point of comparison. Positive returns and the interaction between positive returns and typicality drop out of models 8 and 9, as inclusion in regressions is contingent on

Table 6

Robust OLS Regression Testing the Duration of the Buffering Effect*

Variable	3 All funds†	8 Two qtr. (–) Returns†	9 Three qtr. (–) Returns†
(+) Return qtr.	0.712••• (0.065)		
(–) Return qtr.	–0.114 (0.070)	0.028 (0.119)	0.298 (0.189)
Typicality	6.064••• (1.048)	4.574• (2.532)	1.779 (4.632)
(+) Return qtr. × Typicality	–0.731••• (0.164)		
(–) Return qtr. × Typicality	0.668••• (0.177)	0.683•• (0.302)	0.508 (0.496)
N, observations	92,226	8,783	3,116
N, funds	6562	3634	1729
Quarterly fixed effect	Yes	Yes	Yes
Style fixed effect	Yes	Yes	Yes
R^2	0.114	0.078	0.094

• $p < .10$; •• $p < .05$; ••• $p < .01$.
* Heteroskedasticity-consistent robust standard errors are in parentheses, clustered by fund.
† Prior controls from models in table 5 are included in the models but omitted from the table.

5
This result is not intended to imply that any sort of "imprinting"—for example, that the typicality of a fund at the point of entry is imprinted on the minds of investors and remains constant even as a fund's actual level of typicality changes—is occurring in the hedge fund industry. Because there is little within-fund variation with respect to typicality, it is hard to know to what extent imprinting occurs in this context, if at all.

Table 7

Robust OLS Regression Testing the Duration of the Buffering Effect*

Variable	10 LSE†	11 MF†	12 FOF†	13 MS†
(+) Return qtr.	0.718***	0.718***	0.474***	0.524**
	(0.088)	(0.199)	(0.130)	(0.219)
(–) Return qtr.	–0.013	–0.181	–0.254*	–0.219
	(0.093)	(0.225)	(0.139)	(0.339)
Typicality	7.029***	4.479	2.833*	–1.815
	(1.425)	(3.191)	(1.638)	(4.073)
(+) Return qtr. × Typicality	–0.921***	–0.873**	0.131	1.214*
	(0.209)	(0.432)	(0.367)	(0.736)
(–) Return qtr. × Typicality	0.500**	0.825*	0.537	0.484
	(0.225)	(0.499)	(0.396)	(1.011)
N, observations	29,140	7,417	18,793	5,809
N, funds	2072	508	1465	362
Quarterly fixed effect	Yes	Yes	Yes	Yes
R^2	0.146	0.092	0.099	0.122

* $p < .10$; ** $p < .05$; *** $p < .01$.
* Heteroskedasticity-consistent robust standard errors are in parentheses, clustered by fund.
† Prior controls from models in table 5 are included in the models but omitted from the table.

having negative returns. Together, models 8 and 9 indicate that the buffering effect afforded to atypical but poorly performing funds extends to funds with two consecutive quarters of negative returns (both the magnitude and significance level of the effect is attenuated, however), but not to those with three such bad quarters. All prior controls are included in models 8 and 9. Coefficient estimates of these additional controls are comparable to the models in table 5 and are thus omitted.

Finally, models 10 through 13 incorporate Ruef and Patterson's (2009) argument that categorical identity effects should be far smaller or even non-existent when the category itself is not well defined (see also Kovacs and Hannan, 2010; Negro, Hannan, and Rao, 2010). In the case of hedge funds, this means that we might expect the effects established above (in models using fixed effects for style categories) to be attenuated or altogether absent among funds in styles that are devoid of anything that might be considered meaningfully typical or average in the first place. Of course, by the nature of the typicality measurement, all style groups are ascribed a nominal typical representation at the very least. We can assess how relevant or real this representation is in two basic ways. First, eigenvalue decomposition of each style-quarter matrix allows for a quick investigation of the principle components of each matrix. Principle components are useful for assessing the amount of variation (or overlap) among the unique fund vectors that make up a style-quarter matrix. If significant variance is detected, then the derived average vector against which all actual fund vectors are compared may be less relevant.

A second, simpler approach that results in a nearly equivalent ranking of fund styles entails looking at the average level of typicality in each style-quarter combination. Low-average typicality is characteristic of greater variance among the individual funds in a given style. For example, of the 11 styles in the study, the multi-strategy style, which should have the most variation by definition, has the lowest average level of typicality. The results in table 7 are those derived from regressions run on four subsamples of the data. Models 10 and 11 used funds from the two style categories with the highest average measure of typicality, namely, Long/Short Equity and Managed Futures. Models 12 and 13 were run using funds from the two style categories with the lowest average measure of fund typicality, namely, Funds of Funds, and Multi-Strategy. A brief visual scan of the resulting coefficients offers support for Ruef and Patterson's (2009) hypothesis. H2 and H3 are indeed stronger and more systematic in models 10 and 11.

Whereas the preceding check brings to light an important scope condition—that the direct and indirect effects of categorical identity are greater when categories have internal consistency or cohesion—the diminished effect in the latter groups may simply be due to measurement error rather than audiences not using organizational identities to make sense of emerging information. The measure of typicality I employed uses the central tendency or average fund as the point of reference in each style-quarter grouping. As a result, the lack of a typicality effect in models 12 and 13 does not necessarily imply that identity is irrelevant in these style categories, only that the average fund is an irrelevant reference point. In heterogeneous populations, an alternative measure of typicality—for instance, one using an exemplar fund as a reference point rather than a hypothetical average fund—may yield results consistent with those in more homogeneous populations. The difficulty here, of course, and one that is beyond the scope of this paper, is determining what constitutes a meaningful reference point for audiences evaluating a more heterogeneous set of entities.

DISCUSSION AND CONCLUSION

The results of the study support the main effect, or identity-as-signal hypothesis. Investors generally reward conformist hedge funds, with conformity measured as the degree of a fund's typicality vis-à-vis its primary style grouping. The identity-as-lens hypotheses are also supported, though the presumed amplification effect is supported in one direction only. The combination of atypicality and positive performance indeed begets additional reward. Contrary to prediction, however, atypical funds with poor recent performance are penalized less than comparably performing but typical funds. The absence of symmetry suggests that mechanisms other than those proposed above may in fact drive audiences' behavior, at least in the context of the hedge fund industry.

Had the outcomes of the analysis been symmetric—that is, had atypical funds been rewarded more and penalized more for positive and negative performance—the mechanisms previously suggested to link identity, performance, and

evaluation would suffice. Atypicality would be beneficial, as was predicted at the outset, but only following positive performance. That atypicality also buffers funds from the consequences of poor performance, however, suggests the need for an alternative theory. Two possible anchoring points for such a theory are the concepts of commitment and comparison, known in one form or another across sociological, psychological, and economic literatures.

Toward a Theory of Beneficial Atypicality

Two plausible mechanisms can be distilled from the hedge fund case to underpin a theory of beneficial atypicality. The first is escalating commitment. Staw (1976, 1997) first proposed the concept to describe people's tendency to use information about their own prior investment in something to justify their continued investment in it. In other words, given equivalently negative information about two comparable things, such as hedge funds, people are more apt to abandon the one in which they initially invested less. Behavioral economists and psychologists have referred to this effect as the sunk-cost fallacy.

The analogy to fishing is again useful here when we shift attention from risk and reward to investment, payment, and cost. If investing a given amount of capital in an atypical fund is more costly than investing the same amount in a typical one, a commitment bias should be more readily observable among investors in atypical funds. Investing in atypical funds, or equivalently, endorsing non-conformist organizations, involves two types of additional costs. First, finding atypical funds in which to invest should involve additional search costs. Second, much like the crew members aboard fishing boats located outside the visible cluster, investing in atypical funds requires additional trust from investors. Investors thus incur greater sunk costs—tangible search and intangible trust, neither of which can be recovered—when allocating capital to an atypical fund. The greater aggregate costs incurred by these investors may result in an escalation of commitment. Consistent with Staw's original thesis, the escalation of commitment among atypical funds is apparent in investors' relative hesitancy to redeem capital following periods of negative performance. The results of the study suggest that atypical fund investors displayed commitment through one and two consecutive quarters of negative returns, though the effect disappeared after three such quarters.

The second mechanism relates to social comparison and substitutability. Just as atypical funds are more costly to find and invest in, typical funds are more readily substitutable. As one fund of funds manager I interviewed noted, "We're definitely more quick to fire a manager in a more traditional fund because it's really easy to switch." A second fund manager, commenting on the advantages of offering a "niche product," elaborated on this basic premise: "If I'm an investor I'm going to stick it out more with non-traditional investments. If I decided to invest in, umm, I don't know, Brazilian hardwoods, I'm not going to run for the hills at the first sign of trouble. But if I'm also invested in a pretty traditional long-short fund and things aren't looking real good, I can

invest in about 10 others guys I know who are probably doing the exact same thing."

The availability of substitutes implies that typical funds may in fact occupy more fragile positions in the larger structure of the hedge fund industry (cf. Bothner, Smith, and White, 2010). Should less-than-positive information emerge, investors can easily and relatively cheaply scan the environment for alternative funds and, lockup periods notwithstanding, shift their capital accordingly. Atypical funds, in contrast, fall outside the realm of ready social comparison.

The commitment and comparison mechanisms have contrasting implications for the typicality construct and for the concept of organizational identity more generally. Under the commitment mechanism, typicality is little more than a proxy for the unobservable cost of investment or endorsement. Identity does not affect audiences' behavior, per se; rather, it offers clues to the researcher about the nature and price of exchange between an organization and a given audience. The salience of identity reasserts itself, however, when we consider social comparison. Despite claiming a common label—for example, long-short equity, global macro, event driven, and so forth—and thus inviting comparisons against more global benchmarks, in the absence of local, identity-based comparisons, atypical organizations may be relatively free from the scrutiny of social comparison. As a result, atypical organizations may be less affected by the devaluation—capital redemption and reallocation in the case of hedge funds—that typical organizations face following periods of poor performance.

Additional research is necessary to test hypotheses based on both the commitment and comparison mechanisms. Testing the former, in particular, would require data at the level of the investor that is not typically available in the hedge fund industry. Future research may therefore benefit by adopting more qualitative methods to test the propositions that the additional costs involved in endorsing an atypical entity (1) translate to greater commitment and (2) are manifest as greater short-term tolerance for poor performance.

A comparison hypothesis, by contrast, may be testable with the sort of data used in this study, though additional research will be necessary to explore the possible link between this paper's unexpected empirical result and the kind of cognitive processes suggested to underlie the comparison hypothesis. Performance theory offers a useful starting point. Performance theory implies that investors may evaluate returns relative to other indexed benchmarks. Standard benchmarks in financial markets include the S&P 500 as well as various style-specific indexes constructed and maintained by data providers such as TASS. According to the comparison hypothesis, when an atypical organization performs poorly it benefits from audiences' reluctance to evaluate that performance on a relative basis. Accordingly, while any kind of poor performance, relative or absolute, should result in devaluation, it may be that for relative poor performance of the same magnitude, a resulting devaluation will be noticeably smaller for atypical organizations than typical ones.

To rephrase, atypical organizations may benefit from having audiences that use a very wide "aperture" lens of comparison when things go well but a much narrower aperture lens when things go poorly. By contrast, a mid-sized and non-variable aperture lens may be employed by audiences evaluating all information, positive and negative, about more typical organizations. Positive information in a wide-aperture lens world elicits excessive positive evaluations. As the aperture of comparison narrows, however, both positive and negative information have diminishing effects on audiences' evaluations. This explanation not only captures the significant "kink" in the performance-capital flow relationship among atypical hedge funds, but it also does well to explain the near linear (and heretofore unobserved) performance-capital flow relationship among typical hedge funds revealed in this study.

Using financial data to draw definitive conclusions about the comparison or "variable-aperture" hypothesis is not without its challenges. For starters, several researchers have downplayed the extent to which multiple calculations of relative returns may be used along with data on capital flows to impute and measure the presence of behavioral biases in investors' decision making (e.g., Sirri and Tufano, 1998). Fully and satisfactorily addressing this skepticism is beyond the scope of the current paper. Nevertheless, in future research it may be feasible to test the validity of the variable-aperture concept by analyzing audience evaluation with respect to performance measures that have been adjusted for one or more identity- (typicality-) based benchmarks.

Legitimacy and Isomorphism

In spite of their ubiquity, markets structured and reproduced by the social process of mimicry are a peculiar phenomenon. Like fishing, the probability of realizing gains in zero-sum or near-zero-sum markets ultimately must be inversely related to the number of actors competing for the same gains. This principal observation underlies the concept of density dependence in organizational ecology (Hannan and Freeman, 1977). Only so many fish are in the sea, after all. And yet both fishing boat captains and organizational leaders watch and mimic one another all the time. How then should we make sense of such behavior when it leads to excessive clustering in the market?

In addition to being a response to uncertainty (DiMaggio and Powell, 1983), the most prominent answer to emerge in the sociological literature centers on the notion of legitimacy. The need for legitimacy is so strong a force that organizations must strive to be legitimate before ever expecting to be profitable. If typicality indeed constitutes a kind of legitimacy then the results of this study offer an avenue by which to situate in a probabilistic frame concerns about organizational legitimacy and the strategic choice to conform or not conform. Should managers anticipate performance around the average point for their industry, for instance, they may be better off building an organization that conforms to the tendencies of other organizations in the market. Should they aim for greater volatility—generating performance or returns

outside that band—they may be better off managing an atypical organization.

Measuring Organizational Typicality

The measurement strategies developed for this study may be usefully employed elsewhere. Using as a starting point several insights from research on the social construction and consequences of categories in markets, the measure of typicality introduced here offers a general and readily replicable framework. Though the style categories in the hedge fund industry are relatively discrete, it is likely that not all action in markets is organized in terms of nested, well-known categorical sets. Often, the structural properties economic agents employ are better understood as webs of sameness and difference (Rosch, 1973). These webs, as well as the central tendencies within them (Miller and Chen, 1996), can change over time. As a result, whereas basing a measurement of identity on specific boundary or category spanning may make sense in the short run or in the most static environments, employing a more fluid measurement like the one used here may be more appropriate when studying the effects of categorical identities in industries over longer periods of time.

Having said that, the measure of typicality used here has several limitations of its own. Besides the implicit weighting in the measurement—deviation from elements more common contribute more to the overall level of atypicality—I do not account for or explore alternative weighting options. For instance, the most relevant reference point in hedge fund style categories may in fact be a function of the average, whereby larger or more successful funds are preferentially weighted. Alternatively, investors may converge on a single, exemplar fund against which to compare a given, focal fund. The results do offer empirical support for the measurement used, but further studies might investigate how variations in the assessment of typicality, and organizational identity more generally, affect the primary outcome.

Decision Making, Performance, and Incentives in the Context of Identity

By focusing on audiences' evaluations, this study also adds a distinctive sociological voice to recent research on behavior and decision making in behavioral economics. First, the results extend prior findings by adding an important nuance to the nonlinearity between performance and evaluation. The conventional interpretation of this nonlinearity is that audiences respond more to positive information than they do to negative information. My results indicate that it is particularly true of audiences for atypical organizations. In the case of typical organizations, the relationship between performance and evaluation more closely approximates a linear one. The fact that the nonlinearity is concentrated among atypical organizations suggests a distinct competitive advantage for organizational nonconformity.

Finally, I believe a focus on organizational incentives may shed additional light on the empirical results. One of the hedge fund managers with whom I spoke shared an office

colloquialism, "Negative Upside"—a term he and his partners used to describe pension fund managers' dilemmas in choosing to allocate capital. Investing in either typical or atypical funds can produce positive returns—results showed no effect of typicality on returns—but investing in atypical funds is more likely to cost the pension manager his or her job should things go wrong. Moreover, excessive positive returns often have only a marginal impact on a pension manager's total compensation. Given these considerations, pension managers should be more likely to invest in typical funds. Understanding the conditions under which a certain type of audience member—one that, like pension fund managers, has an incentive to endorse the standard offering—chooses to endorse an atypical thing, then, should provide additional insight into how people use organizational and categorical identity in their decision-making processes.

REFERENCES

Abdellaoui, M., H. Bleichrodt, and C. Paraschiv
2007 "Loss aversion under prospect theory: A parameter-free measurement." Management Science, 53: 1659–1674.

Ackermann, C., R. McEnally, and D. Ravenscraft
1999 "The performance of hedge funds: Risk, return, and incentives." Journal of Finance, 54: 844–874.

Agarwal, V., N. Daniel, and N. Naik
2007 "Role of managerial incentives and discretion in hedge fund performance." Working paper, Georgia State University, Purdue University, and London Business School.

Albert, S., and D. A. Whetten
1985 "Organizational identity." In L. L. Cummings and B. M. Staw (eds.), Research in Organizational Behavior, 7: 263–295. Greenwich, CT: JAI Press.

Ashforth, B. E., and R. H. Humphrey
1997 "The ubiquity and potency of labeling organizations." Organization Science, 8: 43–58.

Barth, F.
1966 "Models of social organization." Occasional Paper No. 23, Royal Anthropological Institute of Great Britain and Ireland, London.

Berk, J. B., and R. C. Green
2004 "Mutual fund flows and performance in rational markets." Journal of Political Economy, 112: 1269–1295.

Bothner, M., E. B. Smith, and H. White
2010 "A model of robust positions in social networks." American Journal of Sociology, 116: 943–992.

Briscoe, F., and S. Safford
2008 "The Nixon-in-China effect: Activism, imitation, and the institutionalization of contentious practices." Administrative Science Quarterly, 53: 460–491.

Brunnermeier, M. K.
2001 Asset Pricing under Asymmetric Information: Bubbles, Crashes, Technical Analysis and Herding. Oxford: Oxford University Press.

Burt, R. S.
1998 "The gender of social capital." Rationality and Society, 10: 5–46.

Capocci, D., and G. Hubner
2004 "Analysis of hedge fund performance." Journal of Empirical Finance, 11: 55–89.

Carroll, G. R., and A. Swaminathan
2000 "Why the microbrewery movement? Organizational dynamics of resource partitioning in the U.S. brewing industry." American Journal of Sociology, 106: 715–762.

Chen, M., and D. C. Hambrick
1995 "Speed, stealth and selective attack: How small firms differ from large firms in competitive behavior." Academy of Management Journal, 38: 453–483.

Chen, M., and I. MacMillan
1992 "Nonresponse and delayed response to competitive moves: The roles of competitor dependence and irreversibility." Academy of Management Journal, 35: 539–570.

Chevalier, J. A., and G. Ellison
1997 "Risk taking by mutual funds as a response to incentives." Journal of Political Economy, 105: 1167–1200.

Cialdini, R. B.
2001 Influence: Science and Practice. Boston: Allyn & Bacon.

Corley, K. G., and D. A. Gioia
2004 "Identity ambiguity and change in the wake of a corporate spin-off." Administrative Science Quarterly, 49: 173–208.

Dice, L. R.
1945 "Measures of the amount of ecologic association between species." Ecology, 26: 297–302.

DiMaggio, P. J., and W. W. Powell
1983 "The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields." American Sociological Review, 48: 147–160.

Dutton, J. E., and J. M., Dukerich
1991 "Keeping an eye on the mirror: Image and identity in organizational adaptation." Academy of Management Journal, 34: 517–554.

Elsbach, K. D., and R. M. Kramer
1996 "Members' responses to organizational identity threats: Encountering and countering the *Business Week* rankings." Administrative Science Quarterly, 41: 422–476.

Fiske, S. T., and S. E. Taylor
1991 Social Cognition, 2d ed. New York: McGraw Hill.

Fruchterman, T. M. J., and E. M. Reingold
1991 "Graph drawing by force-directed placement." Software—Practice and Experience, 21: 1129–1164.

Fung, W., and D. A. Hsieh
2000 "Performance characteristics of hedge funds and commodity funds: Natural vs. spurious biases." Journal of Quantitative Financial Analysis, 35: 291–307.

Fung, W., D. A. Hsieh, N. Naik, and T. Ramadorai
2008 "Hedge funds: Performance, risk, and capital formation." Journal of Finance, 63: 1777–1803.

Getmansky, M., A. W. Lo, and I. Makarov
2004 "An econometric model of serial correlation and illiquidity in hedge fund returns." Journal of Financial Economics, 74: 529–610.

Gioia, D. A., and J. B. Thomas
1996 "Identity, image, and issue interpretation: Sensemaking during strategic change in academia." Administrative Science Quarterly, 41: 370–403.

Hannan, M. T.
2010 "Partiality of memberships in categories and audiences." Annual Review of Sociology, 36: 159–181.

Hannan, M. T., and G. R. Carroll
1992 Dynamics of Organizational Populations: Density, Legitimation, and Competition. New York: Oxford University Press.

Hannan, M. T., and J. Freeman
1977 "The population ecology of organizations." American Journal of Sociology, 82: 929–964.

Hardie, I., and D. MacKenzie
2007 "Assembling an economic actor: The agencement of a hedge fund." Sociological Review, 55: 57–80.

Henderson, A. D.
1999 "Firm strategy and age dependence: A contingent view of the liabilities of newness, adolescence, and obsolescence." Administrative Science Quarterly, 44: 281–314.

Homans, G.
1961 Social Behavior: Its Elementary Forms. London: Routledge and Kegan Paul.

Hsu, G.
2006 "Jacks of all trades and masters of none: Audiences' reactions to spanning genres in feature film production." Administrative Science Quarterly, 51: 420–450.

Hsu, G., and M. T. Hannan
2005 "Identities, genres, and organizational forms." Organization Science, 16: 474–490.

Kahneman, D., J. Knetsch, and R. Thaler
1990 "Experimental tests of the endowment effect and the Coase theorem." Journal of Political Economy, 98: 1325–1348.

Klebanov, M. M.
2008 "Betas, characteristics and the cross-section of hedge fund returns." Working paper, Booth School of Business, University of Chicago.

Kovacs, B., and M. Hannan
2010 "The consequences of category spanning depend on contrast." In G. Hsu, G. Negro, and O. Kocak (eds.), Research in the Sociology of Organizations, 31: 175–201. Bingley, UK: Emerald Books.

Lawson, D., and D. Peterson
2008 "Do hedge funds arbitrage market anomalies?" Working paper, Department of Finance, Florida State University.

Leclerc, F., C. Hsee, and J. Nunes
2005 "Narrow focusing: Why the relative position of a good in its category matters more than it should." Marketing Science, 24: 194–205.

Leifer, E., and H. White
1987 "A structural approach to markets." In M. Mizruchi and M. Schwartz (eds.), Intercorporate Relations: The Structural Analysis of Business: 85–108. Cambridge: Cambridge University Press.

Liang, B.
2000 "Hedge funds: The living and the dead." Journal of Financial and Quantitative Analysis, 35: 309–325.

Lieberman, M., and D. Montgomery
1988 "First mover advantage." Strategic Management Journal, 9: 441–458.

Lo, A. W.
2008 Hedge Funds: An Analytic Perspective. Princeton, NJ: Princeton University Press.

Lounsbury, M., and H. Rao
2004 "Sources of durability and change in market classifications: A study of the reconstitution of product categories in the American mutual fund industry, 1977–1985." Social Forces, 82: 969–99.

Meyer, J. W., and B. Rowan
1977 "Institutionalized organizations: Formal structure as myth and ceremony." American Journal of Sociology, 83: 340–363.

Miles, R. E., and C. C. Snow
1978 Organizational Strategy, Structure, and Process. New York: McGraw-Hill.

Miller, D., and M. Chen
1996 "Nonconformity in competitive repertoires: A sociological view of markets." Social Forces, 74: 1209–1234.

Negro, G., M. Hannan, and H. Rao
2010 "Categorical contrast and audience appeal: Niche width and critical success in winemaking." Industrial and Corporate Change, 19: 1397–1425.

Phillips, D., and E. Zuckerman
2001 "Middle-status conformity: Theoretical restatement and empirical demonstration in two markets." American Journal of Sociology, 107: 379–429.

Podolny, J. M., and T. Stuart
1995 "A role-based ecology of technological change." American Journal of Sociology, 100: 1224–1260.

Podolny, J. M., T. Stuart, and M. Hannan
1996 "Networks, knowledge, and niches: Competition in the worldwide semiconductor industry, 1984–1991." American Journal of Sociology, 102: 659–689.

Pontikes, E. G.
2008 "Fitting in or starting new? An analysis of invention, constraint, and the emergence of new categories in the software industry." Working paper, Booth School of Business, University of Chicago.

Porter, M. E.
1985 Competitive Advantage. New York: Free Press.

Rao, H., H. R. Greve, and G. F. Davis
2001 "Fool's gold: Social proof in the initiation and abandonment of coverage by Wall Street analysts." Administrative Science Quarterly, 46: 502–526.

Rao, H., P. Monin, and R. Durand
2003 "Institutional change in Toqueville: Nouvelle cuisine as an identity movement in French gastronomy."

American Journal of Sociology, 108: 795–843.

Rosch, E.
1973 "Natural categories." Cognitive Psychology, 4: 328–350.

Ruef, M., and K. Patterson
2009 "Credit and classification: The impact of industry boundaries in nineteenth century America." Administrative Science Quarterly, 54: 486–520.

Sensoy, B. A.
2009 "Performance evaluation and self-designated benchmark indexes in the mutual fund industry." Journal of Financial Economics, 92: 25–39.

Sirri, E., and P. Tufano
1998 "Costly search and mutual fund flows." Journal of Finance, 53: 1589–1622.

Staw, B. M.
1976 "Knee deep in the Big Muddy." Organizational Behavior and Human Decision Processes, 35: 124–140.
1997 "The escalation of commitment: An update and appraisal." In Z. Shapira (ed.), Organizational Decision Making: 191–215. New York: Cambridge University Press.

Stryker, R.
1994 "Rules, resources, and legitimacy processes: Some implications for social conflict, order, and change." American Journal of Sociology, 99: 847–910.

Stuart, T., H. Hoang, and R. C. Hybels
1999 "Interorganizational endorsements and the performance of entrepreneurial ventures." Administrative Science Quarterly, 44: 315–349.

Suchman, M. C.
1995 "Managing legitimacy: Strategic and institutional approaches." Academy of Management Review, 20: 571–610.

Tajfel, H., and J. C. Turner
1986 "The social identity theory of inter-group behavior." In S. Worchel and W. Austin (eds.), The Social Psychology of Intergroup Relations, 2d ed.: 7–24. Chicago: Nelson-Hall.

Thomas, G. M., H. Walker, and M. Zelditch
1986 "Legitimacy and collective action." Social Forces, 65: 378–404.

Vaupel, J. W., and A. I. Yashin
1985 "The deviant dynamics of death in heterogeneous populations." Sociological Methodology, 15: 439–454.

Weick, K. E.
1995 Sensemaking in Organizations. Thousand Oaks, CA: Sage.

Whetten, D. A.
2006 "Albert and Whetten revisited: Strengthening the concept of organizational identity." Journal of Management Inquiry, 15: 219–234.

White, H.
1981 "Where do markets come from?" American Journal of Sociology, 87: 517–547.
2008 Identity and Control: A Structural Theory of Social Action. Princeton, NJ: Princeton University Press.

Zuckerman, E. W.
1999 "The categorical imperative: Securities analysts and the illegitimacy discount." American Journal of Sociology, 104: 1398–1438.
2004 "Structural incoherence and stock market volatility." American Sociological Review, 69: 405–432.