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# A Star Is Born: The Relationship Between Performance and Achieving Status Through Certification Contests in the Context of Equity Analysts

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**Abstract.** We investigate how the relationship between status and performance decouples over time by addressing two questions: (1) how performance affects the likelihood that an actor achieves high status and (2) how achieving high status affects the actor's subsequent performance. In doing so, we focus on the role repeated certification contests play, where evaluators assess actors' performance along particular dimensions and confer high status on the contest winners. Using the context of sell-side (brokerage) equity analysts and the "All-Star" list from *Institutional Investor* magazine, we first investigate whether analysts who make the All-Star list are more likely to produce accurate and/or independent forecasts. Then, we investigate analyst performance after recent and multiple wins. Our results demonstrate the decoupling of status and performance over time and the roles played by both the high-status actor and the social evaluators conferring their status. Whereas analyst performance increases the likelihood of being designated an All-Star, recent and multiple All-Star designations differentially affect both how subsequent performance is assessed, and how the All-Star analysts subsequently perform. In the short term, achieving high status can increase performance and solidify an analyst's status position; however, in the long term, it can lead to lower performance and eventually result in status loss, which further erodes performance.

**Keywords:** status • performance • certification contests • analysts

> The All-America Research Team swiftly became an October institution on Wall Street … In January 1976, *New York* magazine financial columnist Andrew Tobias … likened the AART to the Academy Awards. "The impact of the annual ranking is enormous," he wrote. "It separates the knights from the serfs. It triples salaries. It determines who can switch jobs, whose views are sought out for quotations in *Business Week* and *The Wall Street Journal*." (Lowengard 2017)

Status reflects an actor's relative standing in a social hierarchy (Washington and Zajac 2005, Jensen and Roy 2008, Bitektine 2011). Although status has subjective underpinnings based on the values of the social group creating the hierarchy (Pollock et al. 2019) and is only loosely coupled with performance (Lynn et al. 2009), outside evaluators often treat it as a signal of an actor's objective underlying quality, particularly in uncertain circumstances (Benjamin and Podolny 1999, Lynn et al. 2009). As a result, high status provides significant benefits to its holders (Gould 2002, Lynn et al. 2009). It increases visibility and leads to favorable evaluations (Merton 1968, Washington and Zajac 2005); enables sellers to charge higher prices than their lower status counterparts for items of similar quality (Benjamin and Podolny 1999); can reduce the cost of goods sold (Podolny 1993); and provides access to important resources, such as financial capital (Stuart et al. 1999) and technology licensing opportunities (Sine et al. 2003).

Most researchers typically treat status hierarchies as static and resistant to change (e.g., Stewart 2005, Washington and Zajac 2005, Sauder et al. 2012). However, some—particularly those studying new organizations—explore how status changes. One explanation for status change is that lower status actors can build relationships with central and high-status actors, thereby increasing their own status (Stuart et al. 1999, Fund et al. 2008). Another explanation for status change is performance (Jensen et al. 2012, Pollock et al. 2015). Jensen et al. (2012), for example, suggested that actors can increase their status by building reputations for specific characteristics that social evaluators believe high-status actors share. A study of new venture capital (VC) firms also showed that firm status can

rise along with increases in the firm's positive reputation for general performance (Pollock et al. 2015). Pollock and colleagues argued that establishing a positive reputation for performance helps the new VC firms join investment syndicates with high-status VC firms, which, in turn, enhances the new firms' status. Further, when performance is verified or validated through certification contests, status can change rapidly (Rao 1994, Espeland and Sauder 2012). This occurs when actors are appointed to elite groups, such as Nobel prize winners (Merton 1968), All-Star sports teams (Ertug and Castellucci 2013, Kim and King 2014), Oscar winners (Jensen and Kim 2015), or reaching the top of influential rankings (Rindova et al. 2018).

Whereas performance can help achieve high status, status and performance often become decoupled after high status is achieved (Lynn et al. 2009, Bothner et al. 2012). As a result, the differences in ability across status levels may be much smaller than the differences in the rewards associated with the status levels (Gould 2002). Whereas research hints that the relationship between performance and status is complex (Washington and Zajac 2005, Sauder et al. 2012, Pollock et al. 2015), how their decoupling occurs is not well understood. Some scholars argue that status can accrue based on repeated associations over time, independent of performance (Washington and Zajac 2005). The limited research exploring status and performance focuses primarily on actors' behaviors after they achieve high status (e.g., Bothner et al. 2012) and on how being high status influences performance evaluations by individuals who are not responsible for granting their high status (e.g., Kim and King 2014). However, this research overlooks the active role played by the social evaluators granting status and fails to consider that both the evaluators' and high-status actors' interpretive frames (Pfarrer et al. 2010, Hubbard et al. 2018) change as the actors achieve and maintain high status. Further, achieving high status in the short term and repeatedly validating high status over the long term can differentially affect the high-status actor's perceptions and behaviors. Exploring and developing theory regarding how performance and status become decoupled can help us better understand this relationship's complexity.

In this study, we investigate how status and performance decouple over time, incorporating the contextual effects of certification contests into our theorizing and extending our understanding of the roles played by both social evaluators and high-status actors. We do so by examining the following questions: (1) How does performance influence the likelihood an actor achieves high status? (2) How does achieving high status affect the actor's subsequent performance?

Although status can be assessed in a variety of ways (for a review, see Pollock et al. 2019), rankings that reflect a shared subjective judgment among the actors' evaluators are commonly used (Rindova et al. 2018). Status rankings are composed of different status groups (e.g., high, middle, and low status), and the status differences among actors within these groups are less meaningful than the differences across the groups (Benjamin and Podolny 1999, Sauder et al. 2012). These rankings are often based on certification contests (Rao 1994, Sauder 2006) that vault actors into an elite status class if they achieve a top ranking. One such certification contest is the "All-America Research Team" of sell-side (brokerage) equity analysts (hereafter the All-Star list) that *Institutional Investor* magazine publishes each year. As our introductory quotation suggests, this contest is like the Academy Awards for analysts, and being named an All-Star instantly separates the high-status "knights" from the lower status "serfs."

We first examine whether two performance dimensions—producing accurate and independent forecasts—predict making the All-Star list. Producing accurate forecasts is an objectively evaluated performance dimension that is easily compared with competitors or with the analyst's own past forecasting accuracy, whereas forecast independence is a performance dimension that is evaluated more holistically and unconsciously than rationally. Because institutional investors value both types of performance, we argue that, to achieve high status (i.e., to be named an All-Star), analysts need to demonstrate these capabilities. We also suggest that being named an All-Star creates an interpretive frame (Pfarrer et al. 2010, Hubbard et al. 2018) that influences analysts' perceptions and subsequent performance. Whereas being named an All-Star improves both accuracy and independence the following year, multiple All-Star designations (i.e., being named an All-Star in multiple years) has the opposite effect, decreasing accuracy and independence even as high-status certifications accumulate; with multiple All-Star designations, the analyst's status stabilizes, leading to the decoupling of status and performance.

We make several contributions to the status literature. First, we provide an enhanced understanding of how performance both affects and becomes decoupled from status by considering two types of performance that we theorize are assessed using different cognitive processes. Whereas the status literature emphasizes how high-status actors' characteristics and behaviors affect the social evaluation process and drive status and performance decoupling (Lynn et al. 2009, Bothner et al. 2012, Kim and King 2014), we theorize about the role social evaluators and the evaluated actors play in the decoupling process, including how the interpretive frames created by prior status affect performance assessments.

Second, we contribute to the status literature by theorizing about and investigating the effects of recent versus multiple certifications on the dynamic relationship between status and performance. Prior research on how achieving high status affects actors' behaviors is conflicting; some studies find high-status actors' performance improved, whereas others find it deteriorated (e.g., Benjamin and Podolny 1999, Sørensen 2007, Bothner et al. 2012, Kim and King 2014). We address this conundrum by introducing temporal considerations that help resolve these contradictory findings, differentiating between the short-term effects of gaining high-status certifications and maintaining multiple high-status certifications over the longer term. We show that status and performance decoupling occur when actors win more certification contests and have maintained their high status over a longer period. Recent and multiple certifications affect cognitive processes and assessments in different ways. These differences are tied in part to the way repeated assessments allow for both within-actor (i.e., in comparison with the actor's typical behavior) and between-actor (i.e., actor's behavior compared with other actors' typical behaviors) comparisons. Multiple certifications also affect the high-status actor's perceptions in ways that make it more difficult for the actor to perform well and maintain the actor's status.

Finally, we contribute to research on certification contests by building on the idea they are an important status-conferring mechanism that is rarely conceptualized or studied empirically as a repeated (as opposed to a one-time) phenomenon. In doing so, we show that a certification contest's structure (e.g., one-time or repeated certification) matters when understanding the relationship between status and performance. We also contribute to the certification contest literature by showing that evaluators use two referents—within-actor variance over time and between-actor variance—in making their assessments.

## Theory and Hypotheses

### The Relationship Between Status and Performance

Status is defined as "a socially constructed, intersubjectively agreed-upon and accepted ordering or ranking of individuals, groups, organizations, or activities in a social system" (Washington and Zajac 2005, p. 1147). Status is often treated as a signal of quality when direct quality indicators are missing (Lynn et al. 2009) and when high quality and performance can help an actor gain status (Pollock et al. 2015). Nonetheless, the relationship between status and performance can be tenuous (Gould 2002, Bothner et al. 2012). Status primarily generates benefits for the high-status actor through the *privilege* accorded to those in high-status positions, as opposed to the *merit* of their accomplishments (Washington and Zajac 2005). The linkage between status and performance is also imperfect (Sauder et al. 2012). The performance of actors who fail to achieve high status may be indistinguishable, minimally different, or even better than high-status actors' performance, yet they accrue far fewer benefits (Gould 2002). That is, status confers benefits on its recipients above and beyond that of performance, and high-status actors realize more benefits than lower status actors from the same level of performance (Sine et al. 2003). Status also tends to be inertial because the social hierarchy, once established, is generally self-reinforcing (Merton 1968, Washington and Zajac 2005), as high-status actors have access to resources and opportunities that make it easier to continue succeeding (Merton 1968, Benjamin and Podolny 1999, Sørensen 2007, Bothner et al. 2012, Pollock et al. 2015). Additionally, high-status actors' tendencies to associate with each other (Podolny 1993), and patterns of deference (Sauder et al. 2012) both reinforce the status hierarchy.

Status is often associated, and conflated, with other constructs, such as reputation, celebrity, and legitimacy. Several studies explore the theoretical and empirical distinctions among these constructs (e.g., Washington and Zajac 2005, Rindova et al. 2006, Deephouse and Suchman 2008, Bitektine 2011, Pollock et al. 2019). Status is a categorical construct based on an actor's standing in a social hierarchy, and as status also tends to be sticky, it can be maintained to some degree even if performance declines. In contrast, reputation is derived from the consistency and quality of an actor's observed activities and outputs and is lost if performance declines; thus, maintaining reputation requires continual reinforcement (e.g., Lange et al. 2011). Celebrity is defined as commanding high levels of public attention and positive emotional responses from stakeholder audiences (Rindova et al. 2006). It is generated when the media highlights an actor's nonconforming actions and unique traits in their dramatized narratives. Unlike celebrity, status does not trigger similar emotional responses from audiences (Pollock et al. 2019). Status also differs from legitimacy. Status is categorical and *differentiating*, highlighting distinctions among actors within a hierarchy (Deephouse and Suchman 2008). Legitimacy, in contrast, is dichotomous and *homogenizing*, as it is "the degree to which the broader public views a company's activities as socially acceptable and desirable because its practices comply with industry norms and broader societal expectations" (Rindova et al. 2006, p. 55). Finally, status is different from fame, which is "the sheer volume of attention an [actor] receives" (Lovelace et al. 2018, p. 422).

Status hierarchies are value-driven, and these values are both characteristic- and audience-specific (Jensen et al. 2012, Pollock et al. 2019).[1] In other words, they are based on factors valued by the particular audience making the status judgments. Status conferral may come directly from the status hierarchy's members (Stewart 2005), or from outside evaluators such as critics or customers (Lazarsfeld and Merton 1948). Actors who most exemplify the hierarchy's values are accorded the highest status positions in the hierarchy (Pollock et al. 2019, Han and Pollock 2021). Their valued characteristics can signal the actors' trustworthiness and credibility, demonstrate the actors' conformity to context-specific standards and cultural codes, and/or indicate that the actors possess the technical efficacy the evaluators value (Pollock et al. 2019). Thus, to achieve high status, actors must display evidence that they possess these valued characteristics (Pollock et al. 2015). However, once high status is achieved, audiences pay less attention to an actor's actual behaviors and instead assume—because of the actor's current high status—that the actor possesses the valued characteristics (Tversky and Kahneman 1974, Rosch 1978, Mishina et al. 2010).

Because high-status actors' quality tends to be assumed, status and performance can become decoupled. For example, as Washington and Zajac (2005) explained, the Jaguar automobile maintained the privileges of high status even when it had a poor reputation for quality. Additionally, Kim and King (2014) demonstrated that Major League Baseball umpires gave All-Star pitchers a more generous strike zone than non–All-Stars; that is, All-Star pitchers were given the benefit of the doubt as umpires were more likely to call similar pitches strikes (favoring the pitcher) rather than balls (favoring the hitter). Similarly, Ertug and Castellucci (2013) found that National Basketball Association teams pursued high-status players rather than the highest performing players when they wanted to increase revenues and that high status outweighed performance as a driver of a player's compensation. Finally, in a study of professional golfers and stock car racing teams, Bothner et al. (2012) found that the privileges accompanying high status enhanced performance up to a point, but high status also promoted deleterious behaviors that eroded subsequent performance. Thus, performance and status can become decoupled, but more attention is needed to understand how and why this decoupling occurs. We argue that, although less studied, the status literature has identified a performance-related mechanism that provides insights into status mobility and the decoupling of status and performance—winning certification contests.

## Status in Certification Contests

Certification contests are competitions in which actors are ranked based on performance criteria that key evaluators accept as credible and legitimate (Rao 1994, Wade et al. 2006). Winning a certification contest means that the actor has met the evaluators' technical and social criteria, and it establishes expectations for future performance (Fombrun 2001, McDonnell and King 2018). Certification contests can also differentiate an actor's position within a status hierarchy (Rao 1994). The technical and social criteria used in these contests tend to align with the values that determine status (Jensen et al. 2011, Pollock et al. 2019); thus, winning a certification contest distinguishes the winners from others in the status hierarchy by identifying them as exemplars of the hierarchy's values relative to lower ranked actors (Rao 1994, Pollock et al. 2019).

However, certification contests vary in their structure and frequency;[2] thus, the implications of a single victory for status mobility may be specific to the kind of certification contest (Jensen et al. 2011). For example, when changes in certification are fairly infrequent, such as restaurants achieving or losing a star in the *Guide Michelin* (Durand et al. 2007), the impact of winning is more significant than it would be when certification changes are frequent. In the latter case, such as making the Fortune 100 (Love and Kraatz 2009), the effect of winning the certification contest is informative rather than deterministic. In these cases, a single victory might promise only temporary high status with fleeting benefits (Bowers et al. 2017). In both contexts, subsequent certification contest wins are likely to stabilize and reinforce an actor's high status. This is similar to the status mechanism proposed by Washington and Zajac (2005): the accumulation of positive associations. Studying NCAA basketball teams, they found that high performance in one tournament did not convey high status; instead, regardless of the outcomes, teams that had competed against more high-status teams, either by competing in the national championship tournament the prior year or during the current season, were more likely to receive invitations to the national championship tournament in the current year, further stabilizing their high-status associations.

**Security Analysts and the Institutional Investor All-Star Certification.** Our empirical context, achieving the All-Star designation among sell-side (brokerage) equity analysts, is a repeated certification contest. Sell-side equity analysts engage in research on publicly traded firms and produce financial analyses and opinions on the merits of the firms they cover. This requires keeping abreast of a wide range of relevant information, including macroeconomic trends, regulatory and tax changes, industry developments, competitive

dynamics, corporate strategies, and new product introductions. Based on their research, equity analysts generate earnings forecasts and issue investment recommendations (i.e., buy, hold, or sell). However, multiple analysts typically cover a given firm, making it difficult to capture investors' attention and stand out (Hong et al. 2000). As a result, sell-side analysts' challenge is to convince institutional investors that their analyses are worth purchasing (Brown et al. 2015, 2016) because it can provide what the clients value: accurate forecasts and distinct insights.

Prior to 1972, there were no generally accepted means for determining who the best analysts were beyond their firms' status (Groysberg et al. 2006). But, that year, *Institutional Investor* magazine began publishing its All-Star list. This list has become the preeminent means for identifying the highest status analysts on Wall Street (Groysberg et al. 2006, Groysberg and Lee 2010), and making the list is highly desirable given the prestige and benefits doing so confers (Groysberg et al. 2006; Groysberg and Lee 2010; Brown et al. 2015, 2016). *Institutional Investor* conducts a confidential survey of institutional investors, asking them to rate analysts "who have been most helpful to them over the last 12 months" (Groysberg et al. 2006, 17–18) on six criteria: industry knowledge, earnings forecasts, overall service, accessibility and responsiveness, stock selection, and written reports. The analysts are given a single numerical score that is weighted based on the size of the voting institution, and the weighted scores are used to rank the analysts in each industry category. Among the hundreds of analysts covering firms in each category, only the top four to six analysts are named All-Stars (one each as first-, second-, and third-team All-Americans, plus one to three runners up).

Rindova et al. (2018) noted that published rankings sometimes reflect reputation and sometimes represent status, depending on the ranking's characteristics. We argue that the *Institutional Investor* All-Star list is a clear example of a status-conferring certification contest that generates a variety of status-related benefits (Rao 1994, Brown et al. 2015). First, just a few of the thousands of analysts are designated All-Stars, and it is unlikely that there is a huge gap between the analysts designated All-Stars and those who just miss the designation. This creates the strong possibility that the analysts who are anointed All-Stars enjoy the type of unmerited privileges that Washington and Zajac (2005) described. Gould (2002) also noted that the highest status actors receive benefits out of proportion to the difference between their capabilities and those of actors just outside the category. Indeed, one reporter noted "Exultant cries of 'We're no. 2' and 'I'm no. 3' rang out on Wall Street yesterday as hundreds of people who would never be confused with competitive athletes learned that they had been deemed 'All-Americans.' *Institutional Investor* magazine published the results of its annual popularity contest for stock analysts, instantly inducing daydreams about even bigger bonuses among those who made the list and grumbles from those left off it" (McGeehan, 1999, p. C.4).

Thus, All-Star analysts command far higher compensation than their unranked compatriots, whose quality and performance may differ little from those of the ranked analysts (Gould 2002, Sine et al. 2003, Groysberg et al. 2006, Groysberg and Lee 2010). Indeed, as one research director noted "It is by no means perfect that the number four analyst is better than the number six one" (Groysberg et al. 2006, p. 18).

Finally, firms with more All-Stars have an easier time retaining other quality employees (Groysberg and Lee 2010), and they tout their All-Star analysts in full-page ads, leading to more trading and investment banking business (Groysberg et al. 2006). And, as with other certification contests, such as All-Star team designations in professional sports (e.g., Ertug and Castellucci 2013), *Institutional Investor* All-Star listings continue to generate benefits after the designation is made even if the analyst does not win the certification contest again. Thus, we view making the *Institutional Investor* All-American Research Team as a measure of high status. That does not mean these analysts do not also have high reputations—you certainly can have both—but it does mean they are high-status analysts (Groysberg et al. 2011).

## Performance in Certification Contests and Gaining High Status

As we note, the social evaluators granting high status focus on the behaviors and characteristics valued within the hierarchy when making their assessments (Pollock et al. 2019). Thus, the basis for conferring high status is always context-dependent. In our research context, large institutional investors determine equity analysts' status (Groysberg et al. 2006; Brown et al. 2015, 2016) and grant high status to analysts who exhibit particular performance behaviors. As such, to develop our hypotheses, we focus on the specific types of performance this audience considers valuable. Although potential All-Star analysts are assessed based on the six different performance dimensions noted, most of these dimensions are not publicly available on a comprehensive and retrospective basis. However, we can observe and objectively assess two performance dimensions associated with one of their core functions: issuing earnings estimates. Specifically, we can assess their accuracy and their independence.

**Accuracy.** One of the core functions equity analysts perform is issuing quarterly earnings estimates for the

companies they follow. These estimates are important for institutional investors because early insights into a company's quarterly financial performance provide opportunities to make trading profits when the company's earnings are formally announced. Although companies cannot privately share information about their earnings prior to making public announcements, some publicly provide informal guidance that facilitates accurate earnings estimates (Rogers et al. 2009). However, not all companies provide earnings guidance, so analysts' abilities to provide accurate estimates can set them apart from other analysts (Brown and Rozeff 1978). Thus, earnings forecasting accuracy reflects a key value of the status-conferring institutional investor audience (Stickel 1992). We, therefore, predict that analyst accuracy increases the likelihood an analyst is designated an All-Star.

**Hypothesis 1.** *The more accurate an analyst's forecasting in the prior year, the greater the likelihood that the analyst is designated an All-Star in the current year.*

**Independence.** Institutional investors must identify analysts who can provide the opportunities to make trading profits, but analysts can be hard to differentiate because as many as 60 analysts may cover a given firm (Hong et al. 2000). Further, analysts are well-known for following the crowd and engaging in herding behaviors (Welch 2000, Rao et al. 2001, Clement and Tse 2005, Bowers et al. 2014), which may stem from the fear that the only thing worse than being wrong in your assessments is being wrong and being alone. Analysts' herding tendencies make it even more difficult for the investors to distinguish those with unique insights. However, this tendency also creates opportunities for analysts who exhibit *independence* and issue estimates that differ from those of other analysts (Durand and Jourdan 2012).[3]

Actions that are figural or stand out against the backdrop of typical behaviors are more likely to be noticed (Taylor and Fiske 1975). Thus, institutional investors are more likely to pay attention to analysts who make independent forecasts, regardless of the forecast's accuracy. Indeed, institutional investors exhibit similar behaviors in related contexts. For example, one study finds investors in hedge funds more readily allocated capital to funds that followed periods of high performance with periods of nonconformity (i.e., atypical patterns or investing styles) (Smith 2011).

Individuals are also more likely to react positively to information cues that are consistent with their values or self-concept, and accord higher status to actors who appear to share their values (Jensen et al. 2011, Han and Pollock 2021). Institutional investors may perceive independence as a positive type of contrarian behavior; it can signal technical efficiency or industry knowledge in that the analysts are updating their assessments based on new information (possibly information that others were unable to get) (Durand et al. 2007, Love and Kraatz 2009). Or they may simply value distinctiveness for its own sake (Durand and Kremp 2016). Thus, independence reflects a performance dimension that investors value separately from the technical capabilities that analysts may or may not also demonstrate.

Recent research confirms that investors value independent forecasts separate from forecast accuracy (Brown et al. 2015). In two survey studies, Brown et al. (2015, 2016) demonstrated that institutional investors value independence because independent forecasts may indicate a deeper understanding of firm or industry conditions beyond the forecast itself, and so may be valuable in a way that is clearly distinct from accuracy. As one institutional investor noted, "For me, when there's an analyst that goes way out of bounds on an earnings estimate, it takes guts to do that for them. So that's a sign to me that that's somebody I should be paying attention to. It's the same way with the recommendation. If everybody loves the company and somebody comes out 'sell,' to me that is very interesting" (Brown et al. 2016, p. 149).

An analyst made a similar observation, focusing in particular on negative deviations: "That, to me, shows some bravery. The difficulty with the sell-side model is you don't want to lose management access, you don't want to piss off management, and you don't want to piss off clients. So you have to stay very tightly clustered around management numbers so you can straddle clients on both sides" (Brown et al. 2016, p. 149).

All deviations, whether positive or negative, are potentially risky for analysts because deviating from the consensus increases the risk that they are wrong in a visible way (Pollock et al. 2008, Brown et al. 2016), and investors relying on their estimates may lose money as a result. We expect that analysts who deviate from the crowd and show independence in their earnings estimates are more likely to be recognized as All-Stars (Leone and Wu 2007). We, therefore, hypothesize the following:

**Hypothesis 2.** *The more independent an analyst is in the prior year, the greater the likelihood that the analyst is designated an All-Star in the current year.*

## The Effect of High-Status Certifications on Status and Performance Decoupling

In the previous hypotheses, we focus on how performance leads to gaining high status. We now turn to how high-status certifications affect the high-status actor's behavior and influence status and performance decoupling. Social evaluations, such as status, can

serve as *interpretive frames* that shape how individuals assess information by focusing attention on information aspects consistent with the social evaluation's sociocognitive content and directing attention away from other aspects (e.g., Pfarrer et al. 2010, Hubbard et al. 2018). Prior research on social evaluations' roles as interpretive frames focuses on how these frames shape outside evaluators' perceptions of the target (Pfarrer et al. 2010, Hubbard et al. 2018), which we also expect will occur here. However, we further argue that obtaining and maintaining social evaluations, such as high status, also act as an interpretive frame for the holder. In status-granting certification contests that actors can win multiple times, a recent certification creates a different interpretative frame from that created by multiple certifications. As such, they have different effects on the high-status actor's behavior in the short and longer term. Further, we argue that maintaining high status via multiple high-status certifications facilitates decoupling status and performance.

Achieving high status by winning a certification contest suggests that evaluators have already found that the actor possesses the desired characteristics. Because individuals tend toward cognitive economy in their decision making (Tversky and Kahneman 1974, Rosch 1978), prior certification serves as a cognitive anchor that biases evaluators. Evaluators interpret new information in ways that confirm what they already believe and pay less attention to contradictory information (Tversky and Kahneman 1974). That is, actors' prior certification serves as prima facie evidence that they are worth listening to, and the more prior certifications the actor has, the more valid this assumption appears to be. Thus, winning multiple certification contests can serve as a decision-making heuristic such that evaluators assume the analyst exhibits the valued characteristic without actually taking the time and exerting the effort to confirm that this is the case (Rosch 1978, Mishina et al. 2010, Kahneman 2011), weakening the relationship between performance and being certified again.

Further, winning certification contests can also affect the high-status actor's perceptions. Regardless of whether their perceptions are accurate, winning a certification contest creates an interpretive frame for certified actors that leads them to perceive they have better insights into the factors evaluators consider critical (Rao 1994), and they are more likely to focus on those factors and continue behaving in ways that they believe earned them the award. Thus, achieving high status does not confer particular abilities or skills; rather, it focuses the incumbent high-status actors' attention and efforts on the behaviors and actions they believe resulted in their gaining high status.

In the immediate aftermath of gaining high status, certified actors have both the incentive (Benjamin and Podolny 1999, Graffin et al. 2013) and opportunity (Sørensen 2007, Pollock et al. 2015) to enhance their performance and confirm that it is commensurate with their status. We therefore expect that a recent certification is positively associated with both greater accuracy and more independence in the year following the certification. However, status and performance tend to become decoupled in the longer term (Lynn et al. 2009). One mechanism through which this may occur is winning multiple certification contests. We see three ways that multiple certifications can shift the actor's attention and focus in ways that reduce performance. First, repeated wins can lead actors to take winning and its benefits for granted. Whereas initially gaining high status may stimulate positive reinforcement and lead them to focus on increasing their performance in the short term, multiple certifications' motivating potential may wane over the years as winning becomes less novel, their status stabilizes, and they assume their standing will continue, reducing certifications' influence on performance (Bothner et al. 2012). Second, multiple high-status certifications and ongoing access to the privileges associated with high status may increase the analysts' hubris (Hayward 2007), creating an overinflated sense of their ability to succeed. Analysts' hubris can lead them to view the privileges high status confers as assumed entitlements rather than earned rewards (Washington and Zajac 2005), again reducing multiple certifications' motivational potential. Finally, multiple high-status certifications may shift their focus from their certifications' causes to the benefits derived from them. This creates distractions that can divert actors' attention (Bothner et al. 2012), leading high-status actors to spread themselves too thin as the demands for their time and attention increase (Malmendier and Tate 2009), reducing their performance.

When these factors are coupled with the likelihood that actual performance plays a weaker role in subsequent certifications, as we argue earlier, and if actors continue to win certification contests even if their performance slips, multiple certification contest winners may sense that performance variations do not influence their subsequent certification, and their performance erodes. Thus, in contrast to a recent certification, we expect multiple certifications create a different interpretive frame that has the opposite effect, leading to less accuracy and independence.[4] We therefore hypothesize the following:

**Hypothesis 3a.** *Being designated an All-Star in the prior year is positively related to subsequent forecasting accuracy.*

**Hypothesis 3b.** *Multiple All-Star designations are negatively related to subsequent forecasting accuracy.*

**Hypothesis 4a.** *Being designated an All-Star in the prior year is positively related to subsequent forecasting independence.*

**Hypothesis 4b.** *Multiple All-Star designations are negatively related to subsequent forecasting independence.*

## Data and Methodology

We collected data from three sources: *Institutional Investor* magazine for data on All-Star designations;[5] Compustat for data on the firms that analysts covered, such as their stock prices (used to scale the accuracy measure, described subsequently) and Standard Industrial Classification (SIC) codes; and the Institutional Brokers Estimate System (IBES) for data on earnings estimates made by all analysts active in the market between 1988 and 2006. IBES contains detailed information relevant to equity analysts and their forecasts, such as analysts' earnings estimates, firms' actual annual earnings, the timing of when the estimates were first released and later revised, and broker identification codes indicating where each analyst worked. We used these data to determine various analyst characteristics and their forecasting behaviors, including their accuracy and independence in a given year.

The unit of analysis is the analyst-year; we are interested in how analysts' accuracy and independence over the course of the prior year affects their likelihood of gaining high status and how having high status, in turn, influences their subsequent performance. Our data set included 53,324 analyst-years from 1990 to 2005 for 12,941 unique analysts. In all, 5,361 (10%) of the analyst-years and 1,213 (9.3%) of the analysts were designated All-Stars.

### Dependent Variables

**All-Star Designation.** All-Star designation is a dummy variable coded one if an analyst is designated a member of the "All-American Research Team" in year $t$ (regardless of whether the analyst is first, second, or third team or honorable mention) by *Institutional Investor* magazine and zero otherwise. As described earlier, every April *Institutional Investor* magazine surveys its proprietary list of money managers, asking them to rank equity analysts in each industry based on who was the most helpful and/or provided the best equity research using six criteria: industry knowledge, earnings forecasts, overall service, accessibility and responsiveness, stock selection, and written reports (Brown et al. 2015). The magazine then uses these ratings to determine who the best equity analysts are, weighting the respondents' ratings by their volume of assets under management in the U.S. market and ranking the analysts by industry category based on their overall scores. The top four to six analysts for each industry are designated "All-American Research Team" members, and the results are published in the October issue (see https://www.institutionalinvestor.com/research/11382/Methodology). Accordingly, we measured the independent and control variables between April 1 of year $t-1$ and March 31 of year $t$, enabling us to capture the information available to institutional investors when they cast their ballots.

**Analyst Accuracy and Independence.** For Hypotheses 3 and 4, the dependent variables are analysts' accuracy and independence. We measured these variables the same way we measured the independent variables (IVs), described subsequently, but calculated them based on the forecasts issued between April 1 of year $t$ and March 31 of year $t+1$.

### Independent Variables

**Analyst Accuracy.** We operationalized analyst accuracy as the average difference between the focal analysts' forecast errors and the average forecast error of analysts who follow the same firm during the same period (Malloy 2005). Following finance and accounting research conventions, to create this variable we first measured a focal analyst's absolute forecast error ($AFE_{ijt}$), which is the absolute value of the difference between the focal analyst's forecasts of a firm's yearly earnings and its actual earnings. We subtracted the average absolute forecast error of all analysts who follow the same firm during the same period ($mAFE_{ijt}$) from $AFE_{ijt}$ (Clement 1999, Malloy 2005) to determine the difference in the focal analyst's absolute forecast error from the average absolute forecast error for all analysts covering the firm ($DAFE_{ijt}$). We then divided $DAFE_{ijt}$ by $mAFE_{ijt}$ to reduce the heteroskedasticity of $DAFE_{ijt}$ (Clement 1999). As the unit of analysis is the analyst-year, we averaged the focal analyst's deflated $DAFE_{ijt}$ scores across the firms for which the analyst issued forecasts between April 1 of year $t-1$ and March 31 of year $t$ (Hong et al. 2000). Finally, we reverse-coded the variable (multiplying it by −1) so that higher values indicate greater accuracy. Zero values mean the analyst's estimates equal the average for all analysts covering the same firms the analyst covers. Values greater than zero mean the analyst had less error than other analysts (i.e., was more accurate), and values less than zero mean the analyst had more error than other analysts (i.e., was less accurate).

**Analyst Independence.** Analyst independence was operationalized as the proportion of an analyst's revised estimates that deviate from the consensus forecast. The consensus forecast is the average forecast made by all other analysts following the firm that

existed immediately prior to the analyst's revised forecast. Thus, what is relevant is how often the analyst deviated from the consensus, not the magnitude or direction of the deviance.

Our first step in creating the analyst independence measure was to identify deviating forecasts. We did this based on the positions of analysts' revised forecasts relative to both (1) their own prior forecast and (2) the consensus forecast. A revised forecast was classified as *deviating* if it was either above both the analyst's own prior forecast and the consensus forecast or below both the analyst's prior and the consensus forecast (Clement and Tse 2005). That is,

$$\text{Deviating} = 1 \text{ if } (((\text{RF}_{\text{ijt}} > \text{PF}_{\text{ijt}}) \text{ AND } (\text{RF}_{\text{ijt}} > \text{PYTDC}_{\text{jt}})) \text{ OR } ((\text{RF}_{\text{ijt}} < \text{PF}_{\text{ijt}}) \text{ AND } (\text{RF}_{\text{ijt}} < \text{PYTDC}_{\text{jt}}))); \text{Otherwise } 0,$$

where $RF_{ijt}$ refers to the revised forecast made by analyst $i$ for firm $j$ in year $t$, $PF_{ijt}$ refers to the forecast made by analyst $i$ for firm $j$ prior to $RF_{ijt}$, and $PYTDC_{jt}$ refers to the consensus forecast. To calculate the consensus forecasts (i.e., the average of other analysts' forecasts), we used a 90-day window prior to the issue date of the revised forecast by the focal analyst. Following Clement and Tse (2005), we assumed that an estimate, that moves away from both the analyst's prior estimate and the consensus estimate is a deviating estimate; an estimate that lies between the analyst's prior forecast and the consensus forecast is not a deviating estimate, as it moves toward rather than away from the consensus. For example, given a prior analyst forecast of \$4 and a consensus forecast of \$5, if the analyst's revised forecast is either less than \$4 or greater than \$5, the forecast is deviating. If the analyst released a revised forecast between \$4 and \$5, then the analyst is not deviating because the estimate moved closer to the consensus.

As the second step, we calculated the proportion of the analyst's deviating estimates between April 1 of year $t-1$ and March 31 of year $t$ relative to the total number of estimates the analyst made during this period. Our approach is well-established in the accounting literature (Clement and Tse 2005) and allows us to incorporate analysts' intentions and better capture analyst performance over a certain period.

**Recent Prior All-Star.** We used an All-Star designation in the previous year as an independent variable in Hypotheses 3a and 4a. This variable is a dummy variable coded one if the analyst was designated an All-Star analyst in year $t-1$ and zero otherwise.

**Multiple Prior All-Stars.** We used Multiple prior All-Star designations as an independent variable to test Hypotheses 3b and 4b. Because we are coding an All-Star designation in year $t-1$ separately, this measure was operationalized as a count of the number of All-Star designations an analyst received between the beginning of our study period and year $t-2$. This approach is consistent with prior research distinguishing between recent and cumulative prior events (Pollock et al. 2008).

## Control Variables

We included two control variables relevant to an analyst's forecasting behaviors that could provide alternative explanations for why an analyst might make the All-Star list. First, we controlled for *forecasting frequency*, defined as the relative frequency with which analysts updated their estimates with revised forecasts. Because the frequencies with which analysts issue estimates can vary across industries and years, what constitutes "frequent" is somewhat relative. Thus, we measured this variable as a count of forecasts issued by an analyst for a particular firm in a given year minus the average count of forecasts made by other analysts covering that firm. Second, we controlled for an analyst's *leader-follower ratio*. This refers to the sum of the number of days between the current forecast made by a given analyst and the preceding two forecasts made by other analysts, divided by the sum of the number of days between the current forecast made by a given analyst and the following two forecasts made by other analysts (Bowers et al. 2014). A leader-follower ratio greater than one suggests an analyst is more likely to be followed by other analysts than to follow other analysts' forecasts. Analysts whose forecasts are followed by others might receive higher levels of industry recognition, which could contribute to that analyst's likelihood of being designated an All-Star. We calculated both variables for each firm the analyst covered that year and then averaged (Leone and Wu 2007).

We also included several variables to control for analysts' characteristics. First, we controlled for *industry tenure*, which refers to the number of years an analyst had been issuing forecasts as tracked in the IBES database. The longer an analyst's tenure, the greater an analyst's opportunity to be designated an All-Star (Hong et al. 2000). For the same reason, we controlled for an analyst's *stock experience*. We measure this variable as a count of the number of years that an analyst had been issuing forecasts for a given firm (Bowers et al. 2014) averaged across all the firms covered by the analyst. This measure was highly correlated with *industry tenure*, creating potential multicollinearity concerns. To address this, we regressed the averaged count of years that an analyst covers a given firm on *industry*

*tenure* to remove the common variance and used the residual as our measure of *stock experience*. We also controlled for analysts' *stock coverage* and *industry coverage*. These variables equaled the counts of the firms and industries (at the three-digit SIC code level), respectively, the analyst followed in a given year.

We also included variables that controlled for the analysts' brokerage firm characteristics, which could create halo effects that increase the likelihood an analyst was designated an All-Star. *Broker size* was operationalized as the natural log of the total number of analysts issuing forecasts at the focal analyst's brokerage firm. *Broker status* was operationalized as a count of the number of analysts who worked at the focal analyst's brokerage firm and were designated All-Stars in year $t - 1$. Because this count is correlated with broker size, again creating concerns about multicollinearity, we regressed the count of All-Star analysts on broker size and used the residual as our measure of broker status.

We also controlled for characteristics of the firms an analyst covered. As with other variables measured at the analyst-firm level, we averaged the variables across the firms the focal analyst covered in a given year (Leone and Wu 2007). We controlled for *rival analysts*, defined as the number of analysts who followed the same firms as the focal analyst, and *stock uncertainty*, which is the standard deviation of the consensus forecast for the firm an analyst covered (Bowers et al. 2014).

Finally, we included control variables for the effects of the environment in which an analyst was embedded. We controlled for time period effects by including dummy variables for each year in all of our models (1990 was the excluded year). We controlled for *analysts after 1988* because our data set begins in 1988 and is thus left-censored. As a result, it may underestimate the multiple prior All-Stars, industry tenure, and stock experience measures for analysts who joined the industry before our observation period. Thus, we created a dummy variable coded one if an analyst showed up on IBES for the first time after 1988 (i.e., did not release any forecasts in 1988 but did in or after 1989) and zero otherwise. We also included dummy variables indicating the industries the analyst followed in a given year at the one-digit SIC[6] code level. Because of the large number of year and industry control variables, we do not include them in the tables, although they were included in the models. All the control variables were measured between April 1 in year $t - 1$ and March 31 in year $t$.

## Analysis

We used two statistical models to test our hypotheses. For Hypotheses 1 and 2, we used generalized estimating equation (GEE) logistic regression. Unobserved heterogeneity at the analyst level—for instance, that generated by prior All-Stars—can lead to overestimating the impact of our independent variables, biasing our findings. The GEE model assumes within-group correlations (analysts in this case), addresses the issue of unobserved heterogeneity, and allows for comparisons across analysts (Hu et al. 1998, Zeger et al. 1988). Whereas analysts are likely to be consistent in their forecasting behaviors, they are not necessarily more consistent in the short term than they are over the long term. Thus, we used an exchangeable correlation structure (i.e., *exchangeable* option of the *xtgee* command in STATA 14), which assumes that the repeated observations are equally correlated with one another. To test Hypotheses 3 and 4, we used a generalized least squares random-effects regression (*xtreg* in STATA 14 with the *re* option). In dealing with unobserved heterogeneity at the analyst level, we chose random effects over fixed effects because random effects models allow us to capture the effects of time-invariant variables (e.g., analysts after 1988), which would be dropped from fixed effects models.[7] All estimations made by both statistical models employed robust standard errors clustered by analyst.

## Results

Table 1 provides descriptive statistics and bivariate correlations for all the variables. As several variables have relatively high correlations (e.g., *analyst accuracy* and *analyst independence*, *recent prior All-Star* and *multiple prior All-Stars*), leading to possible concerns about multicollinearity, we checked the variance inflation factors (VIFs) and the condition number of the models. Multicollinearity does not appear to be an issue. The average VIF of all the variables is 1.97 with a maximum VIF of 2.75; thus, all the VIFs were well below 10 (Chatterjee et al. 2000). Also, the condition number was 8.69, well below the recommended cutoff point of 30 (Cohen et al. 2003).

Table 2 presents the results predicting the likelihood of being designated an All-Star. Model 1 includes the control variables; Model 2 adds the hypothesized main effect variables. Hypotheses 1 and 2 predict that analysts' accuracy and independence increase the likelihood the analyst was designated an All-Star. Both hypotheses were supported ($\beta = 0.55$, $p < 0.001$ for accuracy, and $\beta = 1.06$, $p < 0.001$ for independence). Holding all other variables at their mean and assuming that a focal analyst had never been designated an All-Star before, an analyst whose accuracy was one standard deviation above the mean had a 43% higher likelihood of being designated an All-Star than the analyst's peers with a mean level of accuracy. An analyst whose independence was one standard deviation above the mean had a 17% greater likelihood of being designated an All-Star.

**Table 1.** Descriptive Statistics and Bivariate Correlations

| | Mean | Standard deviation | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. All-Star Designation | 0.11 | 0.31 | | | | | | | | | | | | | | | |
| 2. Analyst accuracy | −0.08 | 0.72 | 0.12 | | | | | | | | | | | | | | |
| 3. Analyst independence | 0.36 | 0.17 | 0.11 | 0.29 | | | | | | | | | | | | | |
| 4. Recent prior All-Star ($t-1$) | 0.11 | 0.32 | 0.76 | 0.10 | 0.10 | | | | | | | | | | | | |
| 5. Multiple prior All-Stars ($t-2$) | 0.61 | 1.85 | 0.43 | 0.03 | 0.04 | 0.52 | | | | | | | | | | | |
| 6. Forecasting frequency | −0.22 | 2.42 | 0.16 | 0.34 | 0.22 | 0.16 | 0.08 | | | | | | | | | | |
| 7. Leader-follower ratio | 2.27 | 2.35 | 0.01 | 0.02 | −0.03 | 0.01 | 0.06 | 0.07 | | | | | | | | | |
| 8. Industry tenure | 4.70 | 3.63 | 0.15 | −0.02 | 0.04 | 0.18 | 0.46 | 0.11 | 0.14 | | | | | | | | |
| 9. Stock experience | −0.03 | 1.13 | −0.12 | 0.01 | −0.03 | −0.15 | −0.21 | −0.07 | 0.06 | −0.00 | | | | | | | |
| 10. Stock coverage | 1.87 | 1.01 | 0.24 | 0.18 | 0.26 | 0.25 | 0.21 | 0.20 | 0.02 | 0.31 | −0.06 | | | | | | |
| 11. Industry coverage | 3.96 | 3.67 | 0.10 | 0.07 | 0.13 | 0.11 | 0.11 | 0.08 | 0.03 | 0.20 | −0.06 | 0.58 | | | | | |
| 12. Analysts after 1988 | 0.75 | 0.44 | −0.15 | −0.01 | −0.05 | −0.18 | −0.29 | −0.07 | 0.00 | −0.39 | 0.14 | −0.23 | −0.24 | | | | |
| 13. Broker size | 3.50 | 1.16 | 0.26 | 0.06 | −0.01 | 0.27 | 0.26 | 0.10 | 0.07 | 0.10 | −0.01 | 0.04 | −0.13 | 0.04 | | | |
| 14. Broker status | −0.06 | 9.73 | −0.33 | −0.05 | −0.04 | −0.32 | −0.23 | −0.05 | 0.01 | 0.01 | 0.1 | 0.04 | −0.00 | 0.07 | −0.08 | | |
| 15. Rival analysts | 14.49 | 8.16 | 0.12 | −0.06 | 0.06 | 0.12 | 0.09 | −0.09 | −0.18 | 0.04 | −0.14 | 0.13 | −0.11 | −0.09 | 0.09 | 0.01 | |
| 16. Stock uncertainty | 0.26 | 7.15 | −0.00 | 0.00 | −0.01 | 0 | −0.00 | −0.00 | −0.01 | −0.01 | 0 | −0.01 | −0.01 | −0.01 | −0.01 | 0 | −0.01 |

*Note.* $n = 49{,}490$.

Although not hypothesized, it is interesting to note that the effects of recent certification and multiple certifications on the likelihood of being designated an All-Star were in opposite directions. Being designated an All-Star the prior year increased the probability of being designated an All-Star in the current year by 701% ($\beta = 2.99$, $p < 0.001$), consistent with arguments about status's inertial nature. In contrast, multiple prior All-Star designations reduced the likelihood of being designated an All-Star by a significant but more modest 3% ($\beta = -0.04$, $p < 0.01$).

Table 3 presents the results predicting the influence of prior All-Star designations on analysts' accuracy and independence. Models 1 and 4 present the control models for analyst accuracy and analyst independence, respectively, and Models 2 and 5 add the main effects for recent and multiple All-Star designations. Hypotheses 3a and 4a predicted that an All-Star designation in the previous year makes an analyst more accurate and independent. Both hypotheses were supported ($\beta = 0.12$, $p < 0.001$ for accuracy, and $\beta = 0.02$, $p < 0.001$ for independence). Analysts who were named All-Stars saw their accuracy improve by 12% compared with analysts who were not named All-Stars the prior year, and their proportion of independent estimates was 1.6% greater (increasing from 0.353 to 0.369), a 4.5% proportional increase (0.369 − 0.353/0.353).

Hypotheses 3b and 4b predict that multiple All-Star designations reduce analysts' accuracy and independence. Only Hypothesis 4b was supported ($\beta = -0.001$, $p < 0.05$). Multiple All-Star designations had a negative and statistically significant relationship with analyst independence but not with analyst accuracy. Holding all other variables at their mean and assuming that a focal analyst was not designated an All-Star in the previous year (i.e., no recent prior certification), the proportion of independent forecasts issued by an analyst with three certifications up to year $t - 2$ (i.e., at one standard deviation above the mean level) decreased by 0.2%, a proportional decrease of 0.5% based on the average proportion of independent forecasts, compared with an analyst with one prior certification up to year $t - 2$ (i.e., at the mean level). Although modest, combined with the results of Hypothesis 4a, this implies that an analyst who was named an All-Star in the prior year as well as the seven[8] years before that (i.e., whose high status is very stable), is no more independent than an analyst who has never been named an All-Star.

## Robustness Checks

To check the robustness of our findings, we ran additional analyses using alternative models and variables.[9] Prior literature suggests that regulation fair disclosure (Reg FD), enacted in October 2000, might have played a role in the All-Star designation process (Bowers et al. 2014). Reg FD prohibits firms from disclosing information to analysts and investors, making it more difficult for analysts to conduct research and make earnings forecasts. As a result of this new regulation, institutional investors might have altered what analyst performance they valued and, thus, which kinds of analysts they rewarded with All-Star status. For instance, the enactment of Reg FD might have made institutional investors view high independence as too risky and undervalue independent analysts' performance because they were now less likely to have access to private information.

**Table 2.** Effects of Analysts' Performance on the Likelihood of Being Designated an All-Star

| | Main analyses | | Post hoc analyses | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | Model 8 |
| Analyst accuracy | | 0.55*** | 0.37 | 0.62*** | 0.55*** | 0.46*** | 0.53*** | 0.57*** |
| | | (0.08) | (0.24) | (0.09) | (0.08) | (0.08) | (0.08) | (0.08) |
| Analyst independence | | 1.06*** | 1.06*** | 1.06*** | 0.89*** | 1.05*** | 0.79*** | 0.79*** |
| | | (0.21) | (0.21) | (0.22) | (0.22) | (0.21) | (0.22) | (0.22) |
| Accuracy × Independence | | | 0.51 | | | | | |
| | | | (0.61) | | | | | |
| Accuracy × Recent prior All-Star ($t-1$) | | | | −0.13 | | | | −0.28 |
| | | | | (0.15) | | | | (0.20) |
| Independence × Recent prior All-Star ($t-1$) | | | | | 0.47 | | | 0.22 |
| | | | | | (0.52) | | | (0.65) |
| Accuracy × Multiple prior All-Stars ($t-2$) | | | | | | 0.04 | | 0.05 |
| | | | | | | (0.03) | | (0.04) |
| Independence × Multiple prior All-Stars ($t-2$) | | | | | | | 0.25* | 0.18 |
| | | | | | | | (0.12) | (0.15) |
| Recent prior All-Star ($t-1$) | 2.83*** | 2.99*** | 2.95*** | 3.04*** | 2.77*** | 2.94*** | 2.96*** | 2.95*** |
| | (0.07) | (0.07) | (0.07) | (0.07) | (0.23) | (0.07) | (0.07) | (0.28) |
| Multiple prior All-Stars ($t-2$) | −0.07*** | −0.04** | −0.05*** | −0.03* | −0.04** | −0.05*** | −0.14** | −0.12 |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.05) | (0.06) |
| Forecasting frequency | 0.09*** | 0.06*** | 0.06*** | 0.06*** | 0.06*** | 0.06*** | 0.06*** | 0.06*** |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| Leader-follower ratio | −0.02 | −0.02 | −0.02 | −0.02 | −0.02 | −0.02 | −0.02 | −0.02 |
| | (0.01) | (0.02) | (0.01) | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) |
| Industry tenure | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| Stock experience | 0.01 | −0.01 | −0.01 | −0.01 | −0.01 | −0.00 | −0.00 | 0.00 |
| | (0.02) | (0.03) | (0.02) | (0.03) | (0.03) | (0.03) | (0.02) | (0.03) |
| Stock coverage | 0.78*** | 0.75*** | 0.75*** | 0.76*** | 0.75*** | 0.75*** | 0.75*** | 0.75*** |
| | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) |
| Industry coverage | −0.02* | −0.02* | −0.02 | −0.02 | −0.02* | −0.02 | −0.02* | −0.02 |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| Analysts after 1988 | 0.01 | 0.10 | 0.07 | 0.11 | 0.09 | 0.07 | 0.09 | 0.09 |
| | (0.08) | (0.08) | (0.08) | (0.08) | (0.08) | (0.09) | (0.09) | (0.09) |
| Broker size | 0.59*** | 0.58*** | 0.58*** | 0.58*** | 0.58*** | 0.58*** | 0.58*** | 0.58*** |
| | (0.04) | (0.03) | (0.03) | (0.03) | (0.03) | (0.03) | (0.03) | (0.03) |
| Broker status | −0.05*** | −0.05*** | −0.05*** | −0.05*** | −0.05*** | −0.05*** | −0.05*** | −0.05*** |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Rival analysts | 0.03*** | 0.03*** | 0.03*** | 0.03*** | 0.03*** | 0.03*** | 0.03*** | 0.03*** |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Stock uncertainty | −0.01 | −0.01 | −0.01 | −0.01 | −0.01 | −0.01 | −0.01 | −0.01 |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| Year effects | Included | Included | Included | Included | Included | Included | Included | Included |
| Industry effects | Included | Included | Included | Included | Included | Included | Included | Included |
| Constant | −7.56*** | −8.04*** | −8.02*** | −8.08*** | −7.95*** | −7.99*** | −7.90*** | −7.93*** |
| | (0.22) | (0.24) | (0.23) | (0.24) | (0.24) | (0.23) | (0.24) | (0.24) |
| Observations | 48,077 | 48,074 | 48,074 | 48,074 | 48,074 | 48,074 | 48,074 | 48,074 |
| Number of analysts | 11,873 | 11,872 | 11,872 | 11,872 | 11,872 | 11,872 | 11,872 | 11,872 |

*Note.* Robust standard errors in parentheses.
***$p < 0.001$; **$p < 0.01$; *$p < 0.05$.

As alternatives to our main analysis, in which we controlled for each year with a series of dummy variables, we assessed three approaches. First, we created a dummy variable (1 = yes) that indicated whether an observation was from the post-Reg FD era (i.e., after 2000) and included its interactions with the variables relevant to our hypotheses in the analysis. This allowed us to investigate whether the hypothesized relationships might change in the post-Reg FD era. The results were consistent with our findings from the main analysis. Most of the interactions were not significant, meaning that the enactment of Reg FD did not change how institutional investors assessed analyst performances. We found that the positive effect of prior All-Star on *analyst independence* (i.e., Hypothesis 4a) was weakened in the post-Reg FD era, but the effect remained positive and significant, consistent with our main analysis.

We also conducted separate analyses for the pre-Reg FD era using the observations from 1990 to 2000

**Table 3.** Effects of Prior All-Star Designations on Analysts' Performance

| | DV: Analyst accuracy | | | DV: Analyst independence | | |
|---|---|---|---|---|---|---|
| | Main analyses | | Post hoc | Main analyses | | Post hoc |
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
| Recent prior All-Star ($t-1$) | | 0.12*** | | | 0.02*** | |
| | | (0.01) | | | (0.00) | |
| Multiple prior All-Stars ($t-2$) | | 0.00 | 0.01 | | −0.00* | −0.00 |
| | | (0.00) | (0.00) | | (0.00) | (0.00) |
| Status loss ($t-1$) | | | −0.08** | | | −0.01** |
| | | | (0.03) | | | (0.00) |
| Analyst accuracy | 0.01 | 0.01 | 0.01 | 0.01*** | 0.01*** | 0.02*** |
| | (0.01) | (0.01) | (0.01) | (0.00) | (0.00) | (0.00) |
| Analyst independence | 0.07* | 0.07* | 0.04 | 0.04*** | 0.04*** | 0.05*** |
| | (0.03) | (0.03) | (0.04) | (0.01) | (0.01) | (0.01) |
| Forecasting frequency | 0.01*** | 0.01*** | 0.01*** | −0.00 | −0.00 | −0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Leader-follower ratio | 0.00 | 0.00 | 0.00 | −0.00* | −0.00* | −0.00* |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Industry tenure | −0.01*** | −0.02*** | −0.02*** | −0.00*** | −0.00*** | −0.00*** |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Stock experience | 0.03*** | 0.03*** | 0.02*** | 0.01*** | 0.01*** | 0.01*** |
| | (0.01) | (0.01) | (0.01) | (0.00) | (0.00) | (0.00) |
| Stock coverage | −0.01 | −0.01 | −0.00 | 0.01*** | 0.01*** | 0.01*** |
| | (0.01) | (0.01) | (0.01) | (0.00) | (0.00) | (0.00) |
| Industry coverage | −0.00 | −0.00 | −0.00 | 0.00 | 0.00 | 0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Analysts after 1988 | −0.03 | −0.03 | −0.00 | −0.01*** | −0.02*** | −0.01** |
| | (0.02) | (0.02) | (0.02) | (0.00) | (0.00) | (0.00) |
| Broker size | 0.03*** | 0.02*** | 0.03*** | −0.00** | −0.00*** | −0.00 |
| | (0.01) | (0.01) | (0.01) | (0.00) | (0.00) | (0.00) |
| Broker status | −0.00*** | −0.00*** | −0.00*** | −0.00*** | −0.00*** | −0.00*** |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Rival analysts | −0.00*** | −0.00*** | −0.00*** | 0.00* | 0.00* | 0.00* |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Stock uncertainty | 0.00 | 0.00 | 0.00 | −0.00 | −0.00 | −0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Year effects | Included | Included | Included | Included | Included | Included |
| Industry effects | Included | Included | Included | Included | Included | Included |
| Constant | −0.06 | −0.04 | −0.05 | 0.37*** | 0.38*** | 0.37*** |
| | (0.03) | (0.03) | (0.04) | (0.01) | (0.01) | (0.01) |
| Observations | 40,670 | 40,670 | 33,009 | 39,454 | 39,454 | 32,140 |
| Number of analysts | 9,752 | 9,752 | 7,597 | 9,420 | 9,420 | 7,395 |

*Note.* Robust standard errors in parentheses.
***$p < 0.001$; **$p < 0.01$; *$p < 0.05$.

and the post-Reg FD era using observations after 2000. With two exceptions, the results were generally consistent with our main analyses. We found that the positive effect of analyst independence on the likelihood of being named an All-Star had a $p$-value of 0.055 in the post-Reg FD era and that the negative effect of *multiple prior All-Stars* on *analyst independence* was no longer significant in either the pre- or post-Reg FD eras. However, we suspect that this inconsistency resulted from the range restriction of *multiple prior All-Stars* created by the shortened time periods. *Multiple prior All-Stars* is likely to be underestimated in the pre-Reg FD era and overestimated in the post-Reg FD era. These analyses indicate that the enactment of Reg FD is unlikely to undermine our findings.

Our main analysis also assumes that institutional investors use analyst performance in the prior year (i.e., performance from April 1 in year $t-1$ to March 31 in year $t$) when casting their votes. However, it is possible that institutional investors also considered analysts' earlier performance as well. Thus, we ran an analysis with alternative independent variables to investigate the possible cumulative effects of performance. We created *analyst accuracy-cumulative* and *analyst independence-cumulative* by summing the prior three years' performance. We discounted earlier performance as a function of time; that is, we weighted each year by one divided by the number of years prior to the current year. The results were mostly consistent with our main analysis. Both greater accuracy and

independence in the prior three years increased the likelihood of being designated an All-Star in the current year.

## Post Hoc Analyses

To supplement our primary analyses, we explored four other issues post hoc. First, we considered whether there was an interaction between accuracy and independence, because accuracy might influence how independence is interpreted; for example, independence might be valued even more if it is also associated with more accurate estimates. However, as the results in Model 3 of Table 2 show, the interaction was not significant.

Second, we investigated whether recent and multiple prior certifications moderated the positive relationships between performance (i.e., analyst accuracy and independence) and being named an All-Star in the current year. We expected that a recent certification would reduce the positive effects of analyst accuracy on the likelihood of being designated an All-Star, and tested these interactions in Model 4 of Table 2. However, these interactions were not significant. We also expected that a recent certification would strengthen the positive effects of independence on the likelihood of being designated an All-Star (Model 5). This interaction was also not significant.

We then considered whether the stabilizing effects of multiple certifications created an interpretive frame for social evaluators that affected the relationship between performance and winning the subsequent certification. Multiple certifications did not affect the positive relationship between analyst accuracy and the likelihood of being designated an All-Star (Table 2, Model 6). However, the interaction between multiple All-Star designations and analyst independence was positive and statistically significant in Model 7 ($\beta = 0.25$, $p < 0.05$). Figure 1 plots the predicted effect of multiple All-Star designations on the relationship between analyst independence and the probability of being designated an All-Star at three different levels: zero, one, and three prior All-Star designations. When independence is low, multiple All-Star designations diminishes the effect of independence on being designated an All-Star. However, when independence is high, multiple All-Star designations strengthen the effect of independence. Thus, multiple prior All-Star designations further decrease the likelihood that less independent analysts are designated All-Stars but enhance the likelihood for highly independent analysts.

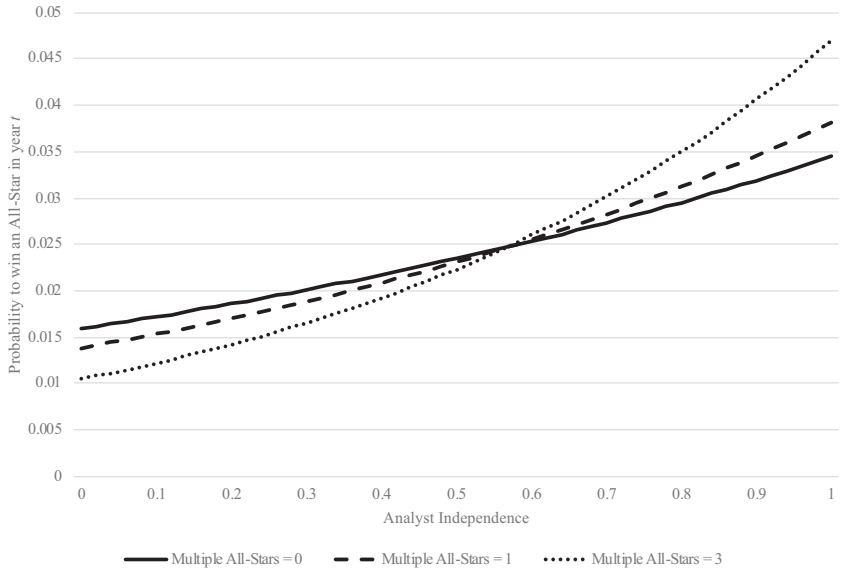
Third, whereas our focus was on exploring how gaining status affects subsequent behaviors, as our results show, analysts who are certified as All-Stars may not be certified again the next year, and losing status could also affect analysts' subsequent behaviors. We created a dummy variable, *status loss*, coded one if an analyst designated an All-Star in year $t - 2$ was not designated an All-Star in year $t - 1$ and zero otherwise. We used this measure to predict accuracy and independence in year $t$. As the results in Models 3 and 6 of Table 3 show, analysts were significantly less accurate and less independent in the year after losing the All-Star designation ($\beta = -0.08$, $p < 0.01$ and $\beta = -0.01$, $p < 0.01$, respectively).

Fourth, given that this is a regularly recurring certification contest, social evaluators may assess actors' performance in two different ways. They can compare an actor's performance with other actors' performance (i.e., make between-actor assessments) and also with the actor's typical performance (i.e., make within-actor assessments over time). In fact, Certo et al. (2017) argued that research using longitudinal data often conflates within-actor and between-actor variance over time, which can mask significant relationships and/or limit theoretical insights. They argued that it is important to determine whether it is between-actor variations (i.e., different actors have high and low values for a given construct) or within-actor differences across time (i.e., the same actor's values for the construct vary from observation to observation) that are consequential for the relationships studied.

We reran our analyses using distinct within-actor and between-actor measures for all our IVs to assess whether only one or both sources of variance were consequential and how that might affect our findings. Following the Certo et al. (2017) recommendations, we employed a hybrid approach in which we split each independent and control variable into two variables: (1) a time-invariant, between-analyst measure operationalized as the mean value of the variable across all observations for each analyst and (2) a time-varying, within-analyst, mean-centered variable, calculated by subtracting the analyst's mean value across all observations from the annually observed valued for each analyst. For these analyses, we included both recent and multiple prior All-Star designations as independent variables, given their main effects and our findings in the second post hoc analysis.

Table 4 presents the results using these alternative measures. Consistent with our findings in the main analyses, the main effects of both within-analyst and between-analyst variance for accuracy were consistently and positively associated with the likelihood of being designated an All-Star. Because our post hoc analysis exploring the moderating effects of multiple prior All-Star designations showed mixed effects, we explored these relationships in this analysis further with some interesting results. Although the interaction using the within-analyst measure is not significant, we find that multiple prior All-Star designations has a significant, negative moderating effect. Figure 2 graphs the interaction between multiple All-Star

**Figure 1.** Multiple Prior All-Star Designations Year $t-2 \times$ Analyst Independence Predicting the Probability of an All-Star Designation in Year $t$




designations and between-analyst accuracy using zero, one, and three prior All-Star designations. These results show that, as multiple All-Star designations increase—that is, as the analyst's high status stabilizes—between-analyst accuracy matters less and less, with the line becoming essentially flat once the analyst has accumulated three prior All-Star designations.

The main effect of within-analyst variance for independence had a consistently positive and significant relationship with being designated an All-Star. With one exception, the main effect of between-analyst independence was not significant. The one exception, shown in Model 4, is when between-analyst independence is interacted with between-analyst multiple All-Star designations. The main effect of between-analyst independence is positive and significant ($\beta = 2.43$, $p < 0.01$), and the interaction term is negative and significant ($\beta = -1.09$, $p < 0.001$). Figure 3 graphs this interaction for zero, one, and three prior All-Star designations. Figure 3 shows that having more All-Star designations than other analyst attenuates the effect of between-analyst independence on the likelihood of receiving an All-Star designation. Indeed, when an analyst has three or more prior All-Star designations, the positive relationship is completely attenuated. That is, just as with accuracy, as status stabilizes, being more independent than other analysts matters less and less.

Further, the moderating effect of within-analyst multiple All-Star designations on within-analyst independence is positive and significant ($\beta = 0.40$, $p < 0.05$). Figure 4 graphs this relationship at three different levels of within-analyst multiple All-Star designations: an analyst's average number of All-Star designations across the observation period and one less and one more All-Star designation than usual. It shows that, when an analyst has one less All-Star designation than average, independence has no effect on being designated an All-Star in the current year. However, as prior All-Star designations accumulate, the more within-analyst independence they show, the more likely they are to be designated an All-Star in the current year. That is, as their status stabilizes, analysts who become increasingly independent are more likely to continue receiving All-Star designations.

Table 5 presents the results exploring how within-analyst and between-analyst recent and multiple prior All-Star designations affect subsequent accuracy and independence. Consistent with our primary analysis and Hypothesis 3a, both within-analyst and between-analyst recent All-Star designations were positively related to accuracy ($\beta = 0.03$, $p < 0.05$ for between-analyst and $\beta = 0.11$, $p < 0.001$ for within-analyst). However, only within-analyst recent All-Star designation had a positive, significant relationship with independence ($\beta = 0.01$, $p < 0.001$), consistent with Hypothesis 4a. The between-analyst recent All-Star designation was not significant. Thus, whereas both external and internal comparisons led to improved accuracy when an analyst was certified as an All-Star the prior year, only within-analyst comparisons (i.e., being named an All-Star after not being named an All-Star the year before) led to more independence.

With respect to Hypotheses 3b and 4b, that multiple prior All-Star designations would be negatively associated

**Table 4.** Effects of Analysts' Behaviors on the Likelihood of Being Designated an All-Star (Differentiating Between-Analyst from Within-Analyst Effects)

| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 |
|---|---|---|---|---|---|
| Analyst accuracy – Between-analyst (BW) | | 0.43** | 0.80*** | 0.43** | 0.72*** |
| | | (0.15) | (0.21) | (0.15) | (0.21) |
| Analyst accuracy – Within-analyst (WI) | | 0.48*** | 0.50*** | 0.47*** | 0.50*** |
| | | (0.11) | (0.13) | (0.12) | (0.13) |
| Analyst independence – BW | | 1.10 | 1.07 | 2.43** | 2.07** |
| | | (0.62) | (0.63) | (0.75) | (0.79) |
| Analyst independence – WI | | 1.00** | 1.03** | 1.10** | 1.14** |
| | | (0.38) | (0.38) | (0.37) | (0.38) |
| Accuracy × Multiple prior All-Stars ($t-2$) – BW | | | −0.24*** | | −0.18** |
| | | | (0.07) | | (0.07) |
| Accuracy × Multiple prior All-Stars ($t-2$) – WI | | | −0.04 | | −0.07 |
| | | | (0.05) | | (0.05) |
| Independence × Multiple prior All-Stars ($t-2$) – BW | | | | −1.09*** | −0.79* |
| | | | | (0.31) | (0.32) |
| Independence × Multiple prior All-Stars ($t-2$) – WI | | | | 0.40* | 0.49* |
| | | | | (0.20) | (0.20) |
| Recent prior All-Star ($t-1$) – BW | 9.06*** | 9.05*** | 9.06*** | 9.01*** | 9.02*** |
| | (0.17) | (0.17) | (0.17) | (0.17) | (0.17) |
| Recent prior All-Star ($t-1$) – WI | 1.85*** | 1.81*** | 1.81*** | 1.80*** | 1.80*** |
| | (0.08) | (0.09) | (0.09) | (0.09) | (0.09) |
| Multiple prior All-Stars ($t-2$) – BW | −0.11*** | −0.10*** | −0.09*** | 0.34** | 0.23 |
| | (0.02) | (0.03) | (0.02) | (0.12) | (0.13) |
| Multiple prior All-Stars ($t-2$) – WI | −0.91*** | −0.91*** | −0.90*** | −0.91*** | −0.90*** |
| | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) |
| Forecasting frequency – BW | 0.13*** | 0.10*** | 0.10*** | 0.11*** | 0.10*** |
| | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) |
| Forecasting frequency – WI | 0.09*** | 0.05* | 0.05** | 0.05* | 0.05** |
| | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) |
| Leader-follower ratio – BW | 0.02 | 0.01 | 0.02 | 0.02 | 0.02 |
| | (0.03) | (0.03) | (0.03) | (0.03) | (0.03) |
| Leader-follower ratio – WI | −0.04 | −0.04 | −0.04 | −0.03 | −0.03 |
| | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) |
| Industry tenure – BW | 0.18*** | 0.17*** | 0.18*** | 0.17*** | 0.18*** |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| Industry tenure – WI | 0.20*** | 0.22*** | 0.23*** | 0.23*** | 0.23*** |
| | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) |
| Stock experience – BW | −0.06 | −0.05 | −0.05 | −0.07 | −0.06 |
| | (0.03) | (0.04) | (0.03) | (0.04) | (0.03) |
| Stock experience – WI | −0.04 | −0.06 | −0.06 | −0.06 | −0.06 |
| | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) |
| Stock coverage – BW | 0.49*** | 0.46*** | 0.45*** | 0.45*** | 0.443*** |
| | (0.06) | (0.06) | (0.06) | (0.07) | (0.07) |
| Stock coverage – WI | 0.94*** | 0.90*** | 0.90*** | 0.90*** | 0.90*** |
| | (0.09) | (0.09) | (0.09) | (0.09) | (0.09) |
| Industry coverage – BW | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| Industry coverage – WI | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 |
| | (0.03) | (0.03) | (0.03) | (0.03) | (0.03) |
| Analysts after 1988 | 0.29*** | 0.31*** | 0.33*** | 0.31*** | 0.33*** |
| | (0.08) | (0.08) | (0.07) | (0.08) | (0.07) |
| Broker size – BW | 0.42*** | 0.40*** | 0.40*** | 0.40*** | 0.41*** |
| | (0.05) | (0.05) | (0.05) | (0.05) | (0.05) |
| Broker size – WI | 0.57*** | 0.57*** | 0.56*** | 0.58*** | 0.57*** |
| | (0.10) | (0.10) | (0.10) | (0.10) | (0.10) |
| Broker status – BW | −0.01* | −0.01* | −0.01 | −0.01 | −0.01 |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Broker status – WI | −0.07*** | −0.07*** | −0.07*** | −0.07*** | −0.07*** |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| Rival analyst – BW | 0.02*** | 0.02*** | 0.02*** | 0.02*** | 0.02*** |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |

**Table 4.** (Continued)

| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 |
|---|---|---|---|---|---|
| Rival analyst – WI | 0.02* | 0.02* | 0.02* | 0.02* | 0.02* |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| Stock uncertainty – BW | 0.00* | 0.00* | 0.00* | 0.00 | 0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Stock uncertainty – WI | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| Year effects | Included | Included | Included | Included | Included |
| Industry effects | Included | Included | Included | Included | Included |
| Constant | −10.64*** | −10.85*** | −10.90*** | −11.38*** | −11.26*** |
| | (0.33) | (0.41) | (0.41) | (0.45) | (0.46) |
| Observations | 48,077 | 48,074 | 48,074 | 48,074 | 48,074 |
| Number of analysts | 11,873 | 11,872 | 11,872 | 11,872 | 11,872 |

*Note.* Robust standard errors in parentheses.
***$p < 0.001$; **$p < 0.01$; *$p < 0.05$.

with accuracy and independence, the results in Table 5 show that only between-analyst multiple All-Star designations had a significant, negative relationship with accuracy ($\beta = -0.01$, $p < 0.001$), and only within-analyst multiple All-Star designations had a negative, significant relationship with independence ($\beta = -0.003$, $p < 0.001$). Thus, as high status stabilizes relative to other analysts, the focal analyst becomes less accurate, but as high status stabilizes relative to an analyst's typical status, the focal analyst becomes less independent.

## Discussion

In this study, we investigated how status and performance become decoupled by examining how performance affects the likelihood an actor achieves high status and then how achieving high status affects the actor's subsequent performance. In post hoc analyses, we also examined how an actor's prior status affects the relationship between performance and achieving high status again. Our findings, although generally consistent with our hypotheses, suggest some surprising and nuanced relationships that have interesting theoretical implications for research on status mobility and certification contests. Table 6 summarizes the hypothesized relationships and the results of our analyses.

### Theoretical Implications

Our findings add to prior research on the relationship between performance and status (Pollock et al. 2008, 2015) by providing insights into how they become decoupled over time. Consistent with the view that status tends to be inertial, our analysis indicates that the

**Figure 2.** Multiple Prior All-Star Designations Year $t-2 \times$ Analyst Accuracy (Between-Analyst Variance) Predicting the Probability of an All-Star Designation in Year $t$

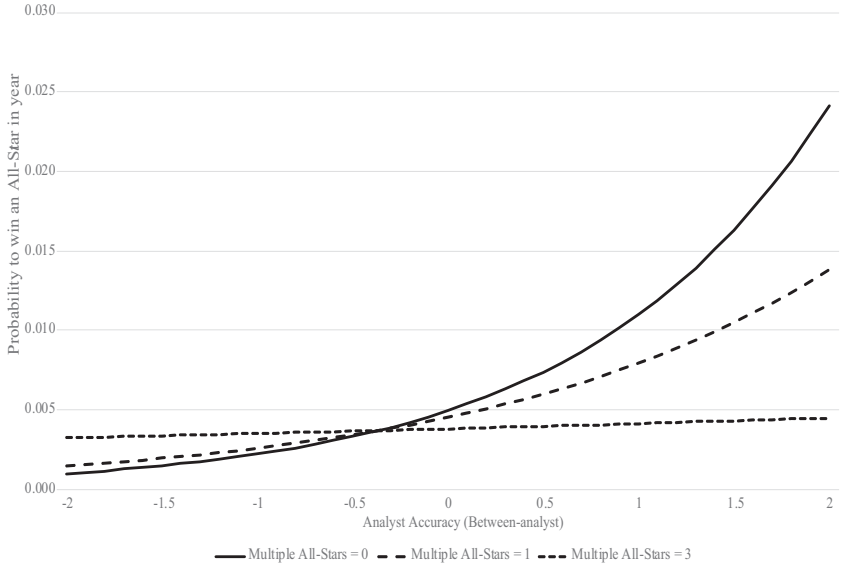
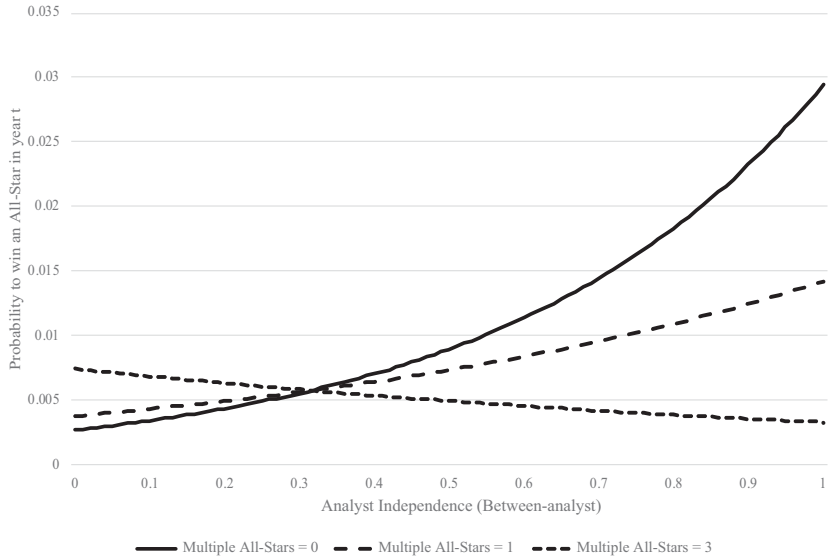


**Figure 3.** Multiple Prior All-Star Designations Year $t-2 \times$ Analyst Independence (Between-Analyst Variance) on the Probability of an All-Star Designation in Year $t$




first All-Star designation increased the probability of being designated an All-Star the following year from 4% to 32.1%. But, once an analyst accumulated two certifications, the likelihood of a third certification declined, although only slightly. We suspect that these dynamics result in part from the recurrent nature of the certification contest we studied, because repeated certification contests provide social evaluators the opportunity to assess the same actors multiple times. This creates two interesting dynamics: (1) it allows the actors' prior status to serve as an interpretive frame influencing both the evaluators' and the high-status actor's subsequent perceptions and the actor's subsequent behaviors, and (2) it creates the opportunity to make within-actor comparisons over time, as well as between-actor comparisons. We find that both factors can contribute to decoupling performance and status once high status is achieved. We address how they influence social evaluators and the actors evaluated in turn.

**Figure 4.** Multiple Prior All-Star Designations Year $t-2 \times$ Analyst Independence (Within-Analyst Variance) Predicting the Probability of an All-Star Designation in Year $t$

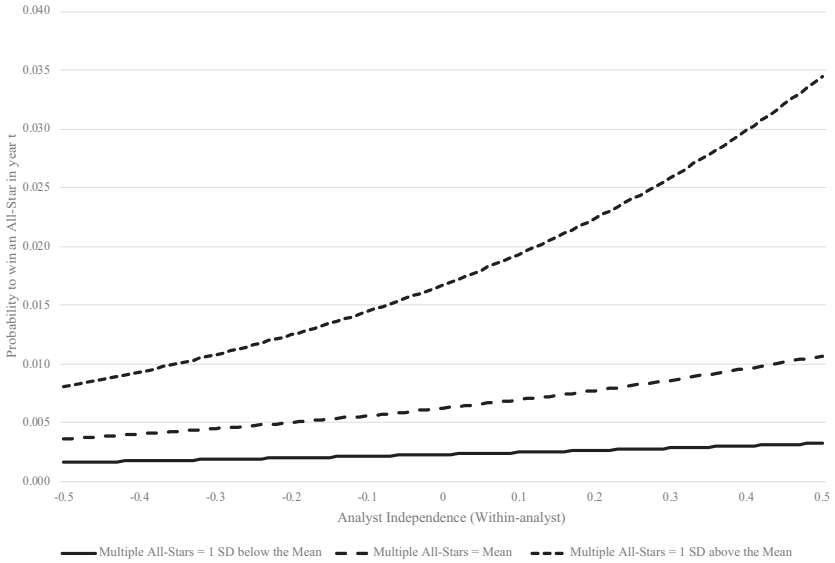


**Table 5.** Effects of Prior All-Star Designations on Analysts' Behaviors (Differentiating Between-Analyst from Within-Analyst Effects)

| | DV: Analyst accuracy | | DV: Analyst independence | |
|---|---|---|---|---|
| | Model 1 | Model 2 | Model 3 | Model 4 |
| Recent prior All-Star ($t-1$) – BW | | 0.03* | | −0.01 |
| | | (0.01) | | (0.00) |
| Recent prior All-Star ($t-1$) – WI | | 0.11*** | | 0.01*** |
| | | (0.02) | | (0.00) |
| Multiple prior All-Stars ($t-2$) – BW | | −0.01*** | | −0.00 |
| | | (0.00) | | (0.00) |
| Multiple prior All-Stars ($t-2$) – WI | | 0.01 | | −0.00*** |
| | | (0.00) | | (0.00) |
| Analyst accuracy – BW | 1.07*** | 1.07*** | 0.01** | 0.01** |
| | (0.07) | (0.07) | (0.00) | (0.00) |
| Analyst accuracy – WI | −0.22*** | −0.22*** | 0.01*** | 0.01*** |
| | (0.03) | (0.03) | (0.00) | (0.00) |
| Analyst independence – BW | 0.10 | 0.11 | 0.93*** | 0.93*** |
| | (0.07) | (0.07) | (0.01) | (0.01) |
| Analyst independence – WI | 0.04 | 0.04 | −0.17*** | −0.17*** |
| | (0.03) | (0.03) | (0.01) | (0.01) |
| Forecasting frequency – BW | 0.01** | 0.01** | 0.00 | 0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| Forecasting frequency – WI | 0.00 | 0.00 | −0.00 | −0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| Leader-follower ratio – BW | 0.00 | 0.00 | 0.00 | 0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| Leader-follower ratio – WI | −0.00 | −0.00 | −0.00** | −0.00** |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| Industry tenure – BW | 0.01*** | 0.01*** | 0.00*** | 0.00*** |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| Industry tenure – WI | −0.04*** | −0.04*** | −0.00*** | −0.00*** |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| Stock experience – BW | 0.01** | 0.00 | 0.00* | 0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| Stock experience – WI | 0.05*** | 0.05*** | 0.01*** | 0.01*** |
| | (0.01) | (0.01) | (0.00) | (0.00) |
| Stock coverage – BW | 0.01** | 0.01** | 0.00** | 0.00*** |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| Stock coverage – WI | −0.05*** | −0.06*** | 0.00 | 0.00 |
| | (0.01) | (0.01) | (0.00) | (0.00) |
| Industry coverage – BW | 0.00* | 0.00* | −0.00 | −0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| Industry coverage – WI | −0.00 | −0.00 | −0.00 | −0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| Analysts after 1988 | −0.01 | −0.01* | 0.01*** | 0.01*** |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| Broker size – BW | −0.01** | −0.01* | −0.00 | 0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| Broker size – WI | 0.01 | 0.00 | −0.01** | −0.01** |
| | (0.01) | (0.01) | (0.00) | (0.00) |
| Broker status - BW | −0.00 | −0.00 | 0.00 | 0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| Broker status – WI | −0.00*** | −0.00* | −0.00*** | −0.00** |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| Rival analyst – BW | −0.00* | −0.00** | −0.00 | −0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| Rival analyst – WI | −0.00 | −0.00 | 0.00* | 0.00* |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| Stock uncertainty – BW | 0.00 | 0.00 | −0.00* | −0.00* |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| Stock uncertainty – WI | −0.00* | −0.00* | −0.00 | −0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| Year effects | Included | Included | Included | Included |

**Table 5.** (Continued)

| | DV: Analyst accuracy | | DV: Analyst independence | |
|---|---|---|---|---|
| | Model 1 | Model 2 | Model 3 | Model 4 |
| Industry effects | Included | Included | Included | Included |
| Constant | −0.18*** | −0.19*** | 0.01 | 0.01 |
| | (0.04) | (0.04) | (0.01) | (0.01) |
| Observations | 40,670 | 40,670 | 39,454 | 39,454 |
| Number of analysts | 9,752 | 9,752 | 9,420 | 9,420 |

*Note.* Robust standard errors in parentheses.
***$p < 0.001$; **$p < 0.01$; *$p < 0.05$.

**Influence on Social Evaluators.** Prior research argues that high-status certification creates an interpretive frame (Smith 2011, Hubbard et al. 2018) that focuses evaluators' attention on different aspects of an actor's performance and shapes their evaluations. Our post hoc analyses added a further twist; we found that multiple prior certifications weakened the positive relationship between accuracy and high-status certification, but only for between-actor comparisons. Indeed, once an analyst's status stabilized, between-actor accuracy was completely decoupled from subsequent high-status certifications.

Multiple certifications also affected the relationship between independence and being recertified in an interesting way. As with accuracy, it attenuated the relationship between independence and certification with respect to other analysts (i.e., between-actor variance); however, it *enhanced* the relationship with respect to within-actor comparisons. Thus, as status stabilized, independence became completely decoupled from between-actor status comparisons, but whether the analyst continued to show increasing independence mattered more.

These findings are provocative, because they illustrate how multiple high-status certifications can create interpretive frames that could contribute in different ways to decoupling performance and status. The stabilizing effects of multiple certifications largely attenuates comparisons to other actors, although it enhanced within-actor comparisons for more holistically assessed performance. This suggests that, once an actor achieves high status, social evaluators attend to performance that highlights values important to the evaluators in the long term.

**Influence on High-Status Actors.** Our findings suggest that actors' high status creates interpretive frames for them, as well. These interpretive frames enhance performance in the short term, but facilitate decoupling performance from status over time by shifting their focus from the perceived sources of their high status to its benefits. Consistent with prior research arguing that status can lead to performance improvements (Benjamin and Podolny 1999, Sørensen 2007), our results show that, in the short term, recent high-status certification increases both accuracy and independence. However, as multiple high-status certifications accumulate, performance along both dimensions declines relative to others—likely because of the hubris, complacency, and distractions associated with high status's many benefits (Hayward 2007, Malmendier and Tate 2009, Bothner et al. 2012)—which can lead to status loss.

It is interesting that our post hoc analysis revealed status loss also had a negative relationship with subsequent accuracy and independence. Rather than refocusing and

**Table 6.** Summary of Results

| | | | | | Post hoc analyses | |
|---|---|---|---|---|---|---|
| Hypotheses | Predictor | Outcome | Prediction | Main analyses | Within analyst | Between analysts |
| Hypothesis 1 | Accuracy | All-Star | Positive | Positive | Positive | Positive |
| Hypothesis 2 | Independence | All-Star | Positive | Positive | Positive | n.s. |
| Hypothesis 3a | Recent prior All-Star | Accuracy | Positive | Positive | Positive | Positive |
| Hypothesis 3b | Multiple prior All-Stars | Accuracy | Negative | n.s. | n.s. | Negative |
| Hypothesis 4a | Recent prior All-Star | Independence | Positive | Positive | Positive | n.s. |
| Hypothesis 4b | Multiple prior All-Stars | Independence | Negative | Negative | Negative | Negative |
| Post hoc analyses | Accuracy × Multiple prior All-Stars | All-Star | Negative | n.s. | n.s. | Negative |
| | Independence × Multiple prior All-Stars | | Positive | Positive | Positive | Negative |

becoming more accurate or trying to reassert their independence after failing to retain their All-Star designation, analysts' subsequent accuracy declines, and they become more likely to follow the herd. This could be because their confidence is shaken, their access to opportunities might change, or for some other reason. This is an intriguing issue that, although beyond the scope of this study, merits further exploration. For example, does the analyst eventually get back in the saddle and improve performance, or does the analyst continue to flail and become a "has been" who was on top for a while and then fell from grace?

Overall, our findings with respect to both social evaluators and the actors being evaluated extend our understanding of how performance and status are decoupled. By parsing the between-analyst and within-analyst variance of two performance dimensions that institutional investors value, we clarify how performance evaluations might differ depending on how the valued characteristics are cognitively processed. Further, we demonstrate how multiple high-status certifications differently influence the way characteristics are evaluated by the evaluators and the actors themselves. Future research should continue to focus on the cognitive processes involved in awarding and maintaining status, and pay careful attention to the types of performance considered.

**Certification Contests.** Finally, our findings provide insights into the under-theorized phenomena of certification contests. Certification contests vary in their frequency (Merton 1968, Durand et al. 2007), which can have consequences for how they influence status. In our research context the certification contest is repeated on a regular basis—a likely driver of the dynamic between performance and status mobility. For instance, the recurrent nature of the contest leads social evaluators to assess analysts' performance every year and update their assessments relative to two different cognitive anchors—the actor's performance history, and others' performance. Because expectations change to meet performance (Lant 1992, Mishina et al. 2010), repeated certification contests can create a "Red Queen" effect (Derfus et al. 2008) where actors must demonstrate continually higher levels of performance just to maintain their status, which is virtually impossible to sustain over time (Kahneman and Tversky 1979, Mishina et al. 2010). Winning a contest repeatedly can also make analysts overconfident and complacent with their performance by continuously reaffirming their ability, and also lead to performance declines.

The literature on status recognizes certification contests as one of the key driving forces that affect status mobility (e.g., Rao 1994, Durand et al. 2007, Jensen and Kim 2015). However, scholars primarily treat certification contests as an empirical tool to capture status achievement; their nature and how they influence status achievement is rarely investigated or theorized. We extend the status literature by incorporating certain key characteristics of our research context into the theorization, and by demonstrating how the recurrent nature of certification contests affects the relationship between performance and status mobility.

## Limitations and Future Research

Our study's boundary conditions and limitations suggest several interesting areas for future research. For instance, we focus on equity analysts making forecasts about companies' earnings. This setting may increase both the likelihood and the value of accuracy and independence because they are important to institutional investors, but they may matter less or not at all in other contexts. However, whereas the specific values considered are likely to vary in importance by context, our arguments should generalize to other industries in which multiple factors are valued and cognitively processed in different ways. For example, in technology industries firms need to retain the fast and agile capabilities of small startups while also having the R&D capacities of larger firms. Furthermore, in consumer product settings customers often value firms that have a reputation for quality, but they may also desire qualities, such as styling. Even in academic settings we see that audiences value both teaching and research. Future research should examine different contexts and assess whether there are other nuances to the theory that we missed in our single context.

A related boundary condition on our study is that we do not have detailed information on the evaluators beyond the information provided by *Institutional Investor* magazine. However, the evaluators ranking the analysts appear to be homogeneous in their roles and the characteristics they value. Other studies show that increasing evaluator diversity can lead to different assessments (Kovács and Sharkey 2014), and that the conditions under which evaluations are made can also affect their assessments (Criscuolo et al. 2017). Future research in other contexts in which more data on the evaluators is available should continue to explore these important boundary conditions.

The structure of our certification contest may also affect our findings. The *Institutional Investor* All-Star ranking is issued annually at the same time each year, making it possible to compare analysts' performance with both their past performance and others' performance. However, in certification contests that are one-shot deals, such as winning a Nobel Prize, social evaluators' interpretive frames may remain rather independent from the contest's structure, as the contests themselves are less likely to generate comparative referents. There is also no substantial differentiation

among the high-status actors in our setting. It is possible that the effects might differ when finer gradations among high-status actors are possible, for example such as in the *Guide Michelin* that uses a three-star system. Winning one versus three stars might have a differing effect on how evaluators assess actors' performance or how actors perform in the subsequent round, and how long a restaurant holds one star may affect its ability to gain additional stars. Finally, because there are multiple rounds of certification contests, it is possible that declines in performance reflect regression to the mean. However, if regression to the mean were a significant problem, then it would also affect the performance of similarly high-performing analysts that were not designated All-Stars, and we would be unlikely to find a significant negative effect of cumulative designations on performance. Our finding that there is a significant negative effect for independence in both our main and post hoc within–between analysis, and the negative effect of between-analyst comparisons for accuracy, supports our position. Future research should consider other certification contests to examine how their structures affect the relationship between status and performance and provide boundary conditions to our findings.

Furthermore, although we find support for our claim that independence and accuracy improve equity analysts' likelihood of being designated All-Stars, we did not test or examine any direct benefits of the certification. Prior research on analysts examines the effect of being designated an All-Star on a number of different outcomes and situations (e.g., Fang and Yasuda 2009, Groysberg and Lee 2010, Groysberg et al. 2011). Future research could explore this issue further.

A related issue is that there are other analyst designations (e.g., *The Wall Street Journal*'s "Best on the Street", StarMine's "Top Earnings Estimators" and "Top Stock Picker"). We used *Institutional Investor*'s All-Star designation because it is the longest running and most widely recognized analyst certification. It also reflects social evaluators' perceptions, making it a good proxy for status. However, of the different analyst designations, research finds that All-Star winners' recommendations have the weakest relationship with actual investment performance (Kucheev et al. 2017). Future research using other dimensions that perhaps better reflect other types of social evaluations, such as reputation, can continue to explore how the certification contests used affect the relationships observed.

Finally, we could only assess how externally observable performance behaviors (i.e., accuracy and independence) influenced All-Star designations. Other factors—in particular, responsiveness, accessibility, customer service, and other aspects of the service analysts provide—also influence institutional investors' assessments and ratings. Unfortunately, we were unable to get data on these behaviors. Further, as with all archival research, we theorize about mechanisms and processes that we cannot directly measure. Future research conducted in real time or using other techniques—such as qualitative interviews with evaluators, All-Star analysts, former All-Star analysts and non–All-Star analysts; or policy capturing, which can more directly reflect the different factors used in decision making—would be useful in fleshing out our understanding of how high-status certifications are determined.

## Conclusion

We examine how analysts' performance can influence their status, and how achieving high status via certification contests can change both the high-status actors' and social evaluators' assessments in ways that decouple status and performance. Performance can help an actor achieve status, but the relationships change once high status is achieved. Multiple high-status certifications create interpretive frames that influence how social evaluators assess the actor's subsequent performance in future certification contests; however, these frames differ in whether it is assessed relative to others' performance, or only the focal actor's typical performance. High-status certifications also affect the certified actors' perceptions, shedding light on how status and performance can become decoupled. The duality of status's short- and long-term effects are, thus, the bases for both its persistence and its decline.

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### Endnotes

[1] Other approaches to status focus primarily on the relational aspects of status in their theorizing and empirical operationalizations (e.g., Podolny 1993, 2005). These approaches, however, do not capture the value-based aspect of status (Pollock et al. 2019).

[2] Some certification contests, such as the Nobel Prize or appointment to the National Academy of Sciences, are one-time events, whereas others allow for repeated certifications (e.g., the Grammy Awards and All-Star designations). Our theorizing focuses specifically on contests in which repeated certifications are possible.

[3] Accounting and finance scholars use the term "bold" to refer to estimates that deviate from the consensus estimate of all analysts by as little as a penny (Hong et al. 2000). However, research in strategy and organization theory reserves the term "bold" for more strategic behaviors that deviate materially from the consensus rather than

just incrementally (Bowers et al. 2014, 2017). Thus, we prefer the term "independence" because it better reflects these more incremental deviations, which, although they bear some risk, are less risky than qualitatively bold estimates. At the same time, the concept of independence can also accommodate deviations that are bold.

[4] The decline in independence cannot be due to others herding and imitating the All-Star analysts, because independence is based on the focal analysts deviating from the consensus at the time they make their estimate. Others subsequently changing their estimates to copy the focal analysts is immaterial, and our measure does not reflect it.

[5] We use the *Institutional Investor* All-Star ranking rather than other measures, such as the *Wall Street Journal*'s "Best on the Street" and StarMine's "Top Stock Pickers" and "Top Earning Estimators" (e.g., Kucheev et al. 2017) because (1) it covers a longer time-period (it has been issued since 1972 as opposed to 1993 for *The Wall Street Journal* designation and 1998 for StarMine); (2) its impact on analysts' careers and brokerage firms' performance is the most studied of all the rankings, and it is the most recognized ranking in the industry (Brown et al. 2015); and (3) its designation process involves institutional clients as the social evaluators, making it a better indicator of status. The other measures are based on objective calculations and do not involve clients' perceptions.

[6] Using the three-digit level, as we did for industry coverage, resulted in 274 dummy variables. When these dummy variables were included in the model, it did not converge. Thus, we used dummy variables based on the one-digit SIC code instead.

[7] We ran the analysis with the fixed-effects model as well, and all the hypothesized results remained consistent. We report the random-effects model to keep all the time-invariant variables.

[8] The maximum value of multiple prior certifications in our sample is 16.

[9] Results are available upon request. We do not report our results to save space.

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