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## Happy Analysts

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### ABSTRACT

This paper is the first to investigate the role of work-life balance in financial analysts' performance and career advancement. Using a large sample of Glassdoor reviews by financial analysts, we find a significant non-linear relation between perceived work-life balance and analyst performance and analyst career advancement. Specifically, when perceived work-life balance is relatively low, an increase in work-life balance is associated with better analyst performance and career advancement; however, when perceived work-life balance is already high, a further increase in work-life balance is associated with worse analyst performance and career advancement.

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# Happy Analysts

## Abstract

This paper is the first to investigate the role of work-life balance in financial analysts' performance and career advancement. Using a large sample of Glassdoor reviews by financial analysts, we find a significant non-linear relation between work-life balance and analyst performance and analyst career advancement. Specifically, when perceived work-life balance is relatively low, an increase in work-life balance is associated with better analyst performance and career advancement; however, when perceived work-life balance is already high, a further increase in work-life balance is associated with worse analyst performance and career advancement.

*JEL Classification:* D83, G11, G24, J24, J44, M41

*Keywords:* Analysts, Work-Life Balance, Job Satisfaction, Performance, Promotion, Labor Market, Social Media, Glassdoor, All-Star

# Happy Analysts

## 1. Introduction

Sell-side financial analysts are widely considered to have one of the most challenging professions in which to achieve work-life balance due to long working hours and a competitive work environment.<sup>1</sup> Although financial analysts earn high salaries and have promising career growth prospects, they also bear the costs of high stress levels and limited time for self and family. In recent years, several investment banks have started programs to promote work-life balance among their employees. For example, Morgan Stanley offers month-long paid sabbaticals to junior bankers. Goldman Sachs reduced working hours for their junior employees after the death of the 21-year-old Bank of America Merrill Lynch intern Moritz Erhardt, who passed away after allegedly working nonstop for 72 hours.<sup>2</sup> Although work-life balance (henceforth, **WLB**) is a universally important issue, it is expected to vary across occupations, and its impact on financial analysts' careers has not yet been explored. The hurdle has likely been the lack of data on the WLB of financial analysts. The recent emergence of social media platforms such as Glassdoor makes an inquiry like this possible. This paper investigates the role of broker-level WLB environments in financial analysts' performance and career advancement.

WLB has been defined as satisfaction at both work and non-work domains with minimum conflicts between these two roles (e.g., Braun and Peus 2016). In addition to work obligations, employees need to deal with the demands of personal and family life. While WLB is an individual construct, it is greatly affected by the WLB environment (e.g., work culture, work-life benefits and policies, etc.) shaped by the individual's employer. When meeting demands in one role makes it difficult to meet demands in the other, work-life imbalances or conflicts occur (Cooke and Rousseau 1984; Greenhaus and Beutell 1985; Burke and Greenglass 1987).

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<sup>1</sup> <https://www.investopedia.com/articles/professionals/061113/maintaining-worklife-balance-financial-professionals.asp>

<sup>2</sup> <http://nymag.com/intelligencer/2013/11/goldman-sachs-monitors-junior-analysts.html>

We argue that these conflicts or imbalances between work and life roles can have a significant impact on the employee's level of psychological arousal. Psychological arousal or activation level is defined as the degree of neural activity in the reticular activation system, which is a major part of the central nervous system (Gardner 1986; Janssen 2001). Weick (1983) notes that psychological arousal occurs when individuals face demand-capability imbalance. When an individual experiences lower levels of WLB (or higher levels of work-life imbalance), she or he is more likely to encounter increased demands of work and life domains and thus have a higher level of psychological arousal.

According to psychological theories, psychological arousal and job performance have an inverted-U relation (e.g., Yerkes and Dodson 1908, Easterbrook 1959, Scott 1966), implying that psychological arousal can initially improve performance but after a certain point, marginal increases in psychological arousal are associated with decreases in performance. This is because a moderate level of psychological arousal allows the central nervous system to function most efficiently, resulting in improved task performance. With moderate levels of arousal, individuals are more likely to process large sets of relevant information while excluding irrelevant information for each specific work task. In contrast, individuals with low levels of arousal are likely to process relevant and irrelevant information for each specific task, thus hurting performance. Similarly, individuals with high levels of arousal are unable to process large sets of information including that which is centrally related to each specific task, ultimately leading to lower performance (Cheng and McCarthy 2018, 546).

Financial analysts with lower levels of WLB tend to have more conflicts between work and life and thus likely have higher levels of psychological arousal. Following these psychological theories, we hypothesize that an optimal level of WLB for analysts exists and thus the effect of WLB on analyst performance depends on the current level of WLB relative to the optimal level. We expect that when the current level of WLB is relatively low (or work-life conflict is relatively

high), betterment of WLB improves analyst performance through decreasing psychological arousal. In contrast, when the current level of WLB is already high, we expect that an increase in WLB decreases analyst performance as psychological arousal negatively deviates from the optimal arousal level.

Similarly, WLB also has the potential to influence the career outcomes of financial analysts. Analysts are known to frequently interact with institutional clients and managers of the covered firms, which are crucial to analyst career advancement (Hong and Kubik 2003; Groysberg, Healy, and Maber 2011; Maber, Groysberg, and Healy 2014; Brown, Call, Clement, and Sharp 2015). Analysts with moderate levels of perceived WLB are likely to have intermediate levels of arousal, which enhance the overall quality of services that they provide and facilitate their communication, responsiveness, and relationships with clients and managers, leading to better career advancement. On the other hand, either low or high levels of arousal generate distractions, which prevent the analyst from functioning most efficiently. Therefore, we hypothesize that when the current level of WLB is relatively low (or work-life conflict is relatively high), betterment of WLB improves analyst career outcomes. In contrast, when the current level of WLB is already high, we expect that an increase in WLB impairs analyst career outcomes.

To conduct our analyses, we first obtain the names of all U.S. brokers in the I/B/E/S database between 2008 and 2016. We manually collect *all* Glassdoor employee review webpages of each broker, identify reviews submitted by analyst employees, and extract data on individual reviews. Glassdoor is the largest online resource for prospective job candidates for employee reviews and potential compensation ranges. Glassdoor allows users to anonymously rate the WLB environment of their firms on a 1 to 5 scale. For each broker and year, we identify equity-research employees and aggregate individual employees' ratings to measure the WLB environment shaped by the broker. Our sample includes 6,192 Glassdoor reviews submitted by equity-research

employees, and the resulting WLB measure captures the WLB environment as perceived by financial analysts.<sup>3</sup>

Using a sample of I/B/E/S analysts who issued at least one earnings forecast, we first examine whether analysts' earnings forecast accuracy varies with perceived WLB satisfaction with their employers. We document a non-linear (i.e., an inverted-U-shaped) relation between WLB and analyst forecast accuracy. On average, analysts' forecast accuracy reaches the highest level when the perceived WLB is around 3.47 out of 5. Positive or negative deviations from this level result in lower forecast accuracy. We also find a non-linear relation between WLB and analysts' stock-recommendation profitability. For analysts working for brokers with WLB below (above) the inflection point, their recommendation profitability increases (decreases) with perceived WLB. Overall, these results are consistent with our expectations that there exists an optimal level of WLB from which deviations result in worse analyst performance.

We next investigate the role of WLB in analysts' career advancement. We focus on two primary career outcomes: whether the analyst is voted as an All-Star by institutional investors and whether the analyst moves to a larger brokerage house (e.g., Hong and Kubik 2003). The results again suggest a non-linear relation between WLB and analyst career outcomes. In particular, for analysts working at brokerage houses with WLB below (above) the inflection point, their likelihood of being voted as an All-Star Analyst and being promoted to larger brokerage houses increase (decrease) with WLB. Overall, these results suggest that the WLB environment shaped by employers has a direct impact on analysts' career outcomes.

We conduct several additional analyses. In our main analyses, we aggregate individual analysts' ratings at the broker-year level. We extend our analyses to the broker-*office*-year level. To obtain such granular data, we manually collect the LinkedIn profiles of the financial analysts

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<sup>3</sup> We identify equity-research analyst employees using the following keywords in an employee's job title: equities, equity research, and equity/equities/financial/research/security/securities/stock analyst or associate. This list of keywords is determined based on a careful screen of the job titles in the Glassdoor reviews for the brokers in our sample.

in our sample and extract data on their current and historical work locations. We then aggregate a broker's WLB ratings in a given year and city to create an office-level measure. In this way, we are able to test the cross-sectional difference of WLB environment *within* a broker.<sup>4</sup> The office-level results are similar to the results at the broker level: we consistently find a non-linear relation between office-level WLB and analysts' performance and career advancement.<sup>5</sup>

Our regressions include controls for a host of widely documented analyst, brokerage, and firm characteristics. Our inferences are robust after controlling for analysts' past performance and analyst fixed effects, after excluding the Glassdoor reviews that are more likely associated with rating manipulations, after excluding brokers with extremely high or low ratings or with few Glassdoor reviews, and after controlling for other aspects of job satisfaction such as company benefits and career opportunities. We also extend our sample of Glassdoor ratings to include other analysts beyond equity research analysts. Taken together, our results suggest that achieving optimal WLB is important for both analysts' performance and their career advancement.

We make several contributions to research and practice. First, prior studies focus on the relation between performance and psychological arousal caused by stress or pressure in the workplace (e.g., McDaniel 1990; Ashton 1990; Lord 1992; Braun 2000; Zhang and Bartol 2010; Cheng and McCarthy 2018). However, our study investigates arousal induced by the conflicts that arise between analysts' roles in work and *life* rather than only work-related factors. Second, we provide the first large-sample evidence that reaching the optimal broker-level WLB is important for financial analysts, thereby contributing to the debate on WLB in the financial industry. Our findings suggest that increased levels of WLB can either help or harm performance or career advancement, depending on preexisting levels of WLB. Shifting WLB either positively or negatively from the optimal broker-level is not beneficial to analysts' performance and their career

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<sup>4</sup> In other words, these analyses fully control for potential brokerage-house effects.

<sup>5</sup> In additional analyses, we also examine the potential moderating effects of analyst seniority and gender (see Section 5.2 for details).

advancement. Third, our findings complement the literature on the interaction of employee satisfaction and performance (e.g., Edmans 2011; Buchheit, Dalton, Harp, and Hollingsworth 2016; Ji, Rozenbaum, and Welch 2017; Green, Huang, Wen, and Zhou 2019; Khavis and Krishnan 2018) by suggesting that employee satisfaction resulting from higher levels of WLB may hurt employee performance and careers. Fourth, our study also adds to the growing literature on information aggregation and the wisdom of the crowd. Research has examined the role of information aggregation from the online investing community in investment strategies (Chen, De, Hu, and Hwang 2014), and the role of online customer reviews in driving stock returns (Huang 2018). Our findings suggest that the aggregated opinions of individual financial analysts of their employers are associated with analyst performance.

Finally, we also contribute to the analyst literature by providing novel evidence on the effect of an important aspect of brokerage firm culture, WLB, on analysts. While prior studies have established the importance of brokerage firm resources on analyst performance, including general brokerage firm resources (Clement 1999; Jacob, Lys, and Neale 1999), analyst team members (Brown and Hugon 2009; Fang and Hope 2020), in-house debt analysts and macroeconomists (Hugon, Kumar, and Lin 2016; Hugon, Markov, and Lin 2019), and research directors (Bradley, Gokkaya, and Liu 2019), little is known about the role of brokerage firm culture in analysts' performance and career outcomes. Our study fills this void and suggests that maintaining an adequate level of WLB should help brokerage firms remain competitive.

## **2. Literature Review and Hypotheses**

### **2.1 Prior Literature on Work-Life Balance**

WLB is an important topic in the management literature. According to role theory (Katz and Kahn 1978), individuals have multiple roles, including both work and life domains. The work role includes providing goods or services to fulfill job demands and responsibilities (Piotrkowski, Rapoport, and Rapoport 1987; Edwards and Rothbard 2000). The life role includes seeking to

achieve satisfying experiences in family life, such as parenting and partnering, and personal activities, including sports, travel, and leisure. It is challenging to manage the responsibilities and expectations of each role and thus conflicts or imbalances may arise between the two.

There are several forms of work-life conflicts relevant to our setting, including time-based, resource-based and strain-based conflicts. First, time-based conflict occurs when allocating time to the demands of one role takes away from time required to meet demands of the other (Repetti 1987; Staines 1980; Edwards and Rothbard 2000). For example, working long hours consumes time needed to fulfill the demands of personal or life roles. Second, resource-based conflict occurs when individuals allocate too much attention and energy in one role, and then don't have enough to allocate to the other. Resource-based conflicts arise because individuals have a finite amount of personal resources, such as attention and energy, to allocate. Therefore, using these resources on the demands of one role results in fewer resources for dealing with the responsibilities of other roles (Kahn, Wolfe, Quinn, Snoek, and Rosenthal 1964; Konrad and Mangel 2000; Cheng and McCarthy 2013). For example, some WLB programs or more flexible job arrangements (e.g., working-from-home) may result in the employee allocating more attention to personal roles rather than to the work role (Shamir and Salomon 1985; Blau and Boal 1987; Perry-Smith and Blum 2000). Finally, strain-based conflict occurs when strain (e.g., tension, nervousness, distress, anxiety, and stress) from one role makes it difficult to meet demands of the other role (Shamir and Salomon 1985; Edwards and Rothbard 2000; Major, Klein, and Ehrhart 2002; Netemeyer, Maxham, and Pullig 2005; Jennings and McDougald 2007; Trefalt 2013). For example, excessive job demands not only consume an individual's attention and energy but also result in tension,

anxiety, and stress, which makes it more difficult for an individual to deal with the demands of a personal or life role.

## **2.2 Work-Life Balance for Financial Analysts**

The investment banking industry, including sell-side equity research, is well-known for its long working hours. It is common for equity-research analysts to work 70 to 110 hours each week during the earnings season. There are three reasons for financial analysts to work long hours. First, analysts sell their time and attention to clients. When a client pays the brokerage firm large fees to advise on a deal, or when an institutional investor calls about the prospects of a firm the brokerage firm follows, the analysts are expected to do whatever the client wants at any time of the day. Analysts also need to spend time marketing themselves and their covered firms to their clients. Second, in the middle of their service, random events, requests, and problems arise. Other industries with unpredictable work demands handle these issues by hiring teams to work in shifts, but this approach is not as effective in the banking industry. Third, working long hours is deeply embedded into the culture of financial service firms. Given this long-hour practice or high job demand, it is challenging for analysts to rest enough and/or spend time on their own personal interests or with family. Therefore, work-life imbalance or conflict is a common issue in the financial analyst profession.

After the financial crisis, investment banks had to cut costs and had difficulty relying on large bonuses to keep their junior employees. Instead, the banks needed to find other ways, such as improving WLB, to retain their financial analysts. In recognition of these issues, in recent years, brokerage firms have started various programs to promote WLB among their employees. They adopt various types of programs such as on-site childcare, elder-care services, flextime, job sharing, paid leaves, compressed work weeks, shorter work weeks, and work-from-home programs given recent developments in telecommuting and social media. For example, UBS permits investment

bankers to take at least two hours of personal time each week. JPMorgan Chase asks their employees to take weekends off unless they are working on a major deal. Morgan Stanley offers month-long paid sabbaticals to junior bankers. Goldman Sachs has reduced working hours for their junior employees following the death of a Bank of America Merrill Lynch intern who had allegedly worked for 72 hours without sleep. Overall, these WLB programs fall into three main categories: dependent care, family-stress programs, and flexible work arrangements (Arthur 2003).

## **2.3 Hypotheses**

### **2.3.1 Work-Life Balance and Analysts' Performance**

Weick (1983) suggests that psychological arousal, which is the degree of neural activity in the reticular activation system - a major part of the central nervous system (Hebb 1955; Gardner 1986; Janssen 2001),<sup>6</sup> occurs when demands placed on an individual outnumber their capabilities or their capabilities exceed these demands (i.e., demand-capability imbalance). We argue that conflicts or imbalances between work and life roles may affect the employee's level of psychological arousal. When an individual experiences lower levels of WLB or higher levels of work-life conflicts, she or he is more likely to encounter higher demands of work and life domains and thus have a higher level of psychological arousal. For example, financial analysts in brokerage firms with lower levels of WLB tend to work longer hours, take fewer paid leaves, and have less work-from-home time. These time-based, resource-based and strain-based conflicts between work and life can potentially increase the level of psychological arousal.

According to the Yerkes-Dodson law (1908), individuals with moderate rather than low or high levels of arousal perform the best.<sup>7</sup> That is, an increase in psychological arousal or activation is assumed to be beneficial for performance but not beyond a certain level. After achieving a

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<sup>6</sup> In other words, arousal is the brain's way of increasing its level of effort (Ariely, Gneezy, and Loewenstein 2009)

<sup>7</sup> Cohen (2011) concludes that the inverted-U-shaped relation between psychological arousal and performance is robust.

certain level of arousal, performance starts to decline. Building on this theoretical framework, researchers have attempted to study the underlying psychological mechanisms to explain the relation between arousal and performance. For example, Easterbrook's (1959) cue-utilization theory provides additional insights into this relationship and posits that individuals with intermediate levels of arousal are more likely to process large sets of relevant information while excluding irrelevant information for each specific work task. In contrast, individuals with low levels of arousal are likely to process both relevant and irrelevant information for each task, leading to lower performance. Similarly, individuals with high levels of arousal are unable to process a large set of information including information that is centrally related to each task, thus hurting performance. Activation theory (Scott 1966; Gardner 1986; Janssen 2001; Zhang and Bartol 2010) further complements this line of literature by suggesting that an optimal level of arousal for performance exists, and too little or too much arousal can adversely affect performance. The optimal level of arousal allows the central nervous system to function most efficiently, resulting in improved performance. As the arousal level deviates negatively or positively from the optimal activation level, central nervous system efficiency is diminished, leading to decreases in performance (Gardner 1986; Gardner and Cummings 1988; Janssen 2001). We argue that financial analysts who have moderate levels of perceived WLB are likely to have moderate levels of arousal, and therefore their central nervous system functions most efficiently and can process the most relevant information that is centrally related to their work, resulting in higher performance.

A related line of research examines other factors that also relate to psychological arousal and its effect on performance. For example, McDaniel (1990) and Braun (2000) suggest that time pressure on audit tasks affects auditors' performance by creating varying levels of psychological arousal. Ashton (1990) examines three forms of pressures (i.e., financial incentives, performance feedback, and justification requirements) that can cause variations in arousal, which then

ultimately affect decision-making performance. Similarly, Lord (1992) considers accountability as a specific form of pressure which varies with psychological arousal. Ariely et al. (2009) suggest that monetary rewards generate arousal and thus affect performance. Zhang and Bartol (2010) argue that engaging in the creative process stimulates varying levels of arousal and is associated with performance. Eysenck (1992) and Cheng and McCarthy (2018) propose that workplace anxiety induces different levels of arousal and thus affects performance. All of these prior studies focus on the relation between performance and psychological arousal caused by stress or pressure in the workplace. Our study differs from prior research by investigating arousal created by the imbalance or conflicts between analysts' roles in work and life rather than only work-related factors.

Based on the above discussion, we predict an inverted-U relation between WLB and job performance. In particular, we hypothesize that the effect of WLB on an analyst's performance depends on the current level of WLB relative to the optimal level. We expect that when WLB is relatively low, an increase in WLB can improve an analyst's efficiency and thus lead to better performance. In contrast, when WLB is already high, we expect that a further increase in WLB causes an analyst to shift too much focus to personal and family life, thus leading to worse performance. Summarizing the preceding discussion, our first hypothesis is (stated in the alternative form):

*H1: An increase in perceived work-life balance improves analysts' performance when perceived work-life balance is low, but decreases analysts' performance when perceived work-life balance is high.*

### **2.3.2 Work-Life Balance and Analysts' Career Advancement**

WLB has the potential to also influence the career outcomes of financial analysts. In addition to producing equity research, analysts are known to frequently interact with their clients (e.g., arranging non-deal roadshows, hosting investor conferences, and providing one-on-one meetings and other high-touch services) and are expected to meet customer requests and demands (Maber et al. 2014). In a recent survey by Brown et al. (2015), consistent with Groyberg et al. (2011) and Maber et al. (2014), 83% of financial analysts indicate that broker or client votes of approval are important for analysts' compensation and career opportunities. Analysts' interactions with clients have a high degree of discretion and thus provide opportunities for attitudes and motives to affect their behavior (Judge, Thoresen, Bono, and Patton 2001). When analysts have a moderate level of perceived WLB, they are likely to have an intermediate level of arousal which enhances the overall quality of services that they provide, and thus builds trust and good relationships with institutional clients, which in turn could help them win All-Star awards or get promoted to larger firms. In contrast, either low or high levels of arousal generate distractions which prevent the analysts from functioning most efficiently. For example, analysts with either too low or too high of an arousal level are less likely to provide their clients with additional services and assistance that go beyond their job description.

Overall, our prediction is that the effect of WLB of a broker-employer on an analyst's career advancement depends on the current level of WLB relative to the optimal level. We expect that when the level of WLB satisfaction is relatively low, increases in WLB enhance the likelihood of financial analysts being voted All-Stars or to being promoted to a larger brokerage firm. In contrast, when the level of WLB is already high, we expect that further WLB satisfaction decreases the likelihood of financial analysts being voted All-Stars or obtaining a position with a larger brokerage firm. To summarize, our second hypothesis is as follows (stated in the alternative form):

*H2: An increase in perceived work-life balance helps analysts' career advancement when perceived work-life balance is low, but hurts analysts' career advancement when perceived work-life balance is high.*

However, there are reasons that we may not observe the predicted curvilinear relationship between WLB and analyst performance and career advancement. For example, financial analysts work in a more competitive and intense environment than many other employees. The competitiveness and high performance standards of the profession provide enough motivation for financial analysts to perform even when their work has conflicts with their personal life or they are not satisfied with their employers (Judge et al. 2001; Christen, Iyer, and Soberman 2006; Bloom, Kretschmer, and Van Reenen 2011). In other words, these are individuals who self-select into careers with less WLB than in many other professions, likely because they find satisfaction in the high compensation, excitement of the work, prestige, and/or future career opportunities. In this case, WLB may not have an incremental effect on their performance or career.

### **3. Sample Selection and Variable Measurement**

#### **3.1 Sample-Selection Procedures**

Table 1 summarizes the sample-selection procedures. We start constructing the sample by obtaining the names of all of the U.S. brokers in the I/B/E/S database between 2008 and 2016. We manually collect all Glassdoor employee review webpages for these brokers and then search for the relevant keywords in the job titles of employees who submitted the reviews: equities, equity research, and equity/equities/financial/research/security/securities/stock analyst or associate. As a result, we are able to identify 6,192 Glassdoor reviews by equity-research employees. We merge these Glassdoor reviews with the I/B/E/S dataset and retain broker-years with multiple reviews and without extreme average WLB ratings (i.e., 1 or 5). We further restrict the sample to meet the

following criteria: (1) with I/B/E/S information to calculate earnings forecast errors; (2) with financial data such as market value and market-to-book ratio; (3) with sufficient information to calculate control variables. These procedures result in a sample of 98,499 analyst-firm-year observations consisting of 4,554 analysts and 3,322 firms for the tests of analyst earning forecasting performance.<sup>8</sup>

## 3.2 Main Variables

### 3.2.1 Work-Life Balance Ratings

Glassdoor is the largest online resource for prospective job candidates to view employee reviews and compensation information. Glassdoor allows users to anonymously rate various aspects of their firms on a 1 to 5 scale; for instance, overall rating, company benefits, WLB, and senior management.<sup>9</sup> We aggregate all equity-research employees' WLB ratings for each broker in a given year to create a broker-year measure, aiming to capture financial analysts' satisfaction about the work-life environment shaped by the broker.<sup>10,11</sup>

Table 2 presents the summary statistics of Glassdoor ratings for the broker-year combinations in our sample.<sup>12</sup> Comparing the ratings by equity-research employees with those by other employees, we find that equity-research employees give lower ratings for WLB but higher

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<sup>8</sup> It is unlikely that all of the I/B/E/S analysts in our sample submit a review to Glassdoor.

<sup>9</sup> According to Glassdoor, a company rating between 1.00 and 1.50 indicates that employees are "Very Dissatisfied," between 1.51 and 2.50 indicates "Dissatisfied," between 2.51 and 3.50 indicates "OK," between 3.51 and 4.00 indicates "Satisfied," and between 4.01 and 5.00 indicates "Very Satisfied."

<sup>10</sup> These employee reviews are anonymous, so we are unable to match individual analysts' WLB ratings to their performance and career outcomes. Nevertheless, given that employer-brokers significantly affect individual analysts' WLB satisfaction, it is important to study the effect of broker-level WLB satisfaction before going further into analyst-level WLB. The use of aggregated ratings is both consistent with prior literature and appropriate because analysts within the same firm are sufficiently homogenous so that the aggregation process can remove random individual differences and result in a more accurate broker-level measure (Hofstede, Neuijen, Ohayv, and Sanders 1990; Ostroff 1992, 1993). In Section 5.1 we examine performance and career outcomes at the *broker-office* level.

<sup>11</sup> In untabulated tests, we measure WLB as the average WLB rating submitted by all research employees (including those with capital market, derivative, fixed income, and valuation in the job titles) for a given brokerage firm and year. This alternative measure captures the WLB culture of the research department of a given brokerage, rather than the perceived WLB by equity analysts. We reach the same conclusions based on this alternative measure.

<sup>12</sup> During our sample period, there are 393 broker-years with equity-research employee ratings. The summary statistics in Table 2 are based on 386 broker-years with both equity-research and non-equity-research employee ratings.

ratings for most of the other aspects such as culture & values and career opportunities.<sup>13</sup> Untabulated analyses show that equity-research employees tend to provide more comprehensive reviews that cover both the good and the bad about the company, suggesting that their ratings are based on more careful evaluations.<sup>14</sup> In addition, equity research employees' ratings for a given broker seem to be quite stable over time.

As mentioned, our WLB measure is the average WLB rating submitted by equity-research employees for a given brokerage firm in year  $t$ . Therefore, the WLB measure captures the WLB culture within the equity research department of a given brokerage. We focus on WLB satisfaction instead of other aspects in job satisfaction of financial analysts for three reasons. First, job satisfaction is a broad definition that includes compensation, benefits, job growth, WLB, and culture. Focusing on one aspect, such as WLB, allows us to isolate the effects from other aspects of job satisfaction (see Section 5.4.4). Second, WLB is an important issue in the financial industry. Unlike other professions that may more easily accommodate a home-based work style (e.g., some IT engineers who can work with a computer no matter where they are), working long and potentially uncertain hours in the office is the culture in the financial services industry, and it is important to understand how WLB may affect analyst performance. Third, the implications of WLB in the financial services industry is unclear because there are tradeoffs in implementing WLB programs. As such, our study has implications for both academia and practice.

### **3.2.2 Analyst Performance Measures**

We construct two primary proxies for analyst performance: earnings forecast accuracy and stock-recommendation profitability. Earnings forecast accuracy (*Forecast Accuracy*) is measured as  $(1 - \text{standardized relative } Forecast \text{ Error})$ , where *Forecast Error* is defined as the absolute

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<sup>13</sup> We use an additional 61,690 Glassdoor reviews by non-equity-research employees for this analysis.

<sup>14</sup> Glassdoor rejects about 5% to 10% of submitted reviews because those reviews are created by fake accounts, are suspected "ballot box stuffing," have offensive content, or violate its community guidelines.

value of analyst  $i$ 's most recent earnings forecast for firm  $j$  minus firm  $j$ 's actual EPS in year  $t$ , scaled by the stock price at the beginning of the year, and then standardized to range from 0 to 1 within each firm-year to control for firm-year effects (Clement and Tse 2003). Specifically, the standardized relative *Forecast Error* for analyst  $i$  following firm  $j$  in year  $t$  is calculated as  $[Forecast\ Error_{i,j,t} - \min(Forecast\ Error_{j,t})]/[\max(Forecast\ Error_{j,t}) - \min(Forecast\ Error_{j,t})]$ , where  $\max(Forecast\ Error_{j,t})$  and  $\min(Forecast\ Error_{j,t})$  denote, respectively, the largest and smallest earnings forecast errors of all of the analysts following firm  $j$  in year  $t$ . This standardization results in a relative measure for all analysts who follow the same firm during the same year. By construction, a higher value of relative *Forecast Accuracy* indicates that the earnings forecast is more accurate.

Our second proxy for analyst performance is stock-recommendation profitability (*Recom Profit*), which is measured as the buy-and-hold market-adjusted return (*BHAR*) to analyst  $i$ 's recommendation for firm  $j$  in year  $t$ . For sell recommendations, *Recom Profit* is measured as negative one times *BHAR*. The window for calculating *BHAR* is the analyst's [current recommendation date + 2 days, next recommendation date - 2 days].<sup>15</sup> We let a recommendation expire if it is not revised or reiterated within 365 days (e.g., Cohen, Frazzini, and Malloy 2010). We use all stock recommendations issued by the analysts in the earnings forecast sample (e.g., Ertimur, Muslu, and Zhang 2011).

### 3.2.3 Analyst Career Outcome Measures

To examine the role of WLB in analysts' career advancement, we rely on *Institutional Investor*'s All-Star Analyst award status and a promotion measure constructed based on the brokerage firm size. Each year, *Institutional Investor* magazine asks institutional investors to vote for the top sell-side equity analysts, where the buy-side voters would take into account an analyst's

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<sup>15</sup> We derive similar results when including the announcement window return (i.e., using [current recommendation date - 1 day, next recommendation date - 2 days]).

industry knowledge, responsiveness, special services, and research quality, among other things, when casting votes. We create an indicator variable (*AA Award*) that is set to one if the analyst is ranked in the top three or as a runner-up in her industry by *Institutional Investor* in year  $t$  and zero otherwise. For analyst promotion, we follow Hong and Kubik (2003) and create an indicator variable (*Promotion*) that is set to one if the analyst moves to a top-decile-size brokerage firm in year  $t$  and zero otherwise.<sup>16</sup>

### 3.2.4 Control Variables

Following the analyst literature (e.g., Clement 1999; Jacob et al. 1999; Lim 2001; Clement and Tse 2003), in our tests of analyst performance, we control for earnings forecast frequency (*Forecast Frequency*), earnings forecast horizon (*Forecast Horizon*), brokerage firm size (*Broker Size*), number of firms followed (*Number of Firms*), number of industries followed (*Number of Industries*), firm experience (*Firm Experience*), and general experience (*General Experience*), all of which are standardized to range from 0 to 1 within each firm-year. In the tests of stock-recommendation profitability, we use unstandardized variables and additionally control for firm size (*Firm Size*), market-to-book ratio (*MTB*), market beta (*Beta*), past six-month market-adjusted stock return (*Past Firm Return*), and industry and year fixed effects. In the tests of career advancement, we additionally control for forecast characteristics such as average relative forecast accuracy (*Forecast Accuracy*), average relative forecast boldness (*Forecast Boldness*), and average forecast optimism (*Forecast Optimism*). Along with *Forecast Frequency*, *Forecast Horizon*, *Firm Size*, *Market-to-Book*, and *Beta*, these variables are calculated as the average across

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<sup>16</sup> We acknowledge that this measure does not consider within-brokerage firm advancements. However, it is a common proxy for promotion in the analyst literature (e.g., Leone and Wu 2007; Kumar 2010; Hilary and Hsu 2013; Li, Lin, and Lu 2018). In Section 5.5 we consider additional career outcomes.

all firms in the analyst's research portfolio in year  $t$ . The Appendix contains a complete list of variable definitions.

### **3.3 Descriptive Statistics**

Panel A of Table 3 presents the unstandardized descriptive statistics for the sample used in the forecast accuracy tests. The unit of observations is at the analyst-firm-year level. In line with prior findings, the median analyst issues four earnings forecasts for a firm, follows seventeen firms within three two-digit SIC industries, and has four years of client-firm-specific experience. Panel B of Table 3 presents the descriptive statistics for the sample used in the stock-recommendation profitability tests. Panel C of Table 3 presents descriptive statistics for the sample used in the analyst career-outcome tests. The unit of observations is at the analyst-year level. In this sample, 15.5% of the analysts are awarded All-Star status and 2.4% of the analysts move to a top-decile-size brokerage firm. We winsorize the continuous variables at the top and bottom 1%.

## **4. Research Design and Empirical Results**

### **4.1 Work-Life Balance and Earnings Forecast Accuracy**

H1 predicts that WLB satisfaction will have a non-linear relation with analyst performance. To test this hypothesis, we first examine the effect of WLB satisfaction on analysts' earnings forecast accuracy, controlling for other determinants including forecast frequency, forecast horizon, brokerage firm size, number of firms followed, number of industries followed, firm experience, and general experience.<sup>17</sup> As mentioned in Section 3, we standardize forecast error and the control variables to control for firm-year effects.<sup>18</sup> Specifically, we estimate the following

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<sup>17</sup> Our inferences are robust when we additionally control for analysts' prior-year standardized earnings forecast accuracy and/or analyst fixed effects.

<sup>18</sup> Our inferences are robust when we use unstandardized variables and explicitly control for firm size, market-to-book ratio, firm performance, and industry and year fixed effects.

quadratic model (e.g., McConnell and Servaes 1990; Himmelberg, Hubbard, and Palia 1999; Collin-Dufresne, Goldstein, and Martin 2001; Wyatt 2005; Hilary and Huang 2018):

$$\begin{aligned}
\text{Forecast Accuracy} = & \alpha + \beta_1 \cdot \text{Work-Life Balance} + \beta_2 \cdot \text{Work-Life Balance}^2 \\
& + \beta_3 \cdot \text{Broker Size} + \beta_4 \cdot \text{Number of Industries} + \beta_5 \cdot \text{Number of Firms} \\
& + \beta_6 \cdot \text{Firm Experience} + \beta_7 \cdot \text{General Experience} + \beta_8 \cdot \text{Forecast Frequency} \\
& + \beta_9 \cdot \text{Forecast Horizon} + \varepsilon
\end{aligned} \tag{1A}$$

where *Work-Life Balance* denotes the work-life environment shaped by the brokerage firm, measured as the average WLB rating submitted by analysts for a given brokerage firm in year  $t$ . *Work-Life Balance*<sup>2</sup> is the squared term of *Work-Life Balance*. We include the squared term because we expect a non-linear relation between *Work-Life Balance* and *Forecast Accuracy*. A positive (negative) coefficient on *Work-Life Balance*<sup>2</sup> would indicate a convex (concave) relation between WLB and forecast accuracy.<sup>19</sup>

Table 4 reports the results from estimating Equation (1A). In column 1, we estimate Equation (1A) without the squared term of *Work-Life Balance*. In this specification, *Work-Life Balance* is positive and significant. More importantly, column 2 reports the full result from estimating Equation (1A). The result shows that an inverted U-shaped relation exists between WLB and analysts' forecast accuracy. Both coefficients of *Work-Life Balance* and *Work-Life Balance*<sup>2</sup> are statistically significant at the 5% level, with positive and negative signs, respectively. These findings are consistent with our expectations that there exists an optimal level of WLB from which deviations result in worse analyst performance.

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<sup>19</sup> In robustness tests, we use spline specifications that include three piecewise-linear terms (Morck, Shleifer, and Vishny 1988; Cho 1998; Himmelberg et al. 1999; Davies, Hillier, and McColgan 2005). Our conclusions are unaltered with this alternative specification (see Section 5.6 for details).

We provide a descriptive plot in Panel A of Figure 1 to help with the interpretation of these results. When *Work-Life Balance* is lower than the inflection point (there are 214 broker-years in this case), *Forecast Accuracy* increases with *Work-Life Balance*. However, after the inflection point (there are 179 broker-years in this case), *Forecast Accuracy* decreases with *Work-Life Balance*.<sup>20</sup>

To help interpret the economic magnitude of the effect we document, we further create two variables:  $|Abn. Pos. Work-Life Balance|$  ( $|Abn. Neg. Work-Life Balance|$ ) is the absolute value of the difference between a brokerage firm's rating and the WLB level at the inflection point when the broker's rating is higher (lower) than the inflection point. Then we estimate the following model:

$$\begin{aligned}
 Forecast\ Accuracy = & \alpha + \beta_1 \cdot |Abn. Pos. Work-Life Balance| + \beta_2 \cdot |Abn. Neg. Work-Life Balance| \\
 & + \beta_3 \cdot Broker\ Size + \beta_4 \cdot Number\ of\ Industries + \beta_5 \cdot Number\ of\ Firms \\
 & + \beta_6 \cdot Firm\ Experience + \beta_7 \cdot General\ Experience + \beta_8 \cdot Forecast\ Frequency \\
 & + \beta_9 \cdot Forecast\ Horizon + \varepsilon
 \end{aligned} \tag{1B}$$

In column 3 of Table 4, we find the coefficient estimates on  $|Abn. Pos. Work-Life Balance|$  and  $|Abn. Neg. Work-Life Balance|$  are both negative and significant, consistent with our prior finding that the inflection point of *Work-Life Balance* is estimated to be approximately 3.47 out of 5. These results suggest that a positive (negative) one-point deviation from the inflection point of *Work-Life Balance* is associated with a 1.11% (1.09%) decrease in the relative *Forecast Accuracy*, which is approximately 3.62% (3.56%) of the standard deviation of the relative *Forecast Accuracy*. We interpret these estimates to be both plausible and economically significant.

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<sup>20</sup> To calculate the inflection point, we begin with estimating the partial derivative of column 2, with respect to *Work-Life Balance* and setting it equal to zero. At the inflection point, the marginal effect of *Work-Life Balance* should be equal to zero (since the inflection point is the apex of the curve). The partial derivative is equal to  $0.0437 + 2 \times (-0.0063) \times Work-Life\ Balance = 0$ . Solving for *Work-Life Balance* gives us 3.47.

## 4.2 Work-Life Balance and Stock-Recommendation Profitability

Next, we examine the effect of WLB satisfaction on analysts' stock-recommendation profitability (*Recom Profit*) as another measure for performance. We estimate the following quadratic model separately for buy and sell recommendations, where buy (sell) recommendations include analysts' strong buy and buy (hold, sell, and strong sell) recommendations.

$$\begin{aligned}
 \textit{Recom Profit} = & \alpha + \beta_1 \cdot \textit{Work-Life Balance} + \beta_2 \cdot \textit{Work-Life Balance}^2 \\
 & + \beta_3 \cdot \textit{Broker Size} + \beta_4 \cdot \textit{Number of Industries} + \beta_5 \cdot \textit{Number of Firms} \\
 & + \beta_6 \cdot \textit{Firm Experience} + \beta_7 \cdot \textit{General Experience} + \beta_8 \cdot \textit{Firm Size} \\
 & + \beta_9 \cdot \textit{Market-to-Book} + \beta_{10} \cdot \textit{Beta} + \beta_{11} \cdot \textit{Past Firm Return} \\
 & + \textit{Industry Fixed Effects} + \textit{Year Fixed Effects} + \varepsilon
 \end{aligned} \tag{2A}$$

where *Recom Profit* is the buy-and-hold market-adjusted return to the analyst's stock recommendation for firm  $j$  (multiplied by negative one for sell recommendations). *Firm Size* is the natural logarithm of firm  $j$ 's market value at the beginning of year  $t$ . *Market-to-Book* is firm  $j$ 's market-to-book ratio at the beginning of year  $t$ . *Beta* is firm  $j$ 's market beta during year  $t$ . *Past Firm Return* is firm  $j$ 's market-adjusted stock return in the six months prior to the analyst's stock recommendation.

Table 5 reports the results from estimating Equation (2A). Column 1 reports the result without the squared term of *Work-Life Balance* for analysts' buy recommendations. In this specification, *Work-Life Balance* is insignificant. Column 2 reports the full result from estimating Equation (2A). The result shows that an inverted U-shaped relation also exists between WLB and analysts' buy-recommendation profitability. Both coefficients of *Work-Life Balance* and *Work-Life Balance*<sup>2</sup> are statistically significant at the 5% level, with positive and negative signs,

respectively. These findings are consistent with H1. Similarly, in columns 4 and 5, we do not find a linear relation, but an inverted U-shaped relation between WLB and analysts' sell-recommendation profitability. We provide a descriptive plot in Panel B of Figure 1.

As with the test of forecast accuracy, we calculate the inflection points based on the coefficients of *Work-Life Balance* and *Work-Life Balance*<sup>2</sup> in columns 2 and 5. Then we define *|Abn. Pos. Work-Life Balance|* (*|Abn. Neg. Work-Life Balance|*) as the absolute value of the difference between a brokerage firm's rating and the WLB level at the inflection point when the broker's rating is higher (lower) than the inflection point, and estimate the following model:

$$\begin{aligned}
Recom\ Profit = & \alpha + \beta_1 \cdot |Abn. Pos. Work-Life Balance| + \beta_2 \cdot |Abn. Neg. Work-Life Balance| \\
& + \beta_3 \cdot Broker\ Size + \beta_4 \cdot Number\ of\ Industries + \beta_5 \cdot Number\ of\ Firms \\
& + \beta_6 \cdot Firm\ Experience + \beta_7 \cdot General\ Experience + \beta_8 \cdot Firm\ Size \\
& + \beta_9 \cdot Market-to-Book + \beta_{10} \cdot Beta + \beta_{11} \cdot Past\ Firm\ Return \\
& + Industry\ Fixed\ Effects + Year\ Fixed\ Effects + \varepsilon
\end{aligned} \tag{2B}$$

In column 3 (column 6) of Table 5, the results show that the coefficient estimate on *|Abn. Pos. Work-Life Balance|* (*|Abn. Neg. Work-Life Balance|*) is negative and significant, suggesting that positive (negative) deviations from the inflection point of WLB level are associated with less profitable buy (sell) recommendations and thus worse analyst performance. Collectively, both positive and negative deviations from the inflection point hurt analyst performance. In economic terms, a positive (negative) one-point deviation from the inflection point of *Work-Life Balance* is

associated with a 1.52% (0.97%) decrease in the return to analysts' buy (sell) recommendations, which is approximately 4.9% (3.13%) of the standard deviation of *Recom Profit*.<sup>21</sup>

### 4.3 Work-Life Balance and Analyst Career Outcomes

H2 predicts that WLB satisfaction has a non-linear relation on analysts' career outcomes. We examine whether additional WLB satisfaction helps analysts to be voted as All-Stars or to be promoted to a large brokerage firm when the current WLB is relatively low, and whether additional WLB decreases the likelihood for analysts to be voted as All-Stars or to be promoted to a large brokerage firm when the current WLB satisfaction is already high. To test this hypothesis, we estimate the following probit models:

$$\begin{aligned}
 \text{Career Outcome} = & \alpha + \beta_1 \cdot \text{Work-Life Balance} + \beta_2 \cdot \text{Work-Life Balance}^2 \\
 & + \beta_3 \cdot \text{Forecast Accuracy} + \beta_4 \cdot \text{Forecast Boldness} + \beta_5 \cdot \text{Forecast Optimism} \\
 & + \beta_6 \cdot \text{Forecast Frequency} + \beta_7 \cdot \text{Forecast Horizon} + \beta_8 \cdot \text{Broker Size} \\
 & + \beta_9 \cdot \text{Number of Industries} + \beta_{10} \cdot \text{Number of Firms} + \beta_{11} \cdot \text{Firm Experience} \\
 & + \beta_{12} \cdot \text{General Experience} + \beta_{13} \cdot \text{Beta} + \beta_{14} \cdot \text{Firm Size} + \beta_{15} \cdot \text{Market-to-Book} \\
 & + \text{Industry Fixed Effects} + \text{Year Fixed Effects} + \varepsilon
 \end{aligned} \tag{3A}$$

$$\begin{aligned}
 \text{Career Outcome} = & \alpha + \beta_1 \cdot |\text{Abn. Pos. Work-Life Balance}| + \beta_2 \cdot |\text{Abn. Neg. Work-Life Balance}| \\
 & + \beta_3 \cdot \text{Forecast Accuracy} + \beta_4 \cdot \text{Forecast Boldness} + \beta_5 \cdot \text{Forecast Optimism} \\
 & + \beta_6 \cdot \text{Forecast Frequency} + \beta_7 \cdot \text{Forecast Horizon} + \beta_8 \cdot \text{Broker Size} \\
 & + \beta_9 \cdot \text{Number of Industries} + \beta_{10} \cdot \text{Number of Firms} + \beta_{11} \cdot \text{Firm Experience}
 \end{aligned}$$

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<sup>21</sup> Our inferences are robust when we additionally control for analysts' prior-recommendation profitability, defined as an indicator variable equal to one if the analyst's most recent stock recommendation for firm *j* was profitable (i.e., *Recom\_Profit* > 0) and/or when we control for analyst fixed effects.

$$\begin{aligned}
& + \beta_{12} \cdot \text{General Experience} + \beta_{13} \cdot \text{Beta} + \beta_{14} \cdot \text{Firm Size} + \beta_{15} \cdot \text{Market-to-Book} \\
& + \text{Industry Fixed Effects} + \text{Year Fixed Effects} + \varepsilon
\end{aligned} \tag{3B}$$

where *Career Outcome* denotes *AA\_Award* or *Promote*. *AA\_Award* is an analyst's All-American Research Team status, an indicator variable set to one if the analyst is ranked in the top three or as a runner-up by *Institutional Investor* in her industry in year  $t$ , and zero otherwise. *Promotion* proxies for analyst promotion to a large brokerage firm and is measured as an indicator variable set to one if the analyst moves to a top-decile-size brokerage firm in year  $t$ , and zero otherwise. Because we conduct the analysis at the analyst-year level, we define industry as each analyst's main covered industry in year  $t$  (i.e., the industry with the largest covered market capitalization within the analyst's research portfolio). All other variables are defined in the Appendix.

Table 6 reports the results from estimating Equation (3A) and (3B).<sup>22</sup> In columns 1 and 2, before including *Work-Life Balance*<sup>2</sup>, the coefficient estimate on *Work-Life Balance* is negative and significant for *AA\_Award*. However, columns 3 and 4 show that an inverted U-shaped relation exists between WLB satisfaction and analysts' career outcomes. Both coefficients of *Work-Life Balance* and *Work-Life Balance*<sup>2</sup> are statistically significant at the 5% level. These results are consistent with H2 that WLB satisfaction has a non-linear effect on analysts' career advancement.

In columns 5 and 6 of Table 6, we find the coefficient estimates on  $|Abn. Pos. Work-Life Balance|$  and  $|Abn. Neg. Work-Life Balance|$  are both negative and significant, consistent with the existence of optimal WLB level. In economic terms, a positive (negative) one-point deviation from the estimated inflection point is associated with a 2% (2.5%) decrease in the likelihood of winning an All-Star Analyst award, which is approximately 5.54% (6.93%) of the standard deviation of winning an *AA Award*.<sup>23</sup> Similarly, a positive (negative) one-point deviation from the estimated

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<sup>22</sup> The lower sample size in Table 6 compared with Table 4 and 5 is explained by the fact that whereas the performance tests are at the analyst-firm-year level, the career-outcome tests are at the analyst-year level.

<sup>23</sup> Alternatively, these numbers correspond to 12.9% and 16.13% of the mean *AA Award*, respectively.

inflection point is associated with a 0.84% (0.93%) decrease in the likelihood of being promoted to a large brokerage firm, which is approximately 5.49% (6.08%) of the standard deviation of *Promotion*.<sup>24</sup>

In the tests of career advancement, we control for analysts' performance at the portfolio level such as earnings forecast accuracy and other forecast characteristics including boldness, optimism, frequency, and horizon. The results suggest that accurate earnings forecasts and longer earnings forecast horizons are valued by both institutional investors and prospective employers. Earnings forecast frequency is additionally valued by institutional investors. Importantly, even after controlling for analysts' performance, WLB satisfaction still has an incremental effect on analysts' career advancement. One plausible explanation is that satisfaction about the WLB environment affect the analysts' overall service quality, which in turn affects their interactions and therefore relationships with clients. We also control for analysts' research-portfolio characteristics and consistently find that analysts who follow more firms tend to have better career outcomes.

## **5. Additional Analyses and Robustness Tests**

### **5.1 Work-Life Balance Measured at the Broker-Office Level**

In our main analyses, we focus on broker-level WLB to examine the role of WLB environment in an analyst's performance and career path. We extend our study to the broker-*office* level. We manually collect the LinkedIn profiles of financial analysts in our sample and extract data on their current and historical locations.<sup>25</sup> We then aggregate all equity research employees' WLB ratings in a given year and city to create a broker-office-year measure. In this way, we are able to capture analysts' perceived WLB more directly and test the cross-sectional difference of

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<sup>24</sup> Alternatively, these numbers correspond to 35% and 38.75% of the mean *Promotion*, respectively.

<sup>25</sup> The sample size for the broker-office-level analysis is smaller due to missing location information of some anonymous Glassdoor reviewers and I/B/E/S analysts.

WLB environment *within* a broker. We re-estimate Equations (1) – (3) using the office-level WLB ratings.

In Table 7, we find results similar to those based on the broker-level WLB, except for the following: (1) in column 2 of Panel A, a positive deviation from the estimated inflection point has no significant effect on earnings forecast accuracy; (2) in columns 1 and 2 of Panel B, we do not find significant results for analysts' buy-recommendations; 3) in column 4 of Panel C, a positive deviation from the estimated inflection point has no significant effect on the likelihood of being promoted to a large brokerage firm.

Overall, the results at the office level are similar to those at the broker level. We document a non-linear association between WLB satisfaction and analysts' performance and career advancement. In particular, for analysts working at offices with relatively low (high) levels of WLB, an increase in WLB can benefit (hurt) their performance and career outcomes.<sup>26</sup>

## **5.2 Potential Moderating Effects of Personal Characteristics**

We further explore potential moderating effects of analyst-specific personal characteristics. We examine the role of level of seniority, workload, and gender.

### **5.2.1 Level of Seniority**

To investigate the potential moderating effect of seniority, we re-estimate Equations (1) – (3) separately for analysts with less than 5 years of general experience (i.e., typically junior analysts), analysts with between 5 and 20 years of experience, and analysts with more than 20 years of experience.

In Panel A of Table 8, we find that while WLB environment has a significant and non-linear effect on forecast accuracy for all three groups of analysts (columns 1, 3 and 5), the effects

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<sup>26</sup> In untabulated tests, we control for WLB in different cities by including city fixed effects in all regressions. Our inferences are robust.

of  $|Abn. Pos. Work-Life Balance|$  and  $|Abn. Neg. Work-Life Balance|$  are more pronounced for analysts with between 5 and 20 years of experience (column 4). In Panel B, where analyst performance is measured by buy-recommendation profitability, we find that junior analysts are more affected by broker-level WLB (columns 1 and 2) relative to more senior analysts. In contrast, in Panel C, where analyst performance is measured by sell-recommendation profitability, we find that broker-level WLB has a significant and non-linear effect primarily on analysts with between 5 and 20 years of experience (columns 3 and 4). Regarding analysts' career advancement, in Panel D and E, we consistently find that the non-linear effects of WLB on the career outcomes are more pronounced for analysts with between 5 and 20 years of experience (columns 3 and 4).

Taken together, the group of analysts with between 5 and 20 years of experience seems to be more affected by the WLB environment. This is intuitive because these analysts likely have more family and personal obligations to manage relative to the other two groups of analysts.

### **5.2.2 Workload**

To investigate the moderating effect of workload, we use the median number of firms followed (*Number of Firms*) to split the sample and re-estimate Equations (1) – (3) separately for analysts following less firms and analysts following more firms. We expect that the effect of broker-level WLB is more pronounced for busier analysts relative to other analysts. Untabulated results show that the effects of WLB satisfaction are statistically and economically stronger for busier analysts' forecast accuracy, sell-recommendation profitability, likelihood of being voted as All-Star analysts, and likelihood of promotion to larger brokerage firms. The effects of WLB on the buy-recommendation profitability are similar across the two groups of analysts. Together, the results suggest that busier analysts are more affected by broker-level WLB environment relative to other analysts.

### 5.2.3 Gender

To investigate the moderating effect of gender, we construct a matched sample of male and female analysts because females only account for 10% of the analysts in our sample. Specifically, each female analyst is randomly matched with a male analyst working for the same broker and who follows the same industry in the same year. Then, we modify Equations (1) – (3) by including a *Female* indicator and its interactions with *Work-Life Balance*, *Work-Life Balance*<sup>2</sup>, *|Abn. Pos. Work-Life Balance|*, and *|Abn. Neg. Work-Life Balance|*. Untabulated results show that female analysts' earnings forecast accuracy and career advancement are less affected by WLB environment. These findings are consistent with Kumar (2010) who suggests that female analysts are a special group of competitive and less risk-averse females who choose to pursue a career in a male-dominated industry. Due to this self-selection process, females are likely to be more skillful and stronger than male counterpart analysts.

### 5.3 Potential Remaining Endogeneity (IV)

Although our empirical tests include a number of control variables motivated by prior research and we use standardized measures that embed *firm-year controls*, we acknowledge that analyst performance could also affect their WLB satisfaction. Therefore, we employ an instrumental-variable approach to better identify causality (i.e., to control for unobservable potentially correlated omitted variables). Our instruments are *Best State*, an indicator for brokerage firms located in the best state for living (Massachusetts; USA Today 2016) and *Worst Traffic City*, an indicator for brokers located in the worst city for traffic (Los Angeles; TomTom Traffic Index). These instruments satisfy both the relevance (with F-statistics well above the critical value) and exclusion criteria (with both instruments being statistically insignificant when added to the original model, consistent with the instruments being uncorrelated with the error term).

In the first stage, we regress office-level *Work-Life Balance* and *Work-Life Balance*<sup>2</sup> on *Best State*, *Worst Traffic City*, and all the other independent variables in the corresponding regression models. We include state-level GDP growth to control for economic activity and opportunity. We obtain the predicted values from the first stage. In the second stage, we regress proxies for performance and career advancement on predicted *Work-Life Balance* and *Work-Life Balance*<sup>2</sup>. The results are reported in Table 9. Our conclusions are unaltered. We report the partial F-statistics for the instrumental variables in the first stage, which are much higher than the critical value of 7.03 as reported in Stock and Yogo (2005), suggesting that a weak instrument problem is not present. Furthermore, we provide the p-values from the tests of endogeneity. Importantly, the results of the endogeneity tests are all insignificant, suggesting that endogeneity is not a concern and that the coefficient estimates in Table 4 to 6 are consistent.

## **5.4 Other Sensitivity Analyses**

In this section, we conduct several other robustness checks of our findings. In particular, we address the potential credibility issue of Glassdoor reviews, extreme WLB ratings, the measurement period of WLB, and other aspects of job satisfaction as potential omitted correlated variables.

### **5.4.1 Potential Credibility Issues Pertaining to Glassdoor Reviews**

It is possible that some companies could manipulate their Glassdoor ratings. For example, a Wall Street Journal article indicates that there tends to be a rating surge in October, implying that the ratings submitted in October may be less credible.<sup>27</sup> To address this possibility, we exclude all reviews submitted in October and re-estimate Equations (1) – (3). The results are tabulated in

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<sup>27</sup> <https://www.wsj.com/articles/companies-manipulate-glassdoor-by-inflating-rankings-and-pressuring-employees-11548171977>

Panel A of Table 10, and the inferences remain unchanged. In an untabulated analysis, we exclude only reviews submitted in October with a WLB rating equal to 5, and no conclusions are altered.

Given that manipulations of Glassdoor ratings could occur at any time in a year, we adopt a more general approach to address this possibility. Specifically, for a given broker and year, we identify the calendar days with three or more extremely positive reviews (i.e., overall rating = 5), exclude these reviews from calculation of the WLB measure, and re-estimate Equations (1) – (3).<sup>28</sup> The results are tabulated in Panel B of Table 10, and the inferences remain unchanged.

### 5.4.2 Extreme Ratings

In our main analyses, we exclude broker-years with extremely high or low average WLB ratings and with only one review. In untabulated tests, we derive the same conclusions when excluding (1) broker-years with an average WLB rating lower than 2 or higher than 4, (2) broker-years with an average WLB rating lower than 2.5 or higher than 3.5, or (3) broker-years with fewer than 3, 4, or 5 Glassdoor reviews.<sup>29</sup> Our inferences are also robust when we control for the number of Glassdoor reviews used to calculate *Work-Life Balance* and the standard deviation of individual WLB ratings, suggesting that the results are not driven by the polarization of WLB ratings.<sup>30</sup>

### 5.4.3 The Measurement Period of WLB

In our main analyses, we measure WLB over the same calendar year when the dependent variables are measured. However, this could result in a misalignment of measurement periods. For example, All-Star Analyst award (*AA\_Award*) is announced by *Institutional Investor* every

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<sup>28</sup> Among all broker-days with Glassdoor reviews, about 2% of broker-days are associated with such a surge of extremely positive reviews.

<sup>29</sup> Specifically, in the analyst-career-outcome sample, 90.73% of the analyst-years are associated with a broker-level WLB between 2 and 4, 62.77% are associated with a broker-level WLB between 2.5 and 3.5, and 61.42% are associated with a broker-year with 5 or more Glassdoor reviews. The percentages are similar for the analyst-performance sample.

<sup>30</sup> Controlling for the standard deviation of individual WLB ratings also helps to address the possibility that employees who are able to benefit from WLB policies tend to submit positive reviews about their employers and those who are unable to benefit tend to submit negative reviews due to feelings of inequality.

October, and ideally, we want to measure WLB over the period underlying the *AA\_Award*, which is from October of year  $t-1$  to September of year  $t$ . While we believe analysts' perceived WLB is relatively sticky over time and this potential misalignment issue would not alter our conclusions, we seek to verify this empirically. In an untabulated test, we align the measurement period of WLB with the twelve-month period between *Institutional Investor's* announcements of All-Star Analysts, re-calculate the WLB measure, and re-estimate Equation (3). We continue to find an inverted U-shaped relation exists between perceived WLB and analysts' All-Star Award status.<sup>31</sup>

#### **5.4.4 Other Glassdoor Ratings**

Glassdoor also allows users to rate other aspects of their firms, including company benefits, senior management, culture & values, career opportunities, approval of CEO, outlook, and recommend to a friend. In order to ensure that our WLB measure is not merely a subset of these other ratings, we include all ratings in the same regression. No inferences are affected (untabulated).

#### **5.5 Alternative Career Outcome Measures**

Although we rely on a long line of analyst research in choosing to focus on analysts being awarded the All-Star status and being promoted to larger brokerage firms, clearly other outcome variables exist. For example, the motivation behind some of the WLB programs in banks is not only to improve performance but also to increase employee retention. Consequently, we additionally test for the effects on analyst retention.<sup>32</sup> In untabulated analyses we observe that a U-shaped relation also exists for employee retention.

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<sup>31</sup> In another untabulated test, we align the measurement period of WLB with the fourth-month period from June to September (i.e., voting period) of year  $t$  and continue to find inferentially similar results.

<sup>32</sup> Specifically, analyst retention is an indicator variable set to one if the analyst works for the same brokerage firm in the next year, and zero otherwise.

Further, we examine whether analysts tend to move to brokerage firms with high WLB satisfaction. We find that when their current WLB satisfaction is low (high), analysts are indeed attracted (not attracted) by alternative employers who value WLB (untabulated).

### **5.6 Alternative Specification for Non-Linearity**

Given the possibility of a non-linear association, we test our hypothesis using quadratic regressions in the main analyses (McConnell and Servaes 1990; Himmelberg et al. 1999; Collin-Dufresne et al. 2001; Wyatt 2005; Hillary and Huang 2018). In robustness tests, we use spline regressions to ensure that our assumption of nonlinearity is appropriate (Morck et al. 1988; Cho 1998; Himmelberg et al. 1999; Davies et al. 2005). Spline regressions do not assume the association to be of a specific form, thus they are useful in establishing the characteristics of a non-linear association. In untabulated tests, our inferences are unaffected. Spline regressions require specifying knots at which the slope of the function changes and thus may be affected by the choice of knots. In contrast, the quadratic regressions do not impose such requirements. Therefore, spline regressions and quadratic regressions complement each other and increase the reliability of our inferences.

## **6. Conclusion**

This study investigates the role of work-life balance shaped by brokers in financial analysts' performance and career advancement. Using an extensive sample of Glassdoor reviews by financial analysts, we find that when perceived work-life balance is relatively low, an increase in work-life balance satisfaction improves performance and relates to better career advancement of analysts; however, when work-life balance satisfaction is already high, an increase in work-life balance satisfaction is associated with worse performance and career advancement. Collectively,

our results suggest a significant non-linear effect of work-life balance on analysts' performance and career advancement.

Our paper contributes to the debate on work-life balance in the financial industry. The findings suggest that shifting too many resources from their work or personal life can hurt analysts' performance and career advancement. This study also contributes to the literature on the interaction of employee satisfaction and performance, as well as the growing literature on information aggregation and the wisdom of the crowd. Overall, our article provides the first large-sample evidence that reaching the optimal work-life balance is important not only for individuals but also for employers in the brokerage industry.

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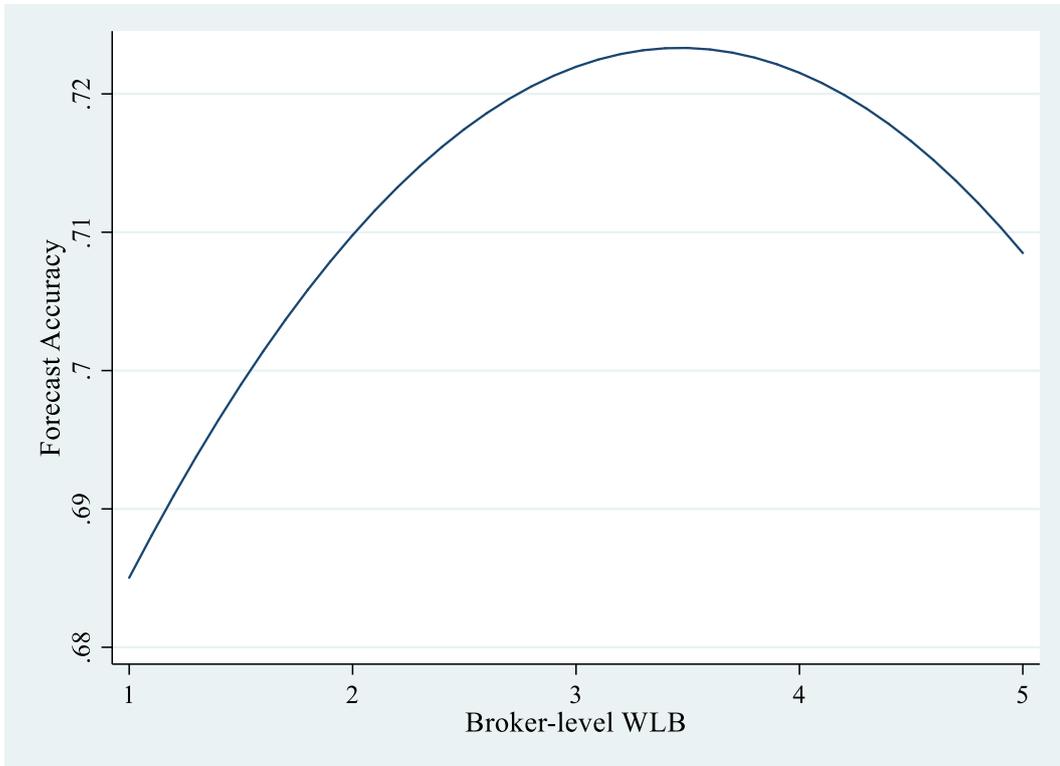
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## Appendix: Variable Definitions

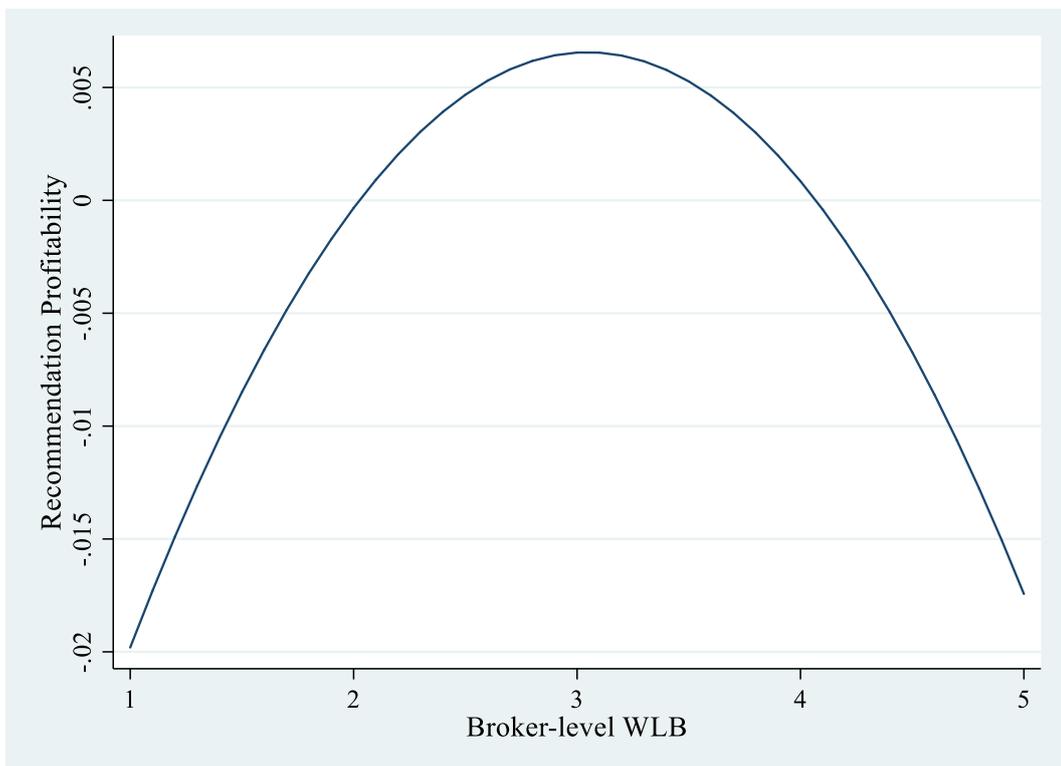
Variable	Definition
<i>Dependent variables</i>	
<i>Forecast Accuracy</i>	Earnings forecast accuracy, which is measured as $(1 - \text{standardized relative Forecast Error})$ . <i>Forecast Error</i> is defined as the absolute value of the analyst's most recent earnings forecast for firm $j$ minus firm $j$ 's actual EPS in year $t$ , scaled by the stock price at the beginning of the year, and then standardized to range from 0 to 1 within each firm-year.
<i>Recom Profit</i>	Stock-recommendation profitability, which is measured as the buy-and-hold market-adjusted return ( <i>BHAR</i> ) to the analyst's stock recommendation for firm $j$ in year $t$ . The window for calculating <i>BHAR</i> is the analyst's [current recommendation date + 2 days, next recommendation date - 2 days]. For sell recommendations, <i>Recom Profit</i> is measured as negative one times <i>BHAR</i> .
<i>AA_Award</i>	All-Star Analyst award, an indicator variable set to one if the analyst is ranked in the top three or as a runner-up by <i>Institutional Investor</i> in year $t$ and zero otherwise.
<i>Promote</i>	Analyst promotion to a large brokerage firm, an indicator variable set to one if the analyst moves to a top-decile-size brokerage firm in year $t$ and zero otherwise.
<i>Key independent variable</i>	
<i>Work-Life Balance</i>	The average work-life balance rating received by the analyst's brokerage firm from analysts in year $t$ .
<i>Control variables</i>	
<i>Broker Size</i>	Brokerage firm size, which is calculated as the natural logarithm of the number of analysts employed by the sell-side firm in year $t$ .
<i>Number of Industries</i>	Number of 2-digit SIC industries that the analyst follows in year $t$ .
<i>Number of Firms</i>	Number of firms the analyst follows in year $t$ .
<i>Firm Experience</i>	Firm-specific experience, which is defined as the number of years in which the analyst has issued at least one earnings forecast for firm $j$ before year $t$ .
<i>General Experience</i>	General experience, which is defined as the number of years since the analyst first appeared in I/B/E/S.
<i>Forecast Frequency</i>	Earnings forecast frequency, which is calculated as the number of earnings forecasts issued by the analyst for firm $j$ in year $t$ .
<i>Forecast Horizon</i>	Earnings forecast horizon, which is defined as the natural logarithm of the number of days between the analyst's most recent earnings forecast for firm $j$ and the announcement date of firm $j$ 's actual EPS in year $t$ .
<i>Firm Size</i>	Natural logarithm of the market value of firm $j$ at the end of year $t-1$ .
<i>Market-to-Book</i>	The market-to-book ratio of firm $j$ at the end of year $t-1$ .
<i>Beta</i>	The market beta of firm $j$ during year $t$ .
<i>Past Firm Return</i>	Firm $j$ 's market-adjusted stock return during the six months prior to the analyst's stock recommendation for firm $j$ in year $t$ .
<i>Forecast Boldness</i>	The average relative boldness (i.e., the absolute deviation from consensus forecast) of earnings forecasts that the analyst issues on the covered firms between October of year $t-1$ and September of year $t$ .
<i>Forecast Optimism</i>	The average forecast optimism (i.e., an indicator variable equal to one if the analyst forecast is higher than consensus forecast) of earnings forecasts that the analyst issues on the covered firms between October of year $t-1$ and September of year $t$ .

**Figure 1**  
**Descriptive Plot - Work-Life Balance and Analyst Performance**

**Panel A: Earnings Forecast Accuracy**



**Panel B: Recommendation Profitability (All Recommendations)**



**Table 1**  
**Sample Selection**

Sample selection criteria	Number of analyst firm-years	Number of firms	Number of analysts
Analyst firm-years with EPS forecasts, 2008-2016	317,310	5,572	8,847
Retain: brokerage firms with multiple analysts' work-life balance ratings in year $t$	137,894	4,790	5,195
Retain: brokerage firms with non-extreme average work-life balance ratings in year $t$	131,972	4,735	5,067
Retain: with I/B/E/S actual earnings information to calculate earnings forecast errors	131,389	4,650	5,054
Retain: with stock price information at the beginning of year $t$	127,360	4,474	5,022
Retain: with financial data such as market value and market-to-book ratio	101,401	3,648	4,683
Retain: with sufficient information to calculate standardized variables	98,499	3,322	4,554
Final earnings forecast sample	98,499	3,322	4,554

This table presents the procedures to construct the sample for the analyst performance test.

**Table 2**  
**Summary Statistics of Glassdoor Ratings for Brokerage Firms**

	(1) Mean ratings from equity analysts	(2) Mean ratings from other employees	(1) – (2)
<i>Overall</i>	3.400	3.351	0.049***
<i>Company &amp; Benefits</i>	3.359	3.352	0.007
<i>Work-Life Balance</i>	3.198	3.285	-0.087***
<i>Senior Management</i>	3.016	2.952	0.064***
<i>Culture &amp; Values</i>	3.356	3.291	0.065***
<i>Career Opportunities</i>	3.301	3.267	0.034*
<i>Approves of CEO</i>	0.393	0.366	0.027*
<i>Outlook</i>	0.273	0.267	0.006
<i>Recommends</i>	0.355	0.276	0.079***
<i># of Words in Review</i>	7.750	7.060	0.69***

**Table 3**  
**Descriptive Statistics**

Panel A presents the unstandardized descriptive statistics for the sample used in the earnings forecast accuracy tests. Panel B and C present the descriptive statistics for the samples used in the stock-recommendation profitability tests and the analyst career outcomes tests, respectively. See the Appendix for the variable definitions.

**Panel A: Sample for Earnings Forecast Accuracy Tests (n = 98,499)**

Variable	Mean	Stdev	Q1	Median	Q3
<i>Work-Life Balance</i>	3.275	0.559	3.000	3.280	3.620
<i>Forecast Error</i>	0.008	0.021	0.001	0.002	0.006
<i>Broker Size</i>	4.441	0.661	4.127	4.585	4.812
<i>Number of Industries</i>	3.494	2.269	2.000	3.000	5.000
<i>Number of Firms</i>	17.710	9.510	12.000	17.000	23.000
<i>Firm Experience</i>	4.864	3.889	2.000	4.000	7.000
<i>General Experience</i>	12.472	9.367	4.507	10.008	20.014
<i>Forecast Frequency</i>	4.553	2.698	3.000	4.000	6.000
<i>Forecast Horizon</i>	4.289	1.052	3.761	4.585	4.771

**Panel B: Sample for Stock-Recommendation Profitability Tests (n = 56,641)**

Variable	Mean	Stdev	Q1	Median	Q3
<i>Work-Life Balance</i>	3.290	0.575	3.000	3.326	3.625
<i>Recom Profit</i>	0.004	0.310	-0.150	0.008	0.165
<i>Broker Size</i>	4.455	0.690	4.143	4.625	4.828
<i>Number of Industries</i>	3.259	2.197	2.000	3.000	4.000
<i>Number of Firms</i>	16.708	9.555	10.000	16.000	22.000
<i>Firm Experience</i>	4.331	3.766	1.000	3.000	6.000
<i>General Experience</i>	11.828	9.257	4.003	9.260	19.014
<i>Firm Size</i>	8.368	1.573	7.267	8.290	9.435
<i>Market-to-Book</i>	4.039	4.545	1.651	2.660	4.441
<i>Beta</i>	1.131	0.429	0.838	1.086	1.381
<i>Past Firm Return</i>	0.012	0.260	-0.142	-0.006	0.136

**Panel C: Sample for Analyst Career Outcome Tests (n = 10,359)**

Variable	Mean	Stdev	Q1	Median	Q3
<i>Work-Life Balance</i>	3.305	0.640	3.000	3.326	3.667
<i>AA Award</i>	0.155	0.361	0.000	0.000	0.000
<i>Promotion</i>	0.024	0.153	0.000	0.000	0.000
<i>Forecast Accuracy</i>	0.506	0.580	0.486	0.628	0.718
<i>Forecast Boldness</i>	0.393	0.442	0.216	0.310	0.459
<i>Forecast Optimism</i>	0.514	0.186	0.407	0.500	0.622
<i>Forecast Frequency</i>	4.470	2.118	3.133	4.111	5.438
<i>Forecast Horizon</i>	4.384	0.591	4.152	4.502	4.724
<i>Broker Size</i>	4.396	0.784	4.025	4.635	4.828
<i>Number of Industries</i>	2.653	1.879	1.000	2.000	4.000
<i>Number of Firms</i>	13.099	8.038	6.000	13.000	19.000
<i>Firm Experience</i>	3.880	2.483	1.900	3.333	5.364
<i>General Experience</i>	10.604	8.878	2.751	7.753	16.759
<i>Beta</i>	1.155	0.337	0.933	1.125	1.349
<i>Firm Size</i>	8.921	1.335	8.034	9.016	9.841
<i>Market-to-Book</i>	4.532	5.243	2.042	3.156	4.989

**Table 4**  
**Work-Life Balance and Earnings Forecast Accuracy**

This table presents the results from estimating the OLS regression of Equation (1). *Forecast Accuracy* = (1 – standardized relative *Forecast Error*), where *Forecast Error* is the absolute (price-deflated) value of the analyst’s earnings forecast for firm *i* minus firm *i*’s actual EPS in year *t* and is standardized to range from 0 to 1 within each firm-year. *Work-Life Balance* = the work-life balance rating of the analyst’s brokerage firm submitted by analysts in year *t*. Other variables are defined in the Appendix. Except for *Work-Life Balance*, all of the continuous variables are scaled to range from 0 to 1 within each firm-year (Clement and Tse 2003). The t-statistics (in brackets) are calculated based on the standard errors clustered at the analyst level. \*, \*\*, and \*\*\* indicate two-tailed significance at the 10%, 5%, and 1% levels, respectively.

Variable	(1) <i>Forecast Accuracy</i>	(2) <i>Forecast Accuracy</i>	(3) <i>Forecast Accuracy</i>
<i>Work-Life Balance</i>	0.0038* (1.72)	0.0437** (2.36)	
<i>Work-Life Balance</i> <sup>2</sup>		-0.0063** (-2.17)	
<i>Abn. Pos. Work-Life Balance</i>			-0.0111* (-1.76)
<i>Abn. Neg. Work-Life Balance</i>			-0.0109*** (-3.04)
<i>Broker Size</i>	-0.0568*** (-11.30)	-0.0594*** (-11.47)	-0.0604*** (-11.60)
<i>Number of Industries</i>	-0.0090 (-1.55)	-0.0088 (-1.51)	-0.0086 (-1.48)
<i>Number of Firms</i>	0.0272*** (4.38)	0.0272*** (4.38)	0.0272*** (4.38)
<i>Firm Experience</i>	-0.0161*** (-3.61)	-0.0160*** (-3.59)	-0.0159*** (-3.58)
<i>General Experience</i>	0.0104* (1.75)	0.0103* (1.74)	0.0103* (1.74)
<i>Forecast Frequency</i>	0.0300*** (6.25)	0.0303*** (6.33)	0.0304*** (6.35)
<i>Forecast Horizon</i>	-0.3335*** (-68.57)	-0.3330*** (-68.61)	-0.3327*** (-68.63)
<i>Intercept</i>	0.8224*** (99.54)	0.7623*** (26.47)	0.8410*** (170.21)
N	98,499	98,499	98,499
Adj. R-squared	0.128	0.128	0.128

**Table 5**  
**Work-Life Balance and Stock-Recommendation Profitability**

This table presents the results from estimating the OLS regression of Equation (2). *Buy Recommendations* include analysts' strong buy and buy recommendations. *Sell Recommendations* include analysts' hold, sell, and strong sell recommendations. *Recom Profit* = the buy-and-hold market-adjusted return to the analyst's stock recommendation for firm *i* (multiplied by negative one for sell recommendations). *Work-Life Balance* = the work-life balance rating of the analyst's brokerage firm submitted by analysts in year *t*. Other variables are defined in the Appendix. The t-statistics (in brackets) are calculated based on the standard errors clustered by analyst and by month. \*, \*\*, and \*\*\* indicate two-tailed significance at the 10%, 5%, and 1% levels, respectively.

Variable	<i>Buy Recommendations</i>			<i>Sell Recommendations</i>		
	(1) <i>Recom Profit</i>	(2) <i>Recom Profit</i>	(3) <i>Recom Profit</i>	(4) <i>Recom Profit</i>	(5) <i>Recom Profit</i>	(6) <i>Recom Profit</i>
<i>Work-Life Balance</i>	-0.0047 (-1.16)	0.0609** (2.01)		0.0026 (0.90)	0.0359* (1.79)	
<i>Work-Life Balance</i> <sup>2</sup>		-0.0103** (-2.16)			-0.0053* (-1.75)	
<i>Abn. Pos. Work-Life Balance</i>			-0.0152** (-2.25)			-0.0096 (-1.62)
<i>Abn. Neg. Work-Life Balance</i>			-0.0157 (-1.61)			-0.0097* (-1.93)
<i>Broker Size</i>	0.0026 (0.68)	0.0000 (0.00)	0.0002 (0.04)	-0.0050* (-1.82)	-0.0063** (-2.32)	-0.0069*** (-3.03)
<i>Number of Industries</i>	0.0005 (0.25)	0.0005 (0.25)	0.0005 (0.24)	-0.0015 (-0.68)	-0.0015 (-0.67)	-0.0014 (-0.66)
<i>Number of Firms</i>	-0.0001 (-0.14)	-0.0001 (-0.12)	-0.0001 (-0.12)	0.0004 (0.63)	0.0004 (0.63)	0.0004 (0.63)
<i>Firm Experience</i>	0.0015** (2.11)	0.0015** (2.13)	0.0015** (2.11)	0.0004 (0.43)	0.0005 (0.46)	0.0005 (0.45)
<i>General Experience</i>	0.0001 (0.18)	0.0001 (0.23)	0.0001 (0.24)	-0.0003 (-1.11)	-0.0003 (-1.10)	-0.0003 (-1.09)
<i>Firm Size</i>	-0.0075*** (-3.04)	-0.0075*** (-3.05)	-0.0075*** (-3.05)	0.0009 (0.27)	0.0008 (0.25)	0.0008 (0.24)
<i>Market-to-Book</i>	0.0002 (0.29)	0.0002 (0.32)	0.0002 (0.32)	-0.0001 (-0.12)	-0.0001 (-0.12)	-0.0001 (-0.12)
<i>Beta</i>	-0.0208** (-2.38)	-0.0206** (-2.36)	-0.0206** (-2.37)	-0.0004 (-0.02)	-0.0003 (-0.02)	-0.0003 (-0.02)
<i>Past Firm Return</i>	-0.0285* (-1.71)	-0.0284* (-1.70)	-0.0284* (-1.70)	0.0708* (1.74)	0.0710* (1.75)	0.0711* (1.75)
<i>Industry Fixed Effects</i>	Included	Included	Included	Included	Included	Included
<i>Year Fixed Effects</i>	Included	Included	Included	Included	Included	Included
N	24,325	24,325	24,325	32,316	32,316	32,316
Adj. R-squared	0.031	0.031	0.031	0.032	0.032	0.032

**Table 6**  
**Work-Life Balance and Analyst Career Outcomes**

This table presents the results from estimating the probit regression of Equation (3). *AA Award* = an indicator variable set to one if the analyst is ranked in the top three or as a runner-up by *Institutional Investor* in year *t* and zero otherwise. *Promotion* = an indicator variable set to one if the analyst moves to a top 10% largest brokerage firm in year *t* and zero otherwise. *Work-Life Balance* = the work-life balance rating of the analyst's brokerage firm in year *t*. Other variables are defined in the Appendix. The z-statistics (in brackets) are calculated based on the standard errors clustered at the analyst level. \*, \*\*, and \*\*\* indicate two-tailed significance at the 10%, 5%, and 1% levels, respectively.

Variable	(1) <i>AA Award</i>	(2) <i>Promotion</i>	(3) <i>AA Award</i>	(4) <i>Promotion</i>	(5) <i>AA Award</i>	(6) <i>Promotion</i>
<i>Work-Life Balance</i>	-0.1109** (-2.54)	0.0272 (0.72)	1.1931** (1.97)	0.5532** (2.20)		
<i>Work-Life Balance</i> <sup>2</sup>			-0.2080** (-2.28)	-0.0837** (-2.08)		
<i>Abn. Pos. Work-Life Balance</i>					-0.3093*** (-4.66)	-0.1775* (-1.71)
<i>Abn. Neg. Work-Life Balance</i>					-0.3775* (-1.85)	-0.1978** (-2.45)
<i>Forecast Accuracy</i>	0.1055** (2.13)	0.1005** (2.11)	0.1039** (2.10)	0.0979** (2.04)	0.1041** (2.11)	0.0980** (2.04)
<i>Forecast Boldness</i>	0.0826 (1.32)	-0.0536 (-0.95)	0.0764 (1.23)	-0.0606 (-1.06)	0.0744 (1.20)	-0.0623 (-1.08)
<i>Forecast Optimism</i>	-0.2202* (-1.67)	-0.1018 (-0.80)	-0.2257* (-1.71)	-0.0996 (-0.78)	-0.2211* (-1.68)	-0.0996 (-0.78)
<i>Forecast Frequency</i>	0.0897*** (6.29)	-0.0098 (-0.52)	0.0888*** (6.21)	-0.0100 (-0.53)	0.0888*** (6.20)	-0.0106 (-0.56)
<i>Forecast Horizon</i>	0.1983*** (3.42)	0.3359*** (4.44)	0.1955*** (3.37)	0.3367*** (4.45)	0.1962*** (3.37)	0.3362*** (4.44)
<i>Broker Size</i>	0.7160*** (12.56)	0.0520 (1.21)	0.6836*** (12.21)	0.0406 (0.94)	0.6820*** (12.16)	0.0433 (1.00)
<i>Number of Industries</i>	0.0377*** (2.96)	-0.0307 (-1.62)	0.0372*** (2.92)	-0.0313* (-1.65)	0.0369*** (2.90)	-0.0312* (-1.65)
<i>Number of Firms</i>	0.0909*** (24.86)	0.0080* (1.82)	0.0910*** (24.67)	0.0083* (1.88)	0.0911*** (24.69)	0.0085* (1.93)
<i>Firm Experience</i>	0.1650*** (14.44)	-0.0103 (-0.62)	0.1651*** (14.28)	-0.0115 (-0.69)	0.1653*** (14.31)	-0.0114 (-0.69)
<i>General Experience</i>	0.0069** (2.11)	0.0004 (0.10)	0.0072** (2.21)	0.0007 (0.16)	0.0073** (2.23)	0.0006 (0.14)
<i>Beta</i>	0.1684** (2.06)	0.0244 (0.28)	0.1766** (2.16)	0.0252 (0.28)	0.1790** (2.19)	0.0262 (0.29)
<i>Firm Size</i>	0.2624*** (10.36)	0.0128 (0.55)	0.2582*** (10.18)	0.0117 (0.50)	0.2586*** (10.18)	0.0113 (0.48)
<i>Market-to-Book</i>	-0.0037 (-0.93)	0.0082* (1.68)	-0.0038 (-0.98)	0.0083* (1.68)	-0.0038 (-0.97)	0.0083* (1.67)
<i>Industry Fixed Effects</i>	Included	Included	Included	Included	Included	Included
<i>Year Fixed Effects</i>	Included	Included	Included	Included	Included	Included
N	10,359	10,359	10,359	10,359	10,359	10,359
Pseudo R-squared	0.415	0.053	0.417	0.055	0.417	0.055

**Table 7**  
**Office-Level Work-Life Balance**

This table presents the results from estimating Equation (1) (Panel A), Equation (2) (Panel B) and Equation (3) (Panel C) with the work-life balance rating of the analyst's office in year  $t$ . All variables are defined in the Appendix. The t- and z-statistics (in brackets) are calculated based on the standard errors clustered at the analyst and city level. \*, \*\*, and \*\*\* indicate two-tailed significance at the 10%, 5%, and 1% levels, respectively.

**Panel A: Analyst Performance – Earnings Forecast Accuracy**

Variable	(1) <i>Forecast Accuracy</i>	(2) <i>Forecast Accuracy</i>
<i>Work-Life Balance</i>	0.0652*** (2.84)	
<i>Work-Life Balance</i> <sup>2</sup>	-0.0094** (-2.52)	
<i>Abn. Pos. Work-Life Balance</i>		-0.0137 (-1.53)
<i>Abn. Neg. Work-Life Balance</i>		-0.0158*** (-4.16)
<i>Broker Size</i>	-0.0562*** (-12.78)	-0.0564*** (-12.06)
<i>Number of Industries</i>	0.0044 (1.12)	0.0044 (1.11)
<i>Number of Firms</i>	0.0047 (0.87)	0.0050 (0.91)
<i>Firm Experience</i>	-0.0259*** (-8.06)	-0.0256*** (-8.11)
<i>General Experience</i>	0.0146*** (4.15)	0.0145*** (4.08)
<i>Forecast Frequency</i>	0.0219*** (6.07)	0.0216*** (5.96)
<i>Forecast Horizon</i>	-0.3187*** (-72.04)	-0.3186*** (-71.14)
<i>Intercept</i>	0.7360*** (22.29)	0.8527*** (181.49)
N	37,421	37,421
Adj. R-squared	0.113	0.113

**Table 7 (Continued)**  
**Office-Level Work-Life Balance**

**Panel B: Analyst Performance – Stock-Recommendation Profitability**

Variable	<i>Buy Recommendations</i>		<i>Sell Recommendations</i>	
	(1)	(2)	(3)	(4)
	<i>Recom Profit</i>	<i>Recom Profit</i>	<i>Recom Profit</i>	<i>Recom Profit</i>
<i>Work-Life Balance</i>	-0.0084 (-0.62)		0.0539*** (3.64)	
<i>Work-Life Balance</i> <sup>2</sup>	0.0015 (0.77)		-0.0097*** (-3.59)	
<i>Abn. Pos. Work-Life Balance</i>		0.0052 (1.50)		-0.0144** (-2.18)
<i>Abn. Neg. Work-Life Balance</i>		0.0055 (0.83)		-0.0135** (-2.33)
<i>Broker Size</i>	0.0065*** (3.68)	0.0070*** (3.99)	-0.0093** (-2.04)	-0.0092** (-2.00)
<i>Number of Industries</i>	-0.0016 (-0.53)	-0.0016 (-0.54)	-0.0021 (-1.21)	-0.0021 (-1.24)
<i>Number of Firms</i>	-0.0002 (-0.25)	-0.0002 (-0.26)	0.0006*** (2.74)	0.0006*** (2.77)
<i>Firm Experience</i>	0.0007 (1.43)	0.0007 (1.41)	0.0003 (0.53)	0.0003 (0.50)
<i>General Experience</i>	0.0003 (0.60)	0.0003 (0.59)	-0.0001 (-0.42)	-0.0001 (-0.40)
<i>Firm Size</i>	-0.0047 (-1.61)	-0.0047* (-1.78)	-0.0004 (-0.32)	-0.0004 (-0.29)
<i>Market-to-Book</i>	-0.0002 (-0.28)	-0.0002 (-0.27)	0.0005 (1.36)	0.0005 (1.36)
<i>Beta</i>	-0.0224** (-2.09)	-0.0224* (-1.94)	0.0053 (0.54)	0.0055 (0.55)
<i>Past Firm Return</i>	-0.0252* (-1.92)	-0.0252* (-2.16)	0.0645*** (4.75)	0.0646*** (4.84)
<i>Industry Fixed Effects</i>	Included	Included	Included	Included
<i>Year Fixed Effects</i>	Included	Included	Included	Included
N	9,317	9,317	12,370	12,370
Adj. R-squared	0.037	0.037	0.039	0.039

**Table 7 (Continued)**  
**Office-Level Work-Life Balance**

**Panel C: Analyst Career Outcomes**

Variable	(1) <i>AA Award</i>	(2) <i>Promotion</i>	(3) <i>AA Award</i>	(4) <i>Promotion</i>
<i>Work-Life Balance</i>	0.9315*** (6.26)	0.4090*** (4.21)		
<i>Work-Life Balance</i> <sup>2</sup>	-0.1545*** (-6.86)	-0.0431** (-2.33)		
<i>Abn. Pos. Work-Life Balance</i>			-0.2198*** (-4.95)	-1.1802 (-1.38)
<i>Abn. Neg. Work-Life Balance</i>			-0.1877*** (-2.88)	-0.1862*** (-8.03)
<i>Forecast Accuracy</i>	0.0715** (2.01)	0.1409*** (5.65)	0.0728** (2.14)	0.1315*** (5.30)
<i>Forecast Boldness</i>	-0.0718 (-0.98)	0.1706*** (7.03)	-0.0745 (-1.04)	0.1594*** (7.22)
<i>Forecast Optimism</i>	-0.0356 (-0.44)	0.1572 (1.51)	-0.0233 (-0.30)	0.1523 (1.43)
<i>Forecast Frequency</i>	0.0789*** (3.79)	-0.0428** (-2.56)	0.0789*** (3.76)	-0.0433*** (-2.62)
<i>Forecast Horizon</i>	0.1978*** (2.85)	0.2885*** (4.01)	0.1989*** (2.88)	0.2846*** (3.92)
<i>Broker Size</i>	0.6046*** (4.12)	-0.1861* (-1.89)	0.6142*** (4.23)	-0.1866* (-1.85)
<i>Number of Industries</i>	0.0561*** (4.98)	-0.0260*** (-4.28)	0.0556*** (4.88)	-0.0253*** (-4.04)
<i>Number of Firms</i>	0.0788*** (19.36)	0.0108** (2.33)	0.0788*** (19.70)	0.0109** (2.29)
<i>Firm Experience</i>	0.1838*** (23.26)	-0.0004 (-0.02)	0.1831*** (22.81)	0.0003 (0.02)
<i>General Experience</i>	0.0182*** (8.17)	-0.0007 (-0.16)	0.0182*** (8.06)	-0.0009 (-0.19)
<i>Beta</i>	0.3577*** (5.11)	0.3419*** (7.94)	0.3614*** (5.25)	0.3445*** (7.96)
<i>Firm Size</i>	0.2429*** (14.15)	0.0011 (0.07)	0.2434*** (14.07)	-0.0006 (-0.04)
<i>Market-to-Book</i>	0.0004 (0.41)	0.0037 (1.52)	0.0007 (0.61)	0.0036 (1.49)
<i>Industry Fixed Effects</i>	Included	Included	Included	Included
<i>Year Fixed Effects</i>	Included	Included	Included	Included
N	3,769	3,340	3,769	3,340
Pseudo R-squared	0.396	0.093	0.395	0.094

**Table 8**  
**The Effects of Work-Life Balance Conditional on General Experience**

This table presents the results from estimating Equation (1) (Panel A), Equation (2) (Panel B and C) and Equation (3) (Panel D and E) on the analysts with low (< 5 years), median, and high ( $\geq 20$  years) general experience. All variables are defined in the Appendix. The t- and z-statistics (in brackets) are calculated based on the standard errors clustered at the analyst level. \*, \*\*, and \*\*\* indicate two-tailed significance at the 10%, 5%, and 1% levels, respectively.

**Panel A: Analyst Performance – Earnings Forecast Accuracy**

Variable	<i>General Experience</i> <i>&lt; 5 Years</i>		<i>General Experience</i> <i>≥ 5 Years &amp; &lt; 20 Years</i>		<i>General Experience</i> <i>≥ 20 Years</i>	
	(1) <i>Forecast Accuracy</i>	(2) <i>Forecast Accuracy</i>	(3) <i>Forecast Accuracy</i>	(4) <i>Forecast Accuracy</i>	(5) <i>Forecast Accuracy</i>	(6) <i>Forecast Accuracy</i>
<i>Work-Life Balance</i>	0.0908** (2.37)		0.1228*** (4.03)		0.1176** (2.44)	
<i>Work-Life Balance</i> <sup>2</sup>	-0.0135** (-2.27)		-0.0191*** (-3.95)		-0.0183** (-2.47)	
<i>Abn. Pos. Work-Life Balance</i>		-0.0206** (-1.99)		-0.0275*** (-3.65)		-0.0178* (-1.72)
<i>Abn. Neg. Work-Life Balance</i>		-0.0216*** (-2.71)		-0.0304*** (-4.36)		-0.0204* (-1.68)
<i>Intercept &amp; Controls</i>	Included	Included	Included	Included	Included	Included
N	24,431	24,431	48,629	48,629	25,439	25,439
Adj. R-squared	0.063	0.063	0.051	0.051	0.037	0.037

**Table 8 (Continued)**  
**The Effects of Work-Life Balance Conditional on General Experience**

**Panel B: Analyst Performance – Buy-Recommendation Profitability**

Variable	<i>General Experience</i> <i>&lt; 5 Years</i>		<i>General Experience</i> <i>≥ 5 Years &amp; &lt; 20 Years</i>		<i>General Experience</i> <i>≥ 20 Years</i>	
	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Recom</i> <i>Profit</i>	<i>Recom</i> <i>Profit</i>	<i>Recom</i> <i>Profit</i>	<i>Recom</i> <i>Profit</i>	<i>Recom</i> <i>Profit</i>	<i>Recom</i> <i>Profit</i>
<i>Work-Life Balance</i>	0.1476*** (2.80)		-0.0151 (-0.33)		0.1275* (1.77)	
<i>Work-Life Balance</i> <sup>2</sup>	-0.0247*** (-2.95)		0.0018 (0.25)		-0.0195* (-1.76)	
<i>Abn. Pos. Work-Life Balance</i>		-0.0290** (-2.47)		0.0403 (0.63)		-0.0249 (-1.37)
<i>Abn. Neg. Work-Life Balance</i>		-0.0254 (-1.61)		0.0055 (0.79)		-0.0283 (-1.53)
<i>Controls</i>	Included	Included	Included	Included	Included	Included
<i>Industry &amp; Year Fixed Effects</i>	Included	Included	Included	Included	Included	Included
N	8,076	8,076	10,626	10,626	5,623	5,623
Adj. R-squared	0.031	0.031	0.030	0.030	0.049	0.049

**Panel C: Analyst Performance – Sell-Recommendation Profitability**

Variable	<i>General Experience</i> <i>&lt; 5 Years</i>		<i>General Experience</i> <i>≥ 5 Years &amp; &lt; 20 Years</i>		<i>General Experience</i> <i>≥ 20 Years</i>	
	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Recom</i> <i>Profit</i>	<i>Recom</i> <i>Profit</i>	<i>Recom</i> <i>Profit</i>	<i>Recom</i> <i>Profit</i>	<i>Recom</i> <i>Profit</i>	<i>Recom</i> <i>Profit</i>
<i>Work-Life Balance</i>	0.0872 (1.54)		0.0613* (1.79)		0.0987 (1.55)	
<i>Work-Life Balance</i> <sup>2</sup>	-0.0121 (-1.33)		-0.0108** (-2.04)		-0.0134 (-1.33)	
<i>Abn. Pos. Work-Life Balance</i>		-0.0059 (-0.30)		-0.0161** (-2.17)		0.0107 (0.46)
<i>Abn. Neg. Work-Life Balance</i>		-0.0145 (-1.44)		-0.0151 (-1.40)		-0.0085 (-1.35)
<i>Controls</i>	Included	Included	Included	Included	Included	Included
<i>Industry &amp; Year Fixed Effects</i>	Included	Included	Included	Included	Included	Included
N	10,750	10,750	14,169	14,169	7,397	7,397
Adj. R-squared	0.031	0.031	0.036	0.036	0.036	0.036

**Table 8 (Continued)**  
**The Effects of Work-Life Balance Conditional on General Experience**

**Panel D: Analyst Career Outcomes – All-Star Award**

Variable	General Experience < 5 Years		General Experience ≥ 5 Years & < 20 Years		General Experience ≥ 20 Years	
	(1)	(2)	(3)	(4)	(5)	(6)
	AA Award	AA Award	AA Award	AA Award	AA Award	AA Award
<i>Work-Life Balance</i>	0.6028		2.5450***		0.3590	
	(0.79)		(4.36)		(0.44)	
<i>Work-Life Balance</i> <sup>2</sup>	-0.1041		-0.4092***		-0.0962	
	(-0.82)		(-4.55)		(-0.78)	
<i>Abn. Pos. Work-Life Balance</i>		-0.2203		-0.4609***		-0.1853**
		(-0.99)		(-4.57)		(-2.20)
<i>Abn. Neg. Work-Life Balance</i>		-0.3944		-0.5033***		0.6721
		(-1.14)		(-3.83)		(1.28)
<i>Controls</i>	Included	Included	Included	Included	Included	Included
<i>Industry &amp; Year Fixed Effects</i>	Included	Included	Included	Included	Included	Included
N	2,813	2,813	4,835	4,835	2,118	2,118
Pseudo R-squared	0.436	0.437	0.372	0.372	0.400	0.400

**Panel E: Analyst Career Outcomes – Promotion to Large Brokerage Firms**

Variable	General Experience < 5 Years		General Experience ≥ 5 Years & < 20 Years		General Experience ≥ 20 Years	
	(1)	(2)	(3)	(4)	(5)	(6)
	Promotion	Promotion	Promotion	Promotion	Promotion	Promotion
<i>Work-Life Balance</i>	0.5808		1.2985***		0.1022	
	(1.08)		(2.96)		(0.24)	
<i>Work-Life Balance</i> <sup>2</sup>	-0.0995		-0.1890***		-0.0131	
	(-1.14)		(-2.74)		(-0.19)	
<i>Abn. Pos. Work-Life Balance</i>		-0.1447		-0.2757		0.1747
		(-0.98)		(-1.63)		(0.50)
<i>Abn. Neg. Work-Life Balance</i>		-0.1649		-0.3076***		0.0039
		(-0.80)		(-2.86)		(0.04)
<i>Controls</i>	Included	Included	Included	Included	Included	Included
<i>Industry &amp; Year Fixed Effects</i>	Included	Included	Included	Included	Included	Included
N	2,868	2,868	4,488	4,488	1,699	1,699
Pseudo R-squared	0.128	0.127	0.082	0.081	0.112	0.113

**Table 9**  
**Robustness Check:**  
**Instrumental Variable Approach**

This table presents the results from estimating Equation (1) to (3) using the instrumental variable approach. The instrumental variables include an indicator variable of the best state to live in (Massachusetts; USA Today 2016) and an indicator of the worst city for traffic (Los Angeles). All variables are defined in the Appendix. \*, \*\*, and \*\*\* indicate two-tailed significance at the 10%, 5%, and 1% levels, respectively.

**Panel A: Analyst Performance – Earnings Forecast Accuracy**

Variable	First Stage		Second Stage
	(1) <i>Work-Life Balance</i>	(2) <i>Work-Life Balance<sup>2</sup></i>	(3) <i>Forecast Accuracy</i>
<i>Best State</i>	0.2362*** (7.32)	2.2485*** (10.25)	
<i>Worst Traffic City</i>	-0.2679*** (-4.91)	-1.7205*** (-4.83)	
<i>Work-Life Balance</i>			0.3079*** (3.38)
<i>Work-Life Balance<sup>2</sup></i>			-0.0531*** (-4.72)
<i>State GDP Growth</i>	-0.0328** (-2.32)	-0.1316 (-1.53)	0.0055** (2.05)
<i>Broker Size</i>	-0.2491*** (-6.01)	-2.1265*** (-9.51)	-0.1031*** (-25.96)
<i>Number of Industries</i>	-0.0582 (-1.45)	-0.3075 (-1.35)	-0.0057 (-1.38)
<i>Number of Firms</i>	0.0245 (1.04)	0.0473 (0.28)	0.0128** (2.05)
<i>Firm Experience</i>	0.0156 (0.46)	0.1323 (0.55)	-0.0168*** (-8.26)
<i>General Experience</i>	0.0883*** (4.34)	0.6711*** (6.12)	0.0308*** (7.87)
<i>Forecast Frequency</i>	-0.0707*** (-3.74)	-0.4137*** (-3.48)	0.1515*** (43.21)
<i>Forecast Horizon</i>	0.0508*** (3.98)	0.2728*** (3.42)	-0.2976*** (-68.11)
<i>Intercept</i>	3.2750*** (114.08)	11.6396*** (74.39)	0.4553*** (2.73)
N	39,082	39,082	39,082
Adj. R-squared	0.013	0.019	0.041
Partial F-statistic	6,937.92	15,106.55	
P-value from Durbin-Wu-Hausman test			0.24

**Table 9 (Continued)**  
**Robustness Check: Instrumental Variable Approach**

**Panel B: Analyst Performance – Stock-Recommendation Profitability**

Variable	<i>Buy Recommendations</i>			<i>Sell Recommendations</i>		
	First Stage	Second Stage		First Stage	Second Stage	
	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Work-Life Balance</i>	<i>Work-Life Balance<sup>2</sup></i>	<i>Recom Profit</i>	<i>Work-Life Balance</i>	<i>Work-Life Balance<sup>2</sup></i>	<i>Recom Profit</i>
<i>Best State</i>	0.7339*** (11.64)	5.3539*** (13.40)		0.3305*** (5.65)	2.1549*** (5.59)	
<i>Worst Traffic City</i>	-0.0418 (-0.27)	-1.4773 (-1.60)		0.0012 (0.02)	-0.7737* (-1.73)	
<i>Work-Life Balance</i>			0.4470*** (9.92)			-0.0575 (-0.28)
<i>Work-Life Balance<sup>2</sup></i>			-0.0658*** (-11.48)			-0.0369 (-1.53)
<i>State GDP Growth</i>	-0.0291 (-1.22)	-0.0463 (-0.32)	0.0135*** (3.92)	-0.0327*** (-3.17)	-0.1090 (-1.46)	0.0002 (0.05)
<i>Broker Size</i>	-0.2027*** (-3.53)	-1.4406*** (-3.83)	0.0048 (1.36)	-0.2249*** (-6.55)	-1.5566*** (-7.22)	-0.0620*** (-4.02)
<i>Number of Industries</i>	0.0034 (1.19)	0.0225 (1.24)	-0.0015 (-1.60)	0.0076** (1.99)	0.0454** (2.46)	0.0028** (2.11)
<i>Number of Firms</i>	0.0004 (0.27)	-0.0006 (-0.07)	-0.0003 (-1.08)	-0.0003 (-0.27)	-0.0040 (-0.81)	-0.0006*** (-3.23)
<i>Firm Experience</i>	-0.0068*** (-2.93)	-0.0372** (-2.63)	0.0016*** (4.19)	-0.0028*** (-3.36)	-0.0135** (-2.15)	-0.0002 (-0.51)
<i>General Experience</i>	0.0015 (0.87)	0.0146 (1.22)	0.0006 (1.40)	-0.0005 (-0.54)	0.0006 (0.11)	-0.0001 (-0.19)
<i>Firm Size</i>	0.0052 (0.79)	0.0713 (1.37)	-0.0012 (-1.02)	0.0003 (0.12)	0.0152 (0.91)	0.0004 (0.32)
<i>Market-to-Book</i>	0.0012 (0.78)	0.0098 (0.81)	-0.0000 (-0.00)	-0.0008 (-0.67)	-0.0042 (-0.52)	-0.0008 (-1.58)
<i>Beta</i>	-0.0260 (-1.20)	-0.1740 (-1.20)	-0.0207*** (-8.62)	-0.0457** (-2.29)	-0.2714** (-2.28)	-0.0171** (-2.21)
<i>Past Firm Return</i>	-0.0110 (-0.72)	0.0156 (0.13)	-0.0247*** (-3.92)	-0.0624*** (-6.12)	-0.3445*** (-5.30)	-0.0797*** (-8.79)
<i>Industry Fixed Effects</i>	Included	Included	Included	Included	Included	Included
<i>Year Fixed Effects</i>	Included	Included	Included	Included	Included	Included
N	8,686	8,686	8,686	12,510	12,510	12,510
Adj. R-squared	0.127	0.131	0.042	0.122	0.130	0.040
Partial F-statistic	781.02	1,113.23		261.05	360.78	
P-value from Durbin-Wu-Hausman test			0.21			0.34

**Table 9 (Continued)**  
**Robustness Check: Instrumental Variable Approach**

**Panel C: Analyst Career Outcomes**

Variable	First Stage		Second Stage	
	(1) <i>Work-Life Balance</i>	(2) <i>Work-Life Balance<sup>2</sup></i>	(3) <i>AA Award</i>	(4) <i>Promotion</i>
<i>Best State</i>	0.2069*** (3.09)	2.7751*** (6.65)		
<i>Worst Traffic State</i>	-0.3612*** (-2.93)	-2.3390*** (-3.13)		
<i>Work-Life Balance</i>			0.6247** (2.13)	0.3685** (2.24)
<i>Work-Life Balance<sup>2</sup></i>			-0.0872*** (-3.62)	-0.0397*** (-2.62)
<i>State GDP Growth</i>	0.0247 (0.57)	0.1613 (0.66)	0.0085 (1.01)	0.0026 (0.44)
<i>Forecast Accuracy</i>	-0.0385** (-2.53)	-0.2322*** (-2.89)	0.0049 (0.66)	0.0085** (2.07)
<i>Forecast Boldness</i>	-0.0927*** (-4.57)	-0.5739*** (-4.22)	0.0045 (0.30)	0.0163** (2.47)
<i>Forecast Optimism</i>	-0.0726 (-1.09)	-0.5271 (-1.14)	0.0146 (0.98)	0.0173** (2.14)
<i>Forecast Frequency</i>	-0.0069** (-2.15)	-0.0533*** (-2.65)	0.0046*** (3.06)	-0.0014 (-1.37)
<i>Forecast Horizon</i>	0.0878*** (4.02)	0.5165*** (3.44)	-0.0172 (-1.36)	0.0031 (0.51)
<i>Broker Size</i>	-0.2572*** (-8.32)	-1.8138*** (-10.16)	0.1095*** (4.46)	0.0045 (0.33)
<i>Number of Industries</i>	-0.0060 (-0.94)	-0.0417 (-1.02)	0.0129** (2.27)	-0.0009 (-1.08)
<i>Number of Firms</i>	0.0003 (0.37)	0.0000 (0.01)	0.0119*** (25.95)	-0.0001 (-0.21)
<i>Firm Experience</i>	-0.0085 (-1.29)	-0.0311 (-0.76)	0.0472*** (10.03)	0.0020 (1.43)
<i>General Experience</i>	0.0036** (2.23)	0.0254** (2.56)	0.0032*** (4.51)	-0.0004 (-1.17)
<i>Beta</i>	-0.0970*** (-3.48)	-0.5961*** (-3.28)	0.0516*** (4.82)	0.0245** (2.53)
<i>Firm Size</i>	-0.0111 (-1.08)	-0.0436 (-0.67)	0.0199*** (8.13)	0.0016 (0.56)
<i>Market-to-Book</i>	0.0031** (2.07)	0.0119 (1.41)	-0.0010** (-1.99)	-0.0004 (-1.27)
<i>Industry Fixed Effects</i>	Included	Included	Included	Included
<i>Year Fixed Effects</i>	Included	Included	Included	Included
N	3,676	3,676	3,676	3,676
Adj. R-squared	0.175	0.170	0.206	0.031
Partial F-statistic	15.68	48.64		
P-value from Durbin-Wu-Hausman test			0.64	0.34

**Table 10**  
**Robustness Check:**  
**Addressing Credibility Issues Pertaining to Glassdoor Ratings**

This table presents the results from estimating Equation (1) to (3), where *Work-Life Balance* is measured using all equity analysts' Glassdoor reviews other than those submitted in October (Panel A) and all equity analysts' Glassdoor reviews other than those submitted on the days with more than two extremely positive overall ratings (Panel B). All variables are defined in the Appendix. The t- and z-statistics (in brackets) are calculated based on the standard errors clustered at the analyst level. \*, \*\*, and \*\*\* indicate two-tailed significance at the 10%, 5%, and 1% levels, respectively.

**Panel A. Exclude Glassdoor Ratings Submitted in October**

Variable	(1) <i>Forecast Accuracy</i>	(2) <i>Buy Recom Profit</i>	(3) <i>Sell Recom Profit</i>	(4) <i>AA_Award</i>	(5) <i>Promotion</i>
<i>Work-Life Balance</i>	0.0572** (2.43)	0.1323*** (3.43)	-0.0062 (-0.19)	4.9767*** (3.71)	1.2126** (2.43)
<i>Work-Life Balance</i> <sup>2</sup>	-0.0086** (-2.18)	-0.0221*** (-3.47)	0.0007 (0.13)	-0.8201*** (-3.95)	-0.1776** (-2.21)
<i>Controls</i>	Yes	Yes	Yes	Yes	Yes
<i>Industry &amp; Year Fixed Effects</i>	No	Yes	Yes	Yes	Yes
N	91,847	22,428	30,054	9,837	9,586
Adj./Pseudo R-squared	0.092	0.028	0.031	0.415	0.059

**Panel B. Exclude Glassdoor Ratings Submitted on Spike Days**

Variable	(1) <i>Forecast Accuracy</i>	(2) <i>Buy Recom Profit</i>	(3) <i>Sell Recom Profit</i>	(4) <i>AA_Award</i>	(5) <i>Promotion</i>
<i>Work-Life Balance</i>	0.0520** (2.50)	0.0447** (2.07)	0.0500* (2.20)	2.6044*** (4.06)	0.9078* (1.75)
<i>Work-Life Balance</i> <sup>2</sup>	-0.0073** (-2.25)	-0.0074** (-2.33)	-0.0071* (-2.06)	-0.4219*** (-4.38)	-0.1434* (-1.80)
<i>Controls</i>	Yes	Yes	Yes	Yes	Yes
<i>Industry &amp; Year Fixed Effects</i>	No	Yes	Yes	Yes	Yes
N	96,552	23,901	31,833	9,808	9,809
Adj./Pseudo R-squared	0.095	0.030	0.032	0.414	0.055