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Essays on CEO Personal Characteristics and Corporate Outcomes: Athlete CEOs and Foreign CEOs

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Essays on CEO Personal Characteristics and Corporate Outcomes:

Athlete CEOs and Foreign CEOs

by

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A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy in Business Administration
with a concentration in Finance
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Date of Approval:
March 23, 2021

Keywords: Behavioral Corporate Finance, Behavioral Consistency, Firm Performance,
Corporate Policies, Home Country Bias, Acquisitions

DEDICATION

I dedicate this work to my family, large and small, without whom it would not be possible:

Yuriy Anikin (my tennis coach), my parents (Elena and Sergey), my aunt Natasha, my grandma Zoya, Marina and Ivan Pichkur, Sergey Merzlikin (my English teacher), Paul Kossman (my editor-in-chief), and pani Anicka.

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ABSTRACT

This dissertation contains two essays that explore the effect of top managers' background in competitive sports and foreign nationality on the organizational outcomes. In the first essay I document that one in four chief executive officers of large American companies (S&P 1500) have background in competitive sports developed during youth or adult years (Athlete CEOs). Using novel hand-collected data from detailed biographies of top executives I find strong evidence that Athlete-CEO-run firms are more profitable and invest more in long-term projects. Additionally, firms managed by CEOs with background in individual sports, but not in team sports, are more debt-averse and financially stable. From the career perspective, individuals with background in competitive sports reach top corporate positions faster, earn higher compensation, and serve their companies longer, which provides cross-validation of sport participation variables used in the main tests. In summary, my study shows how a managerial ability to perform and compete on a personal level can have effects on corporate performance, investments and financing decisions. In the second essay I highlight the importance of studying foreign CEOs since they manage eleven percent of large American corporations (S&P 1500) and study a propensity of the foreign-CEO-run firms to acquire firms in countries of CEO origin. I find foreign-CEO-run firms are more likely to buy targets in their CEOs' home countries (home country bias) but do not make more foreign acquisitions in general. Also, friendliness of the home country's economic and socio-political environment increases home country bias. At the same time, improvements in a firm's corporate governance and higher CEO managerial ability reduce the likelihood of home country acquisitions.

My analysis shows that CEO home country deals are value destroying as the stock market reaction to these deals as well as the acquirer's post-merger operating performance are significantly lower than in other deals. The results suggest that CEO home country bias is driven by behavioral factors (e.g., CEO personal preferences, emotional attachment) and private benefits, and is not a result of information advantage.

ESSAY 1 – ATHLETE CEOs: FIRM PERFORMANCE AND CORPORATE POLICIES

"The art of competing, I'd learned from track…"
– Phil Knight, the Creator and CEO of NIKE

1. Introduction

What shapes a successful CEO? Given the key role of the CEO in a corporation's mission, strategic direction, and performance, this question has been the subject of much interest in the recent literature. Life experiences during the formative years of a person's life can help shape who they become as an adult. For example, Malmendier and Nagel (2011) find that CEOs who grew up during economically difficult times such as the Great Depression, have less trust in the external financial markets, are more debt averse, and tend to rely on internal capital. In studying the effects of CEOs' early life exposure to fatal disasters on corporate risk-taking Bernile, Bhagwat, and Rau (2017) show that CEOs who witness the extreme downside of fatal natural disasters are more conservative in their corporate policies, whereas CEOs who experience natural disasters without extremely negative consequences act more aggressively. While these studies provide valuable insights on how early life experiences can impact corporate decisions, the experiences examined are extreme and relatively unusual. There are more common, positive events and experiences that occur during an individual's formative years that are likely highly influential but have not yet been examined. To fill this gap in the literature, this study analyzes how a CEO's background in

competitive sports (athlete CEOs) influences firm's corporate decision-making and performance. Why would an athlete CEO behave differently from a non-athlete CEO? Prior studies suggest that being a competitive athlete as a teenager leads to higher discipline, leadership skills, and communication skills as an adult (e.g., Jacobson and Matthaeus, 2014; Kniffen, Wansink, & Shimizu, 2015). Also, research in psychology has identified various traits associated with athletes such as: the need for achievement, goal-orientation, the ability to perform, long-term orientation, and team-building skills. Thus, athletes may possess attributes that would allow them to achieve better results or diverge in other ways from the behaviors of non-athletes. How these personal qualities influence corporate decision-making and performance are the questions I attempt to answer in this study.

The findings show that firms led by executives with background in competitive athletics during their youth or adult years (athlete CEOs) are more profitable, allocate more capital to long-term projects and to marketing activities, and use less debt. Specifically, athlete-CEO-run firms generate 213 bps (14.5%) higher returns on assets (ROA), invest 13.2% more in CAPEX and 12.8% more in organization capital (SG&A), spend 70% more on advertising, and have 10-12% lower debt-to-asset ratios. These results are robust to different tests including various firm and CEO personal controls, industry and year fixed effects, and alternative independent variables and subsamples.

This paper contributes to the literature on the importance of CEO personal characteristics on firm performance, policies, decisions, and value (Benmelech & Frydman, 2015; Bennedsen, Pérez-González, & Wolfenzon, 2020; Cronqvist, Makhija, & Yonker, 2012; Fahlenbrach, 2009; Kaplan, Klebanov, & Sorensen, 2012; Graham & Narasimhan, 2004; Malmendier & Nagel, 2011; Malmendier & Tate, 2005, 2008; Pérez-González, 2006; Schoar & Zuo, 2011; Sunder, Sunder, &

Zhang, 2017). Specifically, this study highlights a previously overlooked formative experience that appears to shape CEOs and have implications for their corporate policy decisions.

The paper proceeds as follows. In section 2, I review the existing literature on the CEO personal characteristics and related studies in sport psychology. I develop hypotheses and make empirical predictions in section 3. In section 4, I explain the data sample and methodology. I provide empirical analysis and discuss my findings in section 5. Section 6 concludes.

2. Related Literature

2.1. CEO Personal Characteristics

There is a large and growing body of literature showing that managerial characteristics can explain corporate performance, financing and investment decisions (Benmelech & Frydman, 2015; Bennedsen et al., 2020; Kaplan et al., 2012; Malmendier & Nagel, 2011). In particular, given the profound formative influences of childhood (e.g., see Ridley (2003)), some studies have focused on how a CEO's early life experiences have shaped them. For example, Malmendier and Nagel (2011) find that CEOs who grew up during the Great Depression are more conservative in their investment and financing policies. Along similar lines, Bernile et al. (2017) study the effects of CEOs' early life exposure to fatal disasters on corporate risk-taking as proxied by cash holdings, leverage, and acquisition policies, and show that this relation is non-monotonic. CEOs who witness the extreme downside of fatal natural disasters (e.g., severe hurricanes) are more conservative in their corporate policies. However, CEOs who experience natural disasters without extremely negative consequences act more aggressively.

Another popular source of investigation in the CEO characteristics literature has been the positive and negative implications of managerial overconfidence. On the downside, Malmendier

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and Tate (2008) find that overconfident CEOs overestimate their ability to generate returns and too often overpay for targets, resulting in a negative market reaction to these mergers. However, on the upside, Hirshleifer, Low, & Teoh (2012) note that overconfident CEOs invest more in R&D and more effectively produce innovation.

Age and gender are two other CEO characteristics that have been of interest in literature. For example, Levi, Li, and Zhang (2010) suggest that younger male CEOs are more likely to be driven by hormones that lead them to be combative and aggressive in merger and acquisition contests. In line with this evidence, Yim (2013) finds that younger CEOs tend to engage in more acquisitions. In examining gender influences on CEO behavior Faccio, Marchica, & Mura (2016) find that companies managed by female CEOs use less leverage, have less volatile earnings, and have lower probability of bankruptcy compared to similar companies run by male counterparts.

The choices that CEOs make in their personal lives may hold clues to their corporate decision-making as well. For example, unmarried CEOs are more aggressive with their acquisitions and have higher stock return volatility (Roussanov & Savor, 2017). In another study related to the CEO family environment Cronqvist and Yu (2017) find that firms managed by CEOs who have daughters obtain higher corporate social responsibility (CSR) ratings. Cronqvist et al. (2012) further find that the degree of leverage that firms use to finance their operations reflects personal debt choices of CEOs as measured by the levels of home mortgage debt assumed to fund home purchases. Furthermore, Sunder et al. (2017) find evidence that sensation seeking by chief executive officers, proxied by their hobby of flying airplanes and holding a pilot license, leads to better innovation outcomes for their firms. The authors attribute these results to the higher creativity of pilot CEOs as manifested in their search for novelty, new experiences, and adventure.

The early professional background of a CEO, before becoming a CEO, has implications for corporate decision-making as well. For example, Benmelech and Frydman (2015) study how a military service background of CEOs affects managerial decisions, financial policies, and corporate outcomes. They find that firms led by CEOs who served in the military (military CEOs) exhibit more conservative corporate policies and ethical behavior. Firms managed by military CEOs make fewer investments, have lower chances to engage in fraudulent activities, and demonstrate better performance during industry downturns. Also, in examining CEOs with law backgrounds Henderson, Hutton, Jiang, and Pierson (2018) find lower litigation frequencies and less severe litigation risk for firms managed by CEOs with law degrees. Further, they report a positive association between CEOs with legal education and a market value for firms with high litigation risk and growth firms.

Our study ties into the literature of CEO characteristics and, more specifically, early life experiences. How does being an athlete as a youth influence CEO decision-making? This question has not been addressed in the literature. However, several related studies have provided clues suggesting that youth sports experience has a relevant association with adult outcomes. For example, research has examined the connection between athletic backgrounds and subsequent job compensation (e.g., see Henderson, Olbrecht, & Polanchek, 2006). Barron, Ewing, and Waddell (2000) find that high school athletes receive higher compensation than non-athletes, and Long and Caudill (1991) find similar benefits for college athletes' subsequent pay as compared to non-athletes. Using National Longitudinal Surveys of Youth data Ewing (2007) further confirms these findings and also notes that athletes tend to be employed in jobs that provide higher fringe benefits. In the paper most closely related to our study, Dong, Duan, Hou, and Liu (2019) examine former athletes who serve on boards, and find that directors who were former athletes are linked to better

performing firms, especially during times of distress. In contrast to Dong et al. (2019), our study focuses on the CEO's athletic background, as opposed to that of the board members, as a more direct mechanism affecting corporate decisions.

2.2. Sport Psychology Literature: Athlete Profile

The sport psychology literature has documented differences between athletes and non-athletes along several personality dimensions (Cox, 2002; Gat & McWhirter, 1998). For example, athletes have higher levels of self-efficacy (Inoue, Wegner, Jordan, & Funk, 2015; Laborde, Breuer-Weißborn, & Dosseville, 2013), self-esteem (Eime, Young, Harvey, Charity, & Payne, 2013), perseverance (Guillen & Laborde, 2014) and are more self-confident and competitive (Cooper, 1969). Using Cattell's (1965) 16 PF primary personality factors[1] researchers establish that athletes are less anxious (Morgan, 1980; Schurr, Ashley, & Joy, 1977), more independent and objective (Schurr et al., 1977), more intelligent (Hardman, 1973), more socially outgoing (Morgan, 1980), have greater social adaptability, emotional stability, and motivation to achieve (Cooper, 1969). Similarly, within the Big Five dimensions[2] of personality, sport participation is associated with above average levels of sociability and enthusiasm (John & Srivastava, 1999; Kalat, 1999), extraversion, emotional stability, lower levels of neuroticisms and anxiety (Eysenck, Nias, & Cox, 1982). More recently, Jacobson and Matthaeus (2014) find that athletes outperform non-athletes in certain aspects of executive functioning. Specifically, athletes perform better in problem-solving

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[1] Cattell's 16 primary personality factors or traits include Warmth, Reasoning, Emotional Stability, Dominance, Liveliness, Rule-Consciousness, Social Boldness, Sensitivity, Vigilance, Abstractedness, Privateness, Apprehension, Openness to Change, Self-Reliance, Perfectionism, and Tension.

[2] Big Five dimensions include neuroticism, extraversion, agreeableness, conscientiousness, and intellect or openness to new ideas (intellect and creativity).

and inhibition, or the ability to exercise restraint to avoid hasty mistakes. Furthermore, Kniffen et al. (2015) find that adults who were involved in athletics as teenagers developed stronger leadership skills, social skills, and self-confidence, as compared to teenagers who participated in other types of extracurricular school activities.

Research on deliberate practice (Baron & Henry, 2010) suggests that intense, prolonged, and highly focused efforts can improve performance and lead to the attainment of exceptional results. Deliberate practice, beyond adding domain-related knowledge and skills (e.g., improving performance in the chosen sport), enhances brain and cognitive function (Feltovich, Prietula, & Ericsson, 2006; Hacker, 2003). More specifically, deliberate practice produces improvements in basic *cognitive resources* such as perception, memory, metacognition and intuition (e.g., Dane & Pratt, 2007). Research shows the abilities, cognitive resources and skills accrued during an individual's athletic career are transferable to later stages in life and have important implications for post-athletic professional endeavors (Allen & Laborde, 2014). Recent research suggests that engagement in competitive sports is a non-business experience that shapes individuals in a multitude of ways. It enhances distinct psychological traits such as self-confidence (Eime et al., 2013), mental resilience (Sarkar & Fletcher, 2014), and self-efficacy (Bandura, 1997), to name a few.[3] Both cognitive benefits and psychological traits derived from athletics may be beneficial to successfully accomplishing different tasks associated with business activities (Baron & Henry, 2010; Rauch & Frese, 2007).

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[3] We use a sample list of personality traits, cognitive resources, and skills for brevity purposes. There are many other psychological characteristics attributed to athletes (see Cox (2002), Weinberg & Gould (2019)). An extended, albeit not complete, list of personality traits includes intrinsic motivation, need for achievement, goal- and action-orientation, locus of control, need for autonomy, mental toughness, work ethic, self-discipline and -regulation, passion, competitiveness, grit, courage, risk-taking propensity, self-sufficiency and accountability. An extended list of skills includes leadership, teamwork, communication, imagery and visualization, planning, time and resource management skills. In Appendix B we provides a comprehensive list of personality traits and other characteristics of athletes and offers related narrative evidence and references to the sport psychology literature.

Researchers have long known that competitive sports are an excellent vehicle to become effective participants in the society and for developing practical skills and traits (Kenyon & McPherson, 1973; Smith, 2003). To develop our propositions we rely on arguments from the theory of deliberate practice and sport psychology. Deliberate practice refers to activities that demand strenuous cognitive and physical effort, do not yield immediate personal, social or financial rewards, and are singularly focused on purposefully improving performance (Ericsson, Krampe, & Tesch-Römer, 1993). Basically, "deliberate practice is a highly effortful and structured activity with the explicit goal of improving performance through specific tasks designed to overcome current levels of weakness" (Baker and Young, 2014). A great example of deliberate practice is athletes' intense and sustained practice in which they toil to master specific goals determined by their instructor at weekly practice sessions over many years (Ericsson, 2006). Following Baron & Henry (2010), we argue that participation in deliberate practice - in this case engagement in competitive athletics - through vigorous physical training and intense, sustained and highly focused athletic efforts under close supervision of a coach not only enhances current physical and athletic performance but also brings about ameliorations in cognitive performance. Enhanced cognitive performance enables a greater capacity to acquire, process, and interpret new information and integrate it with existing knowledge (Kellogg, 2006). Deliberate practice requires deep concentration, diligence and focused effort. In addition to improving proficiency in the particular set of focal tasks pertaining, in our case, to a certain sport, it yields significant cognitive benefits (Ericsson, 2006; Ericsson & Lehman, 1996). Relevant benefits used in our argumentation can be categorized as follows: (1) personality traits, (2) perception and mental imagery, (3) memory, and (4) metacognition (Cumming & Hall, 2002; Hall, Munroe-Chandler, Cumming, Law, Ramsey, & Murphy, 2009; Wesch, Law, & Hall, 2007).

From sport psychology literature, we know that participation in sports helps shape individuals' personalities and traits. Prior meta-analyses and reviews have shown that effortful and sustained physical activity engenders positive psychological benefits (Silverman & Deuster, 2014). Moreover, sustained intense physical activity yields positive effect on brain and cognition (Audiffren & Andre, 2015; Hillman, Erickson, & Kramer, 2008). There is a strong positive relationship between sport participation and perseverance (Guillen & Laborde, 2014), with the latter referring to continuing effort in the face of severe challenges despite the frustrations and fatigue one experiences (Cloninger, Praybeck, Svrakic, & Wetzel, 1994). Further, athletes tend to be more optimistic and cast life in a positive light (Caprara, Alessandri, Eisenberg, Kupfer, Steca, Caprara, & Abela, 2012; Ferguson, Kowalski, Mack, & Sabiston, 2014). Resilience is yet another characteristic possessed by athletes (Guillen & Laborde, 2014). It is defined as a constellation of traits enabling individuals to adjust to the adverse conditions (Connor and Davidson, 2003). Athletic involvement also promotes self-esteem (Bjelica & Jovanovic, 2014; Kipp, 2016). Self-efficacy, defined as a belief in one's own ability to perform the tasks required to achieve a goal (Bandura, 1997), also has a strong empirically established connection with athletic participation (Inoue et al., 2015; Laborde, Guillen, & Mosley, 2016).

Concerning *perception, mental imagery and memory,* sport psychology literature shows in addition to physical and motor skills athletes also develop perceptual and mental skills (Short, Ross-Stewart, & Monsma, 2002). A case in point includes anticipatory skills also known as the ability to 'read the game' (Roca, Williams, & Ford, 2012; Williams & Davids, 1998). For instance, individuals engaged in years of competitive youth sports develop sophisticated knowledge structures that enable them to identify, acquire, encode, retrieve and process information in a focused and efficient manner. Specifically, relative to novice athletes, experienced athletes are able

to perceive, recognize and recall established patterns of play by invoking more effective visual search strategies and using information gleaned from opponents' postural orientations (Williams & Davids, 1998). The visual search strategies of individuals who deliberately practiced competitive sports constitutes a superior ability to glean and interpret contextual information from opponents' postural orientation and as a result to anticipate action requirements. Research across a range of sports including tennis, badminton, soccer, volleyball and others has demonstrated this superior ability of advanced athletes in competitive sports relative to novice or recreational sports practitioners (Williams & Elliott, 1999). Furthermore, individuals engaged in competitive sports utilize mental imagery to further hone cognitive and motivational functions (Cumming & Hall, 2002; Harwood, Cumming, & Hall, 2003). Bandura (1997) noted that mental imagery can focus on cognitive (i.e. plans or strategies), motor (e.g., action patterns and regulation thereof) or emotional (i.e. stress management) dimensions of athletic activities.

Deliberate practice also enhances metacognition. Metacognition refers to an individual's ability to reflect upon, understand, and control one's own learning (Schraw & Moshman, 1995). In a sense, individuals engaged in deliberate practice know what they know and do not know (Baron & Henry, 2010). The ability to reflect on their own thoughts and actions in a superior fashion relative to individuals not engaged in deliberate practice can be very beneficial in a variety of sports (MacIntyre, Igou, Campbell, Moran, & Matthews, 2014). For instance, this ability may provide an enhanced capacity to perform mental simulations such as imagining action outcomes, which is helpful in evaluating courses of action and selecting the most appropriate course (Hogarth, 2001).

3. Hypotheses

Sport psychology literature suggests that individuals with a background in competitive sports possess a high need for achievement, intrinsic motivation, tenacity, and result-oriented mindset (Cooper, 1969; Cox, 2002). Athletes have an established track record of personal performance and achievement in sports demonstrated both through victory and resilience in defeat (Guillen & Laborde, 2014; Sarkar & Fletcher, 2014). Additionally, several studies show that athletes achieve better life and career outcomes, and also act and think differently (Jacobson & Matthaeus, 2014). According to the unified theory of behavior, individual behavior and outcomes will be consistent at personal levels and within an organizational setting. Therefore, I predict the following.

Hypothesis 1: CEOs with athletic backgrounds will exhibit better performance than non-athlete CEOs (Performance hypothesis).

Investment activity is entrepreneurial in nature. It requires long-term view, energy, and action orientation, ability to identify and recognize business opportunity, as well as execution and leadership skills. Athletes tend to have long-term goal orientation (Garland & Barry, 1990; Hall, Rodgers, & Barr, 1990) and confidence in their abilities to achieve goals (Eime et al., 2013), have a proactive personality and courage (Conroy, 2001; Conroy & Elliot, 2004), and possess pronounced memory, imagery, and visualization skills (Roca et al., 2012; Short et al., 2006; Williams & Davids, 1998; Williams, 2002), Last but not least, they possess invaluable hand-on experience of working through the high performance process under pressure at the personal level. The process of preparing to compete in sports is effectively a process of setting goals and making committed investments through optimal allocation of limited resources (e.g., time, effort, attention, capital) at the personal and team levels. Achieving high level result in competitive sports requires

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long horizon, typically several years. Therefore, at the corporate level, I expect this experience to translate into a higher investment activity.

Hypothesis 2: Athlete CEO-run firms invest more than non-athlete CEO managed firms (Investment hypothesis).

Some of the athletes' traits identified by sport psychology literature include internal locus of control, need for autonomy and independence, self-reliance, and self-sufficiency (Dowd & Innes 1981; Gilliland, 1974; McKelvie & Huband, 1980; O'Connor & Webb (1976); Valliant, Simpson-Housley, & McKelvie, 1981). These qualities might be especially pronounced in athletes involved in individual sports (e.g., running, swimming). Further, to perform successfully and achieve desired results, athletes must focus on training and competition not on interaction with the external world. Usually other team members develop relationships with the outside world to negotiate contracts and obtain resources. Athletes know it is important to train and compete in a sustainable fashion: staying lean, efficient, free of burdens, and injuries. Therefore, I conjecture that companies managed by athlete CEOs would rely more on internal financial resources such as internal equity and minimize debt.

Hypothesis 3: Athlete CEO-run firms use less debt financing and have lower levels of leverage (Debt-aversion hypothesis).

4. Data and Methodology

4.1. Data Collection and Identification of Athlete CEOs

To collect information on CEOs' participation in sports and other personal characteristics, I use data from Boardroom Insiders Inc. [4] - a company specializing in "business intelligence tools

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[4] https://info.boardroominsiders.com/

to help B2B sellers, marketers, and recruiters who need to reach and engage C-level executives".

Boardroom Insiders Inc. (BRI) provides information to corporate clients such as executive sales teams and managers. BRI research staff covers approximately two thousand large U.S. companies. They have created profiles for more than sixteen thousand top executives holding such corporate positions as chief executive officer (CEO), chief operating officer (COO), chief financial officer (CFO), chief marketing officer (CMO), chief technology or information officer (CTO), chief investment officer (CIO), president, chairman of a board, and including other titles (e.g., founder, executive vice president). They collect their information from more than a hundred sources including fee-based databases (e.g., Bloomberg, LexisNexis) and various public media outlets. Examples of the latter include national (e.g., the Wall Street Journal, The New York Times) and local newspapers (e.g., American City Business Journals), business journals (e.g., Forbes, Fortune, Business Insider), popular research based periodicals (e.g., Harvard Business Review), specialized websites (e.g., Seeking Alpha, The Motley Fool), interviews with TV channels (e.g., CNBC) and independent journalists available on Google/YouTube, company websites, and social networks (e.g., LinkedIn).

The BRI profiles of corporate executives typically are three to ten pages long. They include the following sections: (1) 'Executive Summary', (2) 'Personal Attributes and Interests', (3) 'Current Business Focus', (4) 'Biographical Highlights', and (5) 'Other Boards and Organizations'. For my analysis, I am interested primarily in the information contained in the sections: 'Personal Attributes and Interests' and 'Biographical Highlights'. These two sections complement one another and their contents may overlap. The 'Personal Attributes and Interests' section can be one to four pages long. This section provides a plethora of information about the subject's personal life from childhood through recent years. Often it includes details about personal

interests in sports, arts, other hobbies and leisure activities. It may provide highlights about academic, athletic, and professional achievements, and insights into unique life experiences such as being a varsity athlete or serving in the military.

'Biographical Highlights' section within a CEO profile contains an executive's year of birth, education, career history, and occasionally family information including the marital status, the number of children, and details about family members. The available information includes high school and university names, major in college, graduation year, graduate degree (if applicable), military service, company of employment, title, start and finish dates with the company and in the position, and entrepreneurial experience (e.g., founded a company). Further, BRI profiles occasionally capture information about individual's religious affiliation and beliefs, ethnical roots, country of birth, life challenges, and individual's reflections on experiences.

To collect CEO personal information, I read each of 1,898 individual CEO profiles obtained from the BRI online repository and together consisting of more than eight thousand pages of text. For each CEO, I collect the following information: full name, year of birth, participation in sports, and various personal characteristics (e.g., education, military service, company founder). I am particularly interested in the information on competitive involvement in sports. I gather the following information related to sport participation: name of the sport and level of engagement at any stage in life (e.g., high school, college/varsity, competitive hobby, leisure activity, etc.) based on achievements, performance, and degree of involvement (e.g., 'avid runner', 'competitive triathlete').

To measure CEO's participation in competitive sports I create a binary variable *Athlete CEO* that equals unity, and is zero otherwise, if a CEO participated in the youth athletics (e.g., college varsity, high school team, junior league, other forms of competitive sport participation) or

has been actively engaged in competitive sports during adulthood over an extended period of time (e.g., active involvement in running races, triathlons, sport leagues, tournaments, and preparing for competitions). Assigning CEOs into the athlete or non-athlete group is based on the information assembled in the CEO profiles by Boardroom Insiders.

Athlete CEO is the main independent variable of interest in my analysis. Two alternative explanatory variables include *Youth athlete CEO (I)* and *Adult athlete CEO (II)* dummies. These variables are constructed similarly to the comprehensive *Athlete CEO (I & II)* variable and represent subsets of the latter. They are based on the CEO's involvement in youth athletics and participation in competitive sports during adulthood, respectively. By construction these two variables are not mutually exclusive. A relatively high degree of positive correlation (.3038) between *Youth athlete CEO* and *Adult athlete CEO* variables indicates the persistence of competitive sport participation in later years of life for individuals who participated in youth athletics. It also suggests that CEO participation in competitive sports during adult years may also reflect their participation in youth athletics - a fact not captured and thus omitted in the CEO profiles by Boardroom Insiders due to the relative shortage of information in the public domain. This justifies combining both *Youth athlete CEO (I)* and *Adult athlete CEO (II)* into one comprehensive *Athlete CEO (I & II)* variable to avoid the loss of relevant information and loss of the signal it may contain.

4.2. Sample Composition

I narrow down my sample to the S&P1500 firms by matching the CEO and firm names in the data set assembled using BRI profiles with the names of executives and firms in the

ExecuComp[5] database for the period from 1992 to 2017. I merge the BRI/ExecuComp sample with the public company accounting data from Compustat by a firm unique identifier (gvkey) and fiscal year. I use the BRI/ExecuComp/Compustat sample to study the proposed relations (Section 2.3) between CEO competitive backgrounds in athletics (athlete CEOs) and corporate outcomes.

As shown in Table 1.1, the sample contains 721 CEOs, 761 firms, and 5,356 firm-year observations. It includes 189 officers with athletic backgrounds indicated by their involvement in competitive sports during youth or adult years. Athlete CEOs represent 25.8% of chief officers (721) in the sample. Among all CEOs in the sample, 121 (16.55%) participated in youth sports and 114 (15.81%) have been involved in competitive sports during their adulthood. The measurement of CEO sport participation is explained in the variable construction section. Detailed variable definitions are provided in Appendix A.

Table 1.2 shows a detailed distribution of athlete CEOs by form and type of sport participation, as well as the average number of sports for the selected categories. It presents the breakdown of executives by involvement in sports grouped according to the following criteria: (1) stage in life (e.g., youth, adult), (2) varsity athletics, (3) level (e.g., competitive, leisure), and (4) type of sport (e.g., individual, team). An individual may be simultaneously included in different categories even if the same classification criteria are applied. For example, if a CEO participated in youth athletics and continued to be involved in competitive sports during his or her later years, then both *Youth athlete (I)* and *Adult athlete (II)* dummy variables would be coded with a value of 'one' for this individual. Similarly, if a CEO participated in both team and individual sports, then both *Team sport* and *Individual sport* dummy variables would be equal to 'one', and is zero otherwise. Out of 186 athlete CEOs, 58 were student-athletes in college, 38 were on high school

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sport teams,[6] and 25 played youth sports in other forms (e.g., actively participating in junior leagues, athletic training and competitions). As evidenced by the data in Table 1.2, there is approximately equal distribution between involvement in individual and team sports for the most inclusive measure of athletic - *Athlete CEO (I & II)*. 56.6% of the athlete CEOs have been involved in individual sports and 57.5% have engaged in team sports. For the *Youth athlete CEOs (I)* participation is tilted toward team sports: 74.38% vs. 32.23%. The explanation for this may be derived from the prevalence of team sports in the structure of varsity high school, college, and other organized youth athletics. This pattern is reversed for the in-kind (team vs. individual sport) distribution among *Adult athlete CEOs (II)*. Now the distribution is weighted heavily toward individual sports (79.38% vs. 34.21%). A possible explanation for this is the wider availability and convenience of participation in individual sports for adults and the lack of bias toward team sports created by organized youth athletics. Further, a typical athlete CEO has participated in two sports (Table 1.2, column 5) and almost half of all athlete CEOs (45.7%) have been be engaged in two or more sports (Table 1.3). Next, Table 1.4 shows the distributions of CEOs by their sport (e.g., basketball, running, soccer).

Table 1.5 presents the distribution of firms by year (Panel A) for the period from 1992 to 2017. It demonstrates that my panel data is unbalanced and a number of observations are increasing with time. This is expected, because the Boardroom Insiders Inc. database maintains profiles of the current executives.[7] Out of 5,356 total firm-year observations, *Athlete CEOs (I & II)* represent 1,558, or 29% of the sample. The fraction of athletes remains stable over time and ranges between 26% and 36% in a given year. There are 973 and 938 firm-years for *Youth athlete* CEO*s (I)* and

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[6] Most CEOs who were student-athletes in college had also been on high school teams or were involved in youth athletics before college in other forms. However, to avoid double counting, in such instances they are classified only as 'College athletes' and not as 'High school athlete' or 'Youth athlete other'.

[7] Bios of some former managers are also available.

Adult athlete CEOs (II) equaling 19.5% and 18% of the total, respectively. Panel B in Table 1.5 shows economic sector distribution of the sample according to the Fama-French twelve-industry classification. In terms of firm-years, athlete CEOs are about equally represented in all major sectors of the economy, with the exception of energy, and perhaps consumer durables, where they appear to be underrepresented.

Table 1.6 presents the summary statistics for CEO personal characteristics (Panel A) and firm characteristics (Panel B). As mentioned earlier the final sample includes 721 CEOs, 761 firms, and 5,356 firm-years over the 1992-2017 period. The sample is based upon all available CEO profiles (1,898) from the Boardroom Insiders Inc. database as of June 2018 matched with all CEOs (8,400) of the large S&P1500 companies in ExecuComp from 1992-2017. Wilcoxon-Mann-Whitney tests (*t*-tests) are conducted for differences in average characteristics for firms with and without athlete CEOs. Observations in Table 1.6 are at the firm-year level. Panel A in Table 1.6 provides summary statistics for CEO personal characteristics and differences in means test results. Athlete CEOs appear to be two years younger (53.3 years vs. 53.3, *t*-stat=8.72) than their peers. They are more likely to graduate from the top university (25.6% vs. 22.4%, *t*-stat= - 6.92) and have a degree in finance and business (70% vs. 60%, *t*-stat= - 6.75). At the same time they are less likely to have obtained technical education (23.7% vs. 29%, *t*-stat=3.99) and less frequently serve in the military (6% vs. 7.8%, *t*-stat=2.31). Interestingly, at least based on the univariate analysis, athletes CEOs are more likely to have founded the company they manage (15.1% vs 13%, *t*-stat= - 2.07). Combined with lower enrollment in the military this may indicate athletes' inclination toward entrepreneurship (Pervun, Libaers, & Sutton, 2020) and a corresponding ability to better identify investment opportunities. I discuss univariate test results for firm characteristics (Table 1.6, Panel B) in the empirical analysis section which follows.

4.3. Model for Empirical Tests

To test each of the three main hypotheses I use a regression model defined in the equation below:

Dependent variable$^{H1, H2, or H3}$ $= \beta_o + \beta_{sp}$**Sport participation*$_{(i)}$ $^{1,2,3,4, or 5}$ $+ \beta_{fc}$*Firm controls$_{(i,t-1 or t)}$ $+ \beta_{ic}$*Industry characteristics$_{(j, t)}$ $+ \beta_{pc}$*CEO characteristics$_{(i, t)}$ $+ FE_{Year} + FE_{Ind}$ $+ e_{(i)}$** Model (1)

Sport participation in this model stands for one of the three key independent variables of interest such as *Athlete CEO (I & II)*, *Youth Athlete CEO (I)*, *Adult athlete CEO (II)*. I use *Adult athlete CEO (excl. youth athletes)* and *Leisure sport* variables for robustness checks and comparison, respectively. Models control for various firm and CEO characteristics. All base specifications include *Firm size* (log of assets) as well CEO age and education (*Top 25 University*, *Finance education* and *Technical education*). Additional details for firm and CEO personal controls are provided in the sections reporting results of the analysis for each of the hypothesis tests. Variable descriptions are available in Appendix A. I include year fixed effects and industry fixed effects by the two-digit SIC codes. Standard errors for the coefficient estimates are clustered by firm and are White (1980) heteroscedasticity-consistent.

5. Empirical Analysis and Discussion

5.1. Summary Statistics by Athlete CEO Status

Panel B in Table 1.6 shows summary statistics for firm characteristics and results for differences in means. According to the univariate analyses, athlete CEOs run larger, more

profitable organizations that use less debt and invest more in advertising in comparison to firms managed by non-athletes.

The average size of a firm led by an athlete CEO measured by total assets is \$74.5 billion. This stands in a sharp contrast to \$36.5 billion in assets for companies run by non-athlete executives. Other firm size measures such as sales, market capitalization, and number of employees, provide similar insights.

Return on assets (ROA) is commonly used to measure corporate profitability and resource allocation effectiveness. It is 130 basis points (8.8%) higher for firms managed by athlete CEOs (15.9% vs. 14.6%; $p < .001$). Further, from an investment perspective athlete CEO firms appear to advertise much more aggressively. According to the univariate tests they spend 30% more on advertising taken as a fraction of assets (0.041 vs. 0.031; $p < .01$). They also seem to invest more in human capital (0.257 vs. 0.180; $p < .00001$). However, the number of observation here is small (807) due to the limited data for labor expenses. Finally, a debt-to-assets ratio, defined as market leverage, is lower for athlete CEO and non-athlete CEO firms (0.148 vs. 0.171; $p < .00001$). However, the difference in book leverage (0.241 vs. 0.263) falls short of being statistically significant at 10% level. These univariate results show some early indications for my empirical predictions. However, they must be used with caution until more evidence is provided by more rigorous tests. Some other differences between two types of firms and CEOs include lower degree of the managerial entrenchment as measured by E-index (3.047 vs. 3.196; $p < .0001$); lower level of physical capital intensity and asset tangibility (0.233 vs. 0.248; $p < .05$); higher firm valuations represented by Tobin's Q proxy (2.120 vs. 1.987; $p < .05$); and higher compensation earned by athlete CEOs (\$10.6MM vs. \$8.7MM; $p < .00001$). We provide detailed variable definitions in the Appendix A.

5.2. Athlete CEOs and Career Outcomes

Before delving into testing the analysis of performance and other hypotheses at the firm level, it would be interesting to understand if there is an association between CEO's background in sports, as measured by the CEO sport participation variables, and career achievements. Therefore, I look at several career outcome including age at becoming a CEO of the S&P1500 firm for the first time, age at assuming another top C-level corporate position for the first time, compensation during the first year in the office and over tenure, and length of the tenure.

Table 1.7 reports the average age and compensation for first time CEOs as well as the average number of years in the office as of 2017. The difference in means tests demonstrate divergence in averages between athlete and non-athlete executives. For example, managers with backgrounds in competitive athletics reached CEO's position at a younger age (47.6 vs. 49.7 years) and 2.1 years faster ($p < .0005$)) than their non-athlete counterparts. Results are stronger based on the *Youth athlete CEO* variable (47.2 vs. 49.6 years; $p < .001$) compared to the same outcomes for the *Adult athlete CEO* variable (47.9 vs.49.4; $p < .05$). Moreover, athletes also achieved positions of chief operating (COO) and chief financial officers (CFO) at a younger age (42.6 vs 45.8 years) and 3.2 years faster ($p < .001$). Here, comparing *Youth athletes CEOs* and *Adult athlete CEOs* results are stronger for the latter 43.1 vs. 45.4 years ($p < .05$) and 41.8 vs. 45.6 years ($p < .001$). Perhaps this may be due to the youth athletes' choosing to prioritize a CEO position as their target.

The age of majority in the U.S. is 21. This is when an individual becomes a fully empowered adult and typically graduates from college. Assuming that a career race begins at that age, the above mentioned results translate into the ability of athlete CEOs to reach a CEO (COO/CFO) office 8% (15%) faster. In unreported univariate tests I document that on average athlete CEOs have 1.45 fewer years of C-level experience ($p < .05$) before assuming the CEO

position for the first time. Combination of above findings indicates that the labor market values athlete CEOs' talent over experience.

This logically leads to a question about the labor market's monetary valuation of the executives with background in competitive sports. Do these individuals command higher compensation from their employers? We can see from Table 1.7 that athlete CEOs' total first year compensation is \$2.9 million higher (\$10.3MM vs. \$7.4MM; $p < .0005$) translating into a significant 28% premium. These results are mainly driven by youth athletes earning on average whopping \$4.3 million or 70% more than their non-athlete peers: \$11.8 million vs. \$7.4 million ($p < .00001$). I find similar results for a higher compensation of athlete CEOs over the executives' tenure (Table 1.6): \$10.6 million for athlete vs. \$8.7 million for non-athlete CEOs (t-stat=4.9). In unreported regressions (see column 9 in Table 1.8 for summary results) using a log of total compensation (TDC1) as a dependent variable and including firm size and other controls from a model of executive compensation by Core, Guay, and Larcker (2008) I observe a positive (.1468) but marginally insignificant coefficient on *Athlete CEO (I & II)* variable. At the same time a coefficient on *Youth athlete (I) CEO* is positive (.2206) and statistically significant at 5% level ($p < .05$). Besides earning more, CEOs with competitive backgrounds in athletics also stay longer in the office. The average tenure for athlete CEOs is 9.9 years compared to 8.5 years for non-athletes ($p < .05$). Employers' interest in retaining more valuable human capital longer can be one possible explanation for this finding. Difference in the tenure is even more pronounced for officers who were involved in youth sports: 10.4 years vs. 8.3 years ($p < .05$). As we can see, in most tests of career outcomes results are stronger for *Youth athlete CEOs (I),* providing additional evidence that it is a more accurate measure of athletic experience than *Adult athlete CEO (II).* The latter variable requires some judgment in classifying individuals as competitive adult athletes. However, analysis

of CEO career outcomes further indicated that *Adult athlete CEO (II)* does contain valuable information and a signal that must be incorporated into the analysis. Overall, above results indicate that athletes get into a career race better equipped and prepared to compete in the corporate world than their non-athlete peers. These career outcome empirical findings can be logically justified by the competitive nature of athlete CEOs. They provide evidence that *Athlete CEO* and alternative variables can serve as reliable measures of personal competitiveness, performance, and achievement.

5.3. Hypothesis Tests and Discussion of Results

The summary of the multivariate analyses is presented in Table 1.8. Consistent with my empirical predictions, I find evidence that firms led by executives with a background in competitive athletics during their youth or adult years (athlete CEOs) are more profitable, invest more in capital projects and advertising, and use less debt. Such companies on average generate 213 bps or 14.5% higher returns on assets, invest 13.2% more in CAPEX, 12.8% more in organization capital, and 70% more on advertising. Also, athlete-CEO-run firms have 10.6% (12.7%) lower book (market) leverage. These relative percentages are calculated as a ratio of a coefficient on the *Athlete CEO (I & II)* variable from the most restrictive specifications for the related hypothesis tests (e.g., see Tables 1.9, 1.11-1.15) and the dependent variable averages for non-athlete CEOs from Table 1.6.

5.3.1. Operating Performance

According to the performance hypothesis, a firm with a competitive high performance individual in the CEO position would also be more competitive and demonstrate better

performance. Competitive CEO's personality, behavior, and performance can beneficially transfer into organizational decision making, execution and culture leading to better firm's performance and higher profitability.

I use CEO's background in competitive athletics during his/her youth or adult years as a proxy for personal competitiveness - that can be defined as a combination of intrinsic motivation and ability to achieve results assisted by the various personality traits association with being an athlete (see Appendix B). To measure corporate performance I use as a standard measure of business profitability commonly applied in academic literature and in the corporate world - *Return on assets (ROA).* It measures a profit output per dollar of investments in assets and demonstrates effectiveness of capital allocation to profitable projects. According to the previously stated univariate results, *Return on assets (ROA)* is 130 basis points (8.8%) higher for firms managed by athlete CEOs: 15.9% vs. 14.6% ($p < .001$).

In the multivariate analysis of the performance hypothesis, I use *Return on assets (ROA)* as a dependent variable. My independent variable of interest is dummy variable *Athlete CEO (I & II)* that combines CEOs who participated in competitive sports during their youth or adult years. Based on the results from the multivariate regression tests reported in Table 1.9, I find that firms run by competitive athlete CEOs are more profitable which indicates better operating performance. The univariate regression test shows a positive and statistically significant coefficient of 0.0129 ($p < .001$) identical to ROA difference in means from *t*-test (Table 1.6, Panel B). Most importantly, the coefficient on *Athlete CEO (I & II)* for the most restrictive multivariate specification is 0.0213 ($p < .01$). It has the positive predicted direction, is economically meaningful and statistically significant at 1%-level. Additionally, the coefficients are stable and consistent across different specifications (Table 1.9, columns 1-3).

The base model specification (Table 1.9, column 1) controls for the firm size and CEO's age and education (*Top 25 University, Finance education and Technical education*) and includes year and industry fixed effects by the two-digit SIC codes. The coefficient on *Athlete CEO* is large and highly statistically significant ($\beta_A = 0202$; $p < .01$). In the untabulated test when I do not control for firm's size, the athlete CEO effect on profitability is smaller (.129; $p < .001$). The large increase in the coefficient is due to the fact that athletes tends to manage larger firms and larger firms experience diminishing marginal returns on the increasing capital inputs. This is noted by a negative *Firm size* coefficient. In the next test (Table 1.9, column 2) I control for additional company and industry characteristics: *Firm age,* market valuation and investment opportunities proxied by *Tobin's Q,* capital intensity (*Tangibility*), industry profitability, and level of competition within industry. All company controls are lagged by one year. Coefficients on the predictors are consistent with other studies and are economically meaningful. Firm ROA is positively associated with investment opportunities (Tobin's Q), use of physical capital in business operation (Tangibility), and industry profitability. At the same time firms can extract higher rents in industries with fewer players and a lower level of the within industry competition. For robustness, I include a battery of additional CEO personal characteristics (Table 1.9, column 3) such as *Overconfident CEO 67, Advanced degree*, *Private college, Foreign degree*, gender (*Female*), *Founder*, *Military* service, and *CEO tenure*. For brevity, I do not report coefficients for these controls.

Further, economic effect is similar in size for both *Youth athlete CEO (I)* ($\beta_{YA} = .0178$; $p < .01$) and *Adult athlete CEO (II) CEOs* ($\beta_{AA} = 0.0187$; $p < .05$). The economic significance increases for *Adult athletes* ($\beta_{AA} = 0.0279$; $p < .05$) even after excluding from tests those executives who were also athletes in their youth (Table 1.9, column 6). Notably, the insignificant coefficient on

Leisure sport demonstrates that there is no association between firm profitability and use of sports for pastime. Hence, it is an executive's competitive involvement in competitive athletics, not a general interest in sports for joy and pleasure, which leads to better corporate performance.

While Bennedsen et al. (2019) show the importance of CEOs on firm performance, my findings demonstrate that a certain kind of CEOs, specifically those who have been long-term participants in competitive sports, are more likely to contribute to firm performance and profitability.

5.3.2. Investment Activity

In the investment hypothesis regression tests I include the following types of investments: capital projects, acquisitions, research and development, advertising, labor, and rental expenditures. Accordingly, I have six dependent variables associated with each of the investment activities: *CAPEX*, *Acquisitions*, *R&D*, SG&A, *Rent*, *Advertising*, and *Labor*. All accounting dollar values are scaled by the lagged total assets to measure the investment intensity. *Athlete CEO (I & II)* is the main explanatory variable of interest.

Table 1.10 provides summary results from the base regressions for various investment activities. I include details of the test outputs for the investments in *CAPEX, Organization capital,* and *Advertising* in Tables 1.11, 1.12, and 1.13. According to the results from regressions in Tables 1.10 through 1.13, firms run by athlete CEOs invest more in capital projects and advertising. These findings are consistent with my empirical predictions (H2). Long-term view, action and result orientation complemented by high energy levels are among the traits of athlete identified by sport psychology research. These qualities of athletes support the investment hypothesis and justify my empirical findings.

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Comparison of means (Table 1.6, Panel B) shows a positive but statistically insignificant difference for investments in *CAPEX* between firms managed by athlete and non-athlete CEOs. However, the coefficient on *Athlete CEO* from the regressions with fixed effects and including a full set of controls for firm and CEO characteristics (Table 1.11, column 3) is positive and significant at the 5% level ($\beta_A = 0.063$; $p < .05$).

Univariate and regression tests (Tables 1.6 and 1.8) provide no evidence for the athlete CEO firms making more *Acquisitions* or spending more on *R&D*. Acquisition is an external investment to a firm. The output from the related regression could be expected and justified by such quality of athletes as locus on control and reliance on own, internal resources. At the same time, the no result from the *R&D* regression is somewhat surprising, because R&D is an internal type of investment. Further, I observe a positive and very statistically significant difference between athlete and non-athlete CEO firms in advertising intensity as evidenced by both univariate tests (0.41 vs. 0.31; $p < .01$) and regression analysis ($\beta_A = 0.0220$; $p < .05$). Additionally, there are some signs that athlete CEOs may invest more in their people (*Labor*) and in rentable resources (*Rent*). Coefficients on *Athlete CEO* in both cases are positive but not statistically significant at least at the conventional levels. The '*Labor'* regressions, however, have a greatly reduced sample with only 777 observations. Although the '*Rent*' regression has produced a marginally insignificant coefficient on *Athlete CEO* ($\beta_A = 0.0036$; $p = 0.126$), the coefficient on *Youth athlete CEO* is economically meaningful and highly significant ($\beta_A = 0.0072$; $p < .005$).

As indicated by further analyses in Panels B, C, and D of Table 1.8 the CEO competitive sport effects on corporate investment policies are driven by the officer with experience in youth athletics. After excluding those adult athletes from the sample who also played youth sports (Table 1.8, Panel D) coefficients from all investment regressions on the *Adult athlete CEO (excl. youth)*

variable become insignificant. Noteworthy, when I run investment regressions on *Leisure sport* (Panel E) most coefficients are insignificant and, what is noteworthy, they are negative. The coefficient from the '*Advertising*' regression is negative and significant (β_{LS} = -0.0129; $p < .05$). This provides some limited evidence that executives who use sports for leisure and fun may be more laidback and expend less energy and effort on their company operations. This stands in sharp contrast to the findings for the true and serious competitive athletes whose companies are more active with certain types of investments (e.g., CAPEX, advertising).

Next, I discuss in greater detail the results from '*CAPEX*', '*Organization capital*,' and '*Advertising*' regressions. Tables 1.11, 1.12, and 1.13 show outputs for various specifications where *CAPEX, SG&A,* or *Advertising* is the dependent variable and *Athlete CEO (I & II)* is the main independent variable of interest. As noted earlier, using the regression outputs I find that firms led by competitive athletes invest more aggressively in capital projects and advertising. The coefficients on *Athlete CEO (I & II)* from the most restrictive specifications (Tables 1.11 and 1.13, columns 3) are positive, economically meaningful, and highly statistically significant in '*CAPEX*' (β_A = .0063; $p < .05$) and '*Advertising*' regressions (β_A = .0216; $p < .01$). Although the coefficient on *Athlete CEO (I & II)* is insignificant in case of the organization capital (*SG&A*) test (Table 1.12, column 3), we do observe that firm run by CEOs with background in youth athletics invest more in the organization capital (Table 1.12, column 4).

The base model (Tables 1.11-1.13, columns 1) controls for the firm size, investment opportunities proxied by *Tobin's Q*, and physical capital intensity (*Tangibility*). It also includes CEO's age and education (*Top 25 University, Finance education and Technical education*) and year and industry fixed effects by the two-digit SIC code. All company controls are lagged by one year. Company size has a negative association with investments in capital projects and advertising

as indicated by the negative coefficients. This is in line with other studies and anecdotal evidence in support of the increasing difficulties that larger firms face in finding sufficient investment opportunities to match their size. Investment opportunities proxied by Tobin's Q and tangibility of corporate assets are positively associated with the intensity of investments in CAPEX and in advertising. In the next test (Table 1.11-1.13, columns 2) I control for additional company and industry characteristics: *Firm age,* profitability (*ROA*), and level of competition within industry measured by Herfindahl-Hirschman index. Younger, more profitable firms in less competitive industries invest more in capital projects. Firm profitability is negatively associated with investments in advertising. Perhaps less profitable firms are more aggressive in the advertising space in hopes to find more customers and earn more. Coefficients on firm controls are consistent with previous studies and are economically meaningful. I include additional CEO personal characteristics (Table 1.11, column 3) such as *Overconfident CEO 67, Advanced degree*, *Private college, Foreign degree* gender (*Female*), *Founder*, *Military* service, and *CEO tenure*. For brevity, I do not report coefficients for these controls. Most importantly, coefficients across all major specifications (columns 1-3) are stable and consistent.

Further, I test the investment hypothesis using alternative measures of CEO background in athletics. I find that the economic effect is comparable in size for both *Youth athlete CEO (I)* and *Adult athlete CEO (II)* (Tables 1.11-1.13, columns 4-5). After excluding from the sample adult athlete CEOs who were also athletes during their youth years, this effect remained positive but became statistically insignificant on the conventional levels (Tables 1.11-1.13, columns 6). In part this can be attributed to the 20% reduction in sample size and loss in statistical power. Alternatively, this can imply that it is the CEOs with background in athletics established in

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formative years, who are more active in investment space. As a corollary, firms pursuing more investments tend to employ executives with experience in competitive sports.

In sum, empirical analysis provides strong evidence indicating that firms managed by athlete CEOs, and more specifically by CEOs with experience in competitive youth sports, invest more for the long-term (e.g. CAPEX, rentable assets, organization capital, brand building). While Bennedsen et al. (2019) show the importance of CEOs on investment policies, my findings demonstrate that a certain kind of executives, specifically those who have been long-term participants in competitive sports, are more likely to be associated with companies pursuing more aggressive investment policies.

5.3.3. Debt Financing Policy

Research in psychology suggests that athletes, and especially competitors in individual sports, exhibit a greater locus of control, self-reliance, and independence. Therefore, I submit that these personal traits may project into the business world and athlete CEOs would exhibit a lower reliance on external resources in general and on external debt financing in particular. Empirical investigation provides strong evidence in support of the relative financial independence and debt-aversion of firms managed by athlete CEOs.

The average values for both book and market leverage (Table 1.6) are lower for firms run by athlete CEOs than by non-athlete executives. The difference in means is marginally insignificant for the book leverage (0.261 vs. 2.63; $p < .103$). At the same time it is very statistically significant for the market leverage (0.148 vs. 0.171; $p < .00001$) where I use market value of equity to calculate the total value of assets.

Table 1.14 contains outputs from '*Leverage*' regressions with different controls where debt-to-assets is the dependent variable and *Athlete CEO (I & II)* and alternative measures of sport participation are the independent variables of interest. As noted earlier according to the univariate tests (Table 1.6) and regression analyses (Table 1.8) I find that firms led by competitive athletes use less debt in their capital structure. The coefficients on *Athlete CEO (I & II)* for the most restrictive specifications (column 3 in Table 1.14) are negative, economically meaningful, and very significant for *Book leverage* (β_A = -0.0278; $p < .05$) and for *Market leverage* (β_A = -0.0218; $p < .05$).

The baseline model (Table 1.14, column 1) controls for the *Firm size*, profitability (*ROA*), and *Tobin's Q*. Other controls include CEO's age and education (*Top 25 University, Finance education,* and *Technical education*) as well as year and industry fixed effects by the two-digit SIC code. In the next test (Table 1.14, column 2), I control for additional company and industry characteristics: *Firm age, Tangibility,* corporate governance *(E-index),* and industry leverage. In column 3.1 I exclude from the sample firms operating in the finance and utility industries. Coefficients on *Athlete CEO* are stable and consistent across all major specifications (Table 1.14, columns 1-3). Company size, asset tangibility and industry leverage are positively related to debt levels while firm age*,* managerial entrenchment *(E-index), Tobin's Q* have negative associations with leverage. These results are consistent with previous studies. In column 3 of Table 1.14, I include additional CEO personal characteristics such as *Overconfident CEO 67, Advanced degree,* graduation from a private college (*Private college),* foreign education (*Foreign degree*), gender (*Female*), *Founder*, *Military* service, and *CEO tenure* in years. To save space, I do not report coefficients for these controls.

Further, I test the debt-aversion hypothesis using alternative measures of sport participation. Book and market leverage is significantly lower for the *Adult athlete CEO*-run firms ($\beta_A = -0.0353$; $p < .05$). For firms whose officers played youth sports, the market leverage is lower at the 10% level of significance ($\beta_A = -0.0191$; $p < .1$). Importantly, when I differentiate between CEO's involvement in individual or teams sports it appears that debt-aversion exhibited by athlete CEOs is driven by managers with background in individual sports (Table 1.15). In other words firms managed by athletes CEOs with backgrounds in individual sports exhibit more reliance on internal resources and financial independence from creditors. This is consistent with such personality traits associated with participation in individual sports as locus of control, self-reliance, self-sufficiency, and need for independence (see Appendix B).

5.4. Discussion of Endogeneity

One possible concern with my analysis may be related to the quality of my measures of experience in athletics and the associated CEO's personal competitiveness and performance. Utilization of several variables to measure CEO's background in sports such as *Youth athletes CEO (I), Adult athlete CEO (II), Athlete CEO (I & II)* helps address the measurement error concerns to a certain degree. *Youth athlete* (I) is the most precise measure among the three variables. It is very likely that *Adult athlete (II)* also represents participation in youth sports (correlation between the two variables is 0.30) but this fact may not be always captured in the bios. Also, no results for *Leisure sport* reinforce validity of my variables of interest. Further, I conduct cross-validation analysis (Table 1.6, Panel A and Table 1.7) by comparing career outcomes of the athlete and non-athlete CEOs. As noted earlier executives with backgrounds in competitive sports

reach top corporate positions faster, earn more, and have longer tenures. This provide additional evidence in support of the validity and reliability of the explanatory variables used in this study.

Another concern is a confounding factor that causes people to participate in sports and influences decision making at the corporate level. Use of the *Youth athlete* variable addresses this issue. Participation in youth sport implies development and revelation of the ability to compete early in life, typically before the age of majority (21). Average age for becoming a CEO is 49 years. Evidently, there is a 30-40 year lag between one's becoming a CEO and becoming an athlete. Therefore, the only observable or unobservable factors that can drive the identified CEO traits and corporate outcomes are related to the personality. How the personality of competitive athletes was formed: through genetics, environment, personal choices, or a combination of thereof, - is another question. The same logic as above applies to the reverse causality and feedback loop. Nevertheless, I still consider using an instrumental variable approach if I find an appropriate instrument. A distance between a university location and location of a firm headquarters is one possible candidate for such an instrument.

An important question required more in depth analysis is the causal effect of athlete CEOs on corporate performance, investment and financing decisions. The unreported staggered difference-in-differences analysis around CEO turnovers at long-term 5-7 years horizons (e.g., [-2; +5]) provides some evidence that, compared to the firm's own performance in the past (treatment group) and to its CEO peers (control group), athlete CEOs increase return on assets of the firms they manage by 120 bps resulting in 8% improvement.

My findings can possibly be attributed not to a CEO's background in athletics but rather to the general intelligence, talent, and ability. I use a quality of the undergraduate university (e.g., *Top 25 University*, or *Ivy League* college), *Advanced degree*, and a major (*Finance* and *Technical*

degree) to eliminate this alternative explanation. One may also argue, it is the affluent background that allows an individual to participate in athletics. Therefore, I use *Private college* variable to proxy for the family wealth. Results hold after inclusions of all these controls.

6. Conclusion

A CEO's experiences during their formative years can influence their decision-making as adults in the corporate setting. While the psychology literature has examined these influences in depth, the finance literature has just started to shed light on the relationship between a CEO's early life experience and later corporate outcomes. This study analyzes how a CEO's background in competitive sports (athlete CEOs) may affect the firm's corporate decision-making and performance. Given the traits associated with successful competitive athletes, I examine whether these personal qualities influence corporate decision-making and performance. The results suggest that there are notable differences between firms led by executives with background in competitive athletics during their youth or adult years (athlete CEOs) as compared to other types of CEOs. In particular, the findings show that athlete CEO firms are more profitable, allocate more capital to long-term projects and to marketing activities, and use less debt as compared to non-athlete CEO firms.

These results have relevant implications for corporate leadership and performance. On the one hand, accomplishment in the corporate world may be hard to assess taking into consideration the plethora of factors outside of the personal control of an individual; on the other hand, a track record of accomplishments at a personal level and individual behavior can be more easily observed and assessed. Participation in competitive athletics during both youth and later years can serve as an indicator of the qualities well-suited for a business leadership position. Bringing in leaders with

valuable qualities, revealed and developed through years of practice and participation in sport competitions, such as goal-orientation, intrinsic motivation, need to achieve, discipline, strong work ethics, resourcefulness, and long-term orientation, can make companies more profitable, efficient, financially sustainable, and competitive.

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Table 1.1

Sample Composition by CEO's Sport Participation Status.

Unit of observation	Total	Athlete CEO		Youth athlete CEO (I)		Adult athlete CEO (II)		Non-athlete CEO (incl. leisure sport)		Leisure sport	
		N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
Executives (CEOs)	721	186	25.80%	121	16.55%	114	15.81%	535	74.20%	102	14.15%
Firms	761	196	25.76%	128	17.51%	120	15.77%	565	74.24%	111	14.59%
Firm-years	5,356	1,558	29.09%	1,028	19.19%	980	18.30%	3,798	70.91%	940	17.55%

This table reports the breakdown of the sample by CEOs' involvement in sports by category. Percentages are reported for each category. *Athlete CEO (I & II)* is a binary variable that takes a value of 'one' if a CEO participated in competitive athletics during youth - *Youth athlete CEO (I)* or adult years - *Adult athlete CEO (II)*, and is 'zero' otherwise. A CEO may be simultaneously classified as *Youth athlete (I)* and *Adult athlete (II)* if a CEO participated in youth athletics and continued to be involved in competitive sports during adulthood. Variable descriptions are provided in Appendix A. The sample is based on all CEO profiles (1,898) from Boardroom Insiders, available as of June 2018, matched with all CEOs (8,400) of the large S&P1500 companies in ExecuComp during 1992-2017. Observation counts are provided at the CEO, firm, and firm-year levels.

Table 1.2

CEO Distribution by Sport Participation, Sport Type, and Number of Sports.

	All	Individual sport		Team sport		N sports	
	# CEOs	# CEOs	Pct.	# CEOs	Pct.	Mean	Std.
Athlete CEO (I & II)	186	105	56.45%	107	57.53%	1.914	1.296
Youth athlete (I)	121	39	32.23%	90	74.38%	1.843	1.323
College athlete	58						
High school athlete	38						
Youth athlete other	25						
Adult athlete (II)	114	91	79.82%	39	34.21%	2.202	1.46
Non-athlete CEO	535						
Leisure sport	102	81	79.41%	21	20.59%	1.604	0.86
No sport participation	433						
Total	721						

This table presents the breakdown of the number CEOs by involvement in sports grouped according to the following criteria: 1) stage in life (e.g., youth or adulthood); 2) varsity athletics (e.g., college/high school team); 3) level (e.g., competitive sport, leisure); 4) sport type (e.g., individual or team). Detailed variable descriptions are provided in Appendix A. A CEO may be simultaneously included in different subcategories based on the same classification criteria. For example, if a CEO has experience participating in both team and individual sports, then both *Team sport* and *Individual sport* dummy variables for this executive would equal to one, and be zero otherwise. Additionally, average number of sports a CEO has been involved in is reported for selected categories.

Table 1.3
Distribution of Athlete CEOs by Number of Sports.

Noncumulative			Cumulative		
N sports	# CEOs	Pct.	N sports	# CEOs	Pct.
1	101	54.30%	≥ 1	186	100.00%
2	40	21.51%	≥ 2	85	45.70%
3	22	11.83%	≥ 3	45	24.19%
4	11	5.91%	≥ 4	23	12.37%
5	8	4.30%	≥ 5	12	6.45%
6	3	1.61%	≥ 6	4	2.15%
7	1	0.54%	≥ 7	1	0.54%
Total	186	100%			

Sample based on 186 CEOs with experience in competitive sports during their youth and/or adults years - *Athlete CEO (I & II)*.

Table 1.4
Distribution of Athlete CEOs by Sport.

Sport name	# CEOs	Pct.
Baseball	27	14.52%
Basketball	30	16.13%
Cycling	22	11.83%
Football	42	22.58%
Golf	44	23.66%
Hockey	8	4.30%
Martial arts	9	4.84%
Running	43	23.12%
Skiing	17	9.14%
Swimming	18	9.68%
Soccer	9	4.84%
Tennis	24	12.90%
Other	21	11.29%

This table presents frequency distribution of executives with experience in competitive sports during their youth and/or adults years by their background in particular sport(s). Note that 45.70% of athlete CEOs (186) have an association with more than one sport (Table 1.3).

Table 1.5
Sample Distribution by Year and Industry.

Panel A: Distribution by year

Year	All # Firms	Pct.	Athlete CEO (I & II) N	Pct.	Youth athlete CEO (I) N	Pct.	Adult athlete CEO (II) N	Pct.
2017	558	10.42%	147	26.34%	96	17.20%	86	15.41%
2015	515	9.62%	137	26.60%	88	17.09%	86	16.70%
2013	410	7.65%	117	28.54%	77	18.78%	74	18.05%
2011	327	6.11%	98	29.97%	64	19.57%	62	18.96%
2009	259	4.84%	86	33.20%	58	22.39%	56	21.62%
2007	225	4.20%	74	32.89%	51	22.67%	47	20.89%
2005	148	2.76%	50	33.78%	31	20.95%	33	22.30%
2003	116	2.17%	36	31.03%	24	20.69%	23	19.83%
2001	92	1.72%	26	28.26%	22	23.91%	14	15.22%
1999	73	1.36%	20	27.40%	16	21.92%	12	16.44%
1997	47	0.88%	10	21.28%	10	21.28%	6	12.77%
1995	30	0.56%	7	23.33%	6	20.00%	5	16.67%
1993	21	0.39%	6	28.57%	4	19.05%	4	19.05%
Total	5,356	100%	1,558	29.09%	1,049	19.59%	973	18.17%

Panel B: Distribution by Fama French 12 industry groups

Industry	All # Firm-years	Pct.	Athlete CEO (I & II) N	Pct.	Youth athlete CEO (I) N	Pct.	Adult athlete CEO (II) N	Pct.
Consumer nondur.	315	5.88%	99	31.43%	70	22.22%	73	23.17%
Consumer durables	135	2.52%	23	17.04%	23	17.04%	12	8.89%
Manufacturing	568	10.60%	169	29.75%	119	20.95%	108	19.01%
Energy	221	4.13%	8	3.62%	8	3.62%	0	0.00%
Chemicals	128	2.39%	38	29.69%	27	21.09%	25	19.53%
Business equip	913	17.05%	309	33.84%	182	19.93%	233	25.52%
Telecom	254	4.74%	84	33.07%	52	20.47%	80	31.50%
Utilities	178	3.32%	48	26.97%	30	16.85%	22	12.36%
Shops	862	16.09%	319	37.01%	185	21.46%	206	23.90%
Health	303	5.66%	72	23.76%	59	19.47%	26	8.58%
Finance	762	14.23%	206	27.03%	149	19.55%	90	11.81%
Other	717	13.39%	183	25.52%	124	17.29%	105	14.64%
Total	5,356	100%	1,558	29.09%	1,028	19.19%	980	18.30%

This table presents the breakdown of the number and percentage of CEOs with backgrounds in sports in the sample by year (Panel A) and by industry (Panel B). Variable descriptions are provided in Appendix A. The sample is based on all CEO profiles (1,898) from Boardroom Insiders, available as of June 2018, matched with all CEOs (8,400) of the large S&P1500 companies in ExecuComp from 1992-2017. The sample contains 721 unique CEOs, 761 firms, and 5,356 firm-year observations.

Table 1.6
Summary Statistics, Firm-Year Observations.

	Non-athlete CEO			Athlete CEO (I & II)			Diff. in means
	Mean	Std.	N	Mean	Std.	N	*t*-Test
Panel A: CEO characteristics							
CEO controls - controls							
CEO age [years]	55.28	7.70	3,798	53.30	7.11	1,558	**8.72*****
Year of birth	1955.30	8.34	3,798	1956.98	7.46	1,558	**-6.92*****
Top 25 University	0.224	0.417	3,798	0.256	0.437	1,558	**-2.50****
Finance education	0.609	0.488	3,798	0.706	0.456	1,558	**-6.75*****
Technical education	0.290	0.454	3,798	0.237	0.425	1,558	**3.99*****
CEO controls - additional							
Overconfident CEO 67	0.196	0.397	3,798	0.234	0.424	1,558	**-3.00*****
CEO tenure [years]	5.756	4.722	3,798	6.080	4.466	1,558	**-2.24****
Advanced degree	0.609	0.488	3,798	0.612	0.487	1,558	-0.21
Private college	0.438	0.496	3,798	0.426	0.495	1,558	0.77
Foreign degree	0.093	0.291	3,798	0.100	0.300	1,558	-0.78
Female	0.043	0.204	3,798	0.044	0.204	1,558	-0.03
Military	0.078	0.268	3,798	0.060	0.237	1,558	**2.31****
Founder	0.130	0.336	3,798	0.151	0.359	1,558	**-2.07****
Compensation variables							
Total compensation [thous.]	8,668	13,338	3,791	10,597	12,434	1,552	**-4.89*****
Salary	969	577	3,798	1,031	551	1,558	**-3.63*****
Stock awards	3,841	4,968	3,095	4,504	6,359	1,263	**-3.67*****
Option grants	1,643	3,770	3,095	2,531	6,926	1,263	**-5.43*****
Panel B: Firm characteristics							
Firm controls							
Firm age [years]	24.440	11.759	3,798	24.861	11.431	1,558	-1.20
Firm size	8.888	1.638	3,781	9.192	1.874	1,557	**-5.90*****
Assets [MM$]	36,499	173,035	3,781	74,449	282,624	1,557	**-5.97*****
Tobin's Q - proxy	1.987	1.492	3,697	2.120	2.953	1,538	**-2.15****
Tangibility	0.248	0.231	3,703	0.233	0.221	1,541	**2.13****
Governance (E-Index) [0-6]	3.196	1.108	2,887	3.047	1.159	1,287	**3.95*****
Industry competition [0-10,000]	753.5	825.7	3,798	841.0	987.0	1,558	**-3.32*****
Dependent variables							
Profitability (ROA)	0.146	0.120	3,681	0.159	0.145	1,535	**-3.33*****
CAPEX	0.048	0.054	3,744	0.050	0.068	1,543	-1.06
Acquisitions	0.038	0.126	3,429	0.037	0.143	1,422	0.21
R&D	0.039	0.069	1,963	0.039	0.061	832	-0.10
SG&A	0.234	0.247	3,133	0.256	0.262	1,347	**-2.65*****
Rent	0.024	0.038	3,559	0.025	0.035	1,494	-1.11
Advertising	0.031	0.073	1,635	0.041	0.112	899	**-2.65*****
Labor	0.180	0.192	549	0.257	0.239	258	**-4.90*****
Book leverage	0.263	0.217	3,376	0.251	0.241	1,408	1.63
Market leverage	0.171	0.157	3,310	0.148	0.126	1,392	**4.92*****
Dividend payout	0.016	0.032	3,744	0.017	0.065	1,544	-0.71

Table 1.6 (Cont'd)

This table presents the sample summary statistics for personal characteristics of CEOs (Panel A) and firm characteristics (Panel B). *Athlete CEO (I & II)* is a binary variable that takes a valued of one if a CEO has been involved in competitive athletics during his/her youth and/or adult years, and zero otherwise. Variable definitions are provided in Appendix A. The final sample used in this study includes 721 CEOs, 761 firms and 5,356 firm-year observations over 1992-2017 period. The sample is based on all available CEO profiles (1,898) from the Boardroom Insiders, as of June 2018, matched with all CEOs (8,400) of the large S&P1500 companies in ExecuComp from 1992-2017. *T*-tests (Wilcoxon-Mann-Whitney tests) are conducted to test differences in means between firms with and without athlete CEOs. Observations are at firm-year level. *, **, *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table 1.7
Career Outcomes by Athlete CEO Status.

Panel A	Non-athlete CEO			Athlete CEO (I & II)			Diff. in means
	Mean	Std.	N	Mean	Std.	N	*t*-Test
Age became CEO 1st time	49.71	6.94	535	47.59	7.48	186	**3.52***
Age became COO/CFO 1st time	45.78	7.01	225	42.63	6.38	75	**3.45***
Tenure [years]	8.48	8.11	565	9.92	8.12	196	**-2.14**
Compensation 1st year	7,406	7,781	561	10,300	12,626	191	**-3.73***
Panel B	Non-youth athlete CEO			Youth athlete CEO (I)			
	Mean	Std.	N	Mean	Std.	N	
Age became CEO 1st time	49.56	6.97	600	47.17	7.62	121	**3.40***
Age became COO/CFO 1st time	45.38	6.97	250	43.08	6.82	50	**2.13**
Tenure [years]	8.55	8.06	633	10.39	8.31	128	**-2.35**
Compensation 1st year	7,435	7,718	629	11,752	14,616	123	**-4.76***
Panel C	Non-adult athlete CEO			Adult athlete CEO (II)			
	Mean	Std.	N	Mean	Std.	N	
Age became CEO 1st time	49.39	7.12	607	47.921	7.11	114	**2.03**
Age became COO/CFO 1st time	45.56	7.01	255	41.756	5.91	45	**3.43***
Tenure [years]	8.69	8.17	641	9.725	7.89	120	-1.28
Compensation 1st year	7,946	9,410	634	9,189	8,863	118	-1.33
Panel D	All CEOs (excl. leisure)			Leisure sport			
	Mean	Std.	N	Mean	Std.	N	
Age became CEO 1st time [years]	49.35	6.99	620	48.00	7.91	101	**1.77***
Age became COO/CFO 1st time	45.07	6.89	264	44.42	7.72	36	0.53
Tenure [years]	8.41	7.93	651	11.46	8.79	110	**-3.67***
Compensation 1st year	8,050	9,029	645	8,693	11,009	107	-0.66

This table provides summary statistics for selected CEO career outcomes such as age when an person became a CEO, COO, or CFO of a large S&P1500 firm for the first time, number of years in position (*Tenure*), calculated as of year 2017, and the 1st year CEO's *Compensation*. Statistics for CEO's compensation during all years in the office are in Table 1.6 Panel B. CEO's age and tenure are in years. *T*-tests (Wilcoxon-Mann-Whitney tests) are conducted to test for differences in means for CEOs with and without backgrounds in sports including participation in competitive athletics (athlete CEOs) and for pastime (*Leisure sport*). Variable descriptions are provided in Appendix A. Observations are at the CEO level. *, **, *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table 1.8
Athlete CEOs and Corporate Outcomes: Summary of Regression Results.

Dependent variable:	Profitability	CAPEX	SG&A	Advertising	Book leverage	Mkt leverage	Divd payout	Tobin's Q	Compensation
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Sport participation [1]									
Athlete CEO (I & II)	0.0213***	0.0063**	0.0180	0.0216***	-0.0278**	-0.0218**	0.0041*	0.1601	0.1464
	(2.79)	(2.45)	(1.21)	(2.73)	(-2.19)	(-2.53)	(1.79)	(1.06)	(1.32)
Adj. R^2	0.240	0.510	0.469	0.566	0.365	0.479	0.093	0.156	0.223
Panel B: Sport participation [2]									
Youth athlete CEO (I)	0.0178***	0.0064***	0.0351***	0.0186**	-0.0139	-0.0191*	0.0058*	0.0616	0.2000**
	(2.78)	(2.63)	(2.67)	(2.30)	(-0.93)	(-1.85)	(1.79)	(0.50)	(2.16)
Adj. R^2	0.238	0.510	0.470	0.562	0.362	0.477	0.093	0.155	0.224
Panel C: Sport participation [3]									
Adult athlete CEO (II)	0.0187**	0.0094***	0.0085	0.0140*	-0.0353**	-0.0238**	0.0009	0.1699	0.1199
	(2.07)	(2.73)	(0.45)	(1.88)	(-2.52)	(-2.46)	(0.37)	(0.82)	(0.96)
Adj. R^2	0.238	0.511	0.468	0.216	0.366	0.491	0.091	0.156	0.222
Panel D: Sport participation [4]									
Adult athlete (excl. youth)	0.0279**	0.0045	-0.0008	0.0199	-0.0344**	-0.0180*	0.0017	0.3572	0.0362
	(1.98)	(1.03)	(-0.03)	(1.59)	(-2.12)	(-1.73)	(0.72)	(1.10)	(0.20)
Adj. R^2	0.218	0.507	0.436	-0.010	0.394	0.512	0.215	0.159	0.187
Observations	4,043	4,022	3,471	1,885	3,058	3,058	4,174	4,218	3,661
Panel E: Sport participation [5]									
Leisure sport	-0.0070	-0.0017	-0.0440***	-0.0134**	0.0062	0.0073	-0.0003	-0.1405	0.0839
	(-0.92)	(-0.62)	(-2.94)	(-2.12)	(0.41)	(0.70)	(-0.11)	(-0.98)	(0.93)
Adj. R^2	0.235	0.508	0.471	0.559	0.361	0.475	0.091	0.156	0.221
Firm controls (base/add'l)	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y
CEO controls (base/add'l)	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y
Industry FE	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y
Year FE	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y
Observations (Panels A, B, C, E)	5,044	5,012	4,326	2,486	3,829	3,829	5,185	5,233	4,593

Table 1.8 (Cont'd)

This table examines the impact of athlete CEOs on firm performance and corporate policies. It shows summary results based on the most restrictive multivariate regression tests (see Tables 1.9-1.14) that control for firm and CEO characteristics and include year and industry fixed effects. *Athlete CEO (I & II)* is a binary variable that takes a value of one if a CEO was involved in competitive athletics during his/her youth - *Youth athlete CEO (I)* and/or adult years - *Adult athlete CEO (II)*, and zero otherwise. *Profitability,* measured as *Return on assets (ROA)*, is operating profit before depreciation (EBITDA) divided by lagged Total Assets. *CAPEX, Acquisitions, R&D, SG&A, and Advertising* are accordingly Capital Expenditures, total value of acquisitions, Research and Development, and Selling, General and Administrative expenditures, and Advertising expenditures in a given year scaled by lagged Total Assets. *Book leverage* is Total Debt divided by Total Assets. *Market leverage* is defined as [Total Debt/(Market Value of Equity + Total Debt)]. *Dividend payout* is Total Dividends divided by lagged Total Assets. *Compensation* is a natural log of CEO's total compensation (TDC1 item in ExecuComp). *Tobin's Q* is defined as [(Total Assets + Market Value of Equity - Book Value of Equity)/Total Assets]. Variable definitions are provided in Appendix A. All models include a full set of firm and CEO controls (see Tables 1.9 and 1.11-1.14, columns 3). Industry fixed effects and industry variables are by two-digit SIC codes. In column 9 I use Core, Guay, & Larcker (2008) to define a model for executive compensation. *T*-statistics based on robust standard errors clustered by firm are in parentheses. Observations are at the firm-year level. *, **, *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table 1.9
Athlete CEOs and Firm Profitability.

Profitability (Dependent variable)	Athlete CEO (I & II) [1]				Youth athlete (I) [2]	Adult athlete (II) [3]	Adult athlete [4] (excl. youth)	Leisure sport[5]
	(1)	(2)	(3)	(3.1)	(4)	(5)	(6)	(7)
Sport participation [1, 2, 3, 4, or 5]	0.0202***	0.0221***	0.0213***	0.0152***	0.0178***	0.0187**	0.0279**	-0.0070
	(2.70)	(3.01)	(2.79)	(2.83)	(2.78)	(2.07)	(1.98)	(-0.92)
Firm size	-0.0120***	-0.0092***	-0.0090***	-0.0065***	-0.0088***	-0.0085**	-0.0065	-0.0079**
	(-3.32)	(-2.77)	(-2.66)	(-3.23)	(-2.65)	(-2.53)	(-1.41)	(-2.41)
Firm age		-0.0043	-0.0058	0.0017	-0.0049	-0.0064	-0.0056	-0.0054
		(-0.74)	(-1.05)	(0.39)	(-0.89)	(-1.15)	(-0.85)	(-0.97)
Tobin's Q - proxy		0.0101*	0.0099	0.0296***	0.0100*	0.0721***	0.0086	0.0100*
		(1.70)	(1.64)	(4.01)	(1.68)	(3.27)	(1.53)	(1.66)
Tangibility		0.0753***	0.0729***	0.0842***	0.0707***	0.0099	0.0983***	0.0707***
		(3.38)	(3.31)	(4.91)	(3.23)	(1.64)	(3.95)	(3.19)
Industry profitability		0.7981***	0.7922***	0.8168***	0.7995***	0.7946***	0.6940***	0.8021***
		(7.92)	(7.88)	(7.54)	(7.97)	(7.85)	(8.03)	(7.93)
Industry competition		0.0526**	7.8800**	0.0445**	0.0500**	0.0509**	0.0578*	0.0486**
		(2.15)	(2.16)	(2.51)	(2.06)	(2.10)	(1.93)	(2.01)
CEO age	0.0209	0.0251	0.0200	0.0057	0.0189	0.0110329	0.0482	0.0091
	(0.63)	(0.84)	(0.58)	(0.23)	(0.56)	0.33	(1.32)	(0.27)
Top 25 university	-0.0118	-0.0147*	-0.0182**	-0.0233***	-0.0179**	-0.0181**	-0.0265***	-0.0173**
	(-1.53)	(-1.94)	(-2.20)	(-3.49)	(-2.12)	(-2.15)	(-2.84)	(-2.03)
Finance education	-0.0185***	-0.0173***	-0.0193***	-0.0142***	-0.0188***	-0.0183***	-0.0193**	-0.0168***
	(-2.72)	(-2.68)	(-2.97)	(-2.76)	(-2.94)	(-2.79)	(-2.50)	(-2.61)
Technical education	-0.0123	-0.0113	-0.0101	-0.0107**	-0.0099	-0.0096	-2.5000	-0.0102
	(-1.53)	(-1.53)	(-1.27)	(-1.98)	(-1.24)	(-1.20)	(-0.54)	(-1.28)
CEO controls - add'l	N	N	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
Adj. R^2	0.190	0.239	0.240	0.462	0.238	0.238	0.218	0.235
Observations	5,216	5,044	5,044	4,011	5,044	5,044	4,043	5,044

Table 1.9 (Cont'd)

This table reports effects of athlete CEOs on a firm's operating performance using multivariate regression tests. Dependent variable is *Profitability* measured by *Return on assets (ROA)* defined as Operating Profit divided by lagged Total Assets. *Sport participation*[1, 2, 3, 4, or 5] stands for one of the following variables: *Athlete CEO (I & II)*[1], *Youth athlete CEO (I)*[2], *Adult athlete CEO (II)*[3], *Adult athlete CEO*[4] *(excl. youth athletes)*, or *Leisure sport*[5]. Variable definitions are provided in Appendix A. All models control for *Firm size* and base CEO personal characteristics (*CEO age*, *Top 25 University*, *Finance* and *Technical education*), and include industry and year fixed effects. Additional firm controls, subject to the model specification, include *Firm age*, *Tobin's Q*, Tangibility, industry profitability and industry competition (Herfindahl–Hirschman Index). Firm controls are lagged by one year. Industry fixed effects and industry variables are by two-digit SIC codes. Additional CEO personal characteristics include: *Overconfident CEO 67, Advanced degree*, *Private college*, *Foreign degree, Female, Founder*, *Military* service, and *CEO tenure*. Column 3.1 excludes financial services and utility firms. Observations are at the firm-year level. *T*-statistics based on robust standard errors clustered by firm are in parentheses. *, **, *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table 1.10

Athlete CEOs and Investment Policies: Summary of Regression Results.

Dependent variable:	CAPEX	Acquis	R&D	SG&A	Rent	Advert	Labor
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Sport participation [1]							
Athlete CEO (I & II)	0.0063**	0.0003	0.0003	0.0180	0.0036	0.0216***	0.0147
	(2.45)	(0.06)	(0.05)	(1.21)	(1.53)	(2.73)	(0.61)
Adj. R^2	0.510	0.050	0.397	0.469	0.635	0.566	0.814
Panel B: Sport participation [2]							
Youth athlete CEO (I)	0.0064***	-0.0028	0.0024	0.0351***	0.0076***	0.0186**	0.0220
	(2.63)	(-0.50)	(0.32)	(2.67)	(3.09)	(2.30)	(0.98)
Adj. R^2	0.510	0.050	0.397	0.470	0.638	0.562	0.815
Panel C: Sport participation [3]							
Adult athlete CEO (II)	0.0094***	0.0056	0.0005	0.0085	0.0016	0.0140*	0.0080
	(2.73)	(1.04)	(0.09)	(0.45)	(0.57)	(1.88)	(0.22)
Adj. R^2	0.511	0.050	0.416	0.468	0.633	0.216	0.814
Panel D: Sport participation [4]							
Adult athlete CEO (excl. youth)	0.0045	0.0031	-0.0001	-0.0008	-0.0027	0.0199	0.0027
	(1.03)	(0.48)	(-0.01)	(-0.03)	(-0.70)	(1.59)	(0.06)
Adj. R^2	0.507	0.056	0.390	0.436	0.647	-0.010	0.849
Observations: Panel D	4,022	3,698	2,143	3,471	3,888	1,885	565
Panel E: Sport participation [5]							
Leisure sport	-0.0017	0.0051	-0.0101	-0.044	-0.002	-0.0134**	-0.018
	(-0.62)	(0.99)	(-1.47)	(-2.94)	(-0.91)	(-2.12)	(-0.69)
Adj. R^2	0.508	0.050	0.400	0.471	0.633	0.559	0.814
Firm controls (base/add'l)	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y
CEO controls (base/add'l)	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y
Industry FE	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y
Year FE	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y
Observations: Panels A, B, C, E	5,012	4,597	2,681	4,326	4,838	2,486	756

This table reports effects of athlete CEOs on firm's investment policies. It shows summary results based on the most restrictive multivariate regression tests (see Tables 1.11-1.13) that control for various firm and CEO characteristics and include industry and year fixed effects. Dependent variables include *CAPEX*, *Acquisitions*, *R&D*, *SG&A*, *Rent*, *Advertising*, and *Labor* all scaled by lagged Total Assets. *Sport participation*[1, 2, 3, 4, or 5] stands for one of the following explanatory variables: *Athlete CEO (I & II)*[1], *Youth Athlete CEO (I)*[2], *Adult Athlete CEO (II)*[3], *Adult athlete CEO*[4] *(excl. youth athletes)*, *Leisure sport*[5]. Variable definitions are provided in Appendix A. All models include a full set of firm and CEO controls (see Tables 1.11-1.14, columns 3). Industry fixed effects and *Industry competition* are by two-digit SIC codes. Observations are at the firm-year level. *T*-statistics based on robust standard errors clustered by firm are in parentheses. *, **, *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table 1.11
Athlete CEOs and Investments in Capital Projects (CAPEX).

CAPEX (Dependent variable)	Athlete CEO (I & II) [1]				Youth athlete (I) [2]	Adult athlete (II) [3]	Adult athlete [4] (excl. youth)	Leisure sport [5]
	(1)	(2)	(3)	(3.1)	(4)	(5)	(6)	(7)
Sport participation [1, 2, 3, 4, or 5]	0.0057**	0.0065**	0.0063**	0.0063**	0.0064***	0.0094***	0.0045	-0.0017
	(2.36)	(2.53)	(2.45)	(2.09)	(2.63)	(2.73)	(1.03)	(-0.62)
Firm size	-0.0051***	-0.0039***	-0.0038***	-0.0047***	-0.0038***	-0.0038***	-0.0050***	-0.0035***
	(-4.02)	(-3.44)	(-3.39)	(-3.18)	(-3.53)	(-3.39)	(-3.38)	(-3.26)
Firm age		-0.0081***	-0.0078***	-0.0089***	-0.0075***	-0.0082***	-0.0087***	-0.0077***
		(-3.56)	(-3.40)	(-3.38)	(-3.29)	(-3.49)	(-3.23)	(-3.36)
Tobin's Q - proxy	0.0068***	0.0062***	0.0061***	0.0062***	0.0062***	0.0061***	0.0062***	0.0061***
	(10.36)	(8.24)	(8.09)	(8.94)	(7.98)	(8.24)	(9.49)	(8.00)
Tangibility	0.1521***	0.1509***	0.1505***	0.1507***	0.1499***	0.1507***	0.1571***	0.1497***
	(12.92)	(12.72)	(12.92)	(12.35)	(12.89)	(13.03)	(12.46)	(12.71)
Profitability		0.0189	0.0186	0.0231*	0.0190	0.0188	0.0153	0.0200*
		(1.55)	(1.55)	(1.83)	(1.59)	(1.57)	(1.33)	(1.66)
Industry competition		0.0165**	0.0163**	0.0170**	0.0157**	0.0163**	0.0154*	0.0151**
		(2.23)	(2.20)	(2.09)	(2.16)	(2.22)	(1.85)	(2.09)
CEO age	-0.0087	-0.0041	-0.0057	-0.0075	-0.0055	-0.0078	0.0019	-0.0090
	(-1.00)	(-0.48)	(-0.56)	(-0.67)	(-0.55)	(-0.79)	(0.17)	(-0.88)
Top 25 university	0.0036	0.0035	0.0029	0.0030	0.0029	0.0028	0.0020	0.0031
	(1.40)	(1.37)	(1.08)	(0.95)	(1.11)	(1.06)	(0.71)	(1.17)
Finance education	-0.0023	-0.0022	-0.0020	-0.0013	-0.0020	-0.0019	-0.0007	-0.0013
	(-1.16)	(-1.13)	(-0.93)	(-0.51)	(-0.91)	(-0.90)	(-0.32)	(-0.60)
Technical education	-0.0019	-0.0022	-0.0017	-0.0028	-0.0017	-0.0015	-0.0022	-0.0018
	(-0.78)	(-0.94)	(-0.74)	(-1.09)	(-0.72)	(-0.65)	(-0.90)	(-0.75)
CEO controls - add'l	N	N	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
Adj. R^2	0.501	0.509	0.510	0.484	0.510	0.511	0.507	0.508
Observations	5,090	5,012	5,012	4,265	5,012	5,012	4,022	5,012

Table 1.11 (Cont'd)

This table reports effects of athlete CEOs on capital expenditures using multivariate regression tests. Dependent variable is *CAPEX* defined as Capital Expenditures scaled by lagged Total Assets. *Sport participation*[1, 2, 3, 4, or 5] stands for one of the following variables: *Athlete CEO (I & II)*[1], *Youth Athlete CEO (I)*[2], *Adult Athlete CEO (II)*[3], *Adult athlete CEO*[4] *(excl. youth athletes)*, or *Leisure sport*[5]. Variable definitions are provided in Appendix A. Columns 1 through 10 control for *Firm size*, *Tobin's Q - proxy*, *Tangibility*, *CEO age* and education (*Top 25 University*, *Finance* and *Technical education*), and include industry and year fixed effects. Additional firm controls, subject to the model specification, include *Firm age*, *Profitability (ROA)*, and *Industry competition* (Herfindahl–Hirschman Index). All firm controls, except for *Tobin's Q – proxy*, are lagged by one year. Additional CEO controls include: *Overconfident CEO 67, Advanced degree*, *Private college*, *Foreign degree*, gender *(Female)*, *Founder*, *Military* service, and *CEO tenure*. Column 3.1 excludes financial services and utility firms. Industry fixed effects and *Industry competition* are by two-digit SIC codes. Observations are at the firm-year level. *T*-statistics based on robust standard errors clustered by firm are in parentheses. *, **, *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table 1.12

Athlete CEOs and Investments in Organization Capital.

SG&A (Dependent variable)	Athlete CEO (I & II) [1]			Youth athlete CEO (I) [2]	Adult athlete CEO (II) [3]	Leisure sport [5]
	(1)	(2)	(3)	(4)	(5)	(6)
Sport participation [1, 2, 3, or 5]	0.0176	0.0197	0.0093	0.0301**	-0.0007	-0.0377***
	(1.22)	(1.34)	(0.75)	(2.55)	(-0.05)	(-2.95)
Firm size	-0.0540***	-0.0537***	-0.0535***	-0.0472***	-0.0452***	-0.0454***
	(-6.62)	(-6.87)	(-6.84)	(-7.76)	(-7.50)	(-7.60)
Firm age		-0.0094	-0.0113	0.0004	-0.0009	-0.0014
		(-0.71)	(-0.97)	(0.04)	(-0.10)	(-0.16)
Tobin's Q - proxy	0.0188***	0.0191***	0.0184***	0.0527***	0.0527***	0.0525***
	(3.20)	(3.04)	(2.79)	(16.09)	(16.02)	(16.16)
Tangibility	-0.1234***	-0.1302***	-0.1249***	-0.0909***	-0.0918***	-0.0835***
	(-3.44)	(-3.56)	(3.47)	(-3.01)	(-3.01)	(-2.68)
Profitability		-0.0346	-0.0367	-0.0249	-0.0205	-0.0231
		(-0.68)	(-0.74)	(-0.38)	(-0.31)	(-0.35)
Industry competition		0.0353	0.0340	0.0101	0.0083	0.0103
		(1.00)	(0.97)	(0.34)	(0.28)	(0.35)
CEO age	-0.0244	-0.0064	-0.0053	0.0059	0.0148	0.0136
	(-0.42)	(-0.12)	(-0.09)	(0.62)	(0.30)	(0.28)
Top 25 university	0.0454**	0.0445**	0.0351*	0.0290	0.0298	0.0315
	(2.46)	(2.35)	(1.67)	(1.50)	(1.55)	(1.67)
Finance education	-0.0203	-0.0195	-0.0188	-0.0146	-0.0101	-0.0085
	(-1.40)	(-1.35)	(-1.11)	(-0.92)	(-0.65)	(-0.55)
Technical education	-0.0324**	-0.0351**	-0.0348**	-0.0378***	-0.0374***	-0.0398
	(-2.05)	(-2.37)	(-2.45)	(-3.05)	(-3.01)	(-3.21)
CEO controls - add'l	N	N	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
Adj. R²	0.467	0.464	0.621	0.623	0.621	0.623
Observations	4,369	4,326	4,341	4,341	4,341	4,341

This table reports effects of athlete CEOs on investments in organization capital. Dependent variable is *SG&A* defined as Selling, General, and Administrative expenditures scaled by lagged Total Assets. Sport participation [1, 2, 3, or 5] stands for one of the following variables: *Athlete CEO (I & II)* [1], *Youth Athlete CEO (I)* [2], *Adult Athlete CEO (II)* [3], or *Leisure sport* [5]. Variable definitions are provided in the Appendix. All models control for *Firm size, Tobin's Q - proxy, Tangibility, CEO age* and education (*Top 25 University, Finance* and *Technical education*), and include industry and year fixed effects. Additional firm controls, subject to the model specification, include *Firm age*, profitability (*ROA*), and *Industry competition* (Herfindahl–Hirschman Index). All firm controls are lagged by one year. Additional CEO controls include: *Overconfident CEO 67, Advanced degree, Private college, Foreign degree,* gender (*Female*), *Founder, Military* service, and *CEO tenure*. Observations are at the firm-year level. *T*-statistics based on robust standard errors clustered by firm are in parentheses. *, **, *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table 1.13
Athlete CEOs and Investments in Advertising.

Advertising (Dependent variable)	Athlete CEO (I & II) [1]			Youth athlete CEO (I) [2]	Adult athlete CEO (II) [3]	Adult athlete [4] (excl. youth)	Leisure sport [5]
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Sport participation [1, 2, 3, 4, or 5]	0.0189**	0.0223***	0.0216***	0.0186**	0.0140*	0.0199	-0.0134**
	(2.50)	(2.84)	(2.73)	(2.30)	(1.88)	(1.59)	(-2.12)
Firm size	-0.0092***	-0.0101***	-0.0103***	-0.0100***	-0.0096***	-0.0062**	-0.0092***
	(-2.70)	(-3.05)	(-3.06)	(-2.99)	(-2.98)	(-2.55)	(-2.93)
Firm age		0.0007	-0.0059	0.0020	0.0011***	-0.0064	0.0019
		(0.16)	(0.00)	(0.40)	(0.23)	(-1.47)	(0.39)
Tobin's Q - proxy	0.0178***	0.0226***	0.0225***	0.0226***	0.0225***	0.0227***	0.0225***
	(8.47)	(10.09)	(9.93)	(9.81)	(9.92)	(10.10)	(9.85)
Tangibility	-0.0249	0.0262	0.0292	0.0242	0.0262	0.0709**	0.0293
	(-1.36)	(0.96)	(1.09)	(0.93)	(0.98)	(2.04)	(1.11)
Profitability		-0.2933**	-0.2909**	-0.2905**	-0.2892**	-0.3441***	-0.2896**
		(-2.28)	(-2.22)	(-2.21)	(-2.20)	(-2.72)	(-2.20)
Industry competition		0.0119	0.0112	1.1100	0.0096	0.0085	0.0092
		(1.29)	(1.29)	(1.11)	(1.11)	(0.91)	(1.07)
CEO age	-0.0136	-0.0064	-0.0007	0.0011	-0.0126	0.0161	-0.0137
	(-0.69)	(-0.32)	(-0.03)	(0.05)	(-0.56)	(0.65)	(-0.61)
Top 25 university	0.0065	-0.0005	0.0043	-0.0005	-0.0002	-0.0028	-0.0001
	(1.23)	(-0.08)	(0.03)	(-0.07)	(-0.02)	(-0.34)	(-0.01)
Finance education	-0.0068	-0.0105	-0.0073	-0.0071	-0.0047	-0.0095	-0.0028
	(-1.28)	(-1.96)	(-1.15)	(-1.01)	(-0.75)	(-1.32)	(-0.44)
Technical education	-0.0244	-0.0279	-0.0262	-0.0269	-0.0267	-0.0178	-0.0283
	(-2.98)	(-3.49)	(-3.18)	(-3.19)	(-3.14)	(-2.39)	(-3.21)
CEO controls - add'l	N	N	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y
Adj. R^2	0.440	0.562	0.566	0.562	0.560	0.653	0.559
Observations	2,491	2,472	2,472	2,472	2,472	1,885	2,472

Table 1.13 (Cont'd)

This table reports effects of athlete CEOs on advertising expenditures. Dependent variable is *Advertising* defined as advertising expenditures scaled by lagged Total Assets. *Sport participation*[1, 2, 3, 4, or 5] stands for one of the following variables: *Athlete CEO (I & II)* [1], *Youth Athlete CEO (I)* [2], *Adult Athlete CEO (II)* [3], *Adult athlete CEO* [4] *(excl. youth athletes)*, or *Leisure sport* [5]. Variable definitions are provided in Appendix A. All models control for *Firm size, Tobin's Q - proxy, Tangibility, CEO age* and education (*Top 25 University, Finance* and *Technical education*), and include industry and year fixed effects. Additional firm controls, subject to the model specification, include *Firm age*, profitability (*ROA*), and *Industry competition* (Herfindahl–Hirschman Index). All firm controls are lagged by one year. Additional CEO controls include: *Overconfident CEO 67, Advanced degree, Private college, Foreign degree,* gender (*Female*), *Founder, Military* service, and *CEO tenure*. Industry fixed effects and *Industry competition* are by two-digit SIC codes. Observations are at the firm-year level. *T*-statistics based on robust standard errors clustered by firm are in parentheses. *, **, *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table 1.14
Athlete CEOs and Debt Financing Policy.

	Athlete CEO (I & II) [1]				Youth athlete CEO (I) [2]	Adult athlete CEO (II) [3]	Adult athlete [4] (excl. youth)	Leisure sport [5]
	(1)	(2)	(3)	(3.1)	(4)	(5)	(6)	(7)
Panel A: Book leverage								
Sport participation[1,2,3,4, or 5]	-0.0224	-0.0312**	-0.0278**	-0.0273**	-0.0138	-0.0353**	-0.0344**	0.0062
	(-1.34)	(-2.39)	(-2.19)	(-2.03)	(-0.85)	(-2.52)	(-2.12)	(0.41)
Firm size	0.0064	0.0109**	0.0111**	0.0102*	0.0132**	0.0110**	0.0108*	0.0098*
	(1.19)	(2.08)	(2.16)	(1.85)	(2.53)	(2.13)	(1.86)	(1.92)
Firm age		-0.0203*	-0.0244**	-0.0304**	-0.0245***	-0.0228*	-0.0411***	-0.0261**
		(-1.67)	(-1.97)	(-2.30)	(-3.04)	(-1.83)	(-3.29)	(-2.10)
Profitability	0.0812	0.0600	0.0556	0.0358	0.0583	0.0553	0.0907	0.0474
	(1.01)	(0.75)	(0.69)	(0.45)	(0.58)	(0.68)	(1.07)	(0.58)
Tobin's Q - proxy	-0.0067	-0.0116*	-0.0087	-0.0077	-0.0105	-0.0091	-0.0103	-0.0083
	(-1.21)	(-1.65)	(-1.25)	(-1.11)	(-1.27)	(-1.30)	(-1.44)	(-1.16)
Tangibility		0.0809	0.0756	0.0692	0.0879	0.0744	0.0856	0.0799
		(1.25)	(1.19)	(1.06)	(1.36)	(1.18)	(1.32)	(1.26)
Governance		-0.0178***	-0.0195***	-0.0205***	-0.0183***	-0.0190***	-0.0199***	-0.0193***
		(-3.18)	(-3.41)	(-3.53)	(-3.13)	(-3.38)	(-3.24)	(-3.39)
Industry book leverage		0.6864***	0.6717***	0.7189***	0.6770***	0.6686***	0.8085***	0.6797***
		(4.17)	(4.05)	(4.51)	(4.09)	(4.03)	(5.19)	(4.11)
CEO age	-0.0635	-0.0624	-0.0452	-0.0795	-0.0258	-0.0304	-0.0485	-0.0270
	(-1.06)	(-1.14)	(-0.73)	(-1.23)	(-0.43)	(-0.49)	(-0.69)	(-0.44)
Top 25 university	-0.0002	-0.0108	-0.0133	-0.0205	-0.0148	-0.0128	-0.0080	-0.0145
	(-0.01)	(-0.74)	(-0.82)	(-1.15)	(-0.98)	(-0.78)	(-0.42)	(-0.89)
Finance education	0.0010	0.0142	0.0183	0.0320*	0.1963	0.0174	0.0047	0.0151
	(0.06)	(1.00)	(1.15)	(1.89)	(0.20)	(1.09)	(0.26)	(0.92)
Technical education	-0.0055	-0.0052	0.0012	0.0091	-0.0048	0.0008	-0.0152	0.0014
	(-0.36)	(-0.37)	(0.08)	(0.59)	(-0.32)	(0.00)	(-0.91)	(0.09)
CEO controls - add'l	N	N	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
Observations	4,606	3,829	3,829	3,435	3,407	3,829	3,058	3,829
Adj. R^2	0.300	0.352	0.365	0.335	0.355	0.366	0.394	0.361

Table 1.14 (Cont'd)

Panel B: Market leverage

Sport participation[1, 2, 3, 4, or 5]								
	-0.0266***	-0.0240***	-0.0218**	-0.0177**	-0.0191*	-0.0238**	-0.0180*	0.0073
	(-2.79)	(-2.70)	(-2.53)	(-2.11)	(-1.85)	(-2.46)	(-1.73)	(0.70)
Firm controls (base/add'l)	Y/N	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y
CEO controls (base/add'l)	Y/N	Y/N	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y
Industry FE	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
Observations	4,606	3,829	3,829	3,435	3,829	3,829	3,058	3,829
Adj. R^2	0.425	0.471	0.479	0.486	0.477	0.491	0.512	0.475

This table reports effects of athlete CEOs on firm's capital structure and financing policies. Dependent variable is *Book leverage* defined as Total Debt divided by Total Assets. *Sport participation[1, 2, 3, 4, or 5]* stands for one of the following variables: *Athlete (I & II)[1]*, *Youth athlete CEO (I)[2]*, *Adult athlete CEO (II)[3]*, *Adult athlete CEO[4] (excl. youth athletes)*, or *Leisure sport[5]*. Detailed definitions of variables are provided in Appendix A. All models control for *Firm size*, *Profitability (ROA)*, *Tobin's Q - proxy*, *CEO age* and education (*Top 25 University*, *Finance* and *Technical education*), and include industry and year fixed effects. Additional firm controls, subject to the model specification, include *Firm age*, *Tangibility*, *E-index* (Bebchuk et al., 2009), and *Industry book (market) leverage*. Additional CEO controls include: *Overconfident CEO 67*, *Advanced degree*, *Private college*, *Foreign degree*, gender (*Female*), *Founder*, *Military* service, and *CEO tenure*. Industry fixed effects and *Industry book leverage* are by two-digit SIC codes. Column (3.1) excludes financial services and utility firms. *T*-statistics based on robust standard errors clustered by firm are in parentheses. Observations are at the firm-year level. *, **, *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table 1.15

Athlete CEOs and Debt Financing Policy: Role of Sport Type.

	Athlete CEO (I & II) [1]	Youth athlete CEO (I) [2]	Adult athlete CEO (II) [3]	Leisure sport [4]
	(1)	(2)	(3)	(4)
Panel A: Book leverage				
Individual sport	-0.0439***	-0.0466*	-0.0417***	0.0023
	(-2.92)	(-1.79)	(-2.62)	(0.14)
Team sport	-0.0126	-0.0074	-0.0057	0.0113
	(-0.81)	(-0.45)	(-0.28)	(0.38)
Adj. R^2	0.369	0.363	0.365	0.360
Observations	3,829	3,829	3,829	3,829
Panel B: Market leverage				
Individual sport	-0.0309***	-0.0402**	-0.0235**	0.0047
	(-3.34)	(-2.41)	(-2.32)	(0.42)
Team sport	-0.0162	-0.0118	-0.0131	0.0185
	(-1.51)	(-1.07)	(-0.80)	(0.81)
Adj. R^2	0.483	0.480	0.479	0.475
Observations	3,829	3,829	3,829	3,829
Firm controls (base/add'l)	Y/Y	Y/Y	Y/Y	Y/Y
CEO controls (base/add'l)	Y/Y	Y/Y	Y/Y	Y/Y
Industry FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y

This table reports regression results for the effect of athlete CEOs on firm's debt financing policies by type of sport (e.g., individual and team sports). Dependent variables in Panels A and B are *Book leverage* and *Market leverage*, respectively. Detailed definitions of variables are provided in Appendix A. All models control for a full set of firm and CEO characteristics (Table 1.14, column 3) and include industry and year fixed effects. *T*-statistics based on robust standard errors clustered by firm are in parentheses. Observations are at the firm-year level. *, **, *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

ESSAY 2 – FOREIGN CEOs AND HOME COUNTRY BIAS IN ACQUISITIONS

"No matter who you are or where you are, instinct tells you to go home."

– Laura Marney

1. Introduction

Home (local) bias, generally defined as an investor's preference for local assets, is a well-established phenomenon in the investment and financial markets literature (e.g., see Black, 1974; Stulz 1981; Kang & Stulz, 1997; Karolyi & Stulz, 2003; French & Poterba, 1991; Coval & Moskowitz, 1999, 2001). Yet, only recently has it received attention in corporate finance research (Chung, Green, & Schmidt, 2018; Jiang, Qian, & Yonker, 2019; Uysal, Kedia, & Panchapagesan, 2008; Wang & Yin, 2018). For example, using a sample of U.S. domestic acquisitions, researchers document preferences of U.S. firms for acquiring targets in their CEO home states, i.e., the state where they were born and grew up (Chung et al., 2018; Jiang et al., 2019), or in the state where they went to college (Wang and Yin, 2018). In this paper, we focus on cross-border acquisitions to investigate the tendency of firms managed by foreign CEOs to purchase targets in the CEO's home country. Familiarity and fondness of a home country can increase the proclivity of foreign CEOs to make acquisitions in their home country. Whether or not these acquisitions are value-enhancing is another question. As Jiang et al. (2019) point out, the knowledge and understanding that a CEO has about their hometowns can equip them with information advantages that allow

them to make superior acquisitions in these familiar locations (e.g., also see Van Nieurwerburgh and Veldcamp (2009), Bae, Stulz, and Tan (2008), and Malloy (2005)). On the other hand, a CEO's partiality to their home country can lead them to make acquisitions motivated by something other than pure rationality. For example, motivated by benevolent intent, foreign CEOs may make acquisitions in their home country to help a struggling local target or to revitalize local economic activity, which may not be in the best interests of the acquiring firm shareholders (e.g., Masulis and Reza (2015)). Our results reveal a strong CEO home country bias in foreign acquisitions, whereby foreign CEOs have a greater tendency to purchase targets from their home country. However, these acquisitions do not tend to be value-enhancing. This study contributes to the literature by providing new evidence on CEO characteristics that can influence foreign acquisition decisions. These results provide novel evidence of a home country bias in cross-border M&A.[8]

We differentiate between the local (home) bias with regard to the current and past location (home) of economic agents. While most studies on the topic are related to the current location of economic agents (e.g., investors), our study belongs to the 'home bias away from home' strand of research focused on the bias toward the *past, old, or former* location - a situation when an economic actor relocates from one place to another and their affiliation with the past place influences their decisions and behavior. Micro-level data for situations involving a geographic relocation of economic agents are rare. Such situations provide a unique research setting and allow testing the persistence of an individual's attachment to geography with changes in location and also across time. Our data using foreign CEOs allows us to identify their countries of origin as CEO past location (home) and analyze the impact of that location on a company's financial decisions.

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[8] Meng and Pantzalis (2020) study an *old* home bias, also knowns as a 'home bias away from home', among immigrant investors residing in the U.S. with regard to their home country firms' American Depository Receipts (ADRs).

A continuous debate has occurred in the home bias literature on the causes of this phenomenon. The causes of home bias can be divided into two groups: behavioral factors (e.g., familiarity, emotional attachment) and rational factors (e.g., private benefits, information advantage). While existing studies in corporate finance (Chung et al., 2018; Jiang et al., 2019; Wang & Yin, 2018) show that a CEO home *state* bias exists, their findings do not agree on the sources and consequences of the identified phenomenon. We study both the existence of the CEO home country bias in acquisitions and also contribute to the understanding of its causes, thus providing additional evidence to disentangle the home bias puzzle (Obstfeld & Rogoff, 2001).

Finally, while the finance literature has examined many CEO personal characteristics (Bertrand, 2009; Kaplan, Klebanov, & Sorensen, 2012), to the best of our knowledge this is one the few papers studying foreign CEOs and their effect on organizational outcomes (Conyon, Hass, Vergauwe, & Zhang, 2019; Agcayazi, Hibbert, & Morillon, 2020). In 2017 eleven percent of the large U.S. public corporations (S&P 1500) were headed by foreign CEOs. This is a three-to-four time increase over the last quarter of the century (see Table 2.2), which is likely driven by the intensified globalization of businesses (Passaris, 2006). Therefore, the effect of foreign managerial background on organizational outcomes is an important topic for research. Specifically, our paper shows that CEO foreign status, and country of origin in particular, influences target country selection in cross-border M&A as well as the shareholder wealth consequences of these decisions.

We find that foreign-CEO-run firms demonstrate strong preferences for buying targets in their CEOs' countries (home country bias). The likelihood of home country acquisitions is about three times higher than the probability of making a deal in any other (non-home) foreign country. At the same time, after excluding CEO home country deals, we do not observe the foreign CEO-run firms' propensity to engage in foreign acquisitions in general. In examining the consequences

of the home country bias, we document that the acquirer's abnormal returns around the merger announcement are significantly lower in CEO home country acquisitions. Additionally, in the post-merger period, acquiring firms experience a significant 3.6 to 7.5 percentage points decrease in profitability over the one to five year period following an acquisition in the CEO home country. In relative terms, this equals a 30% to 60% decrease in a firm's profitability. Collectively, negative market reaction and post-merger reduction in profitability, indicate that CEO home country biased deals appear to destroy value and are not value enhancing. We conclude, therefore they are more likely to be driven by behavioral factors, such as mental salience and availability, familiarity, emotional attachment, personal preferences of CEOs, and a pursuit of private benefits, and they are not the result of information advantage. Our findings are robust to several checkpoints including model specifications, alternative definitions of dependent variables, placebo tests, timing of deals conditioned on CEO appointment and turnover, as well as exclusion of certain countries from the sample.

In addition to our baseline results, several country, firm, and CEO characteristics play a moderating role in the home country bias phenomenon, increasing or decreasing its magnitude. Specifically, home country economic conditions, size of the economy, economic freedom, and country governance are positively associated with acquisition activity in the CEO home country, while geographic distance inhibits it. Better quality of the firm corporate governance (e.g., shareholder protection) and higher managerial ability are associated with lower levels of home country bias. This underscores the role of private benefits of control pursued by CEOs as sources of home country bias in addition to the behavioral factors. For example, quality of corporate governance may reduce agency conflict and CEO discretionary behavior based on personal

preferences, while managerial ability may increase the CEO's awareness of the bias and its potentially negative consequences for the firm's finances.

While *current* local decision makers may have more and better information, as suggested by other studies (Baik, Kang, & Kim, 2010; Choe, Kho, & Stulz, 2005; Coval & Moskowitz, 2001; Dvorak, 2005; Ivkovic & Weisbenner, 2005), our evidence indicates a lack of such information advantage in the *past* home situations. While economic agents exhibit bias toward their past location – 'home bias away from home', they do not appear to have the information advantage in doing business there. Even if the advantage existed in the past when an agent resided in the area, it appears to be lost with the agent's relocation.

In summary, we contribute to the literature pertaining to: 1) home bias in general and 'home bias away from home' in particular; 2) the role of CEO personal characteristics in organizational behavior; and 3) the determinants of acquisition decisions. Our results also have implications for corporations and the stakeholders affected by their decisions. Specifically, decision makers and company stakeholders should be familiar with the existence of the CEO home country acquisition bias, and especially be aware of its potentially negative consequences for firm value and performance. Possible implications of our findings are not necessarily limited to acquisitions and may apply to other forms of international business cooperation.

The remainder of the paper proceeds as follows. Section 2 provides review of the literature followed by the hypothesis development in section 3. Section 4 describes the data and methodology. Empirical analyses and their results are presented in Section 5. We discuss our findings and conclude in Sections 6 and 7, respectively.

2. Related Literature

This section reviews the literature for areas relevant to our study: 1) home bias, 2) personal characteristics of managers, and 3) international background of economic actors.

2.1. Home (Local) Bias

In the economic context, home bias is typically defined as a preference of economic agents to buy and to own geographically proximate (local) assets. In other words, they tend to overweigh local assets relative to the optimally diversified investment portfolio implied by the modern portfolio theory and availability of the non-local assets.

Home bias has been studied extensively and mainly regarding investments and investor behavior.[9] Preferences for local assets have been revealed in a wide range of asset classes: stocks of public firms (French and Poterba, 1991), corporate bonds (Fidora, Fratzscher, & Thimann, 2007), government bonds (Dermine, 2020), venture capital and private equity (Cumming & Dai, 2010; Hochberg & Rauh, 2013; Osborne, Katselas, & Chapple, 2012), hedge funds (Sialm, Sun, & Zheng, 2020), online investments (Lin & Viswanathan, 2016), bank loans (García-Herrero & Vázquez, 2013), residential properties (Choi, Hong, Kubik, & Thompson, 2014; Wright and Yanotti, 2019) and commercial real estate (Garmaise & Moskowitz, 2004; Hoesli, Lekander, & Witkiewicz, 2003; Imazeki & Gallimore, 2009).

Home bias in stocks (equity home bias) has received particular attention in the literature (Ardalan, 2019; Cooper, Sercu, & Vanpee, 2012). Strong evidence for the existence of investor preferences for stocks of geographically proximate (local) firms[10] has been documented in the

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[9] Several authors provide literature surveys on home (local) bias (Ardalan, 2019; Arik & Süer, 2019; Cooper, Sercu, & Vanpee, 2012; Gaar, Scherer, & Schiereck, 2020).

[10] Typically researchers use firm headquarters as an indication of company location and define local firms, from the investor's perspective, as those located in the investor's state or within certain radius (e.g., 100-250 miles) of investor's location. Coval and Moscowitz (1999) write about how "U.S. investment managers exhibit a strong preference for

portfolios of professional money managers (Coval & Moscowitz, 1999, 2001; French & Poterba, 1991; Ke, Ng, & Wang, 2010) and among individual (retail) investors (Grinblatt & Keloharju, 2001; Ivkovic & Weisbenner, 2005; Massa & Simonov, 2006; Karlsson & Norden, 2007; Feng & Seasholes, 2008).[11] Further, researchers distinguish between home (country) bias in international stock portfolios (Cooper & Kaplanis, 1994; French & Poterba, 1991; Karlsson & Norden, 2007; Meng & Pantzalis, 2020) and home (local) bias toward geographically close domestic stocks (Coval & Moscowitz, 1999, 2001; Grinblatt & Keloharju, 2001; Ivkovic & Weisbenner, 2005; Massa & Simonov, 2006; Feng & Seasholes, 2008). Several studies (Grinblatt & Keloharju, 2001; Huberman, 2001; Ivkovic & Weisbenner, 2005; Aviat & Coeurdacier, 2007; Tesar & Werner, 1995) document a negative effect of the investor-to-firm distance on the stock ownership and portfolio weights assigned to the company stocks by investors.

Home bias has been studied also in corporate finance literature, albeit to a limited extent. Its existence has been reported in the context of a firm's foreign country trade patterns derived from the international resident networks around company headquarters (Cohen, Gurun, & Malloy, 2016),[12] foreign direct investments (Levis, Muradoğlu, & Vasileva, 2016), location of corporate R&D centers (Cohen, Di Minin, Motoyama, & Palmberg, 2009), sovereign ratings (Fuchs & Gehring, 2017), choice of the IPO country (Bai, Tsang, & Xia, 2020), and corporate acquisitions (Böckerman & Lehto, 2006; Chung, Green, & Schmidt, 2018; Grote & Umber, 2006; Jiang, Qian, & Yonker, 2019; Uysal et al. (2008); Wang & Yin, 2018).

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locally headquartered firms". Seasholes and Zhu (2010) define local "as being headquartered near where an investor lives".

[11] Grinblatt and Keloharju (2001), Ivkovic and Weisbenner (2005), Massa and Simonov (2006), Feng and Seasholes (2008) use data for individual investors from Finland, United States, Sweden, and China, respectively.

[12] In an article on regional trading patterns, McCallum (1995) was the first to report the existence of a home country bias in trade at the macro level.

Uysal et al. (2008) and Grote and Umber (2006) find that U.S. firms have tend to purchase domestic targets located in the geographical proximity to the acquirer's headquarters. Böckerman and Lehto (2006) report similar findings using a sample of domestic acquisitions in Finland. Osborne, Katselas, and Chapple (2012) establish a home bias in acquisitions made by private equity firms. Using a sample of U.S. domestic deals, several papers (Chung, Green, & Schmidt, 2018; Jiang, Qian, & Yonker, 2019; Wang & Yin, 2018) study how CEO personal ties to a geographical area affect a company's selection of acquisition targets. Chung et al. (2018) and Jiang et al. (2019) find that firms are much more likely to make acquisitions in their CEO's home state identified by using the birth place and childhood state, respectively. Wang and Yin (2018) document a CEO home bias in acquisitions using a state of education as an indicator of a CEO's personal geographical connection.

Outside of portfolio and corporate investments home country bias has been documented also with regard to product evaluations by consumers (Verlegh, 2007), consumer ethnocentrism and preferences for domestic products (Balabanis & Diamantopoulos, 2004; Maier & Wilken, 2017), boycott of offshoring companies (Hoffmann, 2009), location of corporate R&D activities (Belderbos, Leten, & Suzuki, 2013), international emission trading (Hintermann & Ludwig, 2019), sovereign ratings (Fuchs & Gehring, 2017), immigrant-trade links (White, 2007), and international trade patterns (McCallum, 1995).

2.1.1. Home Bias Explanations

Several possible explanations for the existence of a home bias phenomenon have been proposed. They should be used in combination since none of them alone fully explain the home bias phenomenon (Ardalan, 2019). In principle, the proposed causes of home bias belong to one

of the two groups: rational or behavioral explanation. First, we discuss the rational factors. According to the information asymmetry hypothesis (Gehrig, 1993; Brennan & Cao, 1997, 2012; Bae, Stulz, & Tan, 2008; Coval and Moskowitz, 1999, 2001; Balduzzi & Liu, 2000; Guidolin, 2005; Kang & Stulz, 1997; Dahlquist & Robertson, 2001; Albuquerque, Bauer, & Schneider, 2007; Ivkovic & Weisbenner, 2005) investors know more about local asset and therefore have an information advantage. At the same time investors face information barriers when investing in assets far away from home such as an information immobility (Andrade & Chhaochharia, 2010) and information costs (Ahearne, Griever, & Warnock, 2004). This is especially true for assets requiring active investor involvement because non-locals face additional hurdles in the form of transaction, monitoring, management, information, communication, and regulatory barriers and costs (Cole & Obstfeld, 1991; Martin & Rey, 2004; Bhamra, Coeurdacier, & Guibaudbet, 2014; Harms, Hoffmann, & Ortseifer, 2015; van Wincoop, 1999; Gehrig 1993; Brennan & Cao, 1997; Coval & Moskowitz, 2001; Vissing-Jorgensen, 2004; Kang & Stulz, 1997). Therefore, some researchers (Van Nieuwerburgh and Veldkam, 2009, 2010; Mondria, 2010; Dziuda & Mondria, 2010; Mondria & Wu, 2010, 2013; Zhou, 1998) argue that tilting investment portfolios toward local assets can be a rational choice. Another possible rational explanation comes from the agency problem hypothesis (Stulz, 2005; Gelos & Wei, 2005; Giannetti & Simonov, 2006; Kho, Stulz, & Warnock, 2009) stating that investors may rationally choose to invest more actively within their close geographical vicinity because they can more easily extract private benefits of control from local ownership. In contrast to the rational explanations of a home bias, behavioral theories rely on cognitive and social psychology. For example, such factors as availability, visibility, salience, and repetitive observation of local assets may induce local investors to assign, subconsciously or consciously, higher mental weights to local assets resulting in greater familiarity with them

(Benartzi, 2001; Coval & Moskowitz, 1997, 1999; Grinblatt & Keloharju, 2001; Huberman, 2001; Feldstein & Horioka, 1980; Massa & Simonov, 2006; Zhu, 2002). Even superficial familiarity with local assets can make investors more comfortable when investing locally (Glassman & Riddick, 2001). Other behavioral explanations include investor's perception of competence and overconfidence (Graham, Harvey, & Huang, 2009; Heath & Tversky, 1991; Kilka & Weber, 2000), local networks (Parwada, 2008), cultural distance and characteristics (Aggarwal, Kearney, Lucey, 2012; Anderson, Fedenia, Hirschey, & Skiba, 2011; Beugelsdijk & Frijns, 2010; Guiso, Sapienza, & Zingales, 2009; Morse & Shive, 2011; Pradkhan, 2016), herding in local assets because of social pressures to "keep up with the Joneses" (Lauterbach & Reisman, 2004), patriotism and loyalty (Benartzi, 2001; Benos & Jochec, 2013; Cohen, 2008; Morse & Shive, 2011) investor characteristics (Grinblatt & Keloharju, 2001; Goetzmann & Kumar, 2004; Karlsson & Norden, 2007) and several others (Solnik, 2008; Solnik & Zuo; 2012; Shiller, Kon-Ya, Tsutsui, 1996; Strong & Xu, 2003). Thus, behavioral explanations of the home bias have been carefully studied.

Several studies in corporate finance (Chung et al., 2018; Cohen et al.; 2016; Jiang et al., 2019; Wang & Yin, 2018) and in investment literature (Meng & Pantzalis, 2020) look at home bias in a special setting when economic agents relocate away from home but exhibit preferences for conducting business with their old home location.[13] For example, Cohen et al. (2016) study the geography of company trade and acquisitions. They find that U.S. companies located in the areas with large and highly concentrated immigrant resident networks tend to trade more actively with and make more acquisitions in countries of the foreign residents' origins (home countries).

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[13] This form of home bias can be called old, past, former, transplanted home bias, or 'home bias away from home'. Such situations arise when economic actors (e.g., managers, investors) relocate, but for various reasons prefer to invest in assets located in their past location.

According to the authors, foreign residents serve as facilitators and conduits of international transactions for U.S. firms. Although, the authors do not interpret their findings in the context of home (country) bias, essentially their result shows preferences of economic agents for conducting business with their home countries while living abroad. Using very similar data and methods, Chung et al. (2018) and Jiang et al. (2019) independently document a tendency of U.S. firms to buy targets in their CEO′s state of birth and upbringing (home state). Similarly, Wang and Yin (2018) report the existence of a home bias in acquisitions with regard to the CEO state of education. In the investor behavior context, Meng and Pantzalis (2020) discover a preference of foreign-born residents living in the U.S. to invest in securities (ADRs) of firms from their home countries.

2.1.2. Performance in Local Assets

Performance in local assets is often used as evidence to support a thesis explaining home bias phenomenon. Multiple papers study performance in local stocks. According to several studies, institutional investors (Baik, Kang, & Kim, 2010; Bernile, Kumar, & Sulaeman, 2015; Choe, Kho, & Stulz, 2005; Coval & Moskowitz, 2001; Dvorak, 2005) and individual investors (Ivkovic& Weisbenner, 2005) perform better in home (local) stocks which could be used to support the idea of local information advantage and information asymmetry between local and non-local investors. Additionally, Hau (2001) finds evidence for an information advantage of professional traders in locally headquartered stocks. Malloy (2005) shows that security analysts have more precise forecasts when forecasting performance of local stocks. At the same time, Huang and Shiu (2009) find that foreign institutional investors investing in Taiwan stocks perform better than domestic investors. Using Finnish individual investor stock portfolio data, Grinblatt and Keloharju (2000) find that foreign investors outperform local households. Using the same U.S. based sample,

Ivkovic and Weisbenner (2005) argue that individual investors generate abnormal returns in local stocks while Seasholes and Zhu (2010), who use a different methodology, negate the earlier finding. In summary, results for performance in local stocks are mixed, but overall, there is more evidence to support the information advantage thesis.

Regarding acquisitions, according to Uysal et al. (2008) U.S. acquirers' abnormal stock returns around local transaction announcements are more than double of those in non-local deals. Similarly, Grote and Umber (2006) report a decrease in acquirer returns as the distance from an acquirer to a target increases. In the past-home bias setting, Chung et al. (2018) and Jiang et al. (2019) report a negative market reaction to acquisitions in the acquirer's CEO home state. At the same time, Wang and Yin (2018) report a positive market reaction to acquisitions in states where a CEO went to college. So it is noteworthy, authors have different conclusions on the mechanism and consequences of the home state (Chung et al., 2018; Jiang et al., 2019) and education state (Wang and Yin, 2018) biases.

2.2. CEO Personal Characteristics

There is a large and growing body of finance literature showing that managerial characteristics can explain corporate performance, financing and investment decisions (Benmelech & Frydman, 2015; Bennedsen, Perez-Gonzalez, & Wolfenzon, 2020; Bertrand & Schoar, 2003; Kaplan, Klebanov, & Sorensen, 2012; Malmendier & Tate, 2005a, 2005b, 2008; Malmendier, Tate, & Yan, 2011; Malmendier & Nagel, 2011). In management literature, the role of top managers and their effect on firm behavior has received a particular attention through the application of a well-established upper echelons theory (Carpenter, Geletkanycz, & Sanders, 2004;

Hambrick & Mason, 1984). While there are hundreds of studies on CEO personal characteristics, we selectively review some of them.

Given the profound influence of childhood and formative years (e.g., see Ridley (2003)) on an individual, several studies have focused on the effect of CEO's early life experiences on organizational behavior. For example, Malmendier and Nagel (2011) find that CEOs who grew up during the Great Depression are more conservative in their investment and financing policies. Along similar lines, Bernile, Bhagwat, and Rau (2017) show the existence of non-monotonic relation between CEOs' exposure to fatal disasters during early years and corporate risk-taking as proxied by cash holdings, leverage, and acquisition policies. CEOs who witness the extreme downside of fatal natural disasters (e.g., severe hurricanes) are more conservative in their corporate policies. However, CEOs who experience natural disasters without extremely negative consequences act more aggressively.

The early professional background of a CEO, before becoming a CEO, has implications for corporate decision-making as well. For example, Benmelech and Frydman (2015) study how a military service background of CEOs affects managerial decisions, financial policies, and corporate outcomes. They find that firms led by CEOs who served in the military (military CEOs) exhibit more conservative corporate policies and ethical behavior. Firms managed by military CEOs make fewer investments, are less likely to engage in fraudulent activities, and demonstrate better performance during industry downturns. Also, in examining CEOs with law backgrounds, Henderson, Hutton, Jiang, and Pierson (2017) find lower lawsuit frequencies and less severe litigation risk for firms managed by CEOs with law degrees.

Several papers have studied CEO overconfidence. On the downside, Malmendier and Tate (2008) find that overconfident CEOs overestimate their ability to generate returns and too often

overpay for targets, resulting in a negative market reaction to these deals. On the upside, Hirshleifer, Low, and Teoh (2012) note that overconfident CEOs invest more in R&D and more effectively produce innovation. In examining gender influences on CEO behavior Faccio, Marchica, and Mura (2016) find that companies managed by female CEOs use less leverage, have less volatile earnings, and have lower probability of bankruptcy compared to similar companies run by male counterparts. CEOs' *personal lives* may hold clues to their corporate decision-making as well. In another study related to CEOs' family environment, Cronqvist and Yu (2017) find that firms managed by CEOs who have daughters earn higher corporate social responsibility (CSR) ratings. Cronqvist, Makhija, and Yonker (2012) find that the degree of leverage that firms use to finance their operations reflects personal debt choices by CEOs as measured by the levels of home mortgage debt assumed to fund home purchases. Furthermore, Sunder, Sunder, and Zhang (2017) find evidence that sensation seeking by chief executive officers, proxied by their hobby of flying airplanes and holding a pilot license, leads to better innovation outcomes for their firms. The authors attribute these results to the higher creativity and innovativeness of pilot CEOs as manifested in their search for novelty, new experiences, and adventure.

2.2.1. CEO Characteristics and Corporate Acquisitions

Several studies link demographic characteristics of managers such as age, gender, and marital status with a firm's acquisition activity. Levi, Li, and Zhang (2010) suggest that younger male CEOs are more likely to be driven by hormones that lead them to be combative and aggressive in merger and acquisition contests. In line with this evidence single CEOs (Roussanov & Savor, 2014) and younger CEOs tend to engage in more acquisitions (Yim, 2013). For example, unmarried CEOs are more aggressive with their acquisitions and have higher stock return volatility

(Roussanov & Savor, 2014). According to Agcayazi, Hibbert, and Morillon (2020) firms run by CEOs with international background are more likely to engage in cross-border deals. However, it is quite possible for this finding to be driven by CEO home country bias. We investigate this concern in our analysis (Section 5). Many determinants of the acquisition decisions in general (Chakrabarti & Mitchell, 2013; Kang & Kim, 2008; Uysal, 2011; Yu, Umashankar, & Rao, 2016) and a target country selection in particular (Ananda & Delios, 2002; Bae, Chang, & Kim, 2013; Chari & Chang, 2009; Dowling & Vanwalleghem, 2018; Erel, Liao, & Weisbach, 2012; Hernando, Nieto, & Wall, 2009; Jory & Ngo, 2014; Kim & Lu, 2013; Malhotra & Gaur, 2014; Rossi & Volpin, 2004; Xie, Reddy, & Liang, 2017) have been studied.

2.3. Foreign Background of Economic Actors

Studies show that both foreign background and the international experience of economic agents (e.g., corporate executives, investors, and money managers) affect their decisions and outcomes in professional and organizational domains. Specifically, researchers have studied propensity of CEOs with international background to make cross-border acquisitions (Agcayazi, Hibbert, & Morillon, 2020), market entry mode by firms run by CEOs with international experience (Herrmann & Datta, 2002),stock preferences of foreign mutual fund managers (Covrig, Lau, & Ng, 2006), fund flows of mutual funds with managers who have foreign-sounding names (Kumar, Niessen-Ruenzi, & Spalt, 2015), career outcomes of foreign educated mutual fund managers (Barber, Scherbina, & Schlusche, 2017), compensation of CEOs with international experience (Conyon et al., 2019), performance of firms managed by CEOs who are second or third generation immigrants (Nguyen, Hagendorff, & Eshraghi, 2018), and choice of IPO location by foreign educated CEOs (Bai, Tsang, & Xia, 2020). While Agcayazi, Hibbert, and Morillon (2020)

show that CEO foreign background increases the likelihood of cross-border decisions. There is no this paper studying preferences of foreign-CEO-run firms to buy targets in their CEO home countries and the consequences of home country biased acquisitions.

3. Hypothesis Development

3.1. Home Country Bias in Acquisitions

A person's early years and upbringing environment shape an individual's identity which can affect decisions later in life at the organizational level (Bernile et al., 2017; Malmendier & Nagel, 2011; Malmendier, Tate, & Yan, 2011). The country where a person grew up, has family roots, built childhood memories and friendships, obtained education, and started a career has a special place in an individual's heart and mind. Individuals who spent their formative years in one country and later moved to another often have a strong emotional attachment and self-identity with their home country (van Ecke, 2005).

Foreigners are likely to retain and maintain cultural, family, friendship, and business ties with their homeland (Green & Waldinger, 2016). They can maintain ties with their homeland in different ways including personal actions and business transactions. For example, remittances, or repatriation of savings, by immigrants to their home countries is well-documented (Giuliano & Ruiz-Arranz, 2009; Rapoport & Docquier, 2006; Stark, Taylor, & Yitzhaki, 1986; Yang, 2011). It includes individualistic (e.g., altruism, exchange) and familial (e.g., investment, insurance) motives (Rapoport & Docquier, 2006) intended to promote local development and overcome liquidity constraints (Giuliano & Ruiz-Arranz, 2009). Garcia-Fuentes, Kennedy, and Ferreira (2016) document a positive relation between remittances from the U.S. to a country and U.S. FDI flows to that country. In the U.S., foreigners tend to reside in gateway cities (e.g., Los Angeles,

New York, Miami, Chicago) with large communities that share common ethnic, language and cultural backgrounds (Chiswick, Lee, & Miller, 2004). According to Meng and Pantzalis (2020) foreigners living in the U.S. tend to invest more in the American Depository Receipts (ADRs) of firms from their old home countries. Cohen et al. (2016) find that foreign residential networks serve as conduits and facilitators of international trade and acquisitions in the countries of foreign resident origins. Collectively, these research observations support an old adage that "birds of a feather flock together", and demonstrate a preference and a tendency of foreigners to establish and maintain relationships with their old home countries through personal and business/professional channels, directly or indirectly. In addition to the CEO's attachment to a home country, firms and CEOs themselves may have an interest and a desire to use a foreign CEOs' real or perceived superior knowledge of and connections in the home country (information advantage).

CEOs play an important role in identifying and selecting investment opportunities in general and in acquisition decisions (Jenter & Lewellen, 2015; Melmendier & Tate, 2008) in particular because these decisions are relatively rare and involve high stakes for their firms, and may have serious career implications (Lehn & Zhao, 2006). As a result of their close involvement in the acquisition process, CEO personal preferences may also have a strong influence on acquisition decisions including selection of a target and target's geographic location.

Therefore, based on the above arguments and following earlier studies on the genesis of home bias (Section 2.1), foreign CEOs may be drawn to investments in their home country, while firms may want to exploit a real or perceived CEO home country information advantage. As a result, foreign CEOs and their firms might prefer buying target companies located in the CEO's home countries than in other foreign countries. Therefore, we conjecture

Hypothesis 1: Firms managed by foreign CEOs are more likely to make acquisitions in the country of CEO origin (CEO home country).

3.2. No Information Advantage in Home Country

If the CEO home country bias in acquisitions exists, what could be its possible explanations? We have two sets of options to explore: individual's behavioral inclinations or rational choice factors. Behavioral sources may include emotional attachment, mental salience and familiarity with one's home country. Rational factors are represented mainly by information advantage and a manager's search for private benefits of control. We form the explanation hypothesis for a home country acquisition bias and then decipher the mechanism empirically.

First, we assume that like any other acquisition, a deal in the CEO's home country can be value creating, value destroying, or value neutral (Seth, Song, & Pettit, 2002). The outcome depends on many factors including deal motives, target selection, potential benefits (e.g., synergy), price with respect to value, deal execution, and post-merger integration and value extraction (Seth et al., 2002). Top managers such as CEOs can affect deal performance during the target selection, acquisition and integration process in their home countries. If a foreign CEO possesses real advantages for identifying and executing investment projects in the home country, for example through access to local investment bankers, lawyers and other advisers, then such acquisitions can create value. On the other hand, if a foreign CEO has no information advantage in their home country, then such deals can be value destroying or value neutral.

The question on financial ramifications of acquisitions in CEO home country can be viewed as empirical in nature. However, several papers (Chung et al., 2018; Jiang et al., 2019; Pool, Stoffman, & Yonker, 2012) provide evidence against the information advantage hypothesis

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in situations of *old* home bias. Using almost identical samples and similar methods Chung et al. (2018) and Jiang et al. (2019) independently find, first, a significant negative market reaction to acquisitions in a CEO home state and, second, a decrease in the acquirer's post-merger profitability. [14] Pool et al. (2012) document that investments in stocks of firms located in home states of mutual fund managers do not outperform other holdings. Moreover, such overweighting also leads to excessively risky portfolios. These authors conclude that such *old* home biased investments are not well informed and are driven by familiarity.

Further, while local investors and acquirers may possess an information advantage when investing in geographically close assets (Coval & Moskowitz, 2001; Grote & Umber, 2006; Uysal et al., 2008), such advantage is more likely to be diminished or completely lost with regard to the past location from which an economic agent relocates. Doing business overseas involves higher levels of information asymmetry and risks (Mantecon, 2009). Cross-border deals require specialized country and local expertise (Angwin, 2001; Arena & Dewally, 2017; Benou, Gleason, & Madura, 2007; Caiazza, 2013; Faelten, Gietzmann, & Vitkova, 2014; Humphery-Jenner, Sautner, & Suchard, 2017). For these purposes firms intending to make a cross-border acquisition employ investment bankers, lawyers, management consultants, and other professional advisers (Arena & Dewally, 2017; Westbrock, Muehlfeld, & Weitzel, 2019). Since all firms, regardless of the CEO ties to the country, have approximately equal opportunity to hire the same quality consultants, a CEO's general knowledge of culture and traditions and mastery of local language

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[14] In contrast to these two studies, Wang and Yin (2018) report a positive market reaction to acquisitions in the CEO state of education. Access to the data on CEO education allows us to replicate analysis of the market reaction to acquisitions in the CEO state of education: we do not find evidence of positive or negative market reaction to the education state biased deals.

while helpful do not necessarily provide a critical advantage during the transaction and post-acquisition activities.

Using a sample of Japanese MNCs, Hébert, Very, & Beamish (2005) study the role of expatriate managers, who are sent to the target country by the acquiring firm, as 'value-seeking connectors' in cross-border acquisitions. Their results show that "the contribution of expatriation to the acquired firm's survival varies considerably depending on the type of experience considered. In fact, "connectivity through expatriation is costly and only when appropriately sent abroad, do expatriate managers build an effective bridge over the troubled water that characterizes the challenging post-acquisition integration."

Combining existing evidence with sound reasoning allows us to conjecture the following:

Hypothesis 2: CEO home country biased acquisitions are more likely to have negative financial ramifications for the acquiring firm.

4. Data

This section defines key variables, describes the data collection and sample construction process, and provides data sources and summary statistics. Detailed definitions of all variables are included in Appendix A.

4.1. Foreign CEOs: Definition and Classification Criteria

A common criterion to identify the foreign status of an individual is based on the country of citizenship or a country of birth. However, this approach is potentially problematic if the intent is to capture an individual's attachment and/or experiences within a country. For example, someone who was born overseas and moved to the United States during childhood with a family

could technically be classified as a foreigner. However, a foreign-born person growing up in the U.S. is likely to self-identify with American society and should not be classified as a foreign CEO for the purposes of our study. Another example of a misclassification problem is an individual who grew up in another country and became a U.S. citizen through naturalization. If we were to rely on the citizenship criterion, this person would not be classified as a foreigner, although it would be more accurate to classify them this way for the intent of our study. Thus, to avoid these problems, for a CEO in our sample to be classified as a foreign CEO, we require an individual to have spent a significant part of his/her formative years outside of the United States. Applying the formative period approach helps us classify as foreigners those executives who have experienced life in a foreign country during a period of their lives that shapes who they are.

Formative years include different phases (e.g., adolescence, early adulthood) and typically last from 4 to 21 years of age (Gogtay et el., 2004). This formative period has a long-term influence on a person's behavior in adulthood (Cable & Sacker, 2008; Harrington, Fudge, Rutter, Pickles, & Hill, 1990; Pajer, 1998) and may also affect organizational behavior (Bernile et al., 2017; Malmendier & Nagel, 2011). The influence of latter formative years can have an especially significant impact on an individual as the experiences during this time frame are particularly perspicuous. One way to capture experience within a foreign country is identifying individuals who obtained a foreign university degree, as living in a foreign country over an extended period of time during formative years can establish a connection and potential affinity for the foreign country that would not otherwise exist.

The ExecuComp database contains approximately eight thousand unique names of CEOs from the largest U.S. public companies (S&P 1500) during the 1992-2017 period. To identify foreign CEOs and their countries of origin (home countries) we use several complementing

methods and sources. A country of undergraduate education can serve as a reasonable proxy for a country of origin, or home country. First, by default a country of education is the same as a country of residence during the school years. Second, obtaining university education requires an extended time period which is on average more than four years[15] and an individual typically attends the first (undergraduate) degree institution in his/her *later* formative years (ages 16-21)[16]. To collect information on the CEO country of education[17] we rely on the BoardEx database and several other sources. BoardEx contains the names of educational institutions, graduation dates, and degrees earned by corporate directors as well as other senior executives around the world.[18] Since most CEOs simultaneously serve as directors on the boards of their or other companies, by using a manager's full name, age and company name, we match CEOs from ExecuComp with observations in BoardEx. In situations when a CEO name is not present in BoardEx or educational data is missing, we rely on Marquis Who's Who in Corporate America, company annual reports, NNDB, and online public sources available through Google search, in the last instance. As a result, we are able to identify alma maters for 6,769 CEOs. Using names of educational institutions we search for countries of their domicile. We find that 533 CEOs[19] in our sample obtained their undergraduate degrees from universities located outside of the United States (foreign universities).

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[15] According to the National Center for Education Statistics first time bachelor's degree recipients from 2015-2016 graduation cohort completed their degrees on average in 5.1 years: https://nces.ed.gov/fastfacts/display.asp?id=569. Furthermore, living in a country over such a significant period of time allows a person to establish emotional and other personal and professional connections with the country of education even if that country is different from a country of birth or a country of residence during *earlier* formative years (e.g., ages 5-15).

[16] Based on the information for the CEO years of birth from ExecuComp and graduation years from BoardEx) the average age at graduation for a CEO in our sample was 22.1 years for U.S. CEOs and 22.3 years for foreign CEOs.

[17] BoardEx also contains information on an individual's nationality. However, these data are rather cursory and when available we use these data only to compare and verify correctness of the information obtained using our primary data collection method. For example, following BoardEx roughly only 3 percent of all CEOs in our sample are of foreign origin. Using CEO country of education data and a country of birth data (when available), we document that almost 8% of CEOs in our sample are foreigners.

[18] BoardEx education database is available starting from 1999.

[19] Here we address several potential concerns associated with our methodology for identifying foreign CEOs. i) One possible concern with our foreign CEO identification criteria is the possibility of classifying as foreign CEOs

Next, we verify that foreign educated CEOs are actually foreigners and that CEO's the country of education can be reasonably called the home country.[20] BoardEx contains information relating to the nationality of executives, but this information is cursory and not complete.[21] However, when such nationality data are available we compare a CEO's country of nationality with the country of education. Thus we are able to observe that these countries are the same in 88.6% of cases.[22] Additionally, using Marquis Who's Who in Corporate America, NNDB, company annual reports, and online public sources available through Google in the last instance we search for a country of birth for each of the 533 foreign educated CEOs in our sample. With high confidence we are able to identify countries of birth for 330 of them. Comparison between countries of birth and countries of education reveals that 95% of foreign educated CEOs were born

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Americans who obtained their first degree abroad. We argue such instances are quite rare. For example, according to the World Bank during 1998-2013 less than one third of a percent (.30%) of U.S. students study abroad in any given year (Roser & Ortiz-Ospina, 2013). Second, it is reasonable to assume even a smaller number of American students studying abroad complete there a full course of study and graduate from with a degree from a foreign institution. Third, although in these rare cases CEOs cannot be called foreigners, such cases would not pose a problem because American CEOs, who spent a significant fraction of their formative years overseas, would still build emotional and other ties with countries of their education. Finally and most importantly, when we specifically search for countries of birth for each of the 533 foreign-educated CEOs in our sample, none of them appears to be born in the United States. ii) Another foreign CEO identification challenge is posed by situations when an individual has spent formative years in two or more different countries and obtained education in one of them. For example, a person born in India may go to study in the UK. This appears to be of minor concern since in this case a foreign CEO classification applied to such an individual would still be in principle correct. Comparison between countries of birth and countries of education reveals that 95% of foreign educated CEOs were born in the countries of their education. Additionally, we find that 88.61% of executives classified as foreign CEOs received university education in the same country as the country of their nationality. iii) A different challenge is associated with omitting foreigners who were born and spent their *early* formative years in a foreign country and then moved to the United States and obtained a U.S. degree (e.g., Elon Musk). We believe that a measurement error associated with such instances could only weaken, but not strengthen, results from our hypothesis tests.

[20] The very fact of living in a country over an extended period of time, and especially during formative years, is likely to establish a deep psychological connection and attachment to that country even if it never becomes a home country in a true sense.

[21] BoardEx does not provide information on CEO nationality (citizenship) 40% of the time. Many foreign CEOs appear to have a dual citizenship and are naturalized U.S. citizens (32.2%). Importantly, a very small fraction (1.437%) of CEOs classified by our approach as American CEOs appear to have a foreign nationality in BoardEx. This would include situations of dual citizenship by U.S. born and raised executives, abandonment of U.S. citizenship for tax optimization and other reasons, as well as a minor measurement error inherent in our classification/identification methodology.

[22] We exclude from these calculations CEOs who appear to be naturalized American citizens.

in countries of their education.[23] Aforementioned evidence allows us to reasonably conclude that overall a country of education is a good proxy for a country of birth and is also representative of a country of origin (home country).

4.1 Sample Composition

In summary, our final sample includes 6,769 CEOs, 3,163 firms, and 39,596 firm-year observations, and 10,918 acquisitions (Table 2.1) for years 1992 through 2017. Foreign CEOs constitute 7.87% of all CEOs in the sample and 14.54% of the sample firms have employed a foreign CEO at least once. We use information on the CEO foreign status and country of origin in to construct independent variables to empirical test our hypotheses.

Table 2.2 presents the distribution of CEOs based on foreign status by year and industry. It is noteworthy that the fraction of foreign CEOs has grown consistently from 3.2% in 1992 to 10.9% in 2017 (Table 2.2, Panel A). This is more than a threefold increase over a quarter of a century. Distribution of CEOs by economic segments using Fama-French 12 industry groups (Table 2.2 Panel B) reveals that foreign CEOs tend to work more frequently in the following economic segments: consumer durables and nondurables, energy, chemicals, and health. At the same time, they are underrepresented in manufacturing, business equipment, utilities, finance, and retail areas.

Table 2.3 presents the breakdown of foreign CEOs and cross-border acquisitions by country and world region using a firm-year unit of observation. Foreign CEOs come from various parts of the globe and represent forty three (43) countries and five (5) world regions. While a

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[23] Comparison between countries of education on one hand and countries of nationality and birth on the other provides a dual verification for the CEO country of origin (home country). We observe a higher reliability of our methodology for identifying foreign CEOs than using a country of nationality or a country of birth alone.

majority of foreign executives are from the English speaking countries, a large fraction of them come from the non-English speaking world (44.1%). With the exception of Canada, the U.K., and India, there is a significant heterogeneity and dispersion in the country of CEO origin. CEOs from Europe comprise almost half of all foreign executives (47.1%). CEOs from Asia/Oceania constitute the second largest group (23.5%) followed by North America/Canada (18.6%), Africa/Middle East (8.3%), and Latin America (2.6%). At the country level, CEOs from the United Kingdom constitute almost a quarter (24%) of all foreign CEOs. Other top countries include Canada (18.6%), India (11.4%), France (5.8%), Australia (5.4%), Germany (3.9%), South Africa (3.4%), Israel (3.2%), and Ireland (2.8%).

We obtain information on corporate acquisitions from the Refinitiv Securities Data Company (SDC) Platinum M&A database and include only purchases of equity stakes in target companies equal to 50% or higher with a minimum deal value in the amount of $1 million. Based on the above criteria, during the 1992-2017 period, the largest American corporations (S&P1500) used in our sample have made 10,918 acquisitions including 8,614 domestic and 2,306 foreign targets. Foreign targets comprise 21.1% of all deals. We identify cross-border acquisitions and target countries using related identifiers in SDC and document transactions in sixty nine (69) different countries. The majority of foreign acquisitions are in non-English speaking countries (68.9%). This is in contrast to the CEO distribution described earlier. Europe is the main acquisition ground for U.S. firms (57.6%), followed by North America/Canada (16.1%) and Asia (14.6%). Several countries such as UK (21.6%), Canada (16.1%), Germany (8.9%), France (6.8%), and Australia (5.3%) have attracted a particular interest from the U.S. acquirers. Overall we observe a significant dispersion of deals across different countries.

5. Empirical Analysis

This section provides a detailed empirical analysis and test results for our hypotheses postulated in Section 3.

5.1. Summary Statistics

Table 2.4 presents a list of variables used in this study and their descriptive statistics. These variables can be broadly grouped into three categories: firm, manager, and deal characteristics. Detailed descriptions of all variable are provided in Appendix A. For firm related variables we use accounting data from Compustat and rely mainly on ExecuComp and BoardEx for the CEO variables. [24] For deal characteristics we use SDC. Data on stock returns is from CRSP.

Next, we compare variables by CEO foreign status. Outcomes from the difference-in-means tests (Table 2.4) reveal significant contrast between foreign-CEO and U.S. native-CEO-run companies along multiple dimensions. First, foreign CEOs tend to work for smaller and younger firms. This may seem counterintuitive as one would expect foreigners to manage larger and well-established multinational organizations in need of global expertise and mindset. On the other hand, younger and smaller firms may be more open and entrepreneurial thereby allowing foreigners at the helm. Further, foreign-CEO-run firms have higher market valuations, hold more cash, invest less in CAPEX, and use less debt and fewer tangible assets in their operations. They also appear slightly less profitable. Considering CEO characteristics, foreign executives are younger, have shorter tenures, and are more likely to be males. Foreign CEOs do not appear to be more overconfident. Comparison of deal characteristics by CEO foreign status reveals a higher propensity of foreign-CEO-run firms to make acquisitions overseas (*Foreign target*), more negative market reaction (*Bidder CAR*) to such deals, and a larger decrease in the firm's post-

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[24] To identify Foreign CEOs and countries of their origin, we additionally use Marquis Who's Who and public sources.

merger operating performance (*ΔROA*). We control for the observed differences between foreign-CEO and U.S. Native-CEO-managed firms using our multivariate regression tests.

5.2. CEO Home Country Acquisition Bias: Baseline Results

To test empirically our 'Home country acquisition bias' hypothesis (H1), we create a firm-country-year sample where each firm in a given year (35,596 firm-year observations) is joined with full list of countries (75) represented in the sample by at least one deal or one executive (Table 2.3). This sample is based on cross-border deals and years without acquisitions. This approach allows us to test our first hypothesis stating that foreign-CEO-run firms are more likely to buy targets in their CEO home countries. To test our home country bias hypothesis we use the following multivariate regression model with fixed effects (Model 1):

$$Y_{i,c,j,s,t} = \beta_h \text{ Foreign CEO home country}_{i,s,t} + X'Controls_{i,c,t-1} + \delta_{j,t} + \varphi_i + \gamma_{c,s,t} + \varepsilon_{i,c,t} \qquad \text{Model (1)}$$

Detailed description for all variables is provided in Appendix A. Outputs from the regression tests are presented in Table 2.5. We cluster robust standard errors at the firm and country levels and report robust t-statistics in parentheses. Significance levels are denoted by *, **, and ***, which correspond to the 10%, 5%, and 1% levels, respectively. The key independent variable *Foreign CEO home country* takes a value of one when a CEO country of origin (home country) matches a country from the defined universe of the possible target/home countries, and zero otherwise. We use several outcome variables ($Y_{i,c,j,s,t}$) measuring a firm's acquisition activity in a given country. The first dependent variable, *Country deal dummy,* equals one when a firm makes a cross-border deal in country *c* in year *t*. Constructed in a similar fashion, alternative dependent

variables include *N country deals*, *DV country (log)*, and *DV country/TV* measuring the number of acquisitions made by firm *i* in country *c* during year *t*, total value, and relative value of transactions, respectively.

In the selection of control variables we rely on previous research and identification of possible confounders (Table 2.4) for our dependent and independent variables. First, we control for the following firm characteristics: firm size, market valuation, cash reserves, leverage, profitability, and investment activity. Indeed these factors may influence corporate policies and a firm's propensity to hire a foreign CEO. *Firm size* is the book value of total assets. *Market-to-book* is calculated as the total assets minus book equity plus market value of equity divided by total assets. *Cash* is a ratio of cash holdings to total assets. *Leverage* is a sum of long-term debt and debt in current liabilities over total assets. Return on assets (*ROA*) is calculated as a ratio of operating income before depreciation to total assets. *Investment* is capital expenditures (CAPEX) scaled by total assets. In addition to the firm level covariates, we control for several managerial characteristics such as foreign CEO status (*Foreign CEO*), CEO age, tenure, gender, and self-belief because acquisition activity can be affected by these factors. *CEO age* is age years and *Tenure* is a number of years with a firm in the CEO role. *Female* is an indicator variable of gender that takes a value of one if a CEO is a woman, and zero otherwise. *Overconfident CEO 67* equals one if a CEO does not the exercise vested options in the company stock when these options are at least 67% in the money (Hirshleifer et al., 2012), and zero otherwise. Further, to control for the acquisition opportunities in each potential target country we use size of the country's economy based on GDP (constant 2010 US$). We also control for the firm's geographic proximity to the possible target country (Chakrabarti & Mitchell, 2013) using a distance from the firm headquarters

to the country's main city. Subject to the model specification we use year-industry, firm, firm HQ state-country, firm HQ state-country-year and firm-country fixed effect.

After regressing the acquisition activity variable (e.g., *Country deal dummy*) on *Foreign CEO home country* and on a battery of controls commonly used in the literature (Table 2.5), we are interested in the coefficient β_h (Model 1). This coefficient should indicate the differential effect (if any) of the CEO home country on the firm's acquisitiveness in that country. We observe positive, economically meaningful and statistically significant coefficients for *Foreign CEO home country* for different model specifications using *Country deal dummy* as a dependent variable (columns 1.1-1.9 of Table 2.5) and alternative measures of firm's country-specific acquisition activity (columns 2-4). In the baseline model (1.4) the coefficient for the variable of interest is 0.008 and it is significant at the conventional 1% level of significance ($p < .00001$). The probability of incorrectly rejecting the null hypothesis of no effect of the CEO home country on a firm's acquisition activity in that country is less than 0.001 percent. Therefore, with a very high degree of confidence we can reject the null hypothesis in favor of the alterative 'Home country acquisition bias' hypothesis (H1): foreign CEO-run-firms exhibit a propensity to make acquisitions in their CEO home countries. In probability terms, they are three to four times[25] more likely to acquire a target in the country of CEO origin than in any other foreign country. Such high magnitude demonstrates the high importance of the managers' geographic roots in shaping a firm's choice of target countries.

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[25] The coefficient on *Foreign CEO* shows the unconditional probability of a foreign-CEO-run firm making acquisition in *any* foreign country. It equals .002 (.0001607), which is roughly ¼ of the coefficient on *Foreign CEO home country,* and is statistically insignificant (t-stat=.74).

5.3. Robustness to Alternative Explanations

Next, we test robustness of the home country acquisition bias by excluding alternative explanations for our findings: 1) the general acquisitiveness in foreign countries of foreign-CEO-run firm, 2) firms hiring foreign CEOs to make deals in their home countries (reverse causality), 3) prior CEO country effect, and 4) sheer coincidence of the observed results.

5.3.1. General Acquisitiveness in Foreign Countries

First, it is possible that foreign CEO-run-firms in general are more likely to make acquisition in foreign countries and exhibit a general foreign country acquisition bias. Since foreign CEO home country deals are a subgroup of foreign deals, it is also possible that the home country acquisition bias we observe is actually driven by the general foreign country acquisition bias. In part, such a possibility can be investigated using the *Foreign CEO* dummy variable as a control variable. A coefficient on *Foreign CEO* in Table 2.5 is positive (.002) but insignificant (t-stat = .74) indicating that in general foreign-CEO-run firms do not seem to be more actively involved in cross-border deals. In Table 2.6 we use a different (firm-year) sample allowing us to assess directly a likelihood of foreign-CEO-firms engaging in foreign acquisitions in general. In Panel A we see some weak indication (columns 2 and 3) of such activity at the 10% level of significance ($p < .10$). However, when we exclude CEO home country deals from the sample (Panel B) these results disappear and we do not observe any signs of a foreign country bias in general.

5.3.2. Reverse Causality

Several possible explanations for our findings may exist. It is possible that when a company intends to make an acquisition in a certain country, it is more likely to hire a CEO originating from

this country to assist with acquisition and post-merger activities. In this case, a company first defines a strategic direction and chooses a target country, and then it hires the most suitable CEO to execute, but not to define the target country choice. This is a simultaneous situation of a reverse causality and firm-manager matching for deal purposes. This situation would be radically different from the managerial imprinting effect on the organizational behavior. To disentangle these effects we assess the role of CEO's length of time in position (tenure) on the firm acquisition activity in the CEO home country. First, if a typical firm hires a CEO originating from a specific country to assist with doing deals in this country, it is reasonable to assume that such acquisition should occur within a relatively short-time period (e.g., 1-2 years) after the CEO appointment. To assess this possibility empirically, we create a variable *Short tenure* that equal one when a CEO has been in the position for less than three years, and zero otherwise. Using a variant of Model 1, in Panel A of Table 2.7 we report regression outcomes for three variables: *CEO home country, Short tenure*, and their interaction term (*Home country × Short tenure*). Here we are mainly interested in the outcome for the *Home country × Short tenure* variable. Its coefficient is positive but insignificant which indicates that firms are not actively involved in acquisitions in the CEO home country shortly after the CEO appointment. This excludes a reverse causality as general interpretation. We conclude that firms do not hire CEOs from a given country with the main purpose of doing deals in that country. Additionally, we find no effect of the CEO tenure in general on home country acquisition bias: coefficient on *Home country × Tenure* variable is insignificant (Panel B of Table 2.7). Therefore, with reasonable caution we dismiss the reverse causality and matching as the primary possible explanation for a firm's propensity to make deals in CEO home countries.

5.3.3. Prior CEO Role

Next, somewhat related to the CEO appointment and tenure analysis above, we explore a firm's propensity to make deals in the prior CEO home country. Such an investigation should help us evaluate a firm's commitment to making acquisitions in the former CEO home country, or a lack thereof, and assess a persistence of the managerial effect on the choice of a target country. In Table 2.8 we report regression results for the acquisition activity in the prior CEO home country. Collectively, insignificance of the coefficient on *Prior CEO home country* and positive results for the current *CEO home country* show that home country acquisitions occur only as long as CEO is in the position, and not after leaving the office.[26] This supports the managerial imprinting effect on organizational behavior explanation as a viable explanation for the home country bias.

5.3.4. Placebo Tests

To make sure our home country acquisition bias findings are not spurious, that is they are not driven by coincidence, we use placebo tests. The placebo tests use simulated data where home countries - the treatment - are randomly assigned to CEOs. The randomization procedure maintains

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[26] We explore a possible correlation between the prior and current CEO home countries. Comparison of the current and former CEO countries reveals: among all foreign CEOs, when the data on prior foreign CEO countries is available (322 instances), 16.77% of firms with current foreign CEOs had a foreign CEO as predecessors and 5.59% of current foreign CEOs were preceded by CEOs from the same country of origin. In other words, about a third of all foreign CEOs have been replaced by foreign CEOs from the same country. It yields a conditional probability of 0.33 while the unconditional probability of employing a CEO from any single country other than the United States would be quite low. This is important because if a firm exhibits persisting and time transcending preferences for employing CEOs from a certain country, it is likely to be caused by some form of connection with that country (e.g., foreign ownership, market presence) possibly not observed in the available data. Hence, we can reasonably assume that on average a foreign CEO-run firm would be committed to conducting business in a given and firm-chosen country irrespective of the CEO home country and CEO turnover. However, this is not the case (Table 2.8). We observe that only current CEO home country but not prior CEO home affects firm's acquisitiveness in the CEO home country and highlights the importance of timing of the CEO home country acquisitions: they happen during the years when an individual is in the office, that is, has the decision-making authority and access to firm's resources. This corroborates the idea of the CEO's imprinting effect on organization behavior: the home country acquisition bias is not defined by the firm-level observed or unobserved characteristics or firm-CEO matching, but is likely to be determined by the foreign CEO's own decision to make an acquisition in his/her home country.

the original data structure, but reshuffles CEO home countries drawing from their original

geographic distribution observed in the sample. Table 2.9 reports the results and Figure 1 plots the

distributions of coefficient estimates for a firm's acquisition activity in the CEO home country

from the placebo regressions following one of the stricter model specifications (Table 2.5, column

1.5). The dependent variable is *Country deal dummy,* and the independent variable is *CEO home*

country. We record the coefficients, *p*-values, and t-statistics from the placebo regressions based

on simulated data, and repeat the procedure 500 times. The reported coefficient (.0015)[27] and t-

statistic (.60) are the means of coefficients and t-statistics across 500 replications. On average, the

coefficient on CEO home country from placebo tests is statistically insignificant and much lower

than the actual coefficient (.0074; $p < .0001$) from Table 2.5 (column 1.5). The percentage of

placebo tests producing coefficients greater and more statistically significant than the actual

coefficient (*Percent > Actual coefficient)* is below one percent (0.40%). Therefore, we conclude

that the possibility of our results being formed purely by chance is extremely low.

5.4. Moderating Effects

Several factors may influence the CEO home country acquisition bias by either increasing

or decreasing its magnitude and thus playing a moderating role. Such moderating effects can exist

at the country, firm and CEO levels.

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[27] This coefficient indicates the natural degree of deal occurrence in the CEO home countries which would be equal
to the unconditional frequency of deals in any other foreign country.

5.4.1. Role of Country Factors

We expect country-level factors: economic conditions, economy size, economic freedom, and quality of country governance, to have magnifying effects on the firm acquisition activity in the CEO home country. At the same time, a geographical distance from the acquirer to the potential target country may show diminishing acquisitiveness in this country. To test our conjectures for the proposed moderators (Tables 2.10-2.12), we use the Model 1 specification (Table 2.5, column 1.4) with a full set of controls and including industry-year, firm, and firm HQ state-country-year fixed effects. The dependent variable is *Deal country dummy.* The variables of interest include *CEO home country* and its interactions with various country-level measures such as unemployment rate (Table 2.10, column 1), size of the economy (column 2), GDP growth rate (column 3), per capita income growth rate (column 4), distance to the potential target country (column 5), degree of economic freedom (column 6), and quality of country governance (column 7).

We document that country economic conditions, when proxied by the unemployment rate (column 1), have a moderating effect on acquisition activity in the CEO home country (-.0004; $p < .05$): as unemployment rate increases (decreases) CEO home country bias decreases (increase). Two other measures of the economic conditions - *GDP growth rate* and *Income growth per capita growth* (columns 3 and 4) – suggest the expected positive association with the home country acquisition bias but lack statistical significance. Size of the country's economy indicates the availability of investment opportunities in general and acquisition opportunities in particular. Taken together, outcomes for *CEO home country* and its interaction with *Economy size* (column 2) suggest an amplifying role of the economy size on the acquisition activity in home country. In contrast, a physical distance from acquirer to target country has a negative effect on firm's acquisitiveness in the CEO home county: as distance increases the bias decreases (column 5).

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Please note a greater diminishing role of distance for home country acquisitions (-.0040; $p < .001$) than for general acquisitiveness in foreign countries (-.0022). Finally, the socio-political environment also plays an important role: we observe positive and significant coefficients on the interactions of *Home country* with *Economic freedom* and *Country governance* (column 6 and 7). Greater economic freedom, representing more open economy and business climate conducive to investments, increases a firm's preferences for deals in the CEO home country (.0002; $p < .1$). Its effect on home deals is three times larger than on foreign acquisitions in general (.000065). Similarly, quality of the government institutions and the rule of law (column 7) increase acquisitiveness in the CEO home country (.0002; $p < .05$). This effect is ten time larger than for overseas acquisition activity in general (.00002). In addition to the country level macro factors, we assess the role of firm and CEO characteristics as potential moderators for our baseline findings.

5.4.2. Role of Firm Governance

At the firm level, quality of corporate governance may mitigate CEO home country bias by regulating managerial discretion and career implications. We rely on three aspects of corporate governance and their respective measures: shareholder protection (*G-index*),[28] managerial entrenchment (*E-index*), and agency conflict (*Agency Index*). Variable descriptions are in Appendix A. We use the interaction and median split variables to study the moderating role of corporate governance on CEO home country bias and report results in Table 2.11. Coefficients on all three interaction terms (columns 1, 3, 5) suggest a reduction in the home country acquisition

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[28] Governance index is based on 24 antitakeover provisions and taken from Gompers, Ishii, and Metrick (2003). It ranges from 0 to 24. *G-index* increases as the degree of shareholder protection decreases.

activity with improvement in the governance quality, but these coefficients are insignificant. Next, we use the median split variables (e.g., *Home country | High G-index* vs. *Home country | Low G-index*), created by conditioning CEO home county bias variable on the top and bottom halves from the governance variables distributions. Outcomes for all three split variables (columns 2, 4, 6) are consistent and show that CEO home country bias is driven largely by firms with weaker shareholder protection (.0144; $p < .01$), higher managerial entrenchment (.0067; $p < .05$), and higher agency conflict within firm (.0099; $p < .01$). Hence, we can conclude that improvement in the quality of corporate governance lessens the degree of home bias.

5.4.3. Role of CEO Characteristics

Finally, we explore the moderating role of CEO characteristics. More confident executives may demonstrate a higher degree of bias for making deals in home countries, while more educated and able executives may be more objective and cautious, and therefore less biased. Using interaction terms, in Table 2.12 we observe an insignificant positive role of CEO overconfidence (column 1) and insignificant negative effect of education (columns 2 and 3) on home country bias. With regard to CEO ability executives in the bottom half of the managerial ability distribution are more home biased that their counterparts in the top half (column 5). In summary, the identified moderating effects using country level factors (Table 2.10) as well as firm and CEO characteristics (Tables 2.11 and 2.12) make economic sense and they also corroborate the meaningfulness of our baseline findings.

5.5. Market Reaction to Home Country Deals

      To disentangle and identify possible drivers behind a firm's decision to buy a target in a CEO's home county, we study financial implications of such acquisitions. Specifically, we test out second hypothesis (H2) stating that acquisitions in the CEO home country are more likely to have negative financial ramifications for acquirers. First, we would like to know how investors perceive such transactions. In Table 2.13, we report the market reaction to acquisitions in the CEO home country using cumulative abnormal daily returns (CARs) around acquisition announcements using the following regression.

$$CAR_{i,d,j,t} = \beta_h \; CEO \; home \; country \; deal_{i,d,t} + X'Controls_{i,d,t-1} + \delta_j + \gamma_t + \varepsilon_{i,d,j,t} \qquad \text{Model (2)}$$

      For dependent variables we use three-, five-, and seven-day acquirer cumulative abnormal returns (CARs) centered on the acquisition announcement day. *CEO home country deal is* the explanatory variable. We include several firm, deal, and CEO characteristics as controls and use year and industry fixed effects in all models. Regression coefficients on *CEO home country deal* across all specifications are negative and statistically significant at 1% level of significance. Results are consistent across different return horizons in the full sample of acquisitions (Panel A) and in the subsample of cross-border deals (Panel B). The negative market reaction to acquisitions in the CEO home country follows our prediction in Hypothesis 2. The acquirer's abnormal return around the merger announcement is 3.97% ($p < .005$) lower for home country deals (Table 2.13, column 1). Given the average acquirer size of $12.75 billion in home country deals, these acquirers lose $506 million in shareholder wealth from these deals. Coefficients across other specifications (columns 2-14) are consistent and reflect an average 4% decrease in the acquirer's stock price. In

dollar terms, acquirer on average loses \$231 million[29] in market capitalization when announcing an acquisition in the home country of its foreign CEO. Note, while investors react strongly negatively to acquisitions in the CEO home country, we do not observe any significant market reaction to deals made by foreign CEOs in other, non-home countries (*Foreign CEO – non HC deal*).

5.6. Acquirer's Post-Merger Performance

Next, we evaluate the post-merger operating performance of the acquirer comparing its profitability before and after acquisition of a target in the CEO home country. Profitability is represented by the return on assets (ROA) calculated as firm's operating income before depreciation (EBITDA) in a given year scaled by total assets in a previous year. We employ a regression model similar to the one used for market reaction (Model 2) but use a change in profitability (*ΔROA*) in place of the dependent variable.

$$\Delta ROA_{i,j,t} = \beta_h \, CEO \; home \; country \; deal_{i,t} + X'Controls_{i,t-1} + \delta_j + \gamma_t + \varepsilon_{i,j,t} \qquad \text{Model (3)}$$

Table 2.14 reports changes in the acquirer's profitability (*ΔROA*) using different time horizons following an acquisition in the CEO home country. We observe negative, economically large and statistically significant coefficients for *Home country deal.* Furthermore, as time passes the decline in profitability gradually increases: from negative 3.6 percentage points ($\beta = -.0366$; $p < 0.1$) in the first year to negative 7.47 percentage points ($\beta = -.0747$; $p < 0.05$) in the firth year

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[29] The average loss in the acquirer's market value associated with the acquisition activity in the CEO home country is calculated as a product of the acquirers' average market cap (\$5.81B) during relevant years and an average three-day cumulative abnormal return (-.0397) around the CEO home country deal announcements (Table 2.13).

following the transaction. This suggests that home country biased acquisitions negatively affect post-merger operating performance of the acquiring firms.[30] Therefore, the negative market reaction to home biased deals can possibly be explained by investors' foreseeing a post-merger decline in firm's profitability.

5.7. Robustness of Main Results to Exclusion of Countries

We conduct the final robustness check for our findings by excluding from the analyses countries with the largest number of CEOs and deals (e.g., UK, Canada, and Australia). After such exclusions (Table 2.15), all main results in this study - positive home country acquisition bias (H1, Panel A), negative market reaction (H2.1, Panel B), and negative post-merger acquirer's performance (H2.2, Panel C) - remain valid and strong.

6. Discussion

We compare our results for the home biased deals, the market reactions to such acquisitions and the acquirer's post-merger performance with those results documented by other researchers but in different settings. Similar to our findings, three other studies establish the existence of a bias in the CEO home state (Chung et al., 2018; Jiang et al., 2019) and state of education (Yin & Wang, 2018). The magnitude of the home *country* bias appears to be higher than the magnitude of home *(education) state* bias.[31] Further, analogous to our results for market reaction, investors react

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[30] Possible reasons for a decline in the firm's profitability following acquisitions in the CEO home country may include a shift in a CEO's focus from the main business operation to the pre- and post-merger activities, overestimation of a target's fit for the acquirer's business, CEO's underestimation of the integration challenges, overestimation of one's own ability to handle them, and leniency in the target selection and due diligence.

[31] In the study allowing a direct comparison of magnitudes for home state and home country biases (Jiang et al., 2019 – Table 3, column 4), the coefficient on *CEO home state* variable from the model specification similar to ours is .0043, while our coefficient on *CEO home country* is .0080 (Table 5, column 1.4).

strongly negatively to deals in the CEO home *(education) state.* From the magnitude standpoint: market reaction observed for home *country* biased deals (3.5% - 4.5%) is twice as much as stock price decrease around announcements of the CEO home *(education) state* deals (1.5% - 2.5%). The difference in the magnitude of negative market reaction may be attributed to the greater salience of foreign acquisition events in general and to deals in the CEO home country in particular, resulting in greater investor attention to such transactions. Also, such a difference can be due to greater post-merger value destruction from home *country* biased acquisitions. Changes in the acquirer's post-merger profitability reveals a large decline in firm profitability following home *country* deals. This may be due to higher cultural, language, legal, political, and distance barriers associated with doing business overseas which creates additional costs and challenges with target integration into the acquirer's business operations. Additionally, during the acquisition process and target integration period, a CEO may travel more often and spend more time in the home country for personal benefits masked by business needs. If this is the case, this may result in less attention and a loss of focus on the main operations.

7. Conclusion

Using a sample of U.S. firms and their cross-border acquisitions, we show that companies managed by foreign CEOs are significantly more likely to buy businesses in their CEO's home countries. Acquiring firms experience significantly lower abnormal returns around the announcement of these deals as well as a substantial decrease in profitability following such acquisitions. The country's economic conditions and socio-political environment, the firm's corporate governance, and CEO ability all have moderating effects on the acquisition activity in the CEO home country. We conclude that a firm's propensity to acquire targets in CEO home

countries is a bias that is likely driven by the behavioral factors and not by an informational advantage.

Shareholders, board members, CEOs themselves, and other senior executives need to be aware of the possible existence of home country bias and its potentially negative effect on market valuations and business operations. The following measures can be undertaken to eliminate or limit financial damage to the organization associated with acquisitions in the CEO home country: 1) critical evaluation by the board of the CEO involvement in target country selection process when a target country is the same is CEO's home country; 2) rule-based limits on CEO's involvement in the transaction process and post-acquisition activities in home country to the degree of total exclusion; 3) critical evaluation of intended acquisitions the CEO home country with subsequent withdrawal from the deal if deemed biased and detrimental to the firm by the board.

Our conclusions and policy suggestions should not be limited to the acquisition of controlling stakes used in our analysis, but perhaps in full or in part can apply to many other forms of foreign transactions: alliances, partnerships, joint ventures, private equity and venture capital deals, purchase of non-controlling (minority) ownership stakes, customer and supplier agreements, as well as direct investments in the CEO home country. Also, there are many other C-level executives and decision-makers such as CFOs, COOs, board members, and large foreign shareholders who influence corporate decisions. Thus our finding may apply to them as well, albeit to a lesser extent if they are not the primary decision-makers. While our analyses focused on large U.S. public acquirers, our results may provide insight for other firms with foreign executives and institutional investors with foreign portfolio managers located in any part of the world.

8. References

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Table 2.1
Sample composition by CEO Foreign Status.

Units of observation:	Executives		Firms		Firm-years		Deals	
	N	Pct. [%]	N	Pct. [%]	N	Pct. [%]	N	Pct. [%]
Full sample	6,769	100%	3,163	100%	39,596	100%	10,918	100%
Foreign CEO	533	7.87%	460	14.54%	2,922	7.38%	889	8.14%
Native CEO	6,236	92.13%	2,703	85.46%	36,674	92.62%	10,029	91.86%

This table present the sample distribution by CEO foreign status for different units of observation: executives (CEOs), firms, firm-years, and deals. The sample comprises the large public U.S. companies (S&P 1500) included in ExecuComp during years 1992-2017 and acquisitions made during the same period (Source: SDC). Foreign CEO is defined as an executive who was born and obtained an undergraduate degree outside of the United States (Source: BoardEx, Marquis Who's Who).

Table 2.2

Sample Distribution by Year and Industry, Firm-Year Observations.

Panel A: Distribution by Year.					*Panel B: Distribution by Fama-French 12 Industry Groups.*			
	All CEOs	Foreign CEOs				All CEOs	Foreign CEOs	
	N	N	Pct.			N	N	Pct.
2017	1,630	177	10.86%		Consumer nondur.	2,310	215	9.31%
2015	1,750	173	9.89%		Consumer durables	1,105	95	8.60%
2013	1,855	160	8.63%		Manufacturing	4,622	286	6.19%
2011	1,898	162	8.54%		Energy	1,773	153	8.63%
2009	1,968	153	7.77%		Chemicals	1,309	167	12.76%
2007	2,050	151	7.37%		Business equipment	6,734	909	13.50%
2005	1,622	115	7.09%		Telecommunication	963	17	1.77%
2003	1,610	107	6.65%		Utilities	1,904	35	1.84%
2001	1,502	100	6.66%		Shops	4,370	148	3.39%
1999	1,496	89	5.95%		Health	3,261	342	10.49%
1997	1,191	63	5.29%		Finance	6,584	271	4.12%
1995	993	43	4.33%		Other	4,661	284	6.09%
1993	693	22	3.17%					
Total	39,596	2,922	7.38%		Total	39,596	2,922	7.38%

This table presents the breakdown of the number and percentage of observations in the sample based on CEO foreign status by year (Panel A) and industry using the Fama-French 12 industry groups (Panel B).

Table 2.3

Distribution of Foreign CEOs and Acquisitions by Country.

Country & region	Foreign CEOs		Foreign deals		N countries		
	N	Pct.	N	Pct.	CEO	Deal	All
EUROPE	251	47.09%	1,328	57.59%	17	25	27
United Kingdom	128	24.02%	499	21.64%			
France	31	5.82%	147	6.37%			
Germany	21	3.94%	204	8.85%			
Ireland	15	2.81%	33	1.43%			
Sweden	11	2.06%	59	2.56%			
Netherlands	10	1.88%	77	3.34%			
Italy	8	1.50%	51	2.21%			
Austria	5	0.94%	9	0.39%			
Switzerland	5	0.94%	66	2.86%			
Denmark	4	0.75%	28	1.21%			
Greece	3	0.56%					
Belgium	2	0.38%	30	1.30%			
Russia	2	0.38%	8	0.35%			
Spain	2	0.38%	31	1.34%			
Ukraine	2	0.38%					
Norway	1	0.19%	30	1.30%			
Finland			15	0.65%			
Poland			11	0.48%			
Other countries	1	0.19%	30	1.30%			
ASIA & OCEANIA	125	23.45%	336	14.57%	11	15	15
India	61	11.44%	36	1.56%			
Australia	29	5.44%	123	5.33%			
Taiwan	12	2.25%	13	0.56%			
South Korea	8	1.50%	31	1.34%			
Japan	4	0.75%	31	1.34%			
New Zealand	4	0.75%	15	0.65%			
China	2	0.38%	44	1.91%			
Philippines	2	0.38%	4	0.17%			
Singapore	1	0.19%	19	0.82%			
Hong Kong			11	0.48%			
Other countries	2	0.38%	9	0.39%			
NORTH AMERICA/Canada	99	18.57%	370	16.05%	1	1	1

Table 2.3 (Cont'd)

AFRICA/MIDDLE EAST	44	8.26%	100	4.34%	7	11	14
South Africa	18	3.38%	10	0.43%			
Israel	17	3.19%	67	2.91%			
Turkey	3	0.56%	6	0.26%			
Iran	2	0.38%					
Lebanon	2	0.38%					
Other countries	2	0.38%	17	0.74%			
LATIN AMERICA	14	2.63%	172	7.46%	7	17	18
Argentina	4	0.75%	27	1.17%			
Brazil	4	0.75%	59	2.56%			
Mexico	2	0.38%	35	1.52%			
Colombia	1	0.19%	12	0.52%			
Chile			15	0.65%			
Other countries	3	0.56%	24	1.04%			
Total	533	100.00%	2,306	100.00%	43	69	75

This table presents the breakdown of the number and percentage of foreign CEOs and cross-border acquisitions by country and world region. We show only names of countries represented in the sample by at least two CEOs or associated with at least ten acquisitions.

Table 2.4
Summary Statistics.

| | | | | | | | Difference-in-means | |
| | | | | | | | Foreign CEO | |
Variable	N	Mean	Q1	Median	Q3	Std.	Mean	T-stat
Panel A: Firm and CEO Characteristics							Mean	T-stat
Firm size (in $ billion)	39,519	15.806	0.613	19.336	6.794	94.615	12.750	(-1.81)
Market-to-book	38,991	1.985	1.144	1.491	2.180	2.087	2.204	(5.86)
Leverage	33,230	0.442	0.292	0.423	0.544	0.872	0.403	(-2.43)
Firm age	39,572	20.096	12.00	20.00	28.00	10.33	19.000	(-5.97)
Cash	39,514	0.142	0.023	0.073	0.198	0.169	0.206	(21.66)
ROA	38,223	0.121	0.072	0.122	0.176	0.209	0.113	(-1.89)
Investment	38,491	0.049	0.015	0.034	0.064	0.056	0.042	(-7.13)
Agency index	17,315	0.527	0.423	0.538	0.615	0.141	0.536	(2.43)
Tangibility	38,902	0.255	0.061	0.178	0.386	0.239	0.217	(-8.82)
CEO age	38,493	55.729	51.00	56.00	60.00	7.36	54.92	(-6.15)
CEO tenure	39,596	4.984	2.00	4.00	7.00	3.86	4.833	(-2.20)
Female CEO	39,596	0.026	0.000	0.000	0.000	0.160	0.014	(-4.33)
Overconfident CEO (67)	39,550	0.214	0.000	0.000	0.000	0.410	0.219	(0.78)
Panel B: Deal Characteristics								
CEO home country deal	10,918	0.003	0.000	0.000	0.000	0.053	-	-
Foreign target	10,918	0.211	0.000	0.000	0.000	0.408	0.268	(4.31)
Bidder CAR(-1,+1)	10,159	0.006	-0.019	0.003	0.027	0.068	0.002	(-1.87)
ΔROA(+3)	10,918	-0.034	-0.069	-0.015	0.014	0.226	-0.047	(-1.73)
Deal value (in $ million)	10,918	563.06	25.50	87.50	300.00	2651.36	629.14	(0.78)
Relative deal size	10,917	0.106	0.010	0.033	0.102	0.337	0.116	(0.90)
Diversifying deal	10,918	0.444	0.000	0.000	1.000	0.497	0.417	(-1.64)
Stock deal	10,918	0.067	0.000	0.000	0.000	0.251	0.062	(-0.69)
Cash deal	10,918	0.332	0.000	1.000	1.000	0.471	0.330	(-0.17)
Public target	10,918	0.192	0.000	0.000	0.000	0.394	0.170	(-1.73)
Tender offer	10,918	0.043	0.000	0.000	0.000	0.203	0.049	(0.96)

This table presents summary statistics for the main variables used in this study. The sample comprises the large public U.S. companies (S&P 1500) from ExecuComp during years 1992-2017. The sample includes 36,596 firm-year observations, 3,163 U.S. unique firms, managed by 6,769 unique CEOs, and 10,918 acquisitions. Definitions of all variables are provided in Appendix A. The right-most column reports t-statistics from the difference-in-mean tests for each variables by the foreign CEO status. Significance levels are denoted by *, **, and ***, which correspond to the 10%, 5%, and 1% levels, respectively.

Table 2.5

Foreign CEO Home Country Bias in Acquisitions: Cross-Border Deals.

Panel A

Dependent variable:	Country deal dummy								
	(1.1)	(1.2)	(1.3)	(1.4)	(1.5)	(1.6)	(1.7)	(1.8)	(1.9)
Foreign CEO home country	0.0103***	0.0103***	0.0082***	0.0080***	0.0074***	0.0072***	0.0072***	0.0070***	0.0068***
	(4.72)	(4.50)	(5.34)	(5.27)	(3.45)	(3.22)	(3.30)	(3.26)	(3.05)
Country economy size	0.0007***	0.0007***	0.0010***	0.0010***	0.0016***	0.0018***	0.0021***	0.0021***	0.0022***
	(3.55)	(3.55)	(5.58)	(5.52)	(5.09)	(5.40)	(4.86)	(4.67)	(4.75)
Distance to country	-0.0018***	-0.0018***	-0.0023***	-0.0023***	-0.0042**	-0.0045**	-0.0054**	-0.0053**	-0.0056**
	(-2.67)	(-2.67)	(-3.42)	(-3.22)	(-2.39)	(-2.39)	(-2.15)	(-2.07)	(-2.02)
Firm size (log)	0.0003***	0.0004**	0.0004***	0.0004***	0.0003***	0.0003***	0.0003***	0.0003***	0.0003***
	(3.97)	(2.51)	(2.61)	(2.63)	(3.24)	(2.80)	(3.31)	(3.19)	(2.77)
MB	0.0001**	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(2.08)	(1.18)	(1.03)	(1.12)	(1.26)	(1.15)	(1.21)	(1.14)	(1.10)
Leverage	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(-1.22)	(0.02)	(0.08)	(-0.18)	(0.40)	(-0.14)	(0.48)	(0.27)	(-0.22)
Cash	-0.0008**	-0.0015***	-0.0013***	-0.0013**	-0.0009**	-0.0012**	-0.0010***	-0.0009**	-0.0011**
	(-2.28)	(-2.80)	(-2.72)	(-2.53)	(-2.29)	(-2.50)	(-2.59)	(-2.43)	(-2.37)
ROA	0.0004**	0.0004**	0.0003*	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
	(2.12)	(2.14)	(1.72)	(1.56)	(1.58)	(1.60)	(1.55)	(1.42)	(1.46)
Investment	-0.0019*	-0.0009	-0.0009	-0.0010	-0.0013*	-0.0009	-0.0012	-0.0013*	-0.0010
	(-1.92)	(-1.35)	(-1.50)	(-1.50)	(-1.79)	(-1.38)	(-1.64)	(-1.67)	(-1.44)
Foreign CEO	0.0000	0.0001	0.0001	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001
	(0.11)	(0.53)	(0.66)	(0.74)	(0.46)	(0.52)	(0.48)	(0.43)	(0.45)
CEO age (log)	-0.0007***	-0.0005*	-0.0005*	-0.0005*	-0.0004	-0.0005*	-0.0004	-0.0004*	-0.0005*
	(-2.83)	(-1.79)	(-1.88)	(-1.96)	(-1.54)	(-1.89)	(-1.49)	(-1.65)	(-1.95)
CEO tenure (log)	0.0001*	0.0001*	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	(1.78)	(1.96)	(1.57)	(1.58)	(1.26)	(1.24)	(1.17)	(1.27)	(1.38)
Female CEO	-0.0003	-0.0002	-0.0002	-0.0002	-0.0002	-0.0002	-0.0001	-0.0001	-0.0001
	(-1.59)	(-0.86)	(-1.00)	(-1.20)	(-0.99)	(-0.83)	(-0.72)	(-0.83)	(-0.77)
Overconfident CEO 67	0.0002**	0.0003***	0.0003***	0.0003***	0.0003***	0.0003***	0.0003***	0.0003**	0.0003***
	(2.06)	(3.61)	(2.90)	(2.94)	(2.71)	(2.83)	(2.64)	(2.49)	(2.66)
Industry-year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Firm FE	N	Y	Y	Y	N	Y	N	N	Y
Firm HQ state-country FE	N	N	Y	N	N	N	Y	N	N
Firm HQ state-country-year FE	N	N	N	Y	N	N	N	Y	Y
Firm-country FE	N	N	N	N	Y	Y	Y	Y	Y
Observations	2,019,475	2,019,475	2,018,829	2,007,772	1,993,224	1,993,216	1,993,120	1,983,762	1,983,757
R-squared	0.0036	0.0061	0.0235	0.0485	0.1303	0.1319	0.1344	0.1335	0.1351

Table 2.5 (Cont'd)

Panel B			
Dependent variable:	N country deals	DV country (log)	DV country/TV
	(2)	(3)	(4)
Foreign CEO home country	0.0079***	0.0340***	0.0052***
	(5.34)	(4.82)	(4.56)
Country economy size	0.0010***	0.0041***	0.0007***
	(5.46)	(5.50)	(6.01)
Distance to country	-0.0023***	-0.0100***	-0.0016***
	(-3.22)	(-3.30)	(-3.62)
Firm size (log)	0.0004***	0.0021***	0.0002**
	(2.67)	(2.95)	(2.25)
MB	0.0000	0.0001	0.0000
	(1.18)	(0.64)	(0.38)
Leverage	0.0000	0.0001	0.0000
	(-0.26)	(0.59)	(1.41)
Cash	-0.0013**	-0.0041*	-0.0008***
	(-2.41)	(-1.94)	(-2.62)
ROA	0.0004	0.0011	0.0002
	(1.60)	(1.33)	(1.40)
Investment	-0.0012*	-0.0044	-0.0006
	(-1.66)	(-1.21)	(-1.11)
Foreign CEO	0.0001	0.0008	0.0001
	(0.67)	(0.71)	(0.58)
CEO age (log)	-0.0006**	-0.0019	-0.0004**
	(-2.21)	(-1.63)	(-2.25)
CEO tenure (log)	0.0001*	0.0005	0.0001*
	(1.70)	(1.37)	(1.90)
Female CEO	-0.0002	-0.0009	-0.0002
	(-1.38)	(-1.19)	(-1.42)
Overconfident CEO 67	0.0003***	0.0013***	0.0002***
	(2.94)	(2.86)	(3.35)
Industry-year FE	**Y**	**Y**	**Y**
Firm FE	**Y**	**Y**	**Y**
Firm HQ state-country FE	N	N	N
Firm HQ state-country-year FE	**Y**	**Y**	**Y**
Firm-country FE	N	N	N
Observations	2,007,772	2,007,772	2,007,772
R-squared	0.0529	0.0456	0.0285

Table 2.5 (Cont'd)

This table reports results for the effect of CEO home country on a firm's choice of target countries from various forms of the following regression model presented in Section 5.1 of the text: $Y_{i,c,j,s,t} = \beta_h$ *Foreign CEO home country*$_{i,s,t}$ + $X'Controls_{i,c,t-1}$ + $\delta_{j,t}$ + φ_i + $\gamma_{c,s,t}$ + $\varepsilon_{i,c,t}$, where the dependent variable $Y_{i,c,j,s,t}$ measures the acquisition activity of firm i in country c during year t. *Deal country dummy* is a binary variable that equals one if firm i acquires at least one company in country c during year t, and zero otherwise. *N country deals* is the number of acquisitions made by firm i in country c during year t. *Deal value country (log)* is the natural logarithm of the total value of acquisitions made by firm i in country c during year t. *DV country/TV* is the total value of acquisitions made by firm i in country c during year t divided by the total value of all firm i's acquisitions in year t. The subscripts j and s indicate the industry and state of headquarters of firm i, respectively. The variable of interest is *CEO home country*, which is a binary variable that equals one if the CEO of firm i in year t grew up in country c. $\delta_{j,t}$, is an industry-year fixed effect based on the two-digit SIC industry codes and is included in all models. φ_i is a time-invariant firm fixed effect. $\gamma_{c,s,t}$ is a firm HQ state-country-pair-year fixed effect based on firm i's state of headquarters, s, and the country of possible acquisition activity, c. Additional fixed effects include time-invariant firm HQ state-country and firm-country fixed effects. Definitions of all variables are provided in Appendix A. The firm-year-country sample used in the regression analysis is created by forming pairwise combinations between firm-year observations and countries of acquisitions and CEO origin represented in the sample (Table 2.3). The sample is based on cross-border deals and years without acquisitions. Robust standard errors are clustered at the firm and country levels and robust t-statistics are in parentheses. Significance levels are denoted by *, **, and ***, which correspond to the 10%, 5%, and 1% levels, respectively.

Table 2.6
Foreign CEOs and Acquisition Activity in Foreign Countries.

Dependent variable:	Foreign deal	N deals	Total DV(log)
	(1)	(2)	(3)
Panel A: Sample includes all foreign deals			
Foreign CEO	0.0162	0.0286*	0.0897*
	(1.55)	(1.77)	(1.71)
R-squared	0.1782	0.1877	0.1780
Panel B: Exclude CEO home country deals			
Foreign CEO	0.0099	0.0181	0.0564
	(0.97)	(1.16)	(1.08)
R-squared	0.1778	0.1873	0.1780
Controls (Table 5)	Y	Y	Y
Industry-year FE	Y	Y	Y
Firm FE	Y	Y	Y
Observations	31,363	31,363	31,363

This table provides regression results from the tests estimating acquisition activity of foreign-CEO-run firms to make acquisitions in any foreign country other than a CEO's home country. We use a variation of the model outlined in Table 2.5 and Section 5.1 of the text: $Y_{i,j,t} = \beta Foreign\ CEO_{i,t} + X'Controls_{i,t-1} + \delta_{j,t} + \varphi_i + \varepsilon_{i,t}$. Observations are at the firm-year level and include years with and without acquisitions. We control for the firm and CEO characteristics and use industry-year and firm fixed effect in all tests (Panel A and B). *Foreign CEO* is a binary variable that takes one of a CEO was born and obtained an undergraduate degree outside of the United States, and zero otherwise. Variable definitions are provided in Appendix A. Robust standard errors are clustered at the firm and country levels and t-statistics are in parentheses. Significance levels are denoted by *, **, ***, which correspond to the 10%, 5%, and 1% levels, respectively.

Table 2.7

Timing of Home Country Acquisitions.

Dependent variable:	Deal country dummy	N country deals	DV country (log)	DV country/TV
	(1)	(2)	(3)	(4)
Panel A: CEO short tenure				
CEO home country	0.0063**	0.0062**	0.0298**	0.0043*
	(2.03)	(2.01)	(2.34)	(1.72)
Short tenure	0.0050	0.0000	0.0002	0.0000
	(0.64)	(0.56)	(1.14)	(-0.12)
Home country × Short tenure	0.0000	0.0050	0.0122	0.0028
	(0.57)	(0.63)	(0.47)	(0.53)
Panel B: CEO tenure				
CEO home country	0.0092**	0.0091**	0.0362**	0.0051
	(2.05)	(2.04)	(2.01)	(1.56)
Tenure	0.0001	0.0001*	0.0005	0.0001*
	(1.56)	(1.68)	(1.35)	(1.86)
Home country × Tenure	-0.00025	-0.0002	-0.0005	0.0000
	(-0.29)	(-0.29)	(-0.13)	(0.03)
Controls (Table 2.5)	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y
Firm HQ state-country-year FE	Y	Y	Y	Y
Observations	2,007,772	2,007,772	2,007,772	2,007,772
R-squared	0.0485	0.0530	0.0456	0.0285

This table reports results for the effect of CEO appointment and tenure on a firm's acquisition activity in the CEO home country following a regression model outlined in Table 2.5 and Section # of the text. In Panel A (B) the variable of interest is *CEO home country* as well as its interaction with *Short tenure (CEO tenure). CEO home country* is a binary variable that equals one if the CEO was born and obtained an undergraduate degree from country *c*, and zero otherwise. *CEO tenure* is the natural log of the CEO's number of years in the position. Variable definitions are provides in Appendix A. All regressions include a full set of controls as well as industry-year, firm, and firm HQ-state-country-year fixed effects (column 1.4, Table 2.5). Robust standard errors are clustered at the firm and country levels and t-statistics are in parentheses. Significance levels are denoted by *, **, ***, which correspond to the 10%, 5%, and 1% levels, respectively.

Table 2.8
Prior CEO Home Country Acquisitions.

Dependent variable:	Country deal dummy	N country deals	DV country (log)	DV country/TV
	(1)	(2)	(3)	(4)
Prior CEO home country	0.0018	0.0017	0.0062	0.0017
	(0.49)	(0.45)	(0.40)	(0.73)
Current CEO home country	0.0079***	0.0078***	0.0338***	0.0052***
	(5.16)	(5.22)	(4.76)	(4.51)
Controls (Table 2.5)	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y
Firm HQ state-country-year FE	Y	Y	Y	Y
Observations	2,007,772	2,007,772	2,007,772	2,007,772
R-squared	0.0485	0.0530	0.0456	0.0285

This table reports results for the effect of prior CEO home country on a firm's choice of target countries. The regression model is analogous the one outlines in Table 2.5 and Section # of the test. The independent variable of interest, *Prior CEO home country,* is a binary variable that equals one if a firm's prior CEO was born and obtained an undergraduate degree in outside of the United States in country *c,* and zero otherwise. *Current CEO home country* is identical to the *CEO home country* variable. All regressions include a full set of controls as well as industry-year, firm, and firm HQ-state-country-year fixed effects column 1.4, Table 2.5). Coefficients for controls are suppressed for brevity. Variable definitions are provided in Appendix A. Robust standard errors are clustered at the firm and country levels and t-statistics are in parentheses. Significance levels are denoted by *, **, ***, which correspond to the 10%, 5%, and 1% levels, respectively.

Table 2.9
Placebo Tests: Random Assignment of Home Countries to CEOs.

CEO home country placebo (500 replications)	0.0015
	(0.60)
Percent > 5% Significance	9.00%
Percent > 1% Significance	3.20%
Percent > Actual coefficient	0.40%
Controls	Y
Industry-year FE	Y
Firm-country FE	Y
Observations	1,993,224
R-squared	0.1303

This table reports results for the firm's acquisition activity in the CEO home country (acquisition home country bias) from the placebo regressions following a model specification used in column 1.5 of Table 2.5 with a full set of controls. All regressions include industry-year and firm-country fixed effects. The dependent variable is *Country deal dummy* and the independent variable is *CEO home country*. The placebo tests use simulated data where CEO home countries are randomly assigned to CEOs. The randomization procedure maintains the original data structure but reshuffles CEO home countries drawing from the original geographic distribution of CEO home countries presented in the sample. We record the coefficients, p-values, and t-statistics from regressions based on simulated data and repeat the procedure 500 times. The reported coefficient is the mean coefficient across 500 replications. The mean t-statistic is in parentheses. *Percent > 5% (1%) Significance* reports the percentage of coefficient estimates that are positive and significant at the 5% (1%) level. *Percent > Actual coefficient* reports a percent of placebo tests producing coefficients greater and more statistically significant than the actual coefficient. Standard errors are clustered at the firm and country levels. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Figure 2.1
Placebo Tests: Random Assignment of Home
Countries to CEOs.
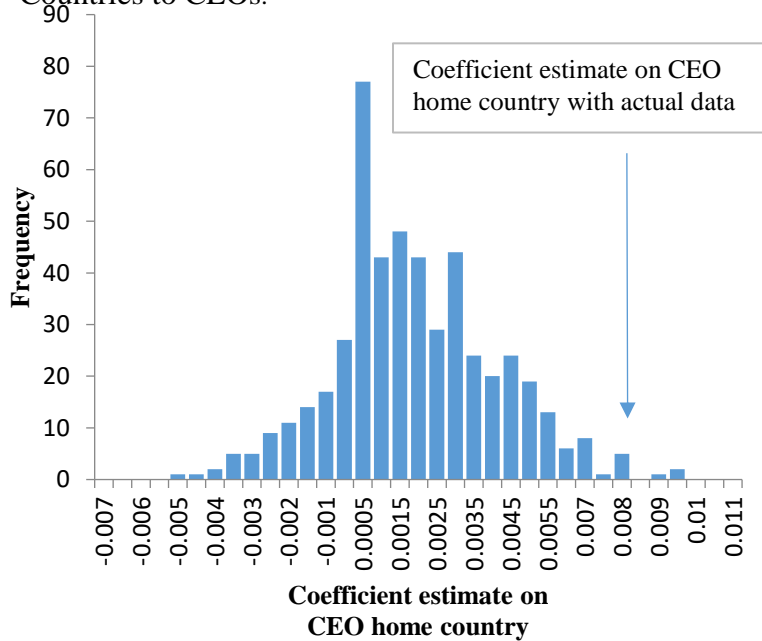
Figure 1 plots the distributions of coefficient estimates for the firm's acquisition activity in the CEO home country (acquisition home country bias) from the placebo regressions following a model used in column 1.5 of Table 2.5 with a full set of controls. The dependent variable is *Country deal dummy* and the independent variable is *CEO home country*. The placebo tests use simulated data where CEO home countries are randomly assigned to CEOs. The randomization procedure maintains the original data structure but reshuffles CEO home countries drawing from the original geographic distribution of CEO home countries presented in the sample. We record the coefficients, p-values, and t-statistics from regressions based on simulated data and repeat the procedure 500 times. The histogram plots the frequency of coefficients from 500 replications and indicates the estimate obtained using the actual data.

Table 2.10
Home Deals and Country Factors: Economic Conditions, Distance, and Corporate governance.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Home country	0.0110***	-0.0465	0.0071***	0.0068***	0.0422***	-0.0076	-0.0090
	(4.87)	(-1.03)	(5.13)	(4.20)	(4.43)	(-1.01)	(-1.19)
Home country × Unemployment rate	-0.0004**						
	(-2.17)						
Unemployment rate	0.0000						
	(-0.28)						
Home country × Economy size		0.0020					
		(1.23)					
Economy size		0.0010***					
		(5.51)					
Home country × GDP growth			0.0003				
			(0.67)				
GDP growth rate			0.0000				
			(0.51)				
Home country × Income growth per capita				0.0006			
				(1.03)			
Income growth per capita				0.0000			
				(-1.08)			
Home country × Distance					-0.0040***		
					(-3.53)		
Distance HQ to foreign country					-0.0022***		
					(-3.19)		
Home country × Economic freedom						0.0002*	
						(1.93)	
Economic freedom						0.0001***	
						(3.28)	
Home country × Country governance							0.0002**
							(2.14)
Country governance							0.0000***
							(2.65)

Table 2.10 (Cont'd)

Controls (Table 5)	Y	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y	Y
Firm HQ state-country-year FE	Y	Y	Y	Y	Y	Y	Y
Observations	1,930,063	2,007,772	2,006,009	1,761,933	2,007,772	1,795,657	1,730,990
R-squared	0.0489	0.0489	0.0485	0.0506	0.0485	0.0508	0.0515

This table reports results for the impact of country-level economic conditions, economy size, governance, and geographical distance on the firm acquisition activity in the CEO home country (acquisition home country bias) from tests following a model specification used in column 1.4 of Table 2.5. The regression model is outlined in Table 2.5 and Section 5.1 of the text. All regressions include a full set of controls as well as industry-year, firm, and firm HQ state-country-year fixed effects. The dependent variable is *Deal country dummy*. The variables of interest include *CEO home country* and its interactions with various country-level measures such as unemployment rate (Column 1), size of the economy (Column 2), GDP growth rate (Column 3), per capital income growth rate (Column 4), distance to the country (Column 5), economic freedom (Column 6), and quality of country governance (Column 7). Robust standard errors are clustered at the firm and country levels and robust t-statistics are in parentheses. Significance levels are denoted by *, **, and ***, which correspond to the 10%, 5%, and 1% levels, respectively.

Table 2.11
Effect of Corporate Governance on Home Bias.

	(1)	(2)	(3)	(4)	(5)	(6)
Home country	-0.0137		0.0104		0.0170	
	(-0.55)		(1.35)		(1.35)	
Home country × G-index	(0.00)					
	(0.89)					
Home country | High G-index		0.0144*				
		(1.80)				
Home country | Low G-index		0.0028				
		(0.43)				
G-index	0.0003***	0.0003***				
	(2.96)	(2.96)				
Home country × E-index			-0.0012			
			(-0.47)			
Home country | High E-index				0.0067**		
				(2.25)		
Home country | Low E-index				0.0071		
				(1.02)		
E-index			0.0000	0.0000		
			(-1.15)	(-1.11)		
Home country × Agency index					-0.0175	
					(-0.90)	
Home country | High agency						0.0099*
						(1.68)
Home country | Low agency						0.0059
						(1.31)
Agency index					-0.0004	-0.0005
					(-0.85)	(-0.90)
Controls (Table 2.5)	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y
Firm HQ state-country-year FE	Y	Y	Y	Y	Y	Y
Observations	1,146,186	1,146,186	1,708,444	1,708,444	872,635	872,635
R-squared	0.0550	0.0550	0.0502	0.0502	0.0574	0.0574

Table 2.11 (Cont'd)

This table reports results for the impact of corporate governance on the firm acquisition activity in the CEO home country (acquisition home country bias) from tests following a model specification used in column 1.4 of Table 2.5. The regression model is outlined in Table 2.5 and Section 5.1 of the text. All regressions include a full set of controls as well as industry-year, firm, and firm HQ state-country-year fixed effects. The dependent variable is *Deal country dummy*. The variables of interest include *CEO home country* and its interactions with different measures of corporate governance: *G-index* (columns 1-2), *E-index* (columns 3-4), and *Agency Index* (columns 5-6), and median split Home country variables conditioned on the top-bottom distribution of the governance variables. Variable descriptions are provided in Appendix A. Robust standard errors are clustered at the firm and country levels and robust t-statistics are in parentheses. Significance levels are denoted by *, **, and ***, which correspond to the 10%, 5%, and 1% levels, respectively.

Table 2.12
Effect of CEO Overconfidence, Education, and Ability on Home Bias.

	(1)	(2)	(3)	(4)	(5)
Home country	0.0065***	0.0118***	0.0110***	0.0092***	
	(3.88)	(3.51)	(2.64)	(2.75)	
Home country × Overconfident CEO 67	0.0069				
	(0.93)				
Overconfident CEO 67	0.0003***				
	(2.94)				
Home country × Top university		-0.0065			
		(-1.07)			
Top university		0.0003			
		(0.78)			
Home country × Advanced degree			-0.0049		
			(-0.81)		
Advanced degree			0.0001		
			(1.35)		
Home country × Managerial ability				-0.0026	
				(-0.59)	
Home country | High managerial ability					0.0062***
					(3.45)
Home country | Low managerial ability					0.0094***
					(2.97)
Managerial ability				0.0005***	0.0005***
				(2.72)	(2.73)
Controls (Table 2.5)	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y
Firm HQ state-country-year FE	Y	Y	Y	Y	Y
Observations	2,007,772	2,007,772	2,007,772	1,718,755	1,718,755
R-squared	0.0485	0.0485	0.0485	0.0501	0.0501

This table reports results for the impact of CEO characteristics on the firm acquisition activity in the CEO home country (acquisition home country bias) from tests following a model specification used in column 1.4 of Table 2.5. The regression model is outlined in Table 2.5 and Section 5.1 of the text. All regressions include a full set of controls as well as industry-year, firm, and firm HQ state-country-year fixed effects. The dependent variable is *Deal country dummy*. The variables of interest include *CEO home country* and its interactions with selected CEO characteristics such CEO overconfidence (column 1), education quality (column 2), level of education (column 3), and managerial ability (columns 4-5). Robust standard errors are clustered at the firm and country levels and robust t-statistics are in parentheses. Significance levels are denoted by *, **, and ***, which correspond to the 10%, 5%, and 1% levels, respectively.

Table 2.13
Acquirer Returns around CEO Home Country Acquisition Announcements.

Panel A: All Deals Sample

	CAR (-1,+1)	CAR (-2,+2)	CAR (-3,+3)	Private targets CAR(-1,+1)	Public targets	Excl. short tenure
	(1)	(2)	(3)	(4)	(5)	(6)
Home country deal	-0.0397***	-0.0454**	-0.0344*	-0.0387**	-0.0440**	-0.0371**
	(-2.87)	(-2.54)	(-1.93)	(-2.55)	(-2.05)	(-2.05)
Foreign CEO non HC deal	-0.0035	-0.0051	-0.0015	-0.0018	-0.0071	-0.0700
	(-0.86)	(-0.93)	(-0.26)	(-0.42)	(-0.36)	(-0.23)
Firm size	-0.0029***	-0.0038***	-0.0040***	-0.0021***	-0.0003	-0.0017**
	(-4.32)	(-4.98)	(-4.95)	(-2.86)	(-0.19)	(-2.52)
MB	0.0011**	0.0029***	0.0030***	0.0002	0.0033**	0.0014
	(2.02)	(4.12)	(4.71)	(0.38)	(2.10)	(1.60)
Leverage	0.0247**	0.0270**	0.0275**	0.0223*	0.0392**	0.0208*
	(2.46)	(2.57)	(2.50)	(1.88)	(2.48)	(1.85)
Cash holdings	-0.0067	-0.0139*	-0.0231***	-0.0028	-0.0115	-0.0048
	(-1.00)	(-1.72)	(-2.59)	(-0.40)	(-0.66)	(-0.66)
ROA	0.0063	0.0052	0.0116	0.0108	0.0073	0.0020
	(0.77)	(0.66)	(1.54)	(1.10)	(0.31)	(0.20)
Firm age (log)	-0.0001	0.0003	0.0003	-0.0002	-0.0012	-0.0018
	(-0.09)	(0.15)	(0.14)	(-0.14)	(-0.24)	(-1.07)
Foreign target	-0.0002	0.0002	-0.0003	-0.0030	0.0081*	-0.0001
	(-0.14)	(0.10)	(-0.12)	(-1.56)	(1.76)	(-0.03)
Relative deal size	-0.0091	-0.0115	-0.0092	0.0100	-0.0342***	-0.0091
	(-1.27)	(-1.60)	(-1.08)	(0.93)	(-4.56)	(-1.03)
Diversifying deal	-0.0025	-0.0013	-0.0021	-0.0034*	-0.0027	-0.0025
	(-1.44)	(-0.70)	(-1.01)	(-1.75)	(-0.66)	(-1.38)
Cash deal	0.0036**	0.0036	0.0032	0.0007	-0.0011	0.0033*
	(2.06)	(1.51)	(1.26)	(0.40)	(-0.11)	(1.65)
Stock deal	-0.0081	-0.0061	-0.0072	-0.0014	-0.0076	-0.0105**
	(-0.01)	(-1.19)	(-1.30)	(-0.23)	(-1.08)	(-2.08)
Tender offer	-0.0030	-0.0025	-0.0021	0.0100	0.0068*	-0.0023
	(-0.99)	(-0.72)	(-0.59)	(0.78)	(1.86)	(-0.79)
Industry FE	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
Observations	8,222	8,222	8,222	6,802	1,372	7,022
R-squared	0.0658	0.0638	0.0616	0.0662	0.1979	0.0740

Table 2.13 (Cont'd)

Panel B: Cross-Border Deals Sample

	(1)	(2)	(3)	(4)	(5)	(6)
Home country deal	-0.0406**	-0.0464**	-0.0350*	-0.0408**	-0.0973***	-0.0426**
	(-2.56)	(-2.29)	(-1.74)	(-2.32)	(-2.60)	(-2.02)
Foreign CEO non HC deal	-0.0035	-0.0040	-0.0025	-0.0027	-0.0144	-0.0019
	(-0.80)	(-0.69)	(-0.42)	(-0.61)	(-0.80)	(-0.39)
Firm size	-0.0003	-0.0022*	-0.0016	0.0010	-0.0010	-0.0002
	(-0.33)	(-1.69)	(-1.13)	(0.92)	(-0.23)	(-0.17)
MB	0.0002*	0.0037*	0.0039	-0.0005	0.0064	-0.0009
	(1.91)	(1.83)	(1.51)	(-0.29)	(0.55)	(-0.49)
Leverage	(0.00)	0.0147	0.0053	0.0040	-0.0289	0.0023
	(0.20)	(1.24)	(0.40)	(0.37)	(-0.51)	(0.22)
Cash holdings	-0.0141	-0.0270	-0.0458**	-0.0071	-0.0152	-0.0150
	(-1.19)	(-1.62)	(-2.44)	(-0.60)	(-0.34)	(-1.23)
ROA	-0.0072	-0.0177	-0.0098	0.0066	-0.1021*	0.0041
	(-0.22)	(-0.49)	(-0.26)	(0.19)	(-1.69)	(0.11)
Firm age (log)	-0.0014	0.0013	0.0017	-0.0004	0.0025	-0.0026
	(-0.47)	(0.35)	(0.44)	(-0.14)	(0.19)	(-0.76)
Relative deal size	0.0104	0.0057	0.0084	0.0346	-0.0299	0.0083
	(0.47)	(0.25)	(0.38)	(1.29)	(-0.57)	(0.34)
Diversifying deal	-0.0024	0.0025	0.0022	-0.0015	-0.0197	-0.0046*
	(-0.91)	(0.75)	(0.61)	(-0.57)	(-1.42)	(-1.66)
Cash deal	0.0019	0.0026	0.0017	0.0021	0.0139	0.0006
	(0.55)	(0.65)	(0.38)	(0.61)	(0.74)	(0.17)
Stock deal	-0.0019	-0.0130	-0.0097	0.0182	-0.0254	0.0048
	(-0.13)	(-0.79)	(-0.52)	(1.00)	(-0.85)	(0.26)
Tender offer	0.0003	-0.0012	-0.0049	0.0196*	0.0073	-0.0011
	(0.05)	(-0.18)	(-0.65)	(1.72)	(0.67)	(-0.20)
Industry FE	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
Observations	1,945	1,945	1,945	1,684	221	1,690
R-squared	0.1222	0.1244	0.1225	0.1303	0.3548	0.1256

This table reports results for the market reaction to acquisitions using the following regression equation: $CAR_{i,d,j,t} = \beta_h\ CEO\ home\ country\ deal_{i,d,t} + X'Controls_{i,d,t-1} + \delta_j + \gamma_t + \varepsilon_{i,d,j,t}$, where the dependent variables include the acquirer's three-, five-, and seven-day cumulative abnormal returns (CARs) centered on the acquisition announcement day. The sample consists of 10,918 deals made by large public U.S. firms (S&P 1500) during 1992-2017 period. Panel A includes U.S. and foreign targets while Panel B includes only foreign targets. The variables of interest, *Home country deal,* is a binary variable that equals one if the acquired firm is headquartered in the foreign CEO's home country, and zero otherwise. All regressions include year and industry fixed effects. Coefficients for controls are suppressed for brevity. Variable definitions are provided in Appendix A. Robust standard errors are clustered at the firm level and robust t-statistics are in parentheses. Significance levels are denoted by *, **, and ***, which correspond to the 10%, 5%, and 1% levels, respectively.

Table 2.14

Acquirer's Operating Performance Following CEO Home Country Deals.

	ΔROA(+1)	ΔROA(+2)	ΔROA(+3)	ΔROA(+4)	ΔROA(+5)	Private targets ΔROA(+3)	Public targets
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Home country deal	-0.0366*	-0.0440*	-0.0447**	-0.0543**	-0.0747**	-0.0518**	0.0250
	(-1.76)	(-1.81)	(-2.09)	(-2.04)	(-1.99)	(-2.04)	(0.28)
Non home deal	-0.0308**	-0.0231	-0.0242	-0.0216	-0.0202	-0.0262	-0.0077
	(-2.00)	(-1.58)	(-1.50)	(-1.42)	(-1.16)	(-1.57)	(-0.17)
Controls (Table 5)	Y	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y
Observations	8,208	7,510	6,860	6,264	5,772	5,618	1,189
R-squared	0.0896	0.1706	0.1964	0.2103	0.2267	0.2054	0.2070

This table reports results for the acquirer's change in operating performance (profitability) using the following regression equation: $\Delta ROA_{i,j,t} = \beta_h\ CEO\ home\ country\ deal_{i,t} + X'Controls_{i,t-1} + \delta_j + \gamma_t + \varepsilon_{i,j,t}$. The dependent variable in all models is ΔROA, the difference in return on assets in a year before the deal announcement and in year N (e.g., +1, +2) following the deal completion. The sample of acquisitions consists of 10,918 deals made by large public U.S. firms (S&P 1500) during 1992-2017 period and includes U.S. domestic and foreign targets. The variables of interest *Home country deal* equals one when a firm during year t acquires at least one company headquartered in the foreign CEO home country, and zero otherwise. The control variables are the same as in Table 2.5 and additionally include *Tangibility*. Coefficients for controls are suppressed for brevity. Variable definitions are provided in Appendix A. All regressions include year fixed effects and industry fixed effects. Standard errors are clustered at the firm level and robust t-statistics are reported in parentheses. *, **, and *** denote significance at 10%, 5%, and 1% levels, respectively.

Table 2.15

Robustness of Main Results to Exclusion of Countries.

	Exclude CEOs			Exclude deals		
	UK	Canada	India	UK	Canada	Germany
	(1)	(2)	(3)	(5)	(6)	(7)
Panel A: Foreign CEO Home Country Bias in Acquisitions						
Dependent variable: *Deal country dummy*						
CEO home country	0.0070***	0.0065***	0.0085***	0.0047*	0.0056***	0.0078***
	(3.08)	(4.20)	(5.23)	(1.93)	(3.23)	(4.93)
Controls (Table 2.5)	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y
Firm HQ state-country-year FE	Y	Y	Y	Y	Y	Y
Observations	1,966,444	1,984,772	1,988,103	1,977,707	1,983,770	1,994,617
R-squared	0.0495	0.0487	0.0485	0.0357	0.0543	0.0492
Panel B: Acquirer's Announcement Returns						
Dependent variable: *Bidder CAR(-1, +1)*						
Home country deal	-0.0569***	-0.0216***	-0.0406***	-0.0558***	-0.0220***	-0.0394***
	(-2.64)	(-3.36)	(-2.72)	(-2.61)	(-3.43)	(-2.74)
Controls (Table 2.10)	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y
Observations	8,032	8,108	8,112	7,800	7,898	8,038
R-squared	0.0662	0.0643	0.0660	0.0668	0.0678	0.0665
Panel C: Acquirer's Post-Merger Performance						
Dependent variable: *ΔROA(+3)*						
Home country deal	-0.0334*	-0.0515*	-0.0473**	-0.0357**	-0.0520*	-0.0444**
	(-1.86)	(-1.91)	(-2.10)	(-2.00)	(-1.94)	(-2.05)
Controls (Table 2.11)	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y
Observations	6,701	6,778	6,781	6,496	6,598	6,712
R-squared	0.1989	0.1989	0.1967	0.1974	0.1942	0.1971

This table reports robustness of the main results: acquisition bias toward CEO home country (Tables 2.5), market reaction to the CEO home country deals (Table 2.9), and acquirer's post-merger (operating) performance following such deals (Table 2.10), to the exclusion of countries with the greatest number of CEOs and acquisitions in the sample (Table 2.3). Analyses presented in Panels A, B, and C correspond to those in Tables 2.5, 2.9, and 2.10, respectively. The regression model is outlined in Table 2.5 and Section 5.1 of the text. The dependent variable is *Deal country dummy*. Robust standard errors are clustered at the firm levels (Panel A and B) and firm and country levels (Panel A). Robust t-statistics are in parentheses. Significance levels are denoted by *, **, and ***, which correspond to the 10%, 5%, and 1% levels, respectively. Coefficients for controls are suppressed for brevity. Variable definitions are provided in Appendix A. All regressions include year fixed effects and industry fixed effects.

Appendix A: Variables

Table A.1
Variable Definitions.

Variables	Definitions
Main variables	
Athlete CEO (I &II)	Indicator variable that equals one a CEO participated in competitive sports during youth and/or adult years, and zero otherwise.
Youth athlete CEO (I)	Indicator variable that equals one if a CEO participated competitive sports during youth years (e.g., collegiate and high school athletics, or other form of committed involvement in youth sports), and zero otherwise.
Adult athlete CEO (II)	Indicator variable that equals one if a CEO participated in competitive sports during adult years (e.g., regular and committed preparation and participation in competitions - running races, triathlons, leagues, tournaments), and is zero otherwise.
Leisure sport	Indicator variable that equals one, if a CEO demonstrated a general interest in sports (e.g., pastime hobby, fitness) and there is no information about competitive participation in sports at any stage in life, and zero otherwise.
Individual sport	Indicator variable that equals one if a CEO participated in an individual sport (e.g., swimming, running, tennis, cycling), and zero otherwise.
Team sport	Indicator variable that equals one if a CEO participated in an individual sport (e.g., basketball, baseball, football, soccer, hockey), and zero otherwise.
Source:	Boardroom Insiders Inc. (BRI)
Dependent variables	
Profitability	Return on assets (ROA) calculated as a ratio of firm's Operating Income Before Depreciation (Compustat item #13) to 1-year lagged Total Assets (Compustat item #6).
CAPEX	Capital Expenditure (Compustat item #128) in a given year scaled by lagged Total Assets (Compustat item #6).
Acquisitions	Sum of the value of all acquisitions (Compustat item #129) made by a firm in a given year scaled by 1-year lagged Total Assets (Compustat item #6).
R&D	Research and Development Expense (Compustat item #46) scaled by 1-year lagged Total Assets (Compustat item #6).
SG&A	Selling, General, and Administrative Expense (Compustat item #189) scaled by 1-year lagged Total Assets (Compustat item #6).
Rent	Rental Expense (Compustat item #47) scaled by 1-year lagged Total Assets (Compustat item #6).
Labor	Labor and Related Expense (Compustat item #42) scaled by 1-year lagged Total Assets (Compustat item #6).
Advertising	Advertising Expense (Compustat item #45) scaled by 1-year lagged Total Assets (Compustat item #6).
Book leverage	Ratio of Total Debt [Long-Term Debt - Total (Compustat item #9) plus Debt in Current Liabilities (Compustate item #34)] to Total Assets (Compustat item #6).

Table A.1 (Cont'd)

Market leverage	Ratio of Total Debt [Long-Term Debt - Total (Compustat item #9) plus Debt in Current Liabilities (Compustat item #34)] to the sum of Market Value of Common Equity [share price at the end of the year (Compustat item #199) multiplied by the number of common shares outstanding (Compustat item #25)] and Total Debt.
Dividend payout	Total dividends [Dividends - Common (Compustat item #21) plus Dividends - Preferred (Compustat item #19)] divided by 1-year lagged Total Assets (Compustat item #6).
Source:	Compustat, 1992-2017.

Firm characteristics

Firm size	Natural log of Total Assets (Compustat item #6).
Firm age	Firm age is a number of years since a firm has first appeared in Compustat.
Tobin's Q - proxy	Ratio the market value of assets proxy to the book value of assets [(Total Assets plus Market Value of Common Equity minus Book Value of Common Equity)/Total Assets]. Market Value of Common Equity is a share price at the end of the year (Compustat item #199) multiplied by the number of common shares outstanding (Compustat item #25)]; Total Assets is Compustat item #6; Book Value of Common Equity is Compustat item #60.
Tangibility	Ratio of Net Plant, Property & Equipment (Compustat item #8) to Total Assets (Compustat item #6).
Governance	Managerial entrenchment index (E-index) calculated as in Bebchuk, Cohen, and Ferrell (2009) using 6 antitakeover provisions. Source: ISS/IRRC, 1998-2017.
Industry profitability	Return on assets (ROA) for a given industry by two-digit SIC code. Industry profitability is calculated as a sum of annual Operating Income Before Depreciation (Compustat item #13) for all firms in Compustat in the industry divided by the industry's total assets (Compustat item #6) lagged by 1 year.
Industry competition	Herfindahl–Hirschman Index (HHI) calculated as the sum of the squares of the market shares of the firms in a given year - based on Net Sales (Compustat item #12) - within the industry by two-digit SIC code using all firms in Compustat.
Industry book leverage	Sum of total debt in given year (Compustat item #9 plus Compustat item #34) of all firms in Compustat by industry based on two-digit SIC code divided by the industry's total assets (sum of Compustat items #6) in the same year.
Industry market leverage	Sum of total debt in given year (Compustat item #9 plus Compustat item #34) of all firms in Compustat by industry based on two-digit SIC code divided by the industry's market value of assets proxy [(Total Assets plus Market Value of Common Equity minus Book Value of Common Equity] in the same year. Market Value of Common Equity is a share price at the end of the year (Compustat item #199) multiplied by a number of common shares outstanding (Compustat item #25)]; Total Assets is Compustat item #6; Book Value of Common Equity is Compustat item #60.
Source:	Compustat, 1992-2017.

Table A.1 (Cont'd)

CEO personal characteristics

CEO age	Natural logarithm of CEO's age calculated as a difference between a company fiscal year and CEO's year of birth.
CEO tenure	Natural logarithm of a number of years an individual has been with a company in the CEO role.
Female	Indicator variable that equals one if a CEO's gender is a female, and zero if a male.
Overconfident CEO 67	Binary variable that equals one if a CEO does not the exercise vested options in his/her company stock when these options are at least 67% in the money (Hirshleifer, Low, & Teoh, 2012), and zero otherwise.
Compensation	Natural logarithm of CEO's total compensation (TDC1).
Source:	Source: ExecuComp, 1992-2017.
Founder	Indicator variable that equals one if a CEO founded or co-founded a company.
Military	Indicator variable that equals one is a CEO served in the military, and zero otherwise.
Top 25 University	Indicator variable that equals one if a CEO graduated from the university ranked in top 25 according to the *U.S. News & World Report* at least once during the 1983-2008 period, and zero otherwise. Source: Andrew G. Reiter's U.S. News & World Report Historical University Rankings dataset - http://andyreiter.com/datasets.
Private college	Indicator variable that equals one if a CEO received an undergraduate degree from a private university, and zero otherwise.
Finance education	Indicator variable that equals one if a CEO has an undergraduate or a graduate degree in business or economics, and zero otherwise.
Technical education	Indicator variable that equals one if a CEO has an undergraduate or a graduate degree in sciences or engineering, and zero otherwise.
Advanced degree	Binary variable that equals one if a CEO has a graduate degree, and zero otherwise.
Foreign degree	Indicator variable that equals one if a CEO received an undergraduate degree from a university located outside of the United States, and zero otherwise.
Sources:	Boardroom Insiders Inc., Marquis Who's Who, Bloomberg.

Table A.2
Variable Definitions.

Variables	Definitions
Main variables	
CEO home country	Binary variable that equals one if a country of origin of firm's foreign CEO during year *t* matches a country from the list of foreign countries represented in the sample, and zero otherwise. This variable is limited to foreign CEOs. Foreign CEO is defined as a person who was born and obtained an undergraduate degree outside of the United States. Sources: BoardEx, Marquis Who's Who.
CEO home country deal	Binary variable that equals one if a firm CEO's country of origin (home country) during year *t* matches a target firm country, and zero otherwise. This variable is limited to foreign CEOs and cross-border acquisitions. Sources: BoardEx, Marquis Who's Who in Finance and Business, Refinitiv SDC Platinum (SDC).
Bidder CAR(-1, +1)	Three-day cumulative abnormal stock return of the acquiring firm around a deal announcement and is calculated using the market model. Source: CRSP.
Bidder CAR(-2, +2)	Five-day cumulative abnormal stock return of the acquiring firm around a deal announcement and is calculated using the market model. Source: CRSP.
Bidder CAR(-3, +3)	Seven-day cumulative abnormal stock return of the acquiring firm around a deal announcement and is calculated using the market model. Source: CRSP.
ΔROA	Difference between the acquiring firm's return on assets (ROA) based on a selected number of years (e.g., 3 years) following the acquisition, and the return on assets one year prior of the of acquisition. Source: Compustat.
Dependent variables	
Country deal dummy	Binary variable that equals one if a firm made at least one acquisition in country *c* during year *t*, and zero otherwise. This variable is limited to cross-border deals. Source: SDC.
N country deals	Number of acquisitions in foreign country *c* made by a firm during year *t*. Source: SDC.
Deal value country (log)	Natural logarithm of the total value of acquisitions in foreign country *c* made by a firm during year *t*. Source: SDC.
DV country/TV	Total value of acquisitions in foreign country *c* made by a firm during year *t* scaled by the total value of all acquisitions during the same year. Source: SDC.
Firm characteristics	
Firm size	Natural log of Total Assets. Source: Compustat.
Firm age	Number of years since a firm has first appeared in Compustat. Source: Compustat.
Market-to-book	(Total Assets - Book Equity + Market Value of Equity)/Total Assets. Source: Compustat, CRSP.
ROA	Return on assets defined as operating income before depreciation (EBITDA) over Total Assets (lagged). Source: Compustat.

Table A.2 (Cont'd)

Investment	Capital expenditures scaled by Total Assets (lagged). Source: Compustat.
Cash	Cash and cash equivalent holdings scaled by Total Assets. Source: Compustat.
Leverage	Sum of long-term debt and debt in current liabilities over book value of total assets. Source: Compustat.
G-index	Governance index based on 24 antitakeover provisions and taken from Gompers, Ishii, and Metrick (2003). Source: ISS/IRRC, 1992-2006.
E-index	Managerial entrenchment index calculated as in Bebchuk, Cohen, and Ferrell (2009) using 6 antitakeover provisions. Source: ISS/IRRC, 1998-2017.
Distance to country	Natural log of distance (in miles) from the firm headquarters to a country's main city. Source: CEPII.
Agency index	Combines the following three measures of governance variables: (1) the Bebchuk, Cohen, and Ferrell (2009) managerial entrenchment index (E-index); (2) the percentage of shares held by institutional investors (Source: Thomson Reuters); and (3) the fraction of shares held by the CEO (Source: ExecuComp). Agency index is calculated as an average of a firm's percentile rankings in the sample for each measure (for the latter two, the reverse ranking is used). The index is scaled to range from zero (low) to one (high).

CEO characteristics

Foreign CEO	Binary variable that takes one of a CEO was born and obtained an undergraduate degree outside of the United States, and zero otherwise. Sources: BoardEx, Marquis Who's Who.
CEO age	Natural log of CEO age. Source: ExecuComp.
CEO tenure	Natural log of a number of years a CEO has been in the position. Source: ExecuComp.
Female CEO	Binary variable that equals one if a CEO's gender is a female, and zero if a male. Source: ExecuComp.
Overconfident CEO 67	Binary variable that equals one if a CEO does not the exercise vested options in his/her company stock when these options are at least 67% in the money (Hirshleifer et al., 2012), and zero otherwise.
Short tenure	Binary variable that equals one when a CEO's tenure is less than three years, and zero otherwise. Source: ExecuComp.
Managerial ability	MA_SCORE_2016_RANK (Demerjian and McVay, 2012). Source: Peter Demerjian's website, 1992-2016.
Top university	Binary variable that equals one if a CEO has obtained the first (tertiary) degree from a top ten ranked universities in a country, and zero otherwise. Source: The *Times Higher Education* World University Rankings 2015-2016.
Advanced degree	Binary variable that equals one if a CEO has a graduate degree, and zero otherwise. Source: BoardEx, Marquis Who's Who.

Table A.2 (Cont'd)

Deal characteristics

Deal value	Transaction value defined as a purchase price (US$) paid by the acquirer. Source: SDC
Relative deal size	Transaction value over the acquirer's book value of total assets. Source: SDC.
Foreign target	Binary variable that equals one if acquired firm is located outside of the United States, and zero otherwise. Source: SDC.
Public target	Binary variable that equals one if acquired firm is a publicly listed company, and zero otherwise. Source: SDC.
Private target	Binary variable that equals one if acquired firm is not a publicly listed company (e.g., private, subsidiary), and zero otherwise. Source: SDC.
Diversifying deal	Binary variable that equals one if the target and the acquirer have different two-digit SIC codes, and zero otherwise. Source: SDC.
Tender offer	Binary variable that equals one if the deal is a tender offer, and zero otherwise.
Cash deal	Binary variable that equals one if the acquisition is entirely financed with cash, and zero otherwise. Source: SDC.
Stock deal	Binary variable that equals one if the acquisition is entirely financed with acquirer's shares, and zero otherwise. Source: SDC.

Country characteristics

Economy size	Natural log of a country's gross domestic product (GDP) in a given year (constant 2010 US$). Source: World Bank.
GDP growth rate	Annual percentage change in a country's GDP. Source: World Bank.
Income growth per capita	Annual percentage change in a country's gross national income per capita. Source: World Bank.
Unemployment	Unemployment rate in a country during a given year. Source: World Bank.
Economic freedom	Index of economic freedom based on 12 factors. Source: Heritage Foundation, 1995-2017.
Governance	Average percentile rank of 6 World Governance Indicators. Source: World Bank, 1996-2017.

Appendix B: Athlete Profile

Table B.1
Characteristics of Athletes - Narrative Evidence and Literature.

Characteristics	Quotes from athletes about their experience in sports	Sport psychology literature
Intrinsic motivation, need for achievement, self-determination, passion, competitiveness	"The best motivation always comes from within." – Michael Johnson; "You can motivate by fear, and you can motivate by reward. But both those methods are only temporary. The only lasting thing is self-motivation." – Homer Rice; "A champion cannot run with money is his pockets. He has to run with a fire in his heart." – Emil Zatopek; "Champions are made from something they have deep inside them - a desire, a dream, a vision." – Muhammad Ali; "I am not talented, I am obsessed." – Conor McGregor; "The meaning of life is not simply to exist, to survive, but to move ahead, to go up, to achieve, to conquer." – Arnold Schwarzenegger; "The difference between the impossible and the possible lies in a person's determination." – Tommy Lasorda; "To have long term success ... in any position of leadership, you have to be obsessed in some way." – Pat Riley; "I love the winning, I can take the losing, but most of all I Love to play." – Boris Becker; "The five S's of sports training are: stamina, speed, strength, skill, and spirit; but the greatest of these is spirit." – Ken Doherty.	Abdelfattah (2010); Bostian & Gardner (1981); Deci (1975); Deci & Ryan (1985, 1991, 2000); Duda et al. (1995); Fabian & Ross (1984); Frederick-Recascino (2002); Frederick & Ryan (1995); Gill & Dzewaltowski (1988); Gill et al. (1988); Hagger & Chatzisarantis (2007); Houston et al. (1997); Mallett & Hanrahan (2004); Ntoumanis (2001); Ryan (1982); Smither & Houston (1992); Spray et al. (2006); Vallerand (1987, 2007); Vallerand & Miquelon (2007); Vallerand et al. (2003, 2007, 2008); Vlachopoulos (2000).
Perseverance, grit, resilience, determination, commitment, mental toughness	"I've failed over and over again in my life. And that is why I succeed." – Michael Jordan; "...the will must be stronger than the skill." – Mohammad Ali; "Persistence can change failure into extraordinary achievement." – Matt Biondi; "I don't quit once I step on the court." – Roger Federer; "If you run into a wall, don't turn around and give up. Figure out how to climb it, go through it, or work around it." – Michael Jordan; "Don't practice until you get it right, practice until you can't get it wrong." – Unknown; "All athletes need three things: commitment, discipline and hard work... you have to be patient." – Haile Gebrselassie; "It's not whether you get knocked down; it's whether you get up." – Vince Lombardi; "I always felt that my greatest asset was not my physical ability, it was my mental ability." – Bruce Jenner; "Persistence can change failure into extraordinary achievement." – Marv Levy; "Set your goals high and don't stop till you get there." – Bo Jackson; "Adversity cause some men to break; others to break records." – William Ward; "Concentration and mental toughness are the margins of victory." – Bill Russell; "Mental toughness is essential to success." – Vince Lombardi	Connaughton et al. (2008); Crocker (1992); Crust (2007); Duckworth et al. (2009); Duda (1989); Galli & Gonzalez (2015); Gucciardi (2009); Jones (2002); Larkin et al. (2016); Nicholls et al. (2008); Sarkar & Fletcher (2013, 2014); Scanlan (1991); Schmidt et al. (2014); Tedesqui & Young (2018).
Goal-orientation, long-term orientation, focus	"Set your goals high and don't stop till you get there." – Bo Jackson; "You have to believe in the long-term plan ... you need the short-term goals to motivate and inspire you." – Roger Federer; "What keeps me going is goals." – Mohammad Ali; "A man has to have goals - for a day, for a lifetime..." – Ted Williams; "Goals should never be easy, they should force you to work." – Michael Phelps; "Before you do things you gotta expect them of yourself." – Michael Jordan; "If you are good at one thing make it everything." – Roger Federer; "The goal is not always meant to be reached, it often serves simply as something to aim at." – Bruce Lee	Balyi et al. (2013); Bloom (1985); Duda (1995); Dunn & Syrotuik (2002); Ericsson et al. (1993); Ericsson & Charness (1994); Ford et al. (2011); Harwood et al. (2008); Kyllo & Landers (1995); Salmela et al. (1998); Weinberg (1994); White et al. (1998).

Table B.1 (Cont'd)

Discipline, self-regulation, metacognition	"Without self-discipline, success is impossible, period." – Lou Holtz; "All successes start with self-discipline. It starts with you." – Dwaybe "The Rork" Johnson; "It doesn't matter what you're trying to accomplish. It's all a matter of discipline." – Wilma Rudolph; "Once you have commitment, you need discipline and hard word to get there." – Haile Gebrselassie; "Sports ideally teach discipline and commitment." – Howie Long; "We all have dreams. But in order to make dreams come into reality it takes an awful lot of determination, dedication, discipline and effort." – Jesse Owens	Bourdon et al. (2017); Cleary & Zimmerman (2001); Grace et al. (2019); Heikkala (1993); Kirschenbaum (1987); Sage (1998); Shogan (1999); Weight et al. (2014); Williams et al. (2000)
Work ethics, practice, effort, preparation, challenge	"... the best players are the hardest workers." – Magic Johnson; "If you can't outplay them, outwork them." – Ben Hogan; "Nothing is given, everything is earned." – Lebron James; "Hard work beats talent when talent doesn't work hard." – Tim Notke; "... the work is behind the scenes." – Usain Bolt; "There is no way around hard work. Embrace it." - Roger Federer; "If you don't practice you don't deserve to win." – Andre Agassi; "The more you practice the better you get." – Ted Williams; "It's not the will to win that matters... It's the will to prepare to win that matters." – Paul "Bear" Bryant; "Continuous effort — not strength or intelligence — is the key to unlocking our potential." – Liane Cardes; "If you fail to prepare, you're prepared to fail." – Mark Spitz; "Always make a total effort, even when the odds are against you." – Arnold Palmer; "If you train hard ... you will be hard to beat." – Hershel Walker; "Earn your leadership every day." – Michael Jordan; "I believe in getting a team prepared ..." – Tom Landry; "Skill is only developed by hours and hours of work." – Usain Bolt	Bourdon et al. (2017); Grace et al. (2019); Kelly et al. (2007); Moore (2017); Murray (2017); Sage (1998); Weight et al. (2014).
Self-efficacy, -belief, -esteem, -confidence, positivity, optimism	"… and I believed in myself." - Mohammad Ali; "Athletes have to be confident and I am thinking like that." - Haile Gebrselassie; "You have to believe in yourself when no one else does." – Serena Williams; "As a competitor and an athlete, you have to believe in yourself." – Tim Tebow; "I'm a very positive thinker, and I think that is what helps me the most in difficult moments." - Roger Federer; "Always try to make a total effort even when odds are against you." – Arnold Palmer; "We plan on being really good, and obviously, we plan on winning." – Gregg Troy; "If you can believe it, the mind can achieve it." – Ronnie Lott; "Action is a high road to self-confidence and self-esteem." – Bruce Lee; "One important key to success if self-confidence. An important key to self-confidence is preparation.' – Arthur Ashe	Armstrong & Oomen-Early (2009); Bakır & Kangalgil (2017); Bandura (1977, 1986, 1997); Deci & Ryan (1995); Edwards et al. (2004); Feltz (1988); Feltz & Lirgg (2001); Kirschenbaum (1987); Koivula et al. (1997); Laborde et al. (2016); Nicholls et al. (2008); Slutzky & Simpkins (2009); Venne et al. (2006).
Courage, risk taking, action-orientation, proactive personality	"He who is not courageous enough to take risks will accomplish nothing in life." – Muhammad Ali; "You have to be fearless to have success." – Serena Williams; "I'd rather regret the risks that didn't work out than the chances I didn't take at all." – Simone Biles; "You miss 100% of the shots you don't take." – Wayne Gretzky; "Just do it." – Nike; "Some people want it to happen, some wish it would happen, other make it happen." – Michael Jordan; "You can't climb the ladder of success with your hands in your pockets" – Arnold Schwarzenegger; "You've got to take the initiative and play your game." – Chris Evert; "The most important key to achieving great success is to decide upon your goals, and launch, get started, take action, move." – John Wooden	Brymer & Schweitzer (2013); Conroy (2001); Conroy & Elliot (2004); Conroy et al. (2002); Corlett (1996); Gustafsson et al. (2017); Konter & Ng (2012); Marshall & Paterson (2017); Ozkurt et al. (2018).
Self-sufficiency, accountability, internal locus of control, need for autonomy & independence	"I enjoyed the position I was in as a tennis player. I was to blame when I lost. I was to blame when I won. I played soccer a lot too, and I couldn't stand it when I had to blame it on the goalkeeper." – Roger Federer; "You've got to take the initiative and *play your game*." – Chris Evert; "Success at anything will always come down to this: Focus and Effort. And we control both." – Dwayne Johnson; "Baseball gives a growing boy self- poise and self-reliance." – Al Spalding; "Superior athletes want to be accountable for their own results." – Marv Dunphy; "The ability to *conquer oneself* is no doubt the most precious of all things the sport bestows." – Olga Korbut; "Sports constantly make demands on participant for top performance, and they develop integrity, self-reliance and initiative." – Byron White	Sheri et al. (2013); Dowd & Innes (1981); Valliant et al. (1981); Fletcher & Dowell (1971); Gilliland (1974); McKelvie & Huband (1980); O'Connor & Webb (1976); Werner & Gottheil (1966); Fallby et al. (2006); Kimball (2007); Adie et al,. (2008); Schurr et al. (1977).

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