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Determinants and consequences of tournament incentives: A survey of the literature in accounting and finance☆

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ABSTRACT

This paper synthesizes the theoretical underpinnings of tournament models, reviews the extant empirical literature on the determinants and consequences of tournament incentives, critiques the findings and offers suggestions for future research. We synthesize findings from 63 empirical papers and find that several firm-level fundamental and corporate governance variables affect the structure of corporate tournaments. Our review of the consequences of tournament structure reveals that tournaments affect financial reporting and auditing as well as firm-level operational and capital market-based outcomes. This review reveals that the existing accounting and finance literature lacks a strong justification for why one theory rather than another is favored. Moreover, based on potential problems that may exist in empirical models, this review also offers some methodological implications for empirical tournament studies.

1. Introduction

Existing literature has strongly advocated for an optimal compensation system design, to alleviate many of the agency problems faced by corporations (Conyon, 2006; Brown and Caylor, 2009). Although many different theories, for instance, managerial power theory, stewardship theory, marginal productivity theory or social comparison theory can, and are, used to explain executive compensation, the field is still dominated by the optimal contracting approach of agency theory espoused by Jensen and Meckling (1976). They hold the view that a properly-designed executive pay structure is instrumental in alleviating agency problems, and that executives should be rewarded for risks they are willing to bear in the best interests of the company's shareholders (Jensen and Meckling, 1976, Jensen and Murphy, 1990). Accordingly, this optimal contracting approach posits a positive association between executive compensation and firm performance (Gomez-Mejia, 1994; Barkema and Gomez-Mejia, 1998; Dong et al., 2010; Upneja and Ozdemir, 2014). However, empirical evidence has provided mixed results, with some documenting the expected positive relationship (Aggarwal and Samwick, 2006; Kato and Long, 2006; Conyon and He, 2011); whilst some others do not (Brick et al., 2006; Duffhues and Kabir, 2008; Fernandes, 2008). For example, pay-for-performance sensitivity is found to be very low in the UK (Conyon and Murphy, 2000; Buck et al., 2003); Germany (Haid and Yurtoglu, 2006); Canada (Zhou, 2000); China (Firth et al., 2006); and Portugal (Fernandes, 2008).

One of the possible explanations for the mixed evidence could relate to managerial power, in that powerful CEOs can influence firm decision-making to maximize their own benefits. According to managerial power theory (Finkelstein and Hambrick, 1989), boards often do not serve as faithful agents of shareholders. It contends that managers induce directors to adopt compensation

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arrangements that are less reliant on firm performance.[1] Managerial power theory suggests that when managerial power becomes stronger, executive compensation structures become less effective in disciplining managerial wrongdoings: an outcome that adversely affects firm performance. Such an arrangement exacerbates the agency problem by inducing managerial rent-seeking (Healy, 1985; Yermack, 1997; Bertrand and Mullainathan, 2001).

The hallmark of the explicit/optimal compensation is that the evaluation criterion depends mainly on managerial absolute output: proper verification of which is very costly, since it is not possible to contract *ex-ante* for many unforeseen managerial actions. Therefore, in cases of less-than-perfect monitoring, executives are more likely to shirk their responsibilities (Lazear and Rosen, 1981). As a result, managers will try to achieve only what has been set out in the performance targets. Hence, executive compensation incorporating the features of 'optimal contracting' and 'managerial power', may be less effective in maximizing shareholder value. Therefore, an alternative type of compensation structure, *the rank-order tournament*, is also used by corporations (Lazear and Rosen, 1981). Tournament incentives are structured as a contest between senior executives, whereby, only the best relative performer will win the contest and receive generous remuneration, perks, and privileges (Lazear and Rosen, 1981; Eriksson, 1999; Murphy, 1999; Bognanno, 2001).

The purpose of this paper is to synthesize the burgeoning empirical literature on the determinants and consequences of tournament incentives in the accounting and finance area. The literature defines tournament incentives as a contest between senior executives, whereby, only the best relative performer will win the contest and receive generous remuneration, perks, and privileges (Lazear and Rosen, 1981; Eriksson, 1999; Murphy, 1999; Bognanno, 2001). Prendergast (1999, pp. 34–36) suggests that, "…all that matters for winning is not the absolute level of performance but how one does relative to others. . . to a large extent firms primarily provide incentives through the prospect of promotion, where higher wages can only be attained through changing ranks."

Tournament incentives could exist for two fundamental reasons. First, previous studies confirm that most of the variation in pay occurs between levels, rather than within jobs (Lazear, 1995). For example, the payment of top executives often triples soon after their promotion to the CEO position.[2] The theory of absolute performance measurement, based on contracting theory, is unlikely to explain this surge in wealth. Second, tournament theory states that, as monitoring difficulties increase, a large pay gap between the CEO and the senior executives reduces the need for costly supervision, and better aligns principal-agent interests by altering the nature of executive risk-taking, among others (Lazear and Rosen, 1981). As for principals, they pursue the cheapest way to monitor and evaluate agents' actions. Using rankings is substantially easy and cheap as a way to measure an agent's performance (Green and Stokey, 1983; Knoeber, 1989). Furthermore, ambiguity in the distribution of an agent's output levels, makes it difficult for principals to evaluate the agent's efforts objectively. Therefore, principals are more likely to establish a tournament-based compensation practice, since this allows only the *rank* of an agent's output distribution to be observed, but not the *level* (Kellner, 2015). Bloom and Michel (2002) find that the tournament incentive is an effective tool to help a principal evaluate the performance of an agent, especially when the environment is uncertain, and information asymmetry is acute.

Given the importance of tournament incentives in the real world, academic researchers, too, have started to examine the 'determinants' and 'consequences' of tournament incentives. Connelly et al. (2014) provide a comprehensive review of tournament incentives as used in the management area. We review the determinants and consequences of tournament incentives in the domain of accounting and finance, since tournament incentives have implications for firm performance, financial reporting quality and capital markets. We choose a systematic review rather than a structured literature review. The advantage of systematic reviews lies in a "replicable, scientific, and transparent process that enables the researcher to provide an audit trail, justifying his/her conclusions" (Tranfield et al., 2003, p. 218). We also offer potential research opportunities for both the determinants and the consequences of the tournament incentives.

To ensure the quality of our reviewed papers, we purposely included *empirical* papers on the determinants and consequences of tournament incentives published from 2009 to 2019 in journals that are ranked B and above by the Australian Business Dean Council (ABDC) 2019 Journal Rankings.[3] The first theoretical paper was written by Lazear and Rosen (1981). Kale et al. (2009) wrote the first empirical paper to measure tournament incentives using pay gap published in an accounting and finance journal. We also included 14 working papers in our review. Working papers pose a challenge because of their sheer number, and because they have not undergone peer review. We choose a subset of papers that have been presented at top conferences (Harvey et al., 2016) and have received some citations. We conducted a keyword search containing 'tournament incentives', 'pay gap', 'pay disparity', 'compensation gap' and 'compensation disparity'[4] in databases like EBSCOhost, Emerald Insight, Scopus, Web of Science, Google Scholar and Social Science

[1] Executives can have substantial influence over their own pay (Bebchuk and Fried, 2003) and, hence, it is not surprising to find that powerful managers have weak pay-for-performance sensitivity, as it is possible for them to be paid for 'luck' (Bertrand and Mullainathan, 2001). CEOs can manipulate director appointments to bias board decisions that can help the CEOs facilitate rent extraction (Gomez-Mejia et al., 1987). Also, directors can award excessive pay to CEOs, with an expectation that CEOs will support their cause as well (Core et al., 1999; Morse et al., 2011).

[2] For example, the key executives (vice presidents) in JPMorgan Chase & Co, receive average pay increases of 45.78% if one of them get promoted to the CEO position, whereas their pay increase through continued service in a given position amounted to 11.58% for the year 2015 − 2016 (manually collected from JPMorgan Chase & Co annual reports).

[3] We found a high degree of overlap in the journal rankings in the accounting and finance field in the ABDC and the Association of Business Schools (ABS) Journal rankings. ABDC tends to be a more inclusive list and we decided to follow the ABDC ranking (ABDC, 2019; ABS, 2018). For a complete list of journals of ABDC and ABS ranking systems, please see ABDC 2019 Journal Rankings, retrieved from https://abdc.edu.au/research/abdc-journal-list/2019-review/ and ABS 2018 Journal Rankings, retrieved from https://charteredabs.org/academic-journal-guide-2018/

[4] Initially, we search tournament papers by using these key words, since they are commonly used as alternative words to represent tournament incentives in the existing studies. Then we read carefully and included only papers that capture tournament incentives, rather than others, like CEO

Research Network (SSRN). According to prior literature, tournament incentives can be captured by the pay difference between the CEO and the remaining senior executives (Carpenter and Sanders, 2002), between senior executives and other employees (Wade et al., 2006) and among employees at various levels within a firm (Cowherd and Levine, 1992) or within industries. Hence, our review includes studies that used any one of these tournament constructs.[5] Collectively, a total of 63 papers were identified, of which 8 investigated the determinants of tournament incentives, whereas 55 papers explored the consequences of tournament incentives. Forty-one of the papers were published in A* and A-ranked journals; whilst only seven were published in B -ranked journals. One published paper is sourced from a journal not ranked in the current ABDC journal ranking list (Cooper et al., 2014). We included a total of 14 working papers in our review. To make this review comprehensive, we included papers that explored the determinants and consequences of tournament incentives from an accounting and finance angle, but were published in journals of other disciplines, such as management and economics (e.g. *Corporate Governance*: *An International Review*).

Our review is different from prior reviews on absolute performance-based compensation plans, especially CEO compensation, such as Murphy (1999); Devers et al. (2007) and Faulkender et al. (2010). First, we focus on the executive-team, instead of on the CEOs alone. Although senior executives play a critical role in firm-level operational decision-making, previous reviews focused mainly on how to design an effective incentive plan for CEOs. Second, our review enriches the executive compensation literature by synthesizing research on 'tournament incentives' that considers the interplay among senior executives. As mentioned before, absolute performance-based compensation incentives may exacerbate agency problems. The question of whether a tournament-based compensation arrangement can alleviate such problems, has received significant research focus. Our review, therefore, is a timely contribution to the debate surrounding optimum compensation plans for firms. Third, and different from other reviews, our synthesis of the existing tournament incentive studies identifies the *Asia-pacific region* as an underexplored institutional setting for tournament research. As will be apparent from our review, the vast majority of tournament-based studies have been conducted in the developed countries (mainly the U.S.). However, listed firms in the Asia-pacific region have different institutional arrangements compared to their Western counterparts, for example, a high proportion of family and state ownership, and a cash-dominated compensation structure as oppose to an equity-based one. We, therefore, offer some potential avenues for tournament research for firms in this region.

This review is useful for researchers willing to conduct future research on the determinants and consequences of tournament incentives, particularly in Asia-Pacific region, which differs significantly in terms of cultural orientation with respect to compensation arrangements. Most of the tournament studies have focused on the US market. However, the question of whether tournament incentives function similarly in other countries, particularly, in those in the Asia-Pacific region, is far from clear. Moreover, we have highlighted that existing research suffers from measurement problems associated with how best to capture the tournament setting. Hence, future researchers could endeavor to devise a better measure, that separates clearly tournament from pay gap research. Our review suggests that, at the least, authors(s) should control for CEO power in testing for the consequences of tournament incentives. Moreover, we highlight some of the factors that boards of directors need to consider in setting tournament incentives that will motivate executives to work hard for the maximization of firm performance. For example, an inappropriately designed tournament contest may encourage executives to take on projects with excessive risk and, then, engage in earnings manipulation to conceal bad news stemming from failed projects.

The paper proceeds as follows. In the following section, we provide a theoretical overview of the fundamentals of tournament models. In Section 3, we synthesize the literature on the determinants of tournament incentives. We categorize the determinants into two groups: (i) firm-level characteristics, and (ii) culture and institutional characteristics. In Section 4, we discuss the empirical research into the consequences of tournament incentives, grouping them into (i) financial reporting and auditing; (ii) firm-level operational; and (iii) capital market. Section 5 discusses future research opportunities on tournament incentives in the Asia-Pacific region and also offers some methodological suggestions to improve the validity of the existing findings. A final section concludes the paper.

2. The fundamentals of tournament models

The evolution of tournament theory can be dated back to the 1980s and 90 s and to several labor economists (e.g., Lazear and Rosen, 1981; Nalebuff and Stiglitz, 1983; Green and Stokey, 1983; Rosen, 1986; Ehrenberg and Bognanno, 1990; Knoeber and Thurman, 1994). Tournaments arise because they help principals to encourage all executives to work hard and reward the most able managers. The basic idea that emanated from these papers was that a large pay difference among different ranks will effectively encourage employees to exert more effort, since each of them has the opportunity to get promoted to a higher rank. At the end of the contest, only the best performer among all contestants will get the most substantial financial/non-financial rewards, and he or she

(*footnote continued*)

power. Moreover, we also include papers that examine the determinants and consequences of pay gap by testing different perspectives, such as tournament, CEO entrenchment or social comparison on pay gap, while supporting the tournament incentives argument. Besides, although current measurement fails to capture tournament incentives appropriately, our review reveals a lack of awareness by researchers of the need to control for the confounding effect of CEO power. Please see section 5.2 for an elaborated discussion on this point.

[5] Research on CEO Pay Slice (CPS) indicating how *central* the CEO is within the top executive team has also used the pay gap between the CEO and the remaining top executives (Bebchuk et al., 2011). The large pay gap between CEO and the remaining executive members gives an indication of CEO power (Lambert et al., 1993). However, we did not include such papers in this review because CPS does not reflect the promotion incentives feature of tournament theory.

will be promoted to a superior position within the company.

2.1. Two-player tournament model

The tournament model of Lazear and Rosen (1981) demonstrates the two most foundational predictions of tournament theory. The *first* basic proposition is that the level of effort that executives exert increases with the prize to be spread between the winner and the loser. This testable prediction has received strong empirical support over the years (e.g., Bull et al., 1987). Meanwhile, Lazear and Rosen (1987) note that the productive output from the tournament is maximized only when the prize is "optimal", i.e., the efficiency of the tournament will be reduced if the pay gap is too large (Lazear and Rosen, 1981; Knoeber, 1989; Knoeber and Thurman, 1994). Although a large pay gap will encourage players to apply greater efforts, it will be unfair if other players, who also exert greater efforts, receive nothing: an outcome that will affect adversely their incentives for participating in the competition. The incentive effect of the tournament arrangements will also decrease if the pay gap is too small, since it cannot attract contestants to compete. The *second* prediction is that the prize differential between the winner and the loser, not the absolute level of the prize, determines the effort made by contestants (Knoeber and Thurman, 1994; DeVaro, 2006a). Some literature in the management field supports this idea (Cappelli and Cascio, 1991; Shaw et al., 2002; Brown et al., 2003).

Early empirical studies generally supported these predictions (e.g., Nalebuff and Stiglitz, 1983; O'Keeffe et al., 1984; Rosen, 1986; Baker et al., 1988; McLaughlin, 1988; Leonard, 1990; Ehrenberg and Bognanno, 1990; Lambert et al., 1993; Knoeber and Thurman, 1994). For example, Ehrenberg and Bognanno (1990) demonstrate that performance in a golf tournament is better when the prize money is skewed towards relatively large prizes for the winner.

2.2. Extension of two-player model

The two-player tournament model originally espoused by Lazear and Rosen (1981) did not consider other possible conditions that might affect the effectiveness of the tournament model. Therefore, the scholars have extended this two-player model by incorporating multiple scenarios.

First, a simple but critical extension of the tournament theory involved incorporating more than two competitors (multiple competitors) to accommodate the fact that a pay gap incentive varies with the number of competitors (Green and Stokey, 1983; O'Keeffe et al., 1984; Main et al., 1993). Holding the prize spread fixed, the chances of winning a tournament decrease as more contestants join the tournament contest. As mentioned previously, only the optimal level of wage spread could maximize the productive output of the tournament. That implies that when more contestants join in, the prize spread becomes smaller than before and, hence, requires an increase in prize spread/differential as the number of competitors increases (McLaughlin, 1988).

Second, the adoption of a tournament needs to consider *actor heterogeneity*, as the likelihood of winning the prize is tied to any given executive's own willingness and ability to compete (Nippa, 2010). If some contestants are aware that their own abilities are inferior to those of their competitors, then they are likely to be demotivated (Knoeber and Thurman, 1994; Sunde, 2009). Tournament designers may consider *contestant heterogeneity* by forming sub-contests, in which participants compete with a more homogeneous subgroup (Gomez-Mejia et al., 2009) or by 'handicapping', which enhances the win possibility for disadvantaged participants (Pfeifer and Pfeifer, 2011). In addition, Szymanski and Valletti (2005) also suggest that firms should set up second prizes, where one contestant is very strong relative to the others, possibly to the point where the high-ability contestant also generates extra effort to mitigate pressure from relatively low-ability competitors.

Third, some researchers raise concerns about the simplifying presumption that competitors operate independently (Main et al., 1993). In reality, a top executive team must resolve interdependencies among different segments of the company collectively in an interdependent environment, such as a high-technology industry (Bloom, 1999; Siegel and Hambrick, 2005). When executive compensation is structured primarily on individual performance as compared to colleagues, aggressive competition among participants can result: an outcome that is costly for the firm. Although uncooperative behavior diminishes the efficiency of tournament structures, Lazear (1998) suggests that reduction in prize differentials might attenuate uncooperative behavior. Furthermore, Anabtawi (2005) suggests that a tournament could reduce dysfunctional behavior in the event of aggressive competition, because tournaments enable firms to collect information regarding the suitability of an employee to the firm's culture.

Fourth, the tournament environment also plays a role in the design of prize spreads. According to the two-player model by Lazear and Rosen (1981), the optimum level of effort for a given prize differential increases with the random component. Indeed, the level of effort is a key factor for contestants, however, their probability of winning the tournament is also affected by irreducible random components, such as "luck" or "noise" (Eriksson, 1999). For example, if luck is an important factor in determining promotion outcomes, then employees are less willing to increase their efforts for a given level of wage spread (DeVaro, 2006b), thereby requiring firms to widen the pay gap (Connelly et al., 2014). Following the same logic, Lazear (1998) further suggests that this may be particularly important for studies which tend to compare compensation policies and plans across industry or national contexts.

Moreover, previous experimental studies, such as Dechenaux et al. (2015) provide evidence that tournament incentives may lead to disincentive effects, in that a lower ability executive often reduces his/her effort when competing against a higher ability executive. Coffey and Maloney (2010) study how the "thrill of victory" matters to contestants and induces increased effort. They find that individuals appear to make their best effort when they perceive that there is a reasonable chance of winning. However, Cason et al. (2010) evidence that lower ability individuals are less likely to participate in a tournament at all, even when they would benefit from participating. Therefore, it appears that that tournament incentives can cause substantial disincentive effects when individual contestants possess mixed abilities.

Last but not least, researchers have extended the basic model to investigate how value functions change in sequential tournaments. According to Rosen (1986), the proportion of the prize increases by level in sequential tournaments as the value functions include not only the higher prizes, but also the value of the possibility of competing for further prizes at higher levels. In other words, relatively higher tournament rewards are needed to offset the greater risk of losing, as the likelihood of progressing to the next level of the corporate hierarchy decreases. A number of studies provide evidence on this issue (Leonard, 1990; Baker et al., 1994; Gibbs, 1995; Lazear, 1995). The riskiness of the contest could be influenced by changing the number of participants competing for a promotion. This is because the possibility of promotion decreases with an increase in the number of competitors. For example, Bognanno (2001), using a group of firms, conclude that '…pay rises strongly with hierarchical level. Furthermore, the winner's prize in the CEO tournament increases with the number of competitors for the CEO position' (p.290). The riskiness of the competition also rises when firms are more likely to hire someone from the external labor market. Moreover, it can be influenced by the extent to which an employee's performance in the corporation is subject to 'chance'.

2.3. How to motivate the CEO in the tournament model?

In addition, the means whereby the tournament model might motivate a CEO, who is already at the top of the corporate hierarchy and, therefore, cannot be promoted internally any further, has also been an issue for the model. According to tournament theory, a compensation gap encourages only the CEO candidates (subordinate managers), rather than the incumbent CEO. Hence, instead of within-firm contests, some alternative approaches are needed to elicit additional output from an incumbent CEO. Two approaches are envisioned following the evidence of prior literature.

First, the provision of job opportunities for prospective CEO candidates in a larger firm within the inter-firm labor markets, is one alternative motivational technique, because CEOs with greater ability can receive substantial payments, from a larger firm (e.g., Baker et al., 1988). Therefore, recognition that tournament contests may also happen in inter-firm labor markets offers a possible path for CEO promotion (Vandegrift and Brown, 2003). However, some studies question the value of inter-firm mobility, which is a key feature of the modern labor market. Will tournament theory become less relevant if a firm hires a CEO from an outside labor market, rather than through internal promotions? A possible answer is that the increased possibility of recruiting CEOs from external markets does not reduce the power of tournaments for motivating lower-ranked managers (Lazear and Rosen, 1981). The prospective CEO candidates could look for promotion opportunities outside the firm but within the industry, only when industry tournament incentives are strong. Gudell (2011) finds that a CEO switching to another company assuming the same role receives a remuneration premium. However, even if the industry prize is high enough, some CEOs will be willing to serve the same company if they can negotiate increased pay in the current job by revealing their industry tournament opportunities (Coles et al., 2017).

Second, CEOs can also be motivated to perform through "on-the-job discipline…achieved by demotion, retirement, or outright separation of a poorly performing CEO from the corporation" (Demsetz, 1995, p 110). It is possible to monitor CEOs directly, because they have decision-making authority that might be reflected in firm performance. Previous research has identified that poor firm performance leads to CEO termination (Kay, 1997). Since, the chances for the non-CEO executives to get promoted to CEO position increase with the departure of the incumbent CEO, those executives have stronger incentives to monitor CEO behaviors. Thus, a CEO will be less likely to engage in unethical activities, thereby, alleviating the need to use 'pay for performance' as a tool for controlling agency costs.

Besides, some social scientists have suggested that monetary rewards are intrinsically unlikely to encourage individuals towards high achievement. Monetary motivation may occur for CEOs who achieve their position by eliminating opponents in promotion contests (probably multiple rounds), but even those who admit that money could be a general motivator, doubt whether financial incentives can have a material effect on executives with substantial income already (Anabtawi, 2005). To the extent that monetary compensation can be used as an incentive for CEOs, it may simply be a symbol of identity, rather than a performance incentive (Bebchuk and Fried, 2005). Bebchuk and Fried (2005) suggest that ego is the primary driver of CEO behavior, with money playing a secondary role. These findings suggest that a substantial tournament prize is sufficient to satisfy an incumbent CEO, and that additional rewards are not necessary to motivate her to perform.

2.4. Section summary

Tournament theory provides a theoretical foundation for explaining pay without performance. Tournament models are consistent with actual compensation arrangements within the managerial ranks of companies and can also provide strong performance incentives (Anabtawi, 2005). Compared to a 'pay for absolute performance' approach, tournaments offer companies the possibility of encouraging executives to perform better. Although tournament theory does not fully address how to motivate the incumbent CEO, there are avenues for addressing these difficulties.

3. Determinants of tournament incentives

In this section, we review the literature on the determinants of tournament incentives. Although there is a large empirical literature on the consequences of tournament incentives, fewer studies have been carried out on their potential determinants. We organize our review by categorising the determinants into (i) firm-level fundamental determinants and (ii) culture and institutional determinants.

3.1. Firm-level characteristics and tournament incentives

A large body of empirical research has found that firm-and manager-specific characteristics, such as firm size, volatility, stock return performance, CEO age, CEO tenure, and institutional ownership, affect compensation structure (Ryan and Wiggins, 2001; Edmans et al., 2017). A natural starting point, therefore, for researchers on the determinants of tournament incentives, was to examine whether some of these variables also affect the tournament-based incentive schemes. We categorize such determinants into four groups: (i) firm-level factors (ii) industry-level factors; (iii) managerial characteristics; and (iv) corporate governance factors.

3.1.1. Firm fundamentals and tournament incentives

Kale et al. (2009) and Burns et al. (2017) find that firm size is related positively to the compensation gap between CEO and other executives. Kale et al. (2009) also expect volatility and number of segments in which a firm operates should be associated positively with the tournament size, defined as the size of the pay differential between the CEO and top executives. However, they fail to find any such evidence. Using a group of Dutch listed companies, Sahib et al. (2018) find that acquisitive growth increases the size of the tournament prize, while organic growth has no effect on it. Firms growing via acquisition lead to a bigger candidate pool, who compete for CEO promotion, thereby, a larger tournament prize is needed to compensate the lower likelihood of promotion for individual executives.

3.1.2. Industry-level factors and tournament incentives

Industry-level factors having explanatory power for the pay gap include median industry-pay-gap and industry homogeneity. This follows the theoretical premise that companies benchmark managerial remuneration to that of similar companies in the industry (Murphy, 1999). Kale et al. (2009) find that the median industry compensation gap is related positively to the size of the individual firm compensation gap, and that industry homogeneity affects tournament size negatively through its impact on promotion probability.[6]

3.1.3. Managerial characteristics and tournament incentives

Furthermore, some tournament studies document an association between managerial characteristics and tournament size, through the indirect effect of the probability of promotion among executives. For example, Kale et al. (2009) show evidence that CEO age (CEO experience) negatively (positively) affects the size of the tournament prizes. Furthermore, CEO insider/outsider status may affect the size of the tournament prizes indirectly through its effect on the probability of promotion among executives. If the new CEO is recruited from the external market, the promotion chance for existing executives decreases further, as they come to believe that the next CEO will be recruited from the external market, as well. As a result, the compensation gap should be greater, to mitigate the effect of a lower possibility of promotion for executives in the near future. They further investigate a potentially positive aspect of the compensation disparity between the CEO and the next level of executives, including the CFO and document a positive relationship. The positive association can be justified, as the higher the chances for the incumbent CFO to be promoted to CEO, the lower the possibility of promotion for other executives, so the pay gap should be increased to encourage other executives to exert more effort. However, Mian (2001) documents that only about 5% of the CFOs attain the position of CEO, indicating that the position of the CFO is usually a terminal one. Consequently, when the CFO is one of the VPs, the probability of promotion is greater for the other VPs: a probability that might imply a negative relation between CFO designation and the pay gap. Therefore, future research should consider executive heterogeneity concern. If there exists substantial heterogeneity, then researchers should create sub-contests, in order to make executives compete with a more homogeneous subgroup or put some barriers to increase the win probability for disadvantaged executives (Gomez-Mejia et al., 2009; Pfeifer and Pfeifer, 2011).

Kale et al. (2009) further hypothesize that CEO duality should be related to tournament size positively but fail to find supporting evidence. However, Burns et al. (2017) find a positive association between CEO duality and the compensation gap by using cross-country data. Since CEOs who hold the position of chairs may have great power, they are more likely to influence their remuneration relative to the other executives. The conflicting result may stem from different institutional settings as Kale et al. (2009) focus on the US market, while Burns et al.(2017) is a cross-country study, which includes 14 countries, such as the US, Canada and China.Therefore, we call for future studies to explore and confirm the role of CEO duality on the pay gap in different contexts.

Apart from the aforementioned CEO characteristics, CEO personal traits, such as CEO overconfidence, could also help explain the size of the tournament prize. Vitanova (2018) finds that overconfident CEOs are more willing to offer tournament incentives for the top executives, which enhances firm performance. This finding might be contrary to the managerial 'overconfidence' literature, which generally documents adverse consequences (e.g., Plöckinger et al., 2016). However, overconfident CEOs may adopt tournaments to motivate the top management team to work hard: an action that will be beneficial for him as well, in terms of performance implications.

3.1.4. Corporate governance factors and tournament incentives

Finally, firm-level corporate governance variables have also been found to affect the tournament structure. Burns et al. (2017) find that institutional ownership and board independence are related to the pay gap positively, but board size is related negatively.

[6] In homogeneous industries, there is a greater likelihood of hiring an outside CEO as well as improved outside employment opportunities for VPs. Therefore, the probability of an internal promotion will be lower leading to a less effective tournament in homogenous industries.

However, the positive relationship between insider ownership and pay gap is inconsistent with previous studies. Mehran (1995) finds that insider ownership is associated with the use of equity-based compensation negatively. Chen et al. (2014) find that board affiliation (the proportion of directors appointed by block shareholders) can increase the compensation gap, because of affiliated director reliance on executive directors. Board affiliation might therefore reduce directors' independence and impair the efficiency of their supervision. Moreover, state ownership also has a great impact on tournaments, as Chen et al. (2011) find that the compensation gap between the highest-paid executive and the second highest-paid executive is bigger than the compensation gap between the second and the third highest-paid executive. However, such an effect is less pronounced for SOEs, as higher state ownership decreases the compensation gap between different organizational levels. Kato and Long (2011) find that tournament size is increased to prevent executives from reducing their effort in the face of an increasing number of competitors, or when faced with noisy performance measures used to determine the tournament winner. Again, this effect is less pronounced for SOEs.

In addition to the board and ownership structure, the compensation committee may also play an important role in the design of corporate tournaments, because the compensation committee bears the responsibility for setting managerial pay, including performance-based incentive pay (Conyon and Peck, 1998; Daily et al., 1998). However, no study yet exists that examines whether the compensation committee affects the level and structure of tournament incentives.

3.2. Culture and tournament incentives

Hofstede (1980) suggests that culture will affect the personal thinking about corporate power structure and pay inequity. This, therefore, implies that cultural values will affect decision-making about executive compensation, including the tournament plans. Using cross-country samples, Burns et al. (2017) investigate this proposition and confirm that the cultural values of power distance, income inequality, and competition are related, significantly and positively, to variations in tournament structures. For firms with greater power distance, a positive perception of pay inequity and/or competition will lead to a steeper tournament structure. For example, they show that the sample of US CEOs receives a larger tournament payoff than does the sample of CEOs from other countries, and this difference is mainly driven by the "winner-take-all" culture in the US (Frank and Cook, 1995). Following this culture, the receipt of enormous benefits is more acceptable, since US CEOs have more power than their counterparts in other countries. Results further show that the tournament structure results in better firm performance in countries characterized by the presence of all the three above-mentioned cultural attributes. Future research should investigate the effects of other non-economic institutional factors, such as religion and social trust, on the existence and performance implications of tournament incentives.

Some compensation papers argue that different theories can work together jointly to explain the compensation gap. For example, Jiang et al. (2019) use tournament theory, managerial power theory and social comparison theory, and report that the cultural differences among chairpersons influences the pay disparity between executives and average workers in China. The findings show that the pay gap in a company run by a chairperson from a collectivist culture tends to be narrower than that of a company run by an individualism-oriented chairperson, who is more focused on individual success and risk-taking. Using tournament theory and managerial power theory, Borghesi and Chang (2018) discuss how personal political ideology can help explain the degree and structure of the pay gap, since corporate individuals' political favour affects their decision-making indirectly. They find that for firms with Democratic CEOs, the compensation gap is smaller than it is for firms with Republican CEOs. Republican CEOs favor individual rights and free markets and are more likely to enlarge the pay gap. On the other hand, Democratic CEOs are focused on social and economic equality, and are less likely to use their power to influence the board for higher payment.

3.3. Section summary

This section summarizes the determinants of tournament incentives. Our review reveals that a number of firm-level fundamental and corporate governance variables, affect the level and structure of corporate tournaments. Research also finds that cultural values, such as: power distance and pay equity; also influence the size of the tournament prizes.

4. Consequences of tournament incentives

In this section, we review the literature that explores the consequences of tournament incentives. We group the studies into (i) financial reporting and auditing; (ii) firm-level operational; and (iii) capital market consequences of tournament incentives.

4.1. Tournament incentives and financial reporting and auditing consequences

4.1.1. Tournament incentives and financial reporting quality

The extant literature on the tournament consequences of financial reporting quality generally documents a 'dark side' of tournament incentives. Tournament incentives for non-CEO executives may induce aggressively competitive behavior, thereby, affecting financial reporting quality adversely. Such damaging actions might include lower honesty levels (Conrads et al., 2014); cheating (Berentsen, 2002); and sabotaging other tournament participants (Lazear, 1989). The existence of strong tournament incentives might also motivate executives to engage in riskier projects (Ehrenberg and Bognanno, 1990; Goel and Thakor, 2008; Kini and Williams, 2012): the failure of which may necessitate the concealment of "bad news"; a reflection of deteriorating financial reporting quality.

Based on these fundamental arguments, Haß et al. (2015) investigate the association between tournament incentives and

corporate fraud and document a positive association. To rule out the possibility that this association is driven by powerful CEOs who might exert pressure on their subordinate executives to commit fraud (Bebchuk et al., 2011), Haß et al. (2015) control for CEO power, as proxied by CEO-chairman duality and founder status, and by CEO/CFO equity incentives. They conclude that tournament incentives are the primary catalyst of corporate fraud in their sample.

Park (2017) documents that promotion-based tournament incentives induce more real earning management (REM). Park (2017) offers three possible explanations for this positive relationship. First, senior executives are involved in daily operational activities and help CEOs/CFOs to carry out and supervise the corporate decisions made by them. Hence, executives have some discretion to implement these tasks, enabling them to engage in manipulative activities. Second, corporate boards are unable to detect REM, thereby, executives have a higher tendency to inflate earnings in order to enhance their promotion opportunities (e.g., Kim and Sohn, 2013). Third, powerful CEOs may force subordinates to engage in earnings manipulation to preserve their own reputation, financial benefits and priority status (e.g., Mande and Son, 2012). However, the empirical results support only the first two propositions. Furthermore, the documented positive association is less pronounced for firms in homogeneous industries, while it is more pronounced for firms with imminent CEO turnover; as the perceived possibility of immediate promotion is greater for senior executives. At the industry level, Huang et al. (2015) find, after controlling for CFO equity incentives, that industry tournament incentives motivate CEOs to engage in accruals-based earnings management in order to meet or beat the earnings expectations set by financial analysts. Meeting earnings benchmarks on a consistent basis can build credibility in the financial market, help maintain or increase the firm's stock price, improve CEO reputation in the managerial labor market, and enhance the possibility of taking a more desirable position in other firms (Bartov et al., 2002; Graham et al., 2005).

In contrast to the above studies that document an adverse effect of tournament incentives for financial reporting quality, Zhang et al. (2018) find that tournament incentives reduce the probability of accounting restatements in China. The occurrence of restatement will lower the reputation of an executive, as shareholders will suspect his/her capacity to maximize shareholder values. In an extreme case, the CEO might be dismissed in an attempt to restore the damaged legitimacy. Therefore, executives are discouraged from taking actions that might cause restatements in the near future. They also find that the negative association is more pronounced for executives in SOEs, who are keen on getting political promotion to enjoy more perks. However, opportunities for such promotions can be considerably weakened by financial restatements. The inconsistent evidence from the US and China, therefore, opens up an avenue for more research to explore the effect of institutional differences on the tournament implications for financial reporting quality. Bruce et al. (2005) rightly highlighted the importance of properly considering cross-country differences when studying top executive compensation contracts. It is important that future international studies provide explicit tests to confirm whether institutional differences, such as cultures, say-on-pay regulations, or labor market flexibility, moderate the association between tournament incentives and financial reporting quality.

Although the above studies provide interesting insights into the effect of tournament incentives on financial reporting quality, future research needs to investigate whether tournament incentives affect other dimensions of financial reporting quality. Two broad categories of financial reporting quality dominate the empirical literature (Dechow et al., 2010). Category 1 focuses on 'properties of earnings' including value-relevance; earnings persistence; earnings smoothness; earnings conservatism; and quality of corporate disclosures. Category 2 includes accrual-based earnings management, REM and financial restatements. Tournament incentives have been found to affect the second category of financial reporting quality, but no study yet exists that examines whether and why tournament incentives affect earnings properties.

4.1.2. Tournament incentives and auditors' response

Research has shown that auditors consider the structure of executive compensation plans in their audit pricing decisions. For example, Kim et al. (2015) find that CEO equity incentives may lead to a higher probability of misreporting and, consequently, higher audit fees. Chen et al. (2015) find that audit firms charge higher audit fees for firms with a higher sensitivity of CEO compensation portfolio to stock return volatility. Recent research has explored the effects of tournament incentives on audit attributes as well.

Using a large sample of US firms, both Bryan and Mason (2017) and Jia (2017) find that firm-level tournament incentives for non-CEO executives is related to audit fees positively. The basic idea behind this, is that tournament incentives are more likely to induce greater risk-taking and financial misconduct, thereby, increasing audit risks. Auditors need to exert extra effort to obtain additional audit evidence caused by audit risk, hence, the perceived higher audit risk increases the possibility that auditors will charge higher audit fees. In addition, Jia (2017) finds this positive association between tournament incentives and audit fees is weaker for firms with a recent CEO turnover, in industries where outside succession is more likely, and for family firms. These settings are characterized by lower probabilities for subordinate executives' early promotion, thereby, reducing the probability for financial misreporting by such executives and, consequently, lower audit fees. However, this relationship seems to be stronger when firms are experiencing poor performance or have large abnormal accruals, and when the incumbent CEO is approaching retirement: conditions that exacerbate audit risk and, hence, increase audit fees. Jia (2017) controlled for CEO entrenchment, but Bryan and Mason (2017) did not. Since compensation gap is also used to capture CEO power, the results should be interpreted cautiously. Furthermore, the authors failed to document the mediating effects of risk-taking and financial reporting quality on the positive association between tournament incentives and audit fees. Given tournament incentives could lead to financial misreporting and higher risk-taking which have been documented to affect audit opinion (Fargher et al., 2014; Greiner et al., 2016), future research should explore the association between tournament incentives and audit opinion.

4.1.3. Section summary

In this section, we discuss the effect of tournament incentives on financial reporting quality and audit response. On one hand,

tournament incentives for non-CEO executives may induce financial misconduct and necessitate the concealment of 'bad news': a reflection of deteriorating financial reporting quality and higher audit risks. Empirical evidence supports this perspective as current studies document that tournament incentives induce a higher likelihood of corporate fraud, more real earnings management activities, increasing trends in accrual-based earnings manipulation at industry level, and higher audit fees. On the flip side, Zhang et al. (2018) provide evidence that tournament incentives could reduce the occurrence of accounting restatements. The conflicting evidence warrants further cross-national research to explore the role of institutional differences in affecting differentially the associations between financial reporting quality, audit fees and tournament incentives.

4.2. Tournament incentives and firm-level operational consequences

4.2.1. Tournament incentives and firm performance

Given that the primary purpose for an appropriately designed executive compensation scheme is to enhance firm performance, it is unsurprising that researchers have also explored the effects of tournament incentives on firm performance. In an early study, Henderson and Fredrickson (2001) tested for the opposing prediction of large pay gaps: behavioralists' view of large pay gap undermining performance by creating feelings of relative deprivation among subordinates, versus economists' view that large pay gaps are beneficial when substantial coordination is required. They find that although economic theory was a better predictor of the size of CEO pay gaps, there was a balance between the economic and behavioral views as predictors of firm performance. Lee et al. (2008); Kale et al. (2009) and Kale et al. (2010) document a positive relationship between tournament incentives and firm performance in the US market. Kale et al. (2009) and Kale et al. (2010) further show that this association is more pronounced when the incumbent CEO nears retirement, because that condition opens an opportunity for the next executive in the promotion ladder. However, this association is less positive when a firm has a new CEO and weakens further when a firm hires a new CEO from the external labor market, as these instances decrease promotion possibilities. Siegel and Hambrick (2005) provide empirical evidence for the harmful impact of tournament competition on firm performance for high-technology firms. For such firms, collaboration rather than competition is a key to their success.

Apart from within-firm tournament incentives, industry and regional tournament incentives also affect firm performance. Coles et al. (2017) find that industry tournament incentives, measured by the pay gap between the CEO and the most highly compensated CEO in the firm's industry, also increase firm performance and encourage riskier policies. That is because when CEOs outperform other CEOs through high quantity or quality of managerial effort, or through value-increasing risk-taking policies, then they are more likely to be moving up to larger and more prestigious companies. Such positions can be attractive because of higher payment, enhanced span of control, high visibility, and high status as CEO of a leading company in the industry. However, risky projects have a greater impact on firm performance (Naldi et al., 2007). Coles et al. (2017) did not test whether risk-taking behaviors could be a channel through which industry tournament incentives affect firm performance. As in the effects of industry tournaments, Ma et al. (2019) find that 'local tournament incentives', proxied by the compensation gap between an executive and higher-paid executives in the area, is associated positively with firm performance, risk-taking and misreporting, after controlling for the potential confounding effect of the within-firm pay gap.

With respect to bank performance, Chircop et al. (2018) document that the CEO pay gap is associated with an increase in bank returns and a decrease in bank risk, whilst the pay gap between executives and bank employees (VP pay gap) is associated with bank risk positively. Taken together, the positive association between CEO pay gap and bank performance is driven by pay sensitivity to bank performance, which encourages more efficient risk taking by non-CEO executives. Since the VP compensation is sensitive to negative bank returns, VPs are likely to engage in efficient risk-taking so that they can acquire higher returns for each unit of risk. Conversely, rank-and-file employee compensation is insensitive to bank performance, hence the VP pay gap (VPs and employees) induces rank-and-file employees to engage in unduly risky activities. Such inefficient risk-taking strategies makes a VP pay gap detrimental for the company.

However, Crawford et al. (2014) find a significant concave association between CEO-employee pay disparity) and firm performance for a sample of bank holding firms: pay gap increases firm performance up to a point, but beyond that point, an increase in pay gap affects performance adversely. The positive association is explained through tournament theory, whereby executives and employees are motivated to work toward higher firm performance targets to attain promotion and associated benefits. However, the negative association stems from the excessive pay gap engendering feelings of inequity, deprivation and outright sabotage: features that are consistent with the equity fairness theory. However, the use of alternative theories to explain the increasing versus decreasing performance effects of a pay gap is dubious in light Lazear and Rosen's (1987) statement: productive output from the tournament is maximized only when the prize is "optimal".

In the non-US context, a positive relationship between pay gap and firm performance was confirmed by Eriksson (1999) for Denmark; while Conyon et al. (2001) found no significant relationship between pay gap and firm performance for a sample of UK firms. But Tarkovska (2017) finds that the high pay gap between the CEO and each of the top five executives is likely to impact the executive team's spirit and motivation negatively, which lowers firm performance for a sample of UK firms: a finding that is consistent with social comparison theory, whereas tournament theory might be supported only when the CEO is close to retirement.

In China, Lin and Lu (2009); Hu et al. (2013); Lin et al.(2013); Pan et al. (2010) and Xu et al. (2016) document a positive relationship between tournament incentives and firm performance. Xu et al. (2016) further document that the difference between the average compensation level of top executives and the average payoff of their industry peers moderates the positive relation. However, they find that the results hold for non-SOEs only. Consistently, Chen et al. (2011) and Kato and Long (2011) find that that an increase in the tournament size will enhance executives' efforts and, consequently, firm value, but only for non-SOEs. Compared to executives

in non-SOEs, executives in SOEs are less sensitive to explicit pay comparisons with peers, as they are compensated with massive implicit perks. Pan et al. (2010) document that the positive association between tournament incentives and firm performance is more pronounced in SOECG and SOELG-controlled firms[7], arguing that the agency problem is more severe in such firms, as the government is too detached from those companies and is unable to supervise executives effectively, thereby, making tournament incentives a more useful monitoring mechanism in SOEs. But it is still questionable as to whether tournament incentives play a more effective role enhancing firm performance in firms with ultimate state ownership. For example, Chen et al. (2009) state that SOECGs are subject to strict supervision and monitoring from several departments under the central government, including the National Audit Office (NAO). This statement contradicts Pan et al. (2010), above, who claim the government is too detached from those companies and is unable to supervise executives effectively. Moreover, Hu et al. (2013), document a weaker relationship, arguing that executives in SOEs face multiple tasks to gain political promotion, including assisting the government to satisfy social objectives instead of enhancing firm performance. Because explicit managerial compensation was constrained by the "pay cap" policy[8] launched by the government, thereby, narrowing the pay gap, tournament incentives became less attractive for executives in the SOEs.

Talavera et al. (2018) find that the positive link between tournament incentives and firm performance for a sample of Chinese companies is stronger (weaker) when senior executives are from the same age cohort (three or more age cohorts). This is likely to be due to 'peer pressure' among similar-aged executives, enhancing the tournament competition but reducing the incentives for younger executives to compete as the age hierarchy widens. In addition, another Chinese-based study done by Dai et al. (2017) document an inverted-U relationship between pay gap and firm productivity: an association that is more pronounced for firms with low industry concentration, and with highly skilled employees. However, neither tournament theory nor equity theory, individually, appears to explain this association. In the US context, Faleye et al. (2013) find that CEO-employee pay ratio does not necessarily capture an ideal setting for conventional tournament incentives, because the managerial compensation is not disclosed to ordinary employees and even they are well informed, their limited ability and/or incentive make it difficult to act on such information. However, in some special circumstances, for example, in firms with relatively few employees that are well-informed about executive pay, such a ratio can act as a proxy for tournament incentive.

Unlike the above studies which explore the effect of pay gap on firm performance under tournament theory, there are studies that find different evidence using other perspectives. Bugeja et al. (2017) find no relation between pay gap and subsequent firm performance, as is consistent with an efficient contracting explanation of CEO compensation, rather than the managerial power perspective. The authors contend that the pay difference primarily reflects a rational allocation of decision authority between the CEO and other senior executives. This is compatible with a firm's economic characteristics: a view that contradicts the managerial power explanation of the pay difference. Moreover, Vieito (2012) sheds some new light on how gender affects the relationship between compensation gap and firm performance. He finds that, on average, companies managed by female CEOs (more cooperative) perform better and have a smaller compensation gap between the CEO and VPs than companies managed by male CEOs (more competitive). The results provide empirical support for behavioral (tournament) theory as being better able to explain the pay differential for female (male) CEOs.

4.2.2. Tournament incentives, firm risk and innovation

Senior executives facing strong competition for promotion to a CEO position will increase firm riskiness by undertaking riskier investments and financial policies. In a tournament contest, only the best relative performer can reach the CEO position. It is unlikely that all executives will choose the same level of risky projects, because they will get the same output at the end (Goel and Thakor, 2008).[9] More importantly, boards of directors cannot fully capture the true managerial performance, as it is difficult to distinguish whether 'managerial ability' or 'risk-taking propensity' leads to higher performance. Hence, in order to outperform others and enhance their promotion possibility, executives are more likely to assume greater risk. The chosen risk level for all non-CEO executives will increase with the pay gap. But it does not mean that all executives will prefer to take on risky projects, since risk-taking is a trade-off, involving the costs resulting from reduced utility from riskier compensation versus the benefits from increased promotion possibility.

Kini and Williams (2012) find that tournament incentives induce non-CEO executives to increase firm risk by adopting risker policies (higher R&D intensity, firm focus and leverage, but lower capital expenditure intensity), in order to increase their chance of promotion. Yin (2017) tests the relationship between firm risk and local tournament incentives: the latter defined as the pay gap between a CEO and the highest-paid CEO in the same Metropolitan statistical area. They find evidence consistent with the hypothesis that CEOs who face higher local tournament incentives are more likely to implement riskier policies. However, little is known on the effect of these local peers on CEO tournament incentives. Hence, future study should explore whether firm/industry/or regional tournaments are complementary, or substitutes. Moreover, future research should also explore whether regional pay gap theory is

[7] Chen et al. (2009) group China's listed companies into those controlled by state asset management bureaus (SAMBs), SOEs affiliated to the central government (SOECGs), SOEs affiliated to the local government (SOELGs), and private investors. They find that SOECGs perform the best, whilst SAMBs and private-controlled firms perform the worst, with SOELGs in the middle.

[8] The 2014 "pay cap" policy implemented by the State-owned Assets Supervision and Administration Commission (SASAC) aims to narrow the remuneration difference between executives and average employees in SOEs, to a ratio of 12:1 to 7:1 or 8:1. (State Council, 2014).

[9] In their model, if every senior executive chooses the same level of risk as her competitors in the CEO promotion tournament, then they will all have the same output at the end of the period. The probability of getting promoted for all the senior executives will also be the same, because their ability is a priori the same.

equally applicable to research on the effects of tournament incentives on financial reporting quality, firm performance and audit outcomes.

Using a group of financial firms from 1992 to 2009, Cooper et al. (2014) find a positive association between tournament incentives and firm risk. However, this positive association is confirmed for the pre-crisis period only. The onset of financial crisis may have made executives more risk-averse, and less likely to be attracted to tournament incentives. In other words, the deteriorating economic condition harms job security and intensifies competition among executives. In these circumstances, executives will choose to enjoy a quiet life rather than deal with cognitively difficult decisions involved in risk-increasing activities.

Research has also explored whether tournament incentives affect corporate innovation: an oft-cited proxy to capture firm risk. However, competing arguments exist regarding the association between tournament and innovation. On one hand, higher tournament incentives induce some executives to engage in excessively risky activities which could be detrimental to corporate innovation efficiency (Gilpatric, 2009). On the other hand, tournament-based competition could encourage executives to enhance innovation efficiency, because poor performance caused by riskier projects increases the threat of subsequent job losses. Empirically, Shen and Zhang (2017) document that tournament incentives are related positively to innovation efficiency (measured by the number of patents and patent citations generated per million dollars of R&D expenses). Furthermore, they find that the positive effect of tournament incentives prior to CEO turnover is particularly pronounced when an insider (i.e., one of the VPs) is eventually appointed as the new CEO, and when VPs expect a high probability of CEO turnover in the foreseeable future. Jia et al. (2016) also find similar results. Importantly, Jia et al. (2016) find that better human capital (measured by innovation productivity of individual executives and the number of executive inventors) and the reduction in excessive interventions by corporate boards appear to mediate the positive association. Lonare et al. (2019) find that industry tournament incentives, proxied by the pay gap between a firm's CEO and the second highest paid CEO in a same industry, is related to product innovation significantly and positively, after controlling for within-firm tournament incentives. Product market competition strengthens this association, whereas the lower probability of promotion through labor market mobility weakens it.

However, tournament incentives could also have a negative effect on firm innovation by, for example, destroying collaboration and coordination among executives in high-technology industries, as documented by Siegel and Hambrick (2005). However, no such evidence exists as of yet in research in the accounting and finance discipline. In addition, since tournament incentives could lead to higher risk-taking, such as R&D investment: and higher levels of R&D investment may increase the likelihood of financial distress (Zhang, 2015); a possible future path is to investigate whether tournament incentives lead to bankruptcy risk.

4.2.3. Tournament incentives and tax avoidance

The implementation of promotion-based tournament incentives might influence corporate tax policies. Kubick and Masli (2016) report that tournament incentives facing the CFO[10] are associated with tax aggressiveness positively after controlling for the effect of both CEO and CFO equity incentives (Rego and Wilson, 2012). Because tournament incentives promote greater risk-taking, CFOs might pursue more aggressive tax policies, because such actions have the desirable outcome of reporting more earnings and retaining more cash: two strong performance indicators pertinent to promotion. Kubick and Lockhart (2016) further confirm the positive link between industry tournament incentives and tax aggressiveness. CEOs facing greater industry tournament incentives are more willing to conduct aggressive tax reporting for better firm performance, thereby, increasing the likelihood of winning the industry tournament. Furthermore, the association is *weaker* in heterogeneous industries which offer the CEO fewer outside employment options. This positive relation is also strong in industries where competition for CEO talent is high and, also, among CEOs estimated to have greater ability, because outperformed CEOs have more external employment opportunities.

4.2.4. Tournament incentives and managerial turnover

Bloom and Michel (2002) find that promotion-based tournament incentives increase the lower-level manager turnover rate, because lower-level managers are forced to accept both lower status and substantially less pay. Kale et al. (2014) find that firms with large pay inequalities, both within the firm and relative to benchmark firms, are associated with high VP turnovers and resignations. This finding suggests that the market for VPs functions well, thus, more able VPs are paid more, which other firms can observe and can offer compensation premiums to hire them. Prior research documents that VP turnover affects firm performance and corporate innovation adversely, because of loss of precious human and social capital associated with the resigning VPs (Wang et al., 2015). Therefore, future research should explore whether VP turnover could be considered as a channel that may explain the influence of tournament incentives on firm-level consequences. At the CEO level, using data from a sample of 313 large US companies from 1988 to 1997, Shen et al. (2010) document that the pay gap has a negative impact on CEO turnover, which is consistent with a managerial power perspective, i.e., CEOs with greater power can design their own pay, since they have stronger influence over board decisions. Byun (2014) states that the tournament and the pay equity theories together can explain the impact of pay dispersion on managerial turnover. The author finds that abnormal pay dispersion, captured by a pay gap that is too high or low, is associated with higher executive turnover rates and lower firm performance. When pay dispersion is too high, low-ranked executives are less-motivated to work harder, which affects firm performance adversely and, therefore, increases the probability of management turnover. However, when the pay gap is too low, high-ranked executives become dissatisfied, as the rewards are not commensurate with expectations, forcing them to seek external employment opportunities.

[10] Kubick and Masli (2016) focus on tournament incentives for CFO as CFO is more likely to be directly involved in corporate tax policy. They measure tournament incentives as the pay gap between the CEO's and CFO's total compensation.

4.2.5. Tournament incentives and other firm operational consequences

Shi et al. (2016) report that executive tournament incentives are related positively to securities class action lawsuits: an outcome that could stem from a higher likelihood of engaging in managerial wrongdoings (e.g., overly optimistic statements about project initiatives). Hart et al. (2015) find that a higher pay gap is associated with corporate social performance (CSP) negatively, because "…Firms with high vertical pay disparity structures foster competition and individual ambition which is linked with a profit-maximizing, shareholder orientation…and will not exhibit the requisite stakeholder-centric attitudes of egalitarianism…needed to effectively manage complex stakeholder issues…, resulting in lower CSP" (p.204). Gnyawali et al. (2008) examine how the compensation gap between CEO and the remaining four highest paid executives affects firm competitive behaviors: competitive activity and competitive complexity. Higher tournament prizes motivate executives to undertake more competitive actions within their area of operations, but lack of cooperation and possible sabotage behavior may increase corporate competitive complexity.

4.2.6. Section summary

With respect to firm-level operational consequences, research has found that strong tournament incentives improve firm performance, boost firm innovation, encourage more risk-taking and increase tax avoidance, as well as increasing executive turnover and the probability of lawsuits. However, the channels through which tournament incentives influence various operational consequences require further research attention. Besides, whether tournament incentives have an impact on corporate governance issues is still unclear, as very little research has been conducted in understanding the moderating effect of cross-country institutional differences on the association between tournament incentives and changes in corporate governance practices.

4.3. Tournament incentives and capital market consequences

4.3.1. Tournament incentives, cost of capital, and stock liquidity

The risk-taking incentives associated with CEO tournaments may affect firms' credit quality adversely. Du et al. (2019) suggest that within-firm tournament incentives can help to reduce credit risk, especially for firms with strong corporate governance or product-market competition. However, at the industry-level, Kubick et al. (2018) find that industry tournament incentives lower credit ratings and increase the cost of bank loans significantly. This is owing to creditors' price-protection strategies, as they cannot fully foresee the changes in corporate policies post-lending. Since tournament incentives may encourage greater risk-taking, which could prove detrimental to creditors, creditors are more likely to lower the firm's credit ratings. However, they did not confirm whether such firms actually engaged in risk strategies: a shortcoming of their research. They also find that a widening pay gap increases short maturity-debt as well as the intensity and strictness of debt covenants. Huang et al. (2019) investigate whether industry tournament incentives affect firm liquidity. They find that industry tournament incentives, after controlling for within-firm pay gap, enhance the level and marginal value of cash by providing CEOs with career-enhancing incentives to pursue value-enhancing cash policies. Further, for firms with excess cash, higher industry tournament incentives lead to increased R&D expenditures and spending on focused acquisitions, and reduced shareholder pay-outs. In addition, industry tournament incentives strengthen the relation between firm cash holdings and market share gains. Phan et al. (2017) document similar results in the context of a within-firm tournament setting. However, different to Huang et al. (2019), their evidence indicates that because within-firm tournament incentives motivate riskier corporate policy choices, impeding corporate investments owing to greater cash-flow uncertainty, firms are more likely to hold larger cash reserves to alleviate potential liquidity shortfalls and avert underinvestment. Moreover, this effect is stronger for financially constrained firms, as they suffer a higher probability of underinvesting, owing to either lack of adequate access to external capital, or access only at higher cost.

Research has also explored the effects of tournament incentives on the cost of capital and acquisition returns. Huang et al. (2018) find negative relations between CEO pay gap and default risk, cost of debt, and number of restrictive debt covenants, but a positive relation between CEO pay gap and debt maturity. However, their findings are consistent with the CEO productivity explanation for the CEO pay gap, rather than with the tournament incentives and CEO entrenchment perspectives.[11] Furthermore, using tournament theory and managerial power theory, Chen et al. (2013) find that pay disparity is related positively to the cost of equity. The positive relationship is stronger when a CEO successor plan is more important, and when the agency problems of a free cash flow are severe: findings that are consistent with the managerial power perspective. Nguyen et al. (2017) document a positive relationship between the CEO-senior executives' pay difference and both firm acquisitiveness and acquisition risk. They support the CEO relative productivity perspective rather than the tournament perspective: however, they did not provide enough evidence on why CEO relative productivity could better explain this relation. To et al. (2018) find that acquirers with greater tournament incentives experience lower announcement returns. Further analysis shows that this negative effect is driven by overly risky deals, and the effect is stronger during the period when a promotion tournament is most likely to occur. Although overly risky acquisitions may damage shareholder value, executives still support such risky acquisitions to increase their own probability of advancement to the CEO position, since these projects can yield more extreme outputs. The negative relationship persists even after controlling for CEO entrenchment, thus, supporting the tournament effect.

[11] A CEO's higher compensation is attributable, not only to the CEO's individual performance, but also to the multiplicative productivity gains associated with the resources and subordinates under the CEO's supervision. A more productive CEO, therefore, is expected to make a greater contribution to the firm's operating performance and value, benefitting both shareholders and creditors. Such benefits are manifested through lower default risk, issuance of long-maturity debt, and debts with lower cost and fewer restrictive covenants.

4.3.2. Tournament incentives and future stock price crash risk

Stock price crash risk is related to negative skewness in the distribution of returns for individual stocks (Chen et al., 2001). Concealing bad news through less transparent financial reporting can be a primary cause of price crash. When the accumulated bad news is released to the market, it can result in a sharp decline in stock prices (Jin and Myers, 2006; Hutton et al., 2009). Jia (2018) documents a robust positive association between tournament incentives among senior executives and stock price crash risk using data from the US. This is consistent with tournament incentives inducing managerial wrongdoings and, hence, concealment of bad news, as non-CEO executives believe heightened risk of unethical behaviors is worth the potential payoff of increased pay from winning the tournament for the top job. However, Sun et al. (2019) explore the Chinese setting, dominated by a cash-based compensation system unlike its US counterparts, where equity-based incentive schemes are more commonly found. They find a negative and significant relationship between tournament incentives and price crash in China. Sun et al. (2019) further document that that conditional conservatism mediates the negative association between tournament incentives and price crash. Chen et al. (2018), too, show that political promotion incentives constrain the occurrence of firm price crash in listed SOEs in China. Executives of SOEs also function as government officials with political ranks, which makes them compete in a relatively closed internal labor market. Maintaining their current position and working towards promotions within the state sector is a more attractive career pathway. Hence, executives in SOEs are risk-averse. Moreover, compared to low-ranking executives, high-ranking executives have less incentive to engage in risky projects to boost financial performance. As a result, high-ranked executives are discouraged from conducting risky activities, thereby, further reducing the risk of price crash.

The contradictory evidence on the relationship between tournament incentives and crash risk depicted above might be due to different institutional characteristics. For example, China and the US have a totally different executive compensation system, as cash compensation is still the dominant way to compensate executives in Chinese listed firms. Moreover, unlike listed firm in the US, over 50 percent of listed firms are state-owned and influenced by political power. With the increasing trend for equity incentives to be used in Chinese firms, it would be interesting for future research to explore whether equity-based tournament incentives lead to high rates of price crash, as documented in the US, and whether state ownership plays a role in the tournament-price crash association. More importantly, the negative/positive coefficient on tournament incentives in itself does not inform readers about the bad news hoarding theory. It is therefore important to examine the channels through which tournament incentives curb bad news hoarding and crash risk. Up to now, financial reporting quality and risk taking are used as mediator. However, except for Sun et al. (2019), who find conditional conservatism partially mediates this relation, no further papers provide evidence on this issue. Hence, it is important for future study to provide explicit tests to isolate the direct and indirect contribution of chosen variables in affecting crash risk. The studies reviewed above use the within-firm pay gap as the catalyst for price crash. Chowdhury et al. (2019), on the other hand, find that industry tournament incentives reduce the risk of price crash for a sample of US firms. Such a negative association is more pronounced for firms with low information asymmetry, low financial constraints, low asset redeployability, and high financial statement comparability.

4.3.3. Section summary

In this section, we reviewed the empirical literature on whether tournament incentives affect capital market consequences, including stock liquidity, cost of capital and firm-level price crash. Empirical evidence suggests that high within-firm tournament incentives increase corporate cash holdings and the market valuation of such holdings; reduce the default risk; increase the cost of capital, firm acquisitiveness and acquisition risk; but reduce the announcement returns. In terms of stock price crash risk, current evidence is mixed, as Jia (2018) finds that tournament incentives increase the occurrence of price crash in the US, while Chen et al. (2017) and Sun et al. (2019) find opposite results in China. Empirical studies find that industry tournament incentives increase the cost of bank loans but decrease the likelihood of stock price crash.

5. An agenda for future research on tournament incentives

5.1. Firm- versus industry-level tournament incentives

Both firm-level and industry-level tournament incentives are aimed at motivating the top management team to work towards maximizing firm value. However, there are several key differences between these two types of tournament incentive. First is the incentive target. Firm-level tournament incentives are internal promotion incentives for top executives. In contrast, industry-level tournament incentives are external promotion incentives, which provide CEOs promotion opportunities outside the firm, but within the same industry. Second, the measurement of the two types is different. Firm-level tournament incentives are proxied by the compensation gap between the CEO and remaining executives within the firm, whilst industry-level tournament incentives are measured by the compensation difference between a firm's CEO and the highest-paid CEOs within the group of firms operating in the same industry. Third, in the firm-level tournament setting, senior executives are primarily concerned about outperforming their peers in the internal promotion contest. In the industry tournament setting, CEOs try to outperform other CEOs within the same industry, by building a long-term personal reputation in the external labor market. Last but not least, the effectiveness of these two tournament incentives depends on different circumstances. For example, Jia (2018) documents that firm-level tournament incentives increase the occurrence of stock price crash in the US, owing to an increased propensity for managerial misreporting. In contrast, Chowdhury et al. (2019) find that industry tournament incentives reduce the risk of price crash in the US, as CEOs tend to build long-term reputations in the external labor market by ensuring fair disclosure and timely reporting of negative news. Another example is related to firm credit risk and liquidity. Du et al. (2019) suggest that within-firm tournament incentives help reduce credit risk, but Kubick et al.

(2018) find that industry tournament incentives lower credit ratings and increase the cost of bank loans.

The mixed evidence reported above has implications for future studies. It raises the question of which type of incentive is more suitable for investigating specific outcomes (e.g., audit fees). We encourage future researchers to justify their preference for one type of tournament incentive over another, and to control for the confounding effect, if any, of the alternative tournament structure, in order to enrich their findings (Kubick et al., 2018). Coles et al. (2017) show that the effect of industry tournament incentives on corporate risk, and on the investment and financing channels that drive corporate risk, is economically much more significant than are firm-level tournament incentives.

5.2. Future research on tournament incentives in the Asia pacific region

This section discusses three key institutional differences between developed and developing markets and offers some potential research paths for tournament incentives in the Asia Pacific region and Gulf Cooperation Council (GCC) countries. We call for more research on tournament incentives in these countries because institutional differences have significant implications for the effectiveness of tournament incentive schemes.

First, the compensation structure in the Asia Pacific region is very different from that in the US and other continents. The compensation arrangement in this region is a mixture of the following elements: dominance of cash-based compensation, excessive amounts of political/other perks, and the emergence of equity incentives. Unlike executive compensation in the US, that in China, Japan, and Korea is predominantly cash-based (Kato et al., 2007; Shuto, 2007; Li et al., 2013). Such a compensation structure has been found to differ in its implications for financial reporting quality and capital markets. For instance, Jia (2018) documents that tournament incentives lead to a higher stock price crash risk in the US: a country characterized by the dominance of equity-based compensation schemes for the listed firms. Sun et al. (2019), on the other hand, find the opposite for China where cash compensation is the norm. Moreover, the magnitude of the compensation gap in Chinese listed firms is much smaller than that in Western firms[12], which often results in a smaller tournament size. The differences in tournament size may be explained by China's unique collective culture and its pursuit of internal harmony (Hofstede, 2001). Whether such variations in tournament size have positive or negative consequences for firm performance and firm risk is worth further exploration (Burns et al., 2017).

In the Asia Pacific region, political promotions and excessive perks are widely observed phenomena at the senior executive level. For example, Thomas (2008) compares executive perks between the US and Indian firms and finds that perks occupied only a relatively small portion of the US executive remuneration, whereas they account for 33 % of the total remuneration of executives in India. Moreover, Xu et al. (2014) and Chen et al. (2017) document a constraining effect of political perks on stock price crash risk in China. We, therefore, posit that these perks may cause tournament incentives to work differently in the Asia Pacific region. For instance, it is unclear whether the use of perk compensation would be detrimental to the effectiveness of tournament incentives in that region, since managerial perks may work as an incentive mechanism that encourages better managerial performance and higher productivity (Adithipyangkul et al., 2011).

Although cash compensation remains dominant in Asia Pacific countries, equity-incentives-based compensation schemes have started to gain popularity. However, only a handful of studies have investigated the adoption of long-term incentive plans, such as stock options for listed firms, in this region. For example, using a group of Japanese firms, Kato et al. (2005) find that firms' growth opportunities are positively related to managerial long-term incentives plans, while firms with high leverage are less likely to adopt such plans. The Chinese government also introduced equity-based compensation plans in 2006 (He and Conyon, 2012; Li et al., 2013)[13], although comprehensive regulations and guidance around the use of equity-incentive plans has become evident only since 2016. It would be interesting to explore the implications of equity-incentives on tournament-based compensation schemes in this region. We suggest that future research could investigate how tournament incentives would work for the first-time adopters of options-based compensation plans.

Second, state ownership remains a dominant feature in many Asia Pacific countries, including China, India, Indonesia, Korea, Malaysia, Singapore, and Thailand. (Claessens et al., 2000; Boubakri et al., 2004; Hossain et al., 2013). Some of the existing tournament studies in the Chinese context examine the moderating effect of state ownership. Furthermore, state ownership in China can be further classified as state-level ownership, provincial-level ownership and city-level ownership (Firth et al., 2006). It would be interesting for future research to explore whether this differentiated state ownership has a bearing on the existence and consequences of corporate tournament incentives.

Third, many of the listed firms in the Asia Pacific region are characterized by the dominance of family-controlled firms, which might have implications for the existence and effectiveness of tournament structures. For example, the majority of listed firms in Hong Kong are controlled by families, and their directors or executives are also family members (Ho et al., 2004). Prabowo and

[12] Main et al. (1993) report that promotion from level 2 to level 1 leads to an average cash remuneration increase of 140% in the US. The corresponding figure is 60% in the UK, as shown by Conyon et al. (2001). However, executive remuneration increases by only around 20% in the Chinese market.

[13] The stock-based compensation plan was introduced in China when the Ministry of Finance (MOF) and the State-owned Assets Supervision and Administration Commission (SASAC) published an Equity Incentive Guideline for Listed Companies (Trial Version) on 1 January 2006. In the following year, the SASAC circulated a supplementary regulation that required the disclosure of executive equity incentives, and this version was replaced by the updated official guideline launched in 2016 that required more detailed disclosure of stock-based incentive plans (Zhang et al., 2018).

Simpson (2011) state that, in Indonesia, the ownership of listed companies is concentrated in the hands of a few families. Minichilli et al. (2010) find that the presence of a family CEO combined with the presence of family members on the top management team is perceived by the non-family top executives as a negative signal of their chances for promotion in the US market. However, Xu et al. (2019) find that ownership concentration of the largest family owner relative to other family members is positively associated with the use of non-family executives in a family-controlled firm in China. Hence, it remains to be seen how such differences might affect tournament incentives in the Asia-Pacific region.

Following the same vein, we also call for future research on the determinants and consequences of tournament incentives for GCC countries. GCC countries share many of the common institutional features found in many Asia-Pacific countries. For instance, executives are compensated mainly by cash salary and bonuses in the GCC countries. The government has a strong influence on most of the large listed firms, since these are entirely or partially owned, controlled, and financially supported by governments (Agha and Eulaiwi, 2019). Moreover, firms are characterized by a unique feature of royal family ownership, as approximately 60 % of the listed firms are dominated by firms with royal family members on the board of directors (Al-Hadi et al., 2017). Hence, future studies could explore whether these unique institutional features influence the adoption of tournament incentives in the GCC countries, and whether such adoption affects the corporate outcomes reviewed in section 4 above.

5.3. Methodological issues

In this section, we discuss some methodological issues that may challenge the findings from the current body of tournament research in accounting and finance. First, despite using the same measurement of pay gap (i.e. the pay gap between the CEO and the top three or five highest-paid executives), some studies explain their findings using alternative theoretical perspectives. For example, the determinants of within-firm pay gap, including pay gap between executives and employees, and different levels of employees, have been explained using social comparison theory, managerial power theory, equity fairness theory and/or productivity theory. In terms of firm performance, Kale et al. (2009) suggest that the positive relationship between the pay gap and firm performance is consistent with the predictions of tournament theory. However, Tarkovska (2017) explains the negative association between pay gap and firm performance by employing social comparison theory. Indeed, it cannot be denied that the pay gap story can be well explained by other theoretical perspectives: however, stronger justifications need to be provided to favour one theory over another, and these are currently missing from the empirical literature.

Managerial power theory is one of the most viable alternatives to the tournament theory. The CEO pay slice measure, which is the same as the tournament measure, has been proposed by Bebchuk et al. (2011), who argue that their measure captures CEO power over the management team. Hence, a large pay slice indicates an entrenched CEO, who may cause a severe agency problem, and obstruct succession planning to further entrench himself. For example, Chen et al. (2013) use both tournament theory and managerial power theory to explore the effect of pay gap on the cost of capital. They document a negative relationship between the pay gap and cost of capital: a finding they argue to be consistent with managerial power theory. Our review revealed that many studies have considered the presence of this confounding effect and controlled for 'CEO power' in their empirical models. However, some studies fail to do so (Lin et al., 2013; Kubick and Masli, 2016; Bryan and Mason, 2017). Hence, future tournament studies should control adequately for the impact of CEO power in their empirical tests, in order to provide robust evidence on why tournament theory is superior to other related theories.

Second, as highlighted in our review, most of the empirical papers on the determinants and consequences of pay gap have used the compensation gap between the CEO and rest of the senior executives. This measurement can correctly reflect the assumption that, the larger the pay difference, the greater the tournament incentives. However, since researchers in accounting and finance rely on machine-readable data to calculate the pay gap, the empirical tests do not contain information about whether an insider has been promoted, because most companies do not announce their promotion method and the executives being considered for promotion. This concern is valid because, if a firm has a designated heir, the use of compensation gap between CEO and executives to capture the promotion incentives is less meaningful (Mobbs and Raheja, 2012). Hence, they encourage future studies to distinguish whether firms are using 'tournament contests', whereby multiple candidates are competing for the CEO position, or 'successor contests', whereby a single manager is being groomed for succession. There have been some studies, such as Kale et al. (2009); Kini and Williams (2012) and Jia (2017) who consider the 'successor plan' as a moderating variable, but this is not what Mobbs and Raheja (2012) proposed.

Furthermore, Mobbs and Raheja (2012) point to the amount of firm-specific human capital, and the availability of external candidates, as two critical factors affecting decisions on the adoption of possible promotion plans (tournament or selection of an heir). They note:

"First, when firm-specific human capital is of greater importance for the CEO…firms opt for a prolonged grooming period to allow the potential successor time to work with the incumbent CEO. Second, when there is greater availability of qualified external candidates, firms maintain tournament-incentive promotions rather than grooming one executive. Thus, the optimal executive promotion structure varies across firms and industries based on the importance of firm-specific human capital and the supply of qualified CEOs." (p.1347)

Therefore, future research should take this perspective into consideration in measuring tournament incentives.

Third, since accounting and finance researchers employ, predominantly, some form of regression technique to explore the determinants and consequences of pay gap, some econometric concerns inevitably arise. Endogeneity concerns inherent in the regression analyses is one such serious concern. There are two circumstances that could make the pay gap endogenous. The first potential endogeneity issue is omitted variables bias, as the omitted variable could drive both pay gap and the outcome measures examined by the researchers. Even after controlling for several known CEO characteristics and firm characteristics, there may still be

unobservable firm or CEO heterogeneity correlated with both the pay gap and outcome variables, thereby, biasing the reported results. The other potential endogeneity concern could stem from reverse causality, whereby the outcome variable could determine the pay gap, or the causality could run both ways. If the outcome variable affects the pay gap variable, the latter will be correlated with the error term, which will generate a biased coefficient on the pay gap variable.

Most empirical studies attempt to mitigate the aforementioned endogeneity concerns by conducting a battery of robustness analyses including the use of different proxies for tournament incentives; lagged independent variables, firm fixed effects regressions, the propensity-score matching technique, the two-stage least squares (2SLS) analysis, and the generalized method of moments (GMM) technique for dynamic models. However, since these tests have inherent limitations (e.g., finding suitable instruments for the 2SLS analysis), it is important to acknowledge that current studies can never fully eliminate the possibility that empirical evidence could be affected by endogeneity bias.

6. Conclusion

In this literature review, we reviewed and discussed the empirical literature on the determinants and consequences of tournament incentives. Tournament incentives encourage non-CEO executives to work harder and better align their interest with shareholders. This theme has been the primary focus of the current literature on tournament incentives; whereas the opponents to tournament incentives, find executives engaging in unethical activities to enhance their promotion probability. Because of the competing arguments, future research could consider the possible mechanisms/channels through which tournament incentives influence managerial behaviors. Financial reporting quality and risk-taking have been identified as main mechanisms through which tournaments affect firm-level operation and the capital market. However, excepting Sun et al. (2019), who tested the mediating effect of financial reporting quality empirically, none of the other studies examines whether either reporting quality or risk-taking operate as channels at the empirical level.

In terms of the country coverage of existing tournament research, it is not surprising that the United States dominates the empirical research, followed by China. Although there are a couple of international studies based on single countries, that type of study is rare compared with those using the western setting. The institutional environment of some of the emerging economies is quite different from that of their developed economy counterparts. Therefore, we call for more international studies advancing our understanding of the influence of country-specific distinctive features on the determinants and consequences of tournament incentives. In addition, we find no published study on the consequences of tournament incentives using cross-country data. Cross-country studies may offer better insights into the role of tournament incentives and provide more generalizable results than the mixed findings from single-country studies.

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