

Executive Pay Compensation: What Regulators, Shareholders and Managers can learn from Major Sports Leagues

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- Draft -

Abstract

Executive pay regulation is widely discussed as a measure to reduce financial mismanagement in corporations. We show that the professional team sports industry, the only industry with substantial experience in the regulation of compensation arrangements, provides valuable insights for the regulation of executive pay. Based on the experience from professional sports leagues, we develop implications for the corporate sector regarding the establishment and enforcement of executive pay regulation as well as the level, structure, and rigidity of such regulatory measures.

Keywords: Salary Caps, Executive Compensation, Corporate Governance, Financial Crisis, Financial Regulation

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I. INTRODUCTION

The year 2007 marked the beginning of the worst financial crisis since the Great Depression. Most of the world's largest banks were on the verge of bankruptcy and survived only due to unprecedented bailout measures. Currently, regulators, shareholders, and managers are searching for measures to avoid such a crisis in the future. One of the most prominent proposals is the introduction of salary caps for corporate executives. The European Union has introduced caps on bankers' bonuses, which will be in effect starting in 2011. The US House of Representatives has ordered regulators to set compensation rules, just as the Federal Reserve is pushing for a modification of top executive compensation, especially in the banking sector.

The objective of executive pay arrangements is the alignment of shareholder and executive interests (Jensen and Murphy (1990), Bebchuk and Fried (2003)). Research focuses on executive compensation as an instrument to overcome agency problems (for surveys of the vast number of contributions, see Gomez-Mejia and Wiseman (1997), Murphy (1999), Core, Guay and Larcker (2003), and Devers, Cannella, Reilly and Yoder (2007)). The recent financial crisis and the related bailout measures suggest that discussion of executive compensation should also include the eventual consequences of firm behavior on taxpayers and society. Potential instruments to moderate the relationship between executives, shareholders, and taxpayers, e.g., pay limits or taxes on excessive compensation, have not received much attention from research (see Bebchuk and Spamann (2010) and Faulkender, Kadyrzhanova, Prabhala and Senbet (2010), for two of the few examples). Although executive pay played an important role in the recent financial crisis, academic research has not analyzed the desired attributes, mechanisms, and implementation issues of pay regulation in corporations so far.

The scarce research on executive pay regulation yields few implications for academic research as well as for implementation in practice. Professional sports leagues, with their experience in determining, implementing and enforcing salary caps and luxury taxes, are a unique resource for deriving insights into how a sector operates a compensation-related regulatory regime. In this paper, we illustrate what regulators, shareholders and managers can learn from pay regulation in major sports leagues. We analyze regulation through salary caps and luxury taxes in professional sports leagues, and discuss potential implications for executive pay regulation. In sports, salary caps, the maximum amount a team can spend on player salaries, and luxury taxes, taxes on excess salary payments, have a long tradition.

Examples of sports leagues with salary regulation are numerous: the National Basketball Association (NBA), the National Football League (NFL) and the National Hockey League (NHL) each have a salary cap. Major League Baseball (MLB), as well as the NBA, have implemented a luxury tax.

In our analysis we employ the analogy between professional team sports and corporations, where we consider team owners and shareholders, and star athletes and corporate executives as analogues.¹ The professional sports industry has been recognized as a potential labor market laboratory by a number of researchers before (Kahn (2000), Rosen and Sanderson (2001), Szymanski (2003)). The transparency and the data availability of the sports industry (regarding compensation and performance) make professional sports a valuable resource for testing economic propositions (Lazear (1995), Kahn (2000)). Additionally, authors analyzing management-related and economic issues in the context of sports frequently state that the simple institutional framework in sports can provide a contribution on managerial and economic issues in other institutions, despite the specificity of the data employed in a particular study (See Duggan and Levitt (2002), for example). Previous studies that have derived insights for the corporate sector from professional sports are numerous and cover a wide range of topics. Wolfe, Weick, Usher, Terborg, Poppo, Murrell, Dukerich, Core, Dickson and Jourdan (2005) provide a comprehensive analysis of studies in the field of organization studies and management that draw on observations from the sports sector, covering topics as, for example, competitive advantage, stakeholder management, and team performance. In the economics literature, professional sports have also served as a context to derive implications on a broad range of issues, reaching from firm decision making (Romer (2006)) over team compensation dispersion (Bloom (1999), Frick, Prinz and Winkelmann (2003), Franck and Nüesch (2010)) to economic incentives for crime and corruption (Duggan and Levitt (2002), Levitt (2002)).

In this paper, we analyze major North American sports leagues to attain the following research objectives: we show how the sector-specific idiosyncrasies of professional team sports have fostered pay regulation, and illustrate fundamental practices and consequences of pay regulation in major sports leagues. Further, we derive insights from regulation practices in professional sports and discuss, in how far these insights can and cannot be transferred to the corporate sector. In particular, we analyze to what extent self-regulation initiatives can improve the financial stability of a sector and mitigate external interventions. Our analysis further shows that collective bargaining over compensation can reduce managerial power in

1. See, e.g., Kaplan and O'Reilly (2008) for an analysis of the CEO and Star Athlete comparison.

the pay-setting process and mitigates the necessity for external intervention. We also establish that pay regulation contingent on performance in combination with retained compensation is the more effective regulatory model compared to an absolute cap on compensation. We further show that pay regulation of collectives yields a trade-off between the desired regulatory effect and firms' autonomy of setting individual compensation. A comparison of salary caps and luxury taxes shows that luxury taxes can be an advantageous alternative to salary caps. Luxury taxes reduce the net benefit of excessive compensation. Additionally, they lead to less distortions than salary caps and generate resources for redistribution. Contrasting hard and soft regulation, we find that soft regulation is less effective in limiting compensation but can provide additional incentives.

The remainder of this article is structured as follows. Section II introduces the peculiar economics of professional team sports and outlines the major differences between the professional team sports industry and traditional sectors. We examine the differences in compensation practices between the sports sector and the corporate sector, and outline current pay regulation in both sectors. In Section III, we approach selected regulatory issues in professional sports leagues and discuss, in how far the insights gained from experience in sports leagues can be transferred to executive compensation in the corporate sector. Section IV concludes.

II. COMPENSATION PRACTICES AND REGULATION IN PROFESSIONAL TEAM SPORTS AND IN THE CORPORATE SECTOR

1. Introduction to the economics of professional team sports

The professional team sports industry differs from traditional business sectors in a number of ways. Two particular economic peculiarities of professional team sports have led to the regulation of player salaries: competitive imbalance and the ruinous escalation of player salaries (Fort and Quirk (1995), Szymanski (2003)). First, there is a difference in professional sports between athletic and economic competition. From an athletic perspective, opposing teams are competitors. From an economic perspective, however, they are complementors. A single team cannot produce a marketable product. It needs at least one opponent. In team sports, leagues aggregate a number of teams and matches to produce a championship race. Fans prefer to attend matches with an uncertain outcome and enjoy close championship races (See Rottenberg (1956), Szymanski (2001), Borland and MacDonald (2003), Fort and Lee (2007)). Unlike enterprises such as General Electric, Wal-Mart, or Microsoft, which benefit

from weak competitors in their respective industries, the New York Yankees, the Los Angeles Lakers and Real Madrid need strong competitors to maximize their revenues.

A further economic peculiarity of professional team sports is the associative character of competition. No club can improve its position in the ranks without simultaneously worsening the position of at least one other team. The position of a team in the ranks is closely related to the team's financial success because teams with a better position receive more attention from fans, the media, sponsors, etc. The rank-order contest between teams may result in a rat race (Akerlof (1976)). As Whitney (1993) shows, teams tend to overbid each other for playing talent until they are close to bankruptcy. Recent developments in club finance in European football support this hypothesis. Many clubs are facing financial ruin after gambling on spiraling wages (Arnaut (2006), Dietl and Franck (2007), Deloitte and Touche (2009)).

2. Compensation practices in professional sports and the corporate sector

Next, we provide a brief overview on the difference in compensation of professional athletes and corporate executives. Kaplan and O'Reilly (2008) have analyzed the relationship between CEO and Star Athlete compensation. They find that the pay of executives and athletes is similar in the amount, but significantly differs in structure. Executives are compensated in the main part via variable forms of pay. There are a number of variable compensation instruments, e.g., bonus payments, restricted stock grants, grants of stock options, and long-term incentive payouts. The variable elements amount to between 60% and 80% of total compensation, depending on the sector and the measure applied (Brookman, Jandik and Rennie (2006), Aggarwal (2008), S&P Execucomp data for the fiscal years 2007-2009).² In particular the financial sector shows a very high percentage of variable, performance-related compensation (see Murphy (1999)).

Compensation in the corporate sector is considerably more complex than in professional sports, where athletes' pay is mostly a fixed salary, with only a minor variable part. In particular, compensation in professional sports consists of a fixed annual salary and of variable pay in the form of team and individual bonuses. Compared to the corporate sector, variable pay in professional sports is relatively small, accounting for between five and 25 percent of total player earnings in the NFL in recent seasons, for example (Mondello and Maxcy (2009)). In other major sports leagues, this percentage is equally small, and frequently

2. We are grateful to an anonymous referee for bringing the relative proportions of fixed and performance-based pay in executive pay to our attention.

restricted to a small proportion of players (Clayton and Yermack (2001), Heubeck and Scheuer (2003)).³ The NBA distinguishes performance pay that is tied to objectives which are likely to be achieved from unlikely achievements. Sign-in bonuses, which are fixed payments players receive when they sign a new contract with a team, constitute a further compensation component. Sign-in bonuses are frequently used in the NFL, but are not common in other major leagues.

3. Pay regulation in the professional team sports industry

The economic peculiarities of the sports sector have led to the introduction of pay regulation in the major sports leagues. Salary caps and luxury taxes, which are a surcharge on the part of a team's payroll that exceeds a salary threshold, emerged in the US major leagues with the introduction of free agency and were installed as a counterforce to free player movement (Fort and Quirk (1995), Dietl, Lang and Rathke (2011)).⁴ The definition of salary caps and luxury taxes in collective bargaining agreements leads to an exemption of these measures from antitrust action. Despite this exemption, major sports leagues are often considered as profit-maximizing cartels, where pay regulation transfers rents from players to owners.

Currently, all four North American major team sports leagues have a salary cap and/or luxury tax. The NBA in 1983 became the first league to introduce a salary cap and has a salary cap of US\$ 57.7 million for the 2009/10 season. This cap limits the amount of money a team may spend on player salaries. In recent years, the salary cap has increased proportionally to the increase in the NBA's revenues. The NBA salary cap is a so-called "soft" cap, meaning that in contrast to a "hard" cap, there are several exceptions that allow teams to exceed the salary cap to sign players. These exceptions are mainly designed to enable teams to retain popular players. In 1999, the NBA also introduced a luxury tax system for those teams with an average team payroll exceeding the salary cap by a predefined amount. These teams have to pay a 100% tax to the league for each dollar that their payroll exceeds the tax level. In the NFL, the "hard" salary cap in 2009 was US\$ 128 million per team. The NHL operates with a hard salary cap such that each team had to spend less than US\$ 56.8 million on player salaries in the 2009/10 season. The MLB does not have a salary cap. However, Major League

3. In the NHL, only players on entry-level contracts, on one-year contracts, or players returning from long-term injuries can receive performance pay, for example.

4. The reserve clause was introduced in baseball in 1887 and gave club owners an exclusive option to unilaterally renew the annual contracts of their players, binding them to their clubs until release, retirement or trade. In contrast, "free agents" are players for whom no compensation is required and/or the original team has no matching rights. Therefore, free agents can freely offer their services to other teams.

Baseball became the first league to introduce a luxury tax in 1996 as part of its collective bargaining agreement. The threshold at which the luxury tax accrues was US\$ 162 million per team in the 2009 season. It is important to note that there is significant heterogeneity between the major leagues regarding the design of salary caps (individual caps, rookie caps, etc.; for a comprehensive overview see, e.g., Kaplan (2004)).

There is wide agreement in the literature that salary caps and luxury taxes improve competitive balance in sports leagues because they prevent wealthy clubs with high market potential from bidding the full marginal value for additional talent (Fort and Quirk (1995), Rosen and Sanderson (2001)). This effect allows less wealthy, small-market clubs to retain star players. Additionally, salary caps can enhance social welfare when they limit large teams' spending (Dietl, Lang and Rathke (2009)). Moreover, a salary cap balances the salary distribution between players and increases club profits (Késenne (2000)). The welfare effect of luxury taxes is positive because league quality increases as a result of the combination of luxury taxes and redistribution of luxury tax proceeds (Dietl, Lang and Werner (2010)). However, teams have incentives to circumvent regulation through salary caps and luxury taxes, therefore monitoring and enforcement activities are necessary (Fort and Quirk (1995), Dobson and Goddard (2001)).

4. Pay regulation in the corporate sector

Up until the recent financial crisis, regulatory measures concerning executive pay could be summed up under disclosure requirements and intervention via taxes (Knutt (2005)). Disclosure regulation serves to increase transparency of executive compensation by requiring detailed listing of compensation packages, their components and levels. Research shows that increased disclosure enhances shareholder wealth (Lo (2003)). Tax regulation serves to disincentivize excessive compensation by making compensation above a threshold increasingly costly for corporations. One prominent example for such regulation is the tax deductibility limit of US\$1 million for corporations (Section 162(m) of the Internal Revenue Code (IRC)). This limit is accompanied by several exceptions, e.g., compensation for performance goals set by a corporation's compensation committee and approved by a majority of shareholders, is not included in the deductibility limit. Payments deferred until retirement also are not included in the limit. Note that as a consequence to taxes on stock options, employee options are frequently granted as non-qualified options, which allows a compensation-expense deduction for corporations (Hall and Murphy (2003)).

In addition to disclosure and tax regulation, a number of corporate governance requirements, e.g., incorporated in the Sarbanes-Oxley Act of 2002, affect executive compensation (Dew-Becker (2009)): The Sarbanes-Oxley Act disallows loans from corporations to their executives, sanctions erroneous financial statements, and requires independent compensation committees. As a result of these measures, affected corporations decreased executive pay considerably, mostly via reducing compensation via options rather than remuneration in cash (Chhaochharia and Grinstein (2007)). Another regulatory intervention regarding corporate governance is the introduction of (mandatory or voluntary) “say on pay“. Say on pay increases shareholder influence on executive compensation by mandating a shareholder vote over executive pay. However, studies have found limited evidence that say on pay notably alters the level and design of CEO compensation (see Conyon and Sadler (2010), for example).

The recent financial crisis and related government bailouts entailed a number of short-term regulations, particularly for financial institutions that have benefitted from the government’s support via bailouts (American Recovery and Reinvestment Act of 2009). The American Recovery and Reinvestment Act limits incentive pay via restricted stock at one-third of an executive’s total annual compensation, and the vesting period for the restricted stock must last until a firm has paid back the received bailout money, for example.

III. INSIGHTS ON PAY REGULATION FROM MAJOR SPORTS LEAGUES

This article illustrates regulation practices in the professional team sports industry and derives insights for the corporate sector. We have shown how the necessity for regulation in professional team sports comes from two peculiarities of the sports sector: the preference for balanced competition and the consequences of a rank-order tournament. The long tradition of pay regulation in North American major sports leagues make sports leagues a valuable resource for analyzing pay regulation.

To the extent that the basic rationales for pay regulation in the sports industry have a corresponding counterpart in the corporate sector, i.e., there is an interrelatedness of firm objectives and there are collectively harmful races for individual returns, the discussion of pay regulation in professional team sports can generate immediate insights for the controversy over executive pay regulation.

In settings, where such correspondency does not exist, comparative analysis of professional sports and the corporate sector has to establish, where insights from sports can and cannot be

transferred to the corporate sector, and indicate potential consequences of a transfer. In general, competitors in other sectors than professional team sports do not prefer balanced competition, but want to outperform their competitors. Only in specific settings, competitors are also complementors. For example, liquid financial institutions have incentives to support their competitors, for instance by private bailouts, to avoid contagion from illiquid banks (Leitner (2005)). Kaufman (1994) states that bank failure contagion and its potential damage has given several experts a reason to call for government regulation in the banking sector (See Corrigan (1982), for example). The concept of contagion and the related systemic risk imply that in sectors, which are potentially affected, there is an interest in maintaining a certain level of competitive balance between competitors.⁵ The rank-order tournament observed in sports leagues only exists to a limited degree in the corporate sector. Firms, by outperforming their competitors, can effect favorable reactions on the stock market, which gives them a relative advantage over their competitors. To the degree that firms' competitiveness is determined by their relative stock market performance, the corporate sector shows similarities to the rank-order tournament that characterizes professional sports. Corporations may find themselves in races for maximizing upside potentials of risk, with potentially harmful consequences (Faulkender, et al. (2010)). By regulating compensation, the discrepancy between upside and downside potentials can be mitigated. These observations show that there are instances, particularly when there is a tendency towards instability in a sector as observed in the credit crunch related to the recent financial crisis, where regulation of the corporate sector follows a similar logic as regulation in professional team sports.

Beyond such instances, the insights can be valuable as a starting point for discussing the applicability and potential effects of existing and prospective regulatory measures in the corporate sector. Because of the difficulties to draw meaningful conclusions from recent approaches to executive compensation (Devers, et al. (2007)), deriving conclusions via the analysis of a laboratory is an attractive approach. While the findings from these experiments are not always easily generalizable, the available data and the related transparency of mechanisms at work makes professional sports a valuable source of insights (Lazear (1995)). In the following, we analyze regulation practices in major sports leagues. We discuss, where the insights obtained from professional sports can and cannot be transferred to the corporate sector, and point out potential implications of these insights for the corporate sector.

5. Note that competitive balance generally plays a role in the analysis of regulatory questions in concentrated industries, where the regulator addresses public interest by limiting market power.

1. (Self-)Imposed rules and strict sanctions in case of transgressions ensure the common benefit of competitors

Consider the following anecdote of an Englishman observing the process of riverboat towing in 19th century China. At that time, wooden boats were used to carry natural resources from inland China downstream to large coastal cities. After unloading, the empty boats were pulled back upstream by a group of men from the riverbank using a large tow. The Englishman was surprised when he saw that the men were whipped whenever they slacked down in their towing effort. He was shocked, however, when he learned that the men pulling the boat actually were the owners of the boat and had agreed to hire a monitor to whip them whenever necessary (Cheung (1983)).

Owners of professional sports teams face a similar dilemma as the riverboat towers. The owners benefit from fan attention, and to generate and maintain interest in sports competition, they want to ensure balanced competition. Consequently, different teams' payrolls and the resulting talent levels should be similar. Apart from this collective objective, individual team owners profit from a high league rank of their team. Because of the rank-order contest in professional team sports, the threat of an arms race emerges. So while the collective of club owners prefers balanced competition, each individual club owner tries to hire more talent by increasing his/her team's payroll in an effort to move up in the ranking. In the end, all owners end up with higher payrolls without improving their individual ranks. Like the Chinese riverboat towers, club owners are aware of the dangers abandoning common objectives and impose restrictions on themselves, for example the regulation of players' salaries (Fort and Quirk (1995)). They are also aware that each owner has an incentive to circumvent these payroll restrictions. Consequently, they also install a monitor, the league authority, to ensure that the restrictions will be enforced (Franck (2003)).

Major sports leagues have reacted to the awareness that their business model can only be successful in the long run if they maintain self-imposed restrictions. In contrast to the corporate sector, the closed structure of major sports leagues additionally favors the effectiveness of self-regulation. Major sports leagues are focused on a small, homogeneous geographic region and team composition within a league is very stable. The coordinated self-regulation of teams in major sports leagues leads to financial stability as well as solid rents for owners and players (Fort (2003)). Teams understand that the collective discipline of a number

of parties with similar interests is necessary to provide a basis for this successful coordination and therefore are willing to yield some of their autonomy.⁶

When a sports team exceeds the salary cap - and the excess does not fall under one of the exceptions in the case of a soft salary cap - sanctions come into effect. Sanctions for rule violations are severe once a positive proof is obtained. The punishment may take on several forms: from financial penalties over suspension of the involved player to the loss of draft rights for one or more seasons. Professional team sports show that salary caps are only effective to the extent that they are well defined and enforceable (Dietl, Franck and Nuesch (2006)). Salary caps are circumvented frequently, and circumvention attempts are various (Fort and Quirk (1995)). Examples are the postponing of actual salaries to the future by signing undervalued contracts for a period of time until one of the salary cap exceptions allows high-value contracts (Staudohar (1998)), and teams underreporting revenues to pay lower salaries to their players (e.g., Quirk (1997)).

Professional sports teams are in a unique position with respect to employment opportunities for star athletes. No sports league (in the disciplines of American football, baseball, basketball, and ice hockey) outside North America can compete with the major leagues financially and with respect to public attention. Consequently, star players do not have significant outside options. LeBron James of the Miami Heat cannot simply leave the NBA and join another league without suffering major income losses. Teams outside the NBA cannot offer the same level of compensation.⁷ Professional athletes thus show lower salary elasticity than executives, and a decrease in salary does not necessarily lead to immediate exit to a foreign league. In contrast, a bank executive could easily escape compensation regulation by starting to work for a bank, which is not regulated.

Corporations can learn from the benefits of self-regulation in professional team sports. With regard to a pay regulation, firms and executives have similar incentives as those faced by professional sports teams and players. Executives prefer higher to lower pay, and firms want to attract and retain the best executives available; to attract the best executives, the compensation a firm offers also has to be the highest among its competitors. Consequently, circumventing the salary cap, although possibly harmful in a larger context, may be in the interest of both parties. This yields an exemplary situation of a moral hazard (Holmstrom (1982)). Circumvention can be achieved by spotting and exploiting potential loopholes in the

6. For an analysis of potential anticompetitive consequences of professional sports leagues as joint ventures see Flynn & Gilbert (2001).

7. According to Forbes.com, James earned US\$ 40m in 2009, of which US\$ 16m were salary payments by his team.

salary cap mechanisms or by taking actions incompliant to defined rules, such as concealed agreements over side-payments or non-monetary compensation.

Corporations generally have concerns about regulation because of a loss of autonomy and the danger of an exit of executives to other economies. To mitigate the effects of external regulation, self-regulation of sectors analogous to the practice in major sports leagues could be an alternative to government intervention. Self-regulation by sectors, for example the banking sector, already is common practice (Chatov (1975), Gunningham (1991), Gunningham and Rees (1997)). An extension of self-regulation to executive compensation could reduce the necessity of extensive government intervention. However, self-regulation initiatives for corporate governance by the European Union have shown that they can be successful only if mandatory compliance, monitoring and enforcement accompany the initiatives (De Jong, DeJong, Mertens and Wasley (2005)).

To ensure adherence to the salary cap and therefore its stabilizing effects, a regulatory entity has to install well-defined rules and enforce compliance with the salary cap. This becomes the more difficult, the more complex pay arrangements are. Executive compensation shows more components than athlete pay, which makes it more difficult to control total remuneration (Bebchuk and Fried (2006), Kaplan and O'Reilly (2008)). Exhaustive categorization and publication of compensation components is therefore necessary to enable effective regulation and address potential loopholes that are not in the regulator's interest (See, e.g., Posner (2009) and Faulkender et al. (2010)).

The effectiveness of regulation in major sports leagues strongly depends on the coordination of individual teams to establish and enforce regulatory arrangements. For the corporate sector this implies that strong coordination efforts are vital for effective regulation, self-imposed as well as external, of business sectors and national economies, e.g., to limit outside options for executives by international implementation of regulatory measures (as addressed by Acharya, Wachtel and Walter (2009)). Compared to professional sports leagues, the difficulty of coordinating business sectors, or even entire economies, limits the extent to which the insights on self-regulation from professional sports can be transferred to the corporate sector. Nevertheless, regulators have undertaken various coordination efforts in the recent past. The 2009 G-20 summit, which had salary caps for executive compensation on its agenda, is one example of concerted effort to avoid executive migration away from regulated economies.

2. Collective bargaining ensures sustainable operations

In professional team sports, salary caps and luxury taxes are established via collective bargaining between the players' union and the team owners. Both sides negotiate general work conditions, including the maximum (and in some cases minimum) percentage of league revenues, which players can receive as salaries (Késenne (2007)). As this percentage is established via a collective agreement, antitrust law cannot be applied to the bargaining outcome, including the salary regulations (Jacobs and Winter (1971), Marburger (1997)). Many other ways of regulating salaries, such as the dictation of salary caps by team owners, would be prohibited by antitrust law (Rosner and Shropshire (2004)).

The North American major leagues show that collective bargaining between principals and high-income agents can ensure sustainable levels of compensation as well as financial stability of a league and its teams. The collective bargaining process allows both team owners and players to voice their interests and continue the bargaining until they reach a bilateral agreement. Homogeneous interests give team owners an advantageous bargaining position opposite to the players, who face more coordination problems because of their number and the resulting range of interests. In contrast, player talent shows low substitutability and supply of skilled labor in the past was limited, which gave the players an advantage (Rosen and Sanderson (2001)). However, at present major sports leagues' increasingly global sourcing of playing talent worsens players' bargaining position. In the case that an agreement on a salary cap or luxury tax cannot be established, a strike (by the players) or lockout (by the teams) may occur. This can result in the partial or entire loss of a season, as has occurred in the recent past, for example in the 1998/99 NBA and 2004/05 NHL lockouts (Staudohar (1999, 2005)). The forgone earnings related to lockouts pressure both team owners and players to reach an agreement.

Executive pay in the corporate sector usually follows recommendations from different parties (management, human resource department, outside accountants, compensation consultants) and is either accepted or rejected by the compensation committee, which consists mainly of outside directors (Murphy (1999)). There exists concern about a lack of independence of compensation committees, as well as the influence of managerial power on executive compensation (Murphy (1999), Bebchuk, Fried and Walker (2002)). Collective bargaining in major sports leagues provides insights for executive compensation in the corporate sector. Collective bargaining between shareholders on the one side of the bargaining table, and executives on the other, increases direct shareholder participation in the setting of executive

compensation and reduces managerial power in the compensation setting process. Therefore, collective bargaining yields more transparent outcomes for the shareholders. However, there is an important caveat to the transfer of the insights on collective bargaining to executive compensation: if shareholders and executives collectively bargained over compensation arrangements, they would not automatically include perspectives outside the scope of their interests. Regulatory intervention would thus still be necessary to eliminate incentives with potentially harmful external effects. The regulator, as the controlling instance, has to ensure that shareholders and executives do not disregard taxpayer interests, for example.

The bargaining parties in professional sports leagues are team owners and players. For the corporate sector, the choice of bargaining parties is not obvious. Collective bargaining could take place between shareholders and executives within one firm, within one sector, or within national or international boundaries. The coordination costs of a collective bargaining process rise with the spread and sector specificity of bargaining parties. The regulator would have to address this conflict between coordination costs and the comprehensiveness of the bargaining outcome. Another issue in the transfer of the insight that collective bargaining can be applied to executive compensation is the bargaining power of the participating parties: a small number of executives face a large number of shareholders. Additionally, executives' interests are very homogeneous. These aspects contribute to a favorable bargaining position of executives and would therefore impact the bargaining outcome. In sports leagues, both owners and players select representatives to be able to concentrate their interests. For the corporate sector, this would imply a dominant role of shareholder representatives on compensation committees.⁸

Regarding the applicability to specific sectors, it has to be noted that professional sports teams allocate large fractions of total revenues to a small number of employees with highly developed sector-specific skills. The process of collective bargaining, which has proven useful in the sports sector, may thus be most effective in business sectors displaying a similar personnel quality and salary structure, such as the financial sector.

Recent changes in executive pay policies toward more shareholder influence underline the relevance of the principle of collective bargaining in the corporate environment. The "Say on Pay" initiatives in, e.g., the US and the UK support this impression. These initiatives aim at introducing the right for shareholders to vote on executive compensation proposals and have

8. Note that the caveat that shareholders and executives, despite engaging in something like collective bargaining, would not automatically include perspectives outside the scope of their interests, also holds in the case of fully independent compensation committees (see Bebchuk and Spamann (2010)).

achieved this in several major economies already (Cavanagh and Sadler (2009), Dew-Becker (2009), Conyon and Sadler (2010)). However, there is limited evidence that say on pay significantly alters the level and design of CEO compensation (Conyon and Sadler (2010)). Additionally, in contrast to major sports leagues, where the outcome of collective bargaining is binding for all teams and players, the corporate sector faces discussion over whether mandatory or advisory say on pay is the preferable alternative (Dew-Becker (2009), Bebchuk and Spamann (2010)).

3. Collective regulatory measures can limit total compensation and, at the same time, secure autonomous decision-making in the corporate sector

All North American major sports leagues operate with collective pay regulation. There are salary caps and luxury taxes for entire teams.⁹ These collective measures ensure the financial viability of team operations because they determine total salary spending. At the same time, this practice allows teams (to a large extent) to freely allocate the total amount defined by the salary cap to individual players (Staudohar (1998)). An NFL team, for example, might invest the full amount of the salary cap in the quarterback and employ cheap players for all other positions. At another extreme, it might pay each player an identical salary. In general, given constraints such as the availability of talent, conformity to league rules about acquiring players of opponents, and other side restrictions, teams are free to make their optimal decisions.

However, this freedom of salary distribution does not lead to arbitrariness in a team's decision-making. Teams consider different aspects such as their league standing, fan demand and advertisers' preference for team success and star players when they make their decisions on how much to spend on whom (Scully (1974), Scully (2004)). Consequently, the freedom of allocation of the salary cap in general does not lead to extreme allocations and is also an important instrument for teams to adjust to the preferences of their stakeholders (Frick, et al. (2003), DeBrock, Hendricks and Koenker (2004)).

Individual athlete performance is observable and quantifiable, which is an important determinant of the effectiveness of collective pay regulation in professional team sports. Consequently, as there are no incentives to shirk when compensation includes continuous information on the past marginal product, the largest proportion of players' compensation

9. Individual pay regulation only occurs, when a league allows exceptions to the collective measure and there is the danger of excessive individual player salaries.

comes from their base salaries (in analogy to Fama (1980)); performance-related pay only constitutes a small percentage of player salaries (Kaplan and O'Reilly (2008), Mondello and Maxcy (2009)). Athletes earn their contracted salary independent of their scoring average or their teams' win percentage. One vital extrinsic incentive for athletes to perform well is related to long-term career concerns: strong performance improves a player's bargaining power in future contracts. The weight of this incentive, in combination with intrinsic competitive motivation and other financial benefits related to commercial endorsements, renders performance-based pay apart from fixed salaries less necessary (Krautmann and Oppenheimer (2002)). These observations have two consequences on collective regulation: players do not have incentives for shirking under collective regulation, and regulation is facilitated because compensation arrangements have a simple structure. Experience from major sports leagues implies that collective salary regulation limits excessive compensation and at the same time preserves teams' autonomy in allocating individual compensation.

The insights on collective pay regulation in professional team sports can be transferred to the corporate sector. Just as athletic competition ensures that a quarterback has strong teammates, executive pay would not be concentrated on a single individual, neglecting other positions in executive boards. Instead, a collective salary cap enables an allocation of compensation aligned with each firm's objectives. If regulators dictated a corporation how much to spend on each executive, this would eliminate the corporation's capacity to act optimally contingent on the market situation and inhibit its ability to address agency problems (Eisenhardt (1989), Carpenter and Sanders (2002)). The regulator, apart from the regulation objective, has to consider this dependence of corporations on their autonomy (Cyert, Kang and Kumar (2002)). Collective instead of individual regulatory arrangements, for example by imposing a cap on bonus pools for executives in corporations, could therefore be a less restrictive alternative of regulating executive pay.

Compared to professional team sports, where athlete performance is observable, an executive's contribution to firm performance is less transparent. Most empirical studies thus focus on executive compensation and firm performance, and not individual performance (see Murphy (1985), Murphy (1986), Jensen and Murphy (1990), Gibbons and Murphy (1992); Bushman, Indjejikian and Smith (1996) outline the problems related to individual executive performance and compensation). Although the individual performance of executives is difficult to measure, performance-pay constitutes a substantial fraction of total compensation (Murphy (1999)). Collective pay regulation, for example a limit on a corporation's bonus pool, would not infringe this practice. However, the interaction of little transparency of

performance and collective regulation implies difficulties in the corporate sector: the allocation of regulated pay would lead to intensified conflicts over who receives what fraction of the capped bonus pool. As opposed to professional sports teams, where the performance of individual athletes is very transparent, these conflicts are intensified by the difficulty to measure individual performance in the corporate sector. Additionally, individual executive's ability to appropriate rents from a collective pool would not necessarily coincide with the executive's contribution to firm performance (Bebchuk, et al. (2002)).

In the discussion of collective pay regulation it is important to note that in contrast to professional team sports there is no fixed size of executive boards. Consequently, adequate collective regulatory measures for different sizes of executive boards are necessary to guarantee uniform treatment of individual firms. The regulator has to consider the resulting room for manipulation, because corporations could appoint dummy members of the executive board to mitigate regulatory restrictions, for example.

Experience from major sports leagues shows that collective regulatory arrangements can limit excessive compensation. It is not straightforward to see, whether they can also incentivize executives to take fewer decisions with negative externalities on society. Individual measures can achieve this objective more accurately. However, they strongly impair corporations' autonomy in setting executive pay. This autonomy is vital for corporations, therefore collective pay regulation in professional team sports can yield important insights for the regulation of executive compensation in the corporate sector.

4. Pay regulation contingent on performance with retained compensation correcting for substandard performance reduces focus on short run

In the major leagues, pay regulation in the form of salary caps and luxury taxes of both absolute and relative nature can be found. An absolute salary cap, e.g., can be understood as a limit to compensation defined independently of financial performance, i.e. it is a fixed amount of money. A relative salary cap, the predominant form of salary regulation, can be defined as the proportion of a financial statistic such as revenue or profits. In this case, financial indicators determine the actual extent of the regulatory measure. In the major sports leagues, salary caps for entire teams are set relative to projected league revenues of the current season (Marburger (2006), Dietl, et al. (2009)). For instance, in the NBA, teams and players have agreed upon a payroll cap for each team of 57% of projected basketball-related income of the league (BRI, i.e., gate revenues, TV contracts, merchandizing, and others), divided by the 30

teams in the league. In the MLB, as another example, the luxury tax threshold is independent of revenues.

Salary caps for individual players, as they exist in the NBA, can be relative or absolute in nature. The individual salary cap for an NBA player is contingent on the number of years he has played in the league and also depends on the payroll cap. The longer a player's tenure in the NBA, the higher is his individual cap. Additionally, the cap is either a fixed amount or a percentage of the payroll cap, whichever figure is higher. Note that in the past, the fixed amount was always smaller than the percentage of the total payroll. This shows that absolute salary caps do exist but are not binding if there is a choice between an absolute and a relative cap. The other North American major leagues considered in this work show analogous patterns with respect to the choice between absolute and relative salary caps.

The dominance of a salary cap in proportion of total league revenues stems from a number of advantages: a salary cap of this form aligns team owner and player interests, because players face less restrictive caps when the league is more successful financially. At the same time, this practice ensures a league's financial viability because salary payments are limited to a proportion of total earnings. Additionally, if total earnings fall short of projections, there are mechanisms which ensure that teams do not have to pay salaries that exceed their actual earnings. For example, the so-called escrow system allows the NBA's teams to withhold eight to ten percent of player salaries until actual BRI is known. The withheld money in the league's escrow account is only paid to the players if BRI meets projections and can therefore be considered as a form of retained earnings.

In the corporate sector, opinions diverge over whether executive pay should be capped at a certain absolute amount or whether it should be capped relative to a company's earnings. The Obama administration discussed a \$500,000 salary cap on yearly cash compensation for executives in firms receiving TARP funds and imposed a limit on restricted stock incentive pay at one-third of total annual compensation.¹⁰ The heads of state of England, France, and Germany have discussed the introduction of salary caps for executives, which are determined relative to a company's revenues.

The dependence of pay arrangements on performance measures influences risk-taking behavior. Excessive risk-taking by executives and the related lack of consideration for future consequences of present decisions is a vital topic in current discussion over executive compensation (Bebchuk and Spamann (2010), Faulkender, et al. (2010), Walker (2010)).

¹⁰ See American Recovery and Reinvestment Act of 2009.

Major sports leagues imply that pay regulation should refer to actual performance, but also that the regulator should be able to adapt pay levels in cases where overall sector performance is below expectations. In the case of professional team sports, a salary cap that allows for stricter limits if league revenues turn out lower than projected ensures financial viability of present and future operations.

In the corporate sector, different forms of compensation, e.g., stock options and restricted stock with vesting schedules, can serve the purpose of holding executives accountable for their decisions in future periods. Consequently, firms award stock options and restricted stock despite the increased cost of awarding risky future claims to executives (See Core, Guay and Larcker (2003), for an overview).

Stock options are related to several incentive issues (Murphy (1999)), and via these issues also are different from the escrow system in professional sports in a number of respects: Options induce riskier investments because they increase in value with higher stock-price volatility. Additionally, options lose their incentive effect once the stock price is small enough to yield an exercising of the option unattractive.¹¹ This has resulted in controversy over the repricing of options and related incentive effects (Acharya, John and Sundaram (2000), Core, et al. (2003)).

Stock options can yield incentives to account for the future impact of executives' decisions, for example, via their vesting periods, and therefore can be considered a type of retained compensation. However, they also entail a number of incentive issues that are not in the interest of shareholders and taxpayers. The use of stock options has decreased in the recent past, and firms have increased the use of restricted stock (Carter, Lynch and Tuna (2007)). Restricted stock on average vests after periods of three to four years, a time period which has been shown to be smaller in firms with less effective corporate governance (Chi and Johnson (2008)). It has also been noted that restricted stock can incentivize excessive risk-taking, if it is issued as common (as opposed to preferred) stock (Bebchuk and Spamann (2010)).

Following these observations we can summarize that while the escrow system in professional sports leagues imposes identical restrictions on all teams and athletes, the long-term incentives of restricted stock in part depend on individual firms' governance and accounting procedures. Additionally, there is a difference in the scope between restricted stock and the escrow system in sports: while all teams and athletes are confronted by the escrow system,

11. Another incentive effect of options is that they reward only stock-price appreciation and do not include dividends, which leads to executives avoiding dividends.

only about two thirds the S&P 1,500 Index firms award restricted stock, mostly R&D intensive firms (Murphy (1999), Blouin and Carter (2010)).¹² Regarding the design of future risky claims in the corporate sector, it has to be added that, apart from the objective of aligning the incentives of shareholders and executives, stock options and restricted stock frequently are used because of accounting and tax motivations (Core, et al. (2003)). This observation poses the question to what extent the current design of such forms of compensation meets the objective of overcoming myopia in executives' decision-making.

An important point in discussing the transferability of insights on retained compensation from sports to the corporate sector is the different time horizons over which executives and athletes influence their respective organization's success. Athletes' actions almost exclusively affect their teams' short-term performance, and via the escrow system, they are also held accountable for their performance over the corresponding time period. In contrast, corporate executives' decisions can influence firm performance for years. The sports industry, where athletes receive the escrow pay after actual realization of overall outcome, implies that the period of time for which the regulator retains a percentage of earnings, should depend on the permanence of executive decisions. The longer the effects of decisions persist in the future, the longer the period of maintaining an equivalent to the escrow account should turn out. The transfer of insights from professional team sports to the corporate sector in this regard is limited to the extent that the different horizons, over which athletes and executives influence their organizations, generate different implications for compensation. For example, there can be a discount that executives apply to retained compensation, because the payoff occurs at a future date.¹³ Such discounts imply that higher levels of compensation are necessary to retain executives and maintain incentives, in particular because not all firms use retained compensation. Uniform treatment of retained compensation across firms, potentially with reference to their particular sector, would mitigate the pressure to compensate executives for lagged payoffs, and would effect that the realization of firm performance and executive compensation converged. One major challenge for such a measure is defining the time period over which compensation should be retained, as well as the fraction of compensation that should be retained.

12. A similarly low presence holds for long-term incentive plans, based on the rolling average of cumulative performance, for example.

13 For example, Kahl, Liu and Longstaff (2003) show the costs stockholders associate with restrictions on the ability to sell awarded stock.

5. Luxury taxes lead to higher efficiency of talent allocation than salary caps

The major leagues show different approaches to the limitation of player salaries, involving both salary caps and luxury taxes. The NFL, for example, operates with a salary cap. The league has to approve all contracts between a team and a player; therefore, the salary cap cannot be exceeded. The MLB, on the other hand, operates with a luxury tax. In the NBA, a combination of a salary cap and a luxury tax is in place. If a team's payroll for players exceeds the luxury tax threshold, which is set above the salary cap, it has to pay a tax to the league for the overage. These examples show that in professional sports, the different measures achieve similar objectives (Dietl, et al. (2010)).

A salary cap sets a strict limit on total compensation per team or per player. As a result, teams' expenditures on talent converge. This leads to an improved competitive balance, but also to an inefficient allocation of talent. Players do not necessarily play for the team where their marginal productivity yields the highest return. In leagues with comparatively few games per season (e.g., an NFL team has 16 regular season games), the inefficient allocation of talent does not lead to forgone revenues. Almost all teams sell out all games. Other leagues have many more games, an MLB team, for example, has 162 regular season games. Consequently, it is more difficult to fill the stadium at every game, especially in large markets where alternatives abound. Large-market teams have to field stars to fill their stadia. In terms of the allocation of players with respect to their marginal return, these leagues require higher efficiency, i.e., the best players should play in the largest markets. Under the MLB's luxury tax, rich teams can spend more on players than small teams, with the restraint that a luxury tax accrues. Given that large-market teams have a higher marginal return on talent, this leads to a more efficient allocation of playing talent. In this sense, the luxury tax is economically superior to the salary cap (Rosen and Sanderson (2001)). From an economic perspective, this could explain different regulatory regimes in different leagues (Scully (2004)).

Luxury taxes show another important difference to salary caps: while they do not imply a strict salary limit, they generate tax revenues from teams that exceed the luxury tax threshold. The league can redistribute these tax revenues among smaller teams or use the revenues for pursuing collective league interests apart from balanced competition.

Corporate executives should also earn according to their marginal product to ensure efficiency (Fama (1980)). Consequently, considering current practice in major sports leagues, a mechanism similar to the luxury tax in sports is preferable over a salary cap. A luxury tax allows pay according to an executive's performance and the value the executive adds to a

firm. The tax controls pay by increasing a firm's cost of executive pay, therefore there is a regulating effect. Luxury tax payments generate resources the regulator can redistribute or save in a fund for financial relief programs. However, a measure like the luxury tax only makes overage compensation more costly and does not strictly limit it. Salary caps do not allow such overage and therefore facilitate regulation.

In the US, there exists a measure similar to the luxury tax in professional team sports: the tax deductibility limit of US\$1 million for corporations (Section 162(m), IRC). A number of exceptions accompany the deductibility limit, thereby allowing corporations and executives to circumvent regulation by changing compensation practices. Most importantly, performance-related bonus payments are not included in the deductibility limit. These exceptions have resulted in a recent increase of different forms of performance-based pay (Hall and Murphy (2003)). Note that this poses a contrast to compensation practice in professional sports, where performance targets are differentiated as likely and unlikely, and performance pay counts towards the salary cap, if the related performance target is likely to be achieved.¹⁴ Another important difference between Section 162(m) and the luxury tax in professional sports is the scope of the measures: while the deductibility limit is an individual threshold, the luxury tax in sports is a collective measure. The tax accrues for every dollar that a team's payroll exceeds a specific threshold. Other measures, such as a 90% tax on bonuses in firms, which have accepted larger amounts of federal bailout funds, and charity rules to reduce connotations of greed also show similarities to the luxury tax in professional sports.

There are several differences between measures found in the corporate sector today and the luxury tax in professional sports leagues: the luxury tax in team sports accrues to an aggregate measure of compensation that, in contrast to the corporate sector, comprises all pay except for the (almost negligible) fraction made up by unlikely to be achieved performance pay. Further, the luxury tax in professional sports, in contrast to similar measures in the corporate sector, is a collective measure applied to entire teams as opposed to individuals. Finally, in sports, the luxury tax proceeds are used for supporting sector-specific objectives.

A transfer of these attributes of a luxury tax to the regulation of the corporate sector could limit the extent of shifting compensation elements towards tax loopholes and tax proceeds could be invested in industry stability funds. Additionally, the implications derived for collective regulatory measures discussed above, i.e., their less restrictive character, also hold for the concept of a luxury tax.

14. Of the (small) proportion of variable athlete compensation, the fraction of incentive pay for unlikely to be achieved performance targets is small, and capped at 25% of a player's total salary in the NBA, for example.

6. Soft salary caps can impede regulation, but also reward experience and successful careers

In professional team sports, the design of salary caps can take on two forms with respect to the rigor of the cap. A salary cap can be hard, that is, fixed and without exceptions, or it can be soft, that is, it can be adapted under specific circumstances. Hard salary caps in sports leagues ensure equal opportunities for competitors. Opponents may freely compete for players subject to the uniform salary cap. All competitors in a league face the same salary cap. Soft salary caps allow for individual exceptions to the salary limit under certain conditions. Teams can thus adapt to specific circumstances and spend more on very important and experienced players, for example. Soft salary caps are a less effective measure because exceptions are possible, and affected parties will try to exploit all available exceptions in their favor.

In the major leagues, hard caps as well as soft caps can be found. The NFL, for instance, has a hard cap, meaning that total salaries paid in a season have to be below a certain limit. Otherwise, sanctions are imposed on the team that has violated the salary cap. The NBA, as another example, has a soft salary cap; a soft cap implies that there are numerous exceptions to the general salary limits. These exceptions lead to a large proportion of teams exceeding the salary cap to better adapt to team- and player-specific requirements. The NBA makes exceptions so that teams can hold on to merited players when their contracts expire. One such exception is named after former NBA star Larry Bird. To re-sign him, his team had to exceed the salary cap. As a consequence, the exception was introduced that a team could re-sign star players who either had played a number of years without being waived (i.e., fired) or had not changed teams as a free agent. If these conditions hold, the contract does not count towards the salary cap. This so-called “Bird exception” awards the privilege of retaining franchise players. Other exceptions, such as the “Early Bird” and “Non-Bird” exceptions, are installed, which allow moderate salary growth to players who have not been waived for two consecutive seasons or remain with their original team (for a comprehensive overview on exceptions to the NBA salary cap, see (Hill and Groothuis (2001))).

Exceptions reduce the effectiveness of regulatory interventions. Where they apply, they relax the restrictions of installed regulations. This can undermine the regulatory mechanism to a degree where it becomes virtually ineffective, as the case of the NBA has shown. For example, Michael Jordan earned salaries of more than US\$ 30m per season, where his salary alone would have exceeded the team salary cap. He signed these contracts under the Larry Bird exception, therefore they never counted towards the cap. Today, the NBA has eliminated this loophole by installing an individual salary cap.

For executive compensation such loopholes would have similar consequences and discredit the regulation attempt. The specific case of Section 162(m), IRC has shown how the definition of a regulatory measure can affect compensation practices and cause shifts from one way of compensation to another (Hall and Murphy (2003)). However, exceptions also allow the adaptation to specific circumstances and may therefore be used as incentives. In some major sports leagues, merited players face softer regulation than others.¹⁵ Similarly, experienced company executives with a solid career could face less restrictive salary caps. Just as this practice has incentive effects in professional sports, such an exception could also incentivize present and future executives to invest in continuous performance to be able to obtain exception status in the future. This way, pay regulation would shift a larger fraction of compensation for executives to the future, and regulation would reflect a seniority principle beyond current compensation practices (See Hutchens (1989), for example). Salary caps could therefore effect to render short-term-oriented, risk-taking behavior less attractive to executives.

With the introduction of pay regulation in the corporate sector, the discussion of potentially relevant exceptions assumes increasing relevance. Current practice in professional sports incorporates the experience gained over several decades of pay regulation. Regarding the discussion of executive pay regulation, it can therefore serve as an indicator of future challenges for the regulator.

IV. CONCLUSION

The regulation of executive compensation is currently widely discussed by regulators, shareholders, and managers. Fundamental economic analysis of the use and potential consequences of executive pay regulation is necessary to adequately account for this discussion. As a potential starting point for this research, professional team sports leagues provide a unique laboratory for deriving insights on the introduction, workings, and consequences of the regulation of executive compensation. We transfer these valuable insights to an analysis of executive pay regulation and illustrate what politicians, regulators, and economists can learn from major sports leagues. Key implications relate to the introduction, determining, and targeting of salary caps and luxury taxes, the discussion of

¹⁵ In the NBA, the individual salary cap for a player becomes less restrictive, the longer a player has active in the league, for example.

luxury taxes as an alternative to salary caps, as well as the rigor and enforcement of these regulatory mechanisms.

With the derivation of implications from practice in major sports leagues we want to contribute to the discussion of executive pay regulation. We see our contribution as a new perspective, which merits attention because of the success and the long tradition of salary caps and luxury taxes in professional sports. However, we are aware that the discussion of insights cannot take place without pointing out the institutional differences between professional team sports and the corporate sector. By accounting for the idiosyncrasies of the professional team sports industry, we obtain valuable insights on the extent to which pay regulation practices from sports can and cannot be transferred to the corporate sector. The analysis enriches the discussion of measures to regulate executive compensation with a new perspective.

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