ACCOUNTING AND PERFORMANCE METRICS IN THE BASEBALL INDUSTRY

PIER-LUC NAPPERT

A Dissertation Submitted to the Faculty of Graduate Studies in
Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy

Graduate Program in Business Administration
Schulich School of Business
York University
Toronto, Ontario

June 2021

ABSTRACT

This doctoral thesis explores the roles of accounting and performance metrics in the baseball industry, a sport characterized by significant income inequalities amongst players. I entered the field with a broad research question, trying to understand *how accounting mechanisms and technologies influence the decision-making processes of Major League Baseball organizations related to the evaluation, acquisition and monitoring of high-profile employees, namely baseball players.* This work begins with Chapter II, which examines how new technologies, such as data analytics and camera-based tracking systems, have changed performance measurement and management control systems in the industry. It illustrates that these technological devices have impacted the temporality of performance metrics and have transitioned the industry toward a "society of control" (Deleuze, 1992). In Chapter III, I explore how baseball operations specialists translate player evaluations into player valuations, notably with financialized valuation methods. However, the chapter also illustrates that the valuations of players' contracts are debated by clubs' accounting executives, who claim that such valuations are not consistent with the "reality" of accounting. By exploring the interplay between valuation and accounting, this chapter illustrates how "hyperreality" (Baudrillard, 1994) is a core feature of sports accounting, which is strategically displayed by clubs' owners in their communications with key stakeholders. Finally, in Chapter IV, I explore the technologies and rationalities underlying human capital contracts, new financial products available to underpaid minor league players, and how these contracts change participants' subjectivity. I demonstrate that human capital contracts enable participants to foresee a brighter future and that they act as a coping device by providing an escapist form of imagination. Taken together, the three chapters show how baseball players are transformed into human "assets," in part by being financialized by their employer but also by contributing to their own financialization.

ACKNOWLEDGMENTS

As I reflect on the last four years I have spent as a doctoral candidate, I can think of several influential people who played a key role during my journey. My first thoughts obviously go to my wife and best friend, Marie-Claude, who was instrumental in supporting me from the very beginning. Completing a PhD is never easy, and doing so with two young children is particularly challenging, but your presence and dedication have been constant motivators. I would never have been able to go through this journey without a strong partner like you.

Writing the following dissertation during the COVID-19 pandemic was particularly difficult and stressful. However, I must express my gratitude to my family, particularly my sister Anne-Marie, who was a tremendous help to us during the first wave, when my children's daycare center was closed. To my parents, Hélène and Nicolas, thank you very much for all you have done for me, and to my brother, Dominic, and my sister Florence, thank you for your help in several aspects of my life.

From an academic standpoint, I have been blessed at Schulich to find a group of talented, inspiring and supportive professors, all of whom contributed to my academic progress. A special thanks to my supervisor, Dean Neu, who trusted me from day one and made me appreciate the doctoral experience by insisting on the importance of doing research with passion. I cannot thank you enough for the academic freedom you provided me and for your constructive and encouraging feedback.

I also want to thank Cameron Graham and Matt Bamber, who complete my dissertation committee. I was particularly lucky to have you on my side and to be able to develop hopefully enduring friendships with both of you. I greatly appreciate the confidence you put in me by asking me to join you on other projects. These co-authorship opportunities greatly help me to understand what it means to do high-quality research, and they have fulfilled my academic curiosity. I am also grateful to Linda Thorne, with whom I have the pleasure to work on other projects. It is also important for me to acknowledge the contributions of my professors—such as Yelena Larkin, Detlev Zwick and Robert Phillips—during my coursework at Schulich. Special thanks to Eileen Fischer for your enthusiasm about qualitative research, which really paved the way for my career trajectory,

and to Giri Kanagaretnam for all your support throughout the years. I am also thankful for the administrative staff, notably Mary Rizzo, and for my fellow PhD students, with whom I developed meaningful friendships. A special thanks to Christine Cooper and Joanne Jones, who have agreed to sit as the external and internal member of my dissertation committee, respectively.

I am also grateful for the support of my colleagues at Université Laval, especially to Jean-François Henri, Maurice Gosselin and Yves Gendron for believing in me. A very special thanks to two friends who were instrumental in helping me navigate the "labyrinth" of the PhD journey: Maude Paré-Plante and Christine Gilbert.

Finally, I want to express my gratitude toward all the people who agreed to be interviewed for this doctoral thesis. This dissertation would never have been possible without high-quality data from high-quality informants. If, at times, I am critical of the baseball industry, I also want to stress that the industry is full of passionate, inspiring people who agreed to sacrifice a lot to pursue their dream. I have encountered very thoughtful and clever individuals who agreed to share their experiences with me.

June 2021

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CHAPTER 1: INTRODUCTION

INTRODUCTION

1. Accounting in the context of sports

For most of its history, professional sport, in both North America and Europe, was a local or even regional phenomenon with limited revenue streams. The emergence of television has democratized professional sport, which was previously consumed almost exclusively by fans physically attending the sporting events. Along with the internet and new information technologies, television has opened several revenue opportunities for professional sport teams. According to *Forbes*, the 123 professional clubs of the North American's "Big Four" leagues[1] compiled total revenues exceeding US $37 billion in 2018.[2] The transformation of professional sports into "big business" has opened opportunities for accounting researchers to investigate how accounting and calculative practices shape and influence a sub-set of popular culture (Jeacle, 2012).

Beyond the increased significance of professional sport as a business and investment vehicle, it is the professional sports industry's idiosyncrasies that make it an interesting setting to study accounting questions. A core premise of this dissertation is that professional sport provides a fruitful context to study accounting phenomena and to inform broader accounting, organizational, and societal issues. Particularly in North America, the professional sports industry is a microcosm of society and of capitalism (Frey & Eitzen, 1991; Guttman, 2004). To borrow Jean Baudrillard's (1994) words, professional sport is a "hyperreal" field that epitomizes contemporary culture. Behind the entertainment and the dreams it cultivates, professional sport hides ruthless logics of commercialism, "winner-take-all-market" dynamics (Frank & Cook, 1995), and neoliberal values, all characterized by severe income inequalities. It is a field with a particular habitus in which practices that are considered acceptable in the sports industry would be, rightfully so, considered disturbing in other contexts. Examples include the concepts of the draft, as employees (players) are selected unilaterally by their employer, and of trades, as employees (players)

[1] National Football League (NFL), Major League Baseball (MLB), National Basketball Association (NBA) and National Hockey League (NHL)

[2] Most of these clubs are privately-owned and accounting numbers are not available, but *Forbes* annually estimates their franchise valuation, revenues and operating profits.

are exchanged either for money or other employees (players). Despite its particular habitus, I contend that professional sport is an *avant-garde* industry in the sense that current managerial practices in the sport business may eventually flow to—or at least shape—other industries.

In the accounting literature, there is a growing list of papers using sport as a context to inquire accounting questions, notably because of its distinct and interrelated characteristics. First, sport is characterized by the deep emotional connections between clubs and their fans. In this regard, Baxter, Carlsson-Wall, Chua, and Kraus (2019a) conceive sport organizations as a nexus of passionate interests and argue that such interests recursively inform the doing of accounting. Using the case of a Swedish football club, Baxter et al. (2019a) found that financial (total equity) and non-financial (league table position) performance metrics allow for the quantifying of these passionate interests, and that some performance metrics, grounded in enduring passionate interests, matter more than others. Moreover, fans sometimes express their passionate interest with violent behaviours, contributing to management anxiety and to significant security costs. In a related study, Baxter, Carlsson-Wall, Chua, and Kraus (2019b) specifically explore accounting in the context of sports-related violence, investigating the dynamic contestation of policing costs at football matches between market, state, and community actors. Following a Swedish football club, the authors found that the club, in an attempt to shift the financial obligations of policing football matches to the state, engaged in diverse calculations to the point that its organizational boundaries became contestable. One argument was that football clubs are not typical companies or market actors; rather, they exist to provide community-wide benefits such as enjoyment, engagement, and pursuit of a healthy lifestyle.

The emotions and passionate interests displayed by sport organizations' key stakeholders such as fans, "who search for information on every aspect of their clubs", provide an interesting context to study the notion of accountability of ownership vis-à-vis their customers (Cooper & Johnston, 2012, p. 602). This is particularly interesting considering that stakeholders may be more interested in the on-field performance of the club than on its financial performance (Rika, Finau, Samuwai, & Kuma, 2016). Unfortunately, partly because of its emotional component, the sports industry is sometimes the theater of disasters. In 1989, 96 Liverpool supporters died at an FA Cup semi-final at

Hillsborough stadium. Cooper and Lapsley (2019) examined the weaknesses in public accountability following this event, as families of victims sought justice for almost 30 years. The notion of accountability has been further studied in the context of global governance of cricket, a sport that is extremely popular in India, Pakistan, and Bangladesh (Siddiqui, Yasmin, & Humphrey, 2019).

Second, in professional sport, non-financial rewards often compete with financial motives. Wealthy individuals may acquire professional sport franchises as much for the media and social gains than for financial profits. Thus, in some cases, owners do not hesitate to spend freely to acquire the best players (Cooper & Joyce, 2013; Franck, 2010; Janin, 2017). In order to achieve sustainable success on the field, clubs need to spend high amounts on player salaries, which drives up operating costs and therefore reduces potential profits. This situation sometimes creates competing institutional logics in the sense that clubs have to manage both excellence in sport and financial success to assure sustainability. In some cases, clubs struggle to be at the same time win-maximizers and profit-maximizers. The sport context allows accounting researchers to study how performance measurement systems can help to manage the existence of different institutional logics (Carlsson-Wall et al., 2016).

The plurality of institutional logics is not exclusive to professional sport. Clune, Boomsma, and Pucci (2019) have highlighted that, within amateur sport organizations, a professional logic and a commercial logic challenge the traditionally dominant social welfare logic, and that forms of accounting mitigate or exacerbate tensions related to logic assimilation. Sport organizations, whether they are professional or amateur, can be considered "hybrid organizations." The authors indicated that accounting disclosures may disrupt the "peaceful co-existence of institutional logics" (p. 3). Cordery and Davies (2016) illustrated, through the case study analysis of amateur rugby clubs in New Zealand, that as practices associated with professionalization become institutionalized, amateur clubs are more likely to adopt professionalism. Within the accounting literature, the sport context has also been drawn upon to explore the role of management control systems in pulsating organizations (Carlsson-Wall, Kraus, & Karlsson, 2017).

Third, because of the aforementioned passionate interests and the competing institutional logics, most professional sport have special accounting rules (e.g., salary caps,

revenue sharing, financial fair play regulations) that clubs have to comply with to avoid process of destructive competition, as clubs may tend to maximize utility (wins) more than profit, resulting in insolvency and league-wide repercussions. Evans, Walters, and Tacon (2019) explored one such financial regulation in the English football context and found that the regulation was mostly a "legitimising exercise," as the rules failed to significantly improve the profitability or the solvency of clubs. With its specific financial rules and accounting practices, as well as the intense media coverage it receives, the sports industry is an interesting setting to study how accounting practitioners develop the legitimacy and expertise to navigate in non-traditional fields.

The emergence of salary caps, for example, has created new spaces for auditors, whose responsibilities consist to assure that every team complies with the league's financial regulations. Andon, Free, and Sivabalan (2014) focused on the emergence and operation of the salary cap audit programs in two relatively similar leagues, the National Rugby League (NRL) in Australia and the Canadian Football League (CFL) in Canada, to explore how auditors compete for legitimacy in new audit spaces and how capital from intersecting semi-autonomous fields (accounting and sport) was extracted to generate legitimacy for the new roles. Another study by Andon and Free (2012) investigated how auditing can be mobilised during a crisis, such as the 2010 Melbourne Storm salary cap scandal. The crisis opened the entire salary cap "system" to critical evaluation and diminished the credibility of auditing. This paper thus showed "how auditing is centrally implicated in an ongoing, dynamic process of legitimisation, de-legitimisation, and re-legitimisation" (p. 132).

Auditors are not the only accounting practitioners who have had to learn to "play the game" in the sports industry. Cooper and Joyce (2013) examined the insolvency practice in the United Kingdom. During the Thatcher years, the UK government passed the Insolvency Act 1986 to address the "social problem" of insolvency. The objective of this act was to define insolvency rules to follow, but the case of Gretna FC, a small Scottish football club that joined the highest ranks of Scottish football following massive spending in player salaries by a millionaire owner, instead shows that, in practice, there is a lot of room for interpretations. When the owner passed away, the club, heavily indebted, entered into administration. The insolvency practitioners involved in this case should have probably liquidated the assets in order to limit the losses of creditors. However, the Scottish

Premier League had specific rules to avoid a club folding during the playing season. Using Bourdieusian lens, the authors show that state laws do not necessarily trump private field rules. The insolvency practitioners struggled over the appropriation of certain types of capital when faced over the choices of which rule to follow, including the possibility of not following the rules at all.

The specific financial regulations that sport clubs must follow motivated an ethnographic study inside a French football club on the role of management accountants (Janin, 2017). The author found "that management accountants can extend externally the business partner role they place within the organization against the industry's financial regulatory body" (p. 5). Because they are trusted by their organization's top managers, management accountants are able to play a key role externally, thus expanding their field of competence. The sport context can also shed light on lesser-known accounting practices, such as value-in-kind transactions, where non-cash resources are exchanged between sponsors and recipient organizations (Burfitt, Baxter, & Mouritsen, 2020).

Fourth, the sports industry offers a good setting to study "human capital" and intangible assets. This thesis is intended to contribute to this line of inquiry, which has been mostly concentrated on the European football industry where the players' registration rights are a significant asset line on the balance sheet (Amir & Livne, 2005; Forker, 2005; Rowbottom, 2002). Each year, clubs have the opportunity to buy (sell) players from (to) other clubs during the two transfer periods. Under current accounting standards,[3] clubs capitalize acquisition costs on the balance sheet and recognize profit from the sale of players. Purchasing costs are subsequently amortized over the length of the player's contract. This accounting asymmetry has a considerable impact on financial reporting and on clubs' real decisions.

Risaliti and Verona (2013) studied the financial statements of five leading Italian clubs between 1996 and 2009. Italy's Seria A, the premier football league of the country, enjoyed a significant increase of resources (revenues) since the mid-1990s, but football clubs were not able to translate this revenue growth into higher profits and greater net cash flows. Competitive pressure to participate in the Champions League, which has important impact

[3] International Financial Reporting Standards (IFRS) are used in most European countries with teams playing under the UEFA umbrella.

on the club's sporting success and finance, and the liberalization of players transfers pushed the league on the brink of a financial collapse. Risaliti and Verona (2013) found out that, in fact, Italian clubs did not address the economic and financial difficulties through implementing cost-reduction strategies or revisiting their business model. To the contrary, they covered the accumulating operating losses with "window dressing policies" that consisted of overvaluing players involved in players exchange between two clubs, thus resulting in large capital gains. This tactic of artificially overvaluing players' contracts permitted the coverage of budgetary operating losses but further increased future amortization costs.

The player acquisition system is quite different in the major North American leagues. Teams usually acquire players from three distinct ways. First, the annual draft is usually the entry point of most players into the professional league. Some leagues authorize clubs to hand out signing bonuses for newly drafted players or to free agents. Second, teams can trade players under contract in exchange for other players and the trade market is relatively fluid. Finally, once their contract is expired, players become free agents and can sign a new contract with any team. The major difference between the North American sport leagues and European football is that there are no large transfer fees in North America, thereby limiting accounting possibilities for player asset value. North American sport leagues are nonetheless interesting settings to study human capital questions. Despite the absence of transfer fees, players can nonetheless be considered organizational assets.

2. Mapping the field of baseball

Whereas most studies in the above literature review on sports and accounting use the fields of football (soccer) or rugby, the following dissertation chapters focus on the field of professional baseball, a sport that has several links with accounting. Baseball has a long history that dates back to the first half of the nineteenth century. The origins of baseball are often disputed, as variants of bat and ball games, inspired by the game "rounders" brought to North America by English and Irish immigrants, were played for almost a century before the first baseball rules were codified in 1845 by Alexander Cartwright (Nucciarone, 2009). This section outlines the "field" of baseball. First, I discuss the significance of quantification in the history of the game. Second, I map the structure of

Major League Baseball (MLB), the biggest baseball league in the world. Third, I explore the financial side of the game. Finally, in the fourth sub-section, I describe the "human capital" side of the game, highlighting the typical career path of MLB players.

2.1. A game of numbers

Almost as old as the game itself is the scorekeeping system invented by English-American sportswriter and statistician Henry Chadwick, who grounded his system on accounting logics. In *Scouting and Scoring*, Christopher J. Phillips (2019) notes that Chadwick, a follower of social scientist Adolphe Quetelet, idealized the statistical regularity of baseball's events and preconized a "scientific" approach to baseball. Phillips explains that: "Chadwick came from a family dedicated to reform through public accountability […] and in particular to progress through science and rationality" (p. 35). Emphasizing the importance of gathering objective and reliable data, Chadwick moulded his scorekeeping system after double-entry bookkeeping:

> Each play was entered in both defensive and offensive records; at the end of the game, the total events had to balance. One team's hit was the opposition's hit allowed […] Moreover, the scorebook was clearly set up to facilitate summing across rows (total individual performance) and summing down columns (total team performance in a particular statistic) […] These were explicit choices meant to emphasize scoring as rational accounting, a precise technical system with self-correcting mechanisms used to legitimate decisions. (Phillips, 2019, p. 50-51)

In this sense, scorers emulated accountants, making decisions over the classification of events (hits or errors). Furthermore, Chadwick drew on nineteenth-century American accounting practices that stressed "moral" value through detailed recordkeeping to develop baseball's scorekeeping system. Scorers were asked to "credit" fielders for "good" play or to "debit" them for an error, in which case hitters were "not entitled to the credit of a base on a hit" (Phillips, 2019, p. 51), and to determine how many runs were "earned" by the pitcher. Chadwick "encouraged the awarding of moral credits and debits, the aggregation of them across seasons (and careers), and the analysis of them as data for the measurement

of progress" (Phillips, 2019, p. 57). Even when the game was still played by amateurs in the mid-1800s, Chadwick's scorekeeping system emerged as an evaluative performance measurement system as American newspapers published statistics and rankings to create controversies and boost sales (Phillips, 2019, p. 43).

According to sociologist Allen Guttman (2004 [1978]), the rise of modern sports is attributable to the scientific world-view and the mathematical discoveries of the Age of Enlightenment, when the concept of "measure" evolved from a sense of moderation and balance to the modern concept of measurement (p. 85). Quantification, one characteristic distinguishing modern sports from primitive, ancient and medieval sports, is one explanatory factor for the emergence of baseball as the United States' national game. The nature of the game, which involves one-on-one confrontation between a pitcher and a batter, facilitates performance measurements and statistical accumulations. Historically, in baseball, quantification has served to compensate for the shortfalls of qualitative distinctions: "When we can no longer distinguish the sacred from the profane or even the good from the bad, we content ourselves with minute discriminations between the batting average of the .308 hitter and the .307 hitter" (Guttman, 2004, p. 55). Baseball gained traction within America because of the appeal of its "quantified pastoral" and the lure of "the accountability of its record system" (Guttman, 2004, p. 112).

In the 1970s, a group of baseball researchers formed the Society of American Baseball Research (SABR) and subsequently created the field of *sabermetrics*, "the search of objective knowledge about baseball" (SABR.org, 2019). The best-selling book *Moneyball* (Lewis, 2003), which portrays how the Oakland Athletics found success despite their small budget by using statistical analyses to find under-valued players, popularized the use of *sabermetrics*. New baseball statistics such as *On-Base Percentage* (OBP), *On-Base-Plus-Slugging* (OPS), *Walk-Hit-Per-Inning* (WHIP) *Fielding Independent Pitching* (FIP), metrics deemed to have better predictive ability to forecast players' performance, were introduced to complement traditional statistics such as batting average or pitchers' wins and saves. Recent technological advances have moved baseball analytics past statistical models built on performance outputs. Camera-based systems *TrackMan* and *StatCast*, now installed in every professional baseball stadium and in several college fields, track every movement on the field and record massive amounts of data. With this technology, teams

are able to collect data on batted balls' exit velocity, launch angle, and distance travelled, pitchers' spin rate and breaking balls movement, runners' speed, etc.

Since the early 2000s, baseball has thus entered into a new era of quantification with the emergence of data analytics and technology-driven calculative practices. Prior to *Moneyball*, most organizations were managed by baseball people such as former players or individuals who had gravitated around the game for decades. In recent years, people with non-baseball backgrounds, such as financial analysts, economists, data scientists, and physicians, were hired in clubs' baseball operations departments to conduct quantitative analyses to select players and to formulate in-game strategies. This "data revolution" has sprawled to other North American sport leagues, as advanced metrics complement and even surpass traditional metrics.

2.2. Structure of Major League Baseball

The professional baseball industry is largely dominated by Major League Baseball[4] (MLB), which consists of 30 clubs, referred to as organizations, located in the United States (29 clubs) and in Canada (1 club). Interestingly, MLB was granted in 1922 a federal antitrust exemption by the Supreme Court, making baseball the only legal monopoly in the United States[5] (Greenberg, 2002). MLB is regulated by the Office of the Commissioner of Baseball. The Commissioner is elected by the owners of the clubs, and is responsible of establishing rules, hiring and overseeing umpires, and of negotiating marketing, labour, and television contracts.

The 30 clubs are divided equally into two leagues, the American League and the National League, which both have three divisions (East, Central, West) of five clubs. MLB's season lasts from late March/early April to the end of September, and each club plays 162 games (81 games at "home", and 81 games "away") in 187 days, with a significant number of the games being against divisional rivals. Clubs usually play at least

[4] Major League Baseball was founded officially in 1903, when the National League (founded in 1876) and the American League (founded in 1901) began to collaborate to form one united league. Officially, both leagues maintained different legal entities until 2000, when they merged into a single organization.

[5] In the case referred to is *Federal Baseball Club of Baltimore v. National League,* the Supreme Court stated that baseball was a form of entertainment not of interstate commerce and was therefore not subject to federal antitrust laws.

one home series[6] and one away series against all clubs of their respective league, and occasional interleague games (i.e., an American League club playing against a National League club) are also on the yearly schedule. At the conclusion of the regular season, the club with the best record from each division clinches a spot to the postseason, as well as two "wild card" clubs[7] from each league, for a total of 10 participating clubs. The postseason culminates in late October, when the National League and American League champions meet in the World Series.

MLB clubs can carry a roster of 40 players, on which 26 can be on the active roster[8]. However, for each MLB club, there is a complex structure underlying the main team called the "minor leagues". In the early decades following the foundation of MLB, several years leagues in the United States, Mexico, and the Caribbean competed for players (Ruck, 2001). Amongst those leagues were 14 leagues organized in 1901 under the umbrella of the National Association of Professional Leagues, also known as Minor League Baseball (MiLB). These minor league clubs generated money by selling players to MLB clubs—a system similar to European football that was overtly costly for MLB clubs. In 1921, MLB clubs were granted the right to own Minor League teams thus beginning the system of "farm clubs" in which MLB clubs could send young and promising players under their control and develop them until they were ready to play in the major leagues. The farm club system is still in vogue today. For baseball organizations, these minor league clubs serve as a platform where approximately 200 players develop their skills for a few years until they are ready to play at the major league level. The minor league system is referred to as the player development function.

MLB teams do not typically own the farm clubs. Instead, they enter into a contractual agreement (Player Development Contract) with the owners of the minor league franchises. Under the terms of these contracts, MLB teams pay players' and coaches' salaries and benefits, as well as most baseball-related expenses. On their end, minor league teams' owners operate the business side, generate revenues from gate receipts, food and beverages,

[6] Baseball teams play a game almost every day and to limit travel between cities, clubs usually play a series of games (three or four) against each other, before travelling to another city.
[7] Wild card clubs are those amongst those that did not win their division with the two best records in their respective league.
[8] Players on the 40-man roster that are not on the active roster can be on the injury list or in the minor leagues.

and sponsorship deals. They also incur all business-related expenses and employ administrative and operational staff[9].

2.3. The business of baseball

All but two[10] MLB teams are privately-held by either a sole owner or a closed partnership group, meaning that MLB teams do not have to publicly report accounting information. The only parcels of information publicly disclosed are the paid attendance figures, broadcast deals – often disclosed by the broadcasters – major league players' salaries and amateur signing bonuses.

Based on these publicly available numbers, players agencies, scholars (Bradbury, 2008; Zimbalist, 2010) and media sources, most notably *Forbes* magazine, have tried to estimate teams' revenues and profitability. It is estimated that the league and its clubs generate annual revenues exceeding US $10 billion (Brown, 2019), for an average of more than US $300 million per club. There are, however, significant revenue gaps between the "big-market" clubs, such as the New York Yankees and the Los Angeles Dodgers, and the "small-market" clubs, such as the Oakland Athletics and the Kansas City Royals. According to *Forbes* magazine, the Yankees generated over US $650 million in revenues in 2019 whereas the Athletics generated US $251 million[11]. Revenues are usually comprised of *local* revenues, (ticketing, sponsorships, food and beverage, and local broadcast deals) and of *national* revenues, which are league-wide revenues (national broadcast deals, advanced media, merchandising) equally distributed between clubs. In 2019, the last season prior to the COVID-19 pandemic, MLB clubs combined for a paid attendance of 68.5 million fans, an average of 28,000 per game[12]. Moreover, to promote

[9] Minor league clubs are private entities, and do not disclose financial statements publicly. Knowledgeable informants estimate there are wide variances in MiLB teams' profitability. Forbes estimated the 30 most valuable MiLB teams to generate an average operating income of $2.2 million (Klebnikov, 2016).
[10] The Atlanta Braves (Liberty Media) and the Toronto Blue Jays (Rogers Communications Inc.) are subsidiaries of large, publicly-traded corporations.
[11] https://www.forbes.com/mlb-valuations/list/
[12] The Los Angeles Dodgers led MLB with an attendance of 49,000 fans per game, whereas the Miami Marlins trailed with only 10,000 fans per game. https://www.baseball-reference.com/leagues/majors/2019-misc.shtml

competitive balance, a portion of "rich" clubs' local revenues is distributed to lower-revenue clubs as part of a revenue sharing scheme.

The biggest expense line is by far MLB player payroll, which represents, on average, approximately 40% of clubs' revenues. In 2019, the average player payroll was US $138 million[13]. Another significant expense line is amateur signing bonus. When they sign their first professional contract, amateur baseball players receive a signing bonus from the organization, which then secures their exclusive rights for the next six years[14]. Players cannot move to another organization unless they are traded or released. In 2019, MLB clubs spent, on average, more than US $15 million in amateur signing bonuses[15].

Whereas, in recent years, MLB clubs have been widely believed to be profitable, as supported by estimations from *Forbes* magazine, the rising player salaries have once been considered to be at the roots of clubs' financial difficulties in the mid-1990s and early 2000s. Following the *Blue Ribbon Report* on baseball released in 2000 (Levin, Mitchell, Volcker, & Will, 2000), MLB took several actions to improve clubs' finances. As former MLB Commissioner Bud Selig mentioned in his memoirs, if it took a while for owners to understand that baseball is a business, eventually "all the teams [became] serious about balancing expenses with revenue" (Selig & Rodgers, 2019, p. 160). In order to do so, as discussed in Chapter III, clubs' owners had to find ways to restrain the rise of salaries of their highest-profile employees, baseball players, notably by developing new valuation practices.

Nonetheless, as also emphasized in Chapter III, MLB clubs' annual profitability, as measured by operating income, or even by net income, is only one side of the picture. In the last decades, the value of MLB franchises has continuously risen to the point that the smallest clubs are valued above US $1 billion. At first sight, MLB franchises valuation often seem disconnected from the accounting numbers disclosed by the clubs, but other variables must be considered (Zimbalist, 2007). First of all, the number of MLB franchises is finite, and franchises are rarely available for sale, with fewer than one transaction per

[13] https://www.spotrac.com/mlb/payroll/2019/
[14] Teams hold exclusive rights on players for the first six years of their minor league careers. If they are promoted to the major league level, teams hold their rights for another six years. Minor league contracts are not guaranteed. Therefore, MLB organizations can release (layoff) players at any time without compensation.
[15] Data manually collected from https://www.mlb.com/draft/tracker

year. Beyond economic capital, owners can secure other types of capital (prestige, reputation). Moreover, as illustrated in Chapter III, owners often enter in related-party transactions, as they often also control the stadium in which the club plays, or the TV station that broadcasts the games. Owners may therefore allocate revenues to other business entities, thus artificially limiting the profitability of their club, which has repercussions in negotiation with other stakeholders, notably the MLB Players Association.

2.4. Career path of MLB players

From a "human capital" perspective, MLB clubs rely on two broad "markets" for playing talent: the domestic market (United States, Canada, and Puerto Rico) and the international market (all other countries). The international market is particularly complex, as the path followed by players vary from country-to-country. The domestic market is more straightforward. The point of entry for domestic players is the annual draft, in which MLB clubs select, in turn, a number of players. In 2019, the draft had 40 rounds, in which each club could select an eligible player. The selection order is based on the league table of the previous season, with the worst team being granted the first overall pick, and the winner of the World Series being granted the last pick of each round.

Players are usually eligible once they complete their high school education, around the age of 18. Players drafted out of high school face two options. First, they can sign a professional contract with the team that selected them. As negotiated in the collective bargaining agreement (CBA) with the MLB Players Association, MLB clubs must hand out a signing bonus to drafted players. For players selected in the first round, the signing bonus often exceed US $1 million. Players selected in the later rounds receive significantly smaller bonuses, often lower than $10,000. The second option for high school players is to pursue a college education, in which case they would not be eligible to the draft for another three years. By going to college, amateur players hope to be drafted sooner the following time and to sign for a higher bonus.

Once players sign their first professional contract, they are assigned to a minor league club. At the bottom of the minor league hierarchy is the rookie league, then the Low-A level, the High-A level, the Double-A level, and the Triple-A level. Above Triple-A is

Major League Baseball. Most professional players will spend a few years in the minor leagues before graduating to MLB. However, it is still a tiny portion of drafted players who will ever be become MLB players. Most minor league players will be released after a few years without having the chance to play at the highest level. As illustrated in Chapter IV, working conditions in the minor leagues are difficult. Beyond the pressure of performing of a daily basis, players, especially those who did not receive a high signing bonus, often struggle financially. Prior to 2021, most minor league players were paid less than US $10,000 per season[16]. Moreover, players do not receive compensation for training camps and off-season work (Rosenthal, 2018).

Once players reach MLB, under the terms of the CBA, they must accumulate a total of three years of service before being eligible to arbitration. During the pre-arbitration years, players have little negotiation power, and must accept the offer of their employing club, which is usually close to the MLB minimum salary ($570,500 in 2021). The pre-arbitration years are a remnant of the reserve clause, a legal disposition that, for years, ensured that baseball players were "owned" by their organization for the entirety of their career unless they were traded or fired. The reserve clause was famously challenged in 1970 by St. Louis Cardinals All-Star Curt Flood, who was traded to the Philadelphia Phillies. Flood contended that, after several seasons in baseball, players should be entitled to become free agents and to choose where to play (Snyder, 2006). In 1972, Flood ultimately lost his appeal to the Supreme Court, but, over the next few years, major league players were granted salary arbitration and free agency rights after a certain number of years spent at the major league level (MLBPA, 2018a).

MLB players are arbitration-eligible when they have accumulated between three and six years of service time. In the offseason, both the player and the club submit a salary figure for the upcoming season. If they cannot strike an agreement, the salary is decided by an arbitration panel. Players with more than six years of service time can become free agents, meaning that they can negotiate a new contract with any club. Gaining free agency was actually a major accomplishment for the MLB Players Association (MLBPA) in the

[16] Prior to the 2021 season, MLB made a series of changes in the minor leagues, increasing minimum salaries so that Class A players will make around $10,000 per season, Double-A players will make $12,000 and Triple-A players will make $14,000 (Norris, 2020).

1970s. At first, the union wanted to limit the number of free agents to avoid overcrowding the market with lesser-quality players. The philosophy was that the richest clubs would overbid for the services of the few star veterans available, thus driving up salaries at the top and creating a ripple-effect for all major league players. Over time, the MLBPA secured important financial gains for MLB players. The average salary grew from $19,000 in 1967 (two years after the creation of the union) to over $1 million in 1992, and increasing further to surpass $4 million in 2018 (MLBPlayers.com, 2018). The best players in baseball are now routinely paid over US $20 million per year.

The remuneration structure of MLB players is key to understand the valuation practices of MLB clubs that will be discussed in Chapter III. Because pre-arbitration players are paid around the league minimum, regardless of their actual performance, clubs can extract "surplus value" from these players, in the sense that they are paid less than what they contribute. On the flip side, MLB contracts handed out to arbitration-eligible players or free agents are guaranteed, meaning that clubs must fulfill their obligations to players, even if players experience a decline in performance.

In summary, the baseball industry is structured as a "winner-take-all" market (Frank and Cook, 1995), with its severe income inequalities between MLB players and their minor league counterparts. It is also a "zero-sum game" in the sense that, on any given day, the number of MLB players is limited to 1,200 (30 clubs times 40 players). If a minor league player is promoted to the MLB level, an MLB player must be demoted. The lure of profits can create pervert behaviours, such as using performance-enhancing drugs. Before 2005, steroids and other performance-enhancing drugs were not banned by MLB. Several players were either caught or admitted using performance-enhancing drugs to improve their chances of reaching or staying in the major leagues, where money is (Mitchell, 2007).

3. Outline of the dissertation

In the following chapters, I draw on the baseball industry context to explore theoretical and empirical issues of interest to a broader accounting audience. I entered the field with a broad research question: *how accounting mechanisms and technologies influence decision-making processes of Major League Baseball organizations related to the evaluation,*

acquisition, and monitoring of high-profile employees, namely baseball players. The objective was to better understand the role of accounting in the construction of human capital and the financialization of people.

In Chapter II, drawing from the quantification aspect of the game, I investigate the introduction of new technologies designed to improve performance measurement practices. For over a century, baseball clubs have used two distinct systems to measure the performance of their players. The first is the statistical system, derived from the scorekeeping system discussed in the previous section. The second is the scouting system, as scouts (baseball evaluators) report both qualitatively and quantitatively on the talents of players. With the explosion of player salaries, player-based decisions became financially significant for baseball clubs, who needed better tools to assess the (future) performance of current and prospective employees. The traditional performance systems have significant limitations, notably temporal misalignments. The scorekeeping system is reliable to measure *past* performance but has limited value when it comes to predict *future* performance. The scouting system is about measuring the future performance, but it is inherently subjective and unreliable. As alluded previously, to address these issues, MLB clubs have implemented different technologies, such as data analytics and eventually tracking systems. Chapter II thus investigates the impact of these technologies on performance measurement, notably regarding its temporal properties, which has been relatively overlooked in the accounting literature. Moreover, the introduction of tracking systems has transitioned the baseball industry towards a "society of control" (Deleuze, 1992), and I use this context to further shed light on management control practices and identify the implications for employees subject to them.

In Chapter III, I examine how baseball clubs have drawn on the information produced by the new performance measurement systems to develop additional calculative and valuation practices, which are designed to control expenses and to improve clubs' profitability. The objective of Chapter III is to examine the interplay between accounting and valuation practices, a topic that has generated calls for research (Andon & Free, 2019). Drawing on Baudrillard's (1994) concepts of simulation and hyperreality, I first explore the tensions within MLB clubs' regarding the valuation of player contracts. Whereas baseball operations specialists have mostly developed sophisticated calculative tools to

assess the value of players, accountants largely dismiss these practices for their lack of accounting substance. Second, I examine how MLB clubs' owners take advantage of the "hyperreality" of sport accounting to consolidate their power over other stakeholders. This chapter aims to enhance our understanding of MLB clubs' business and accounting practices.

In Chapter IV, looking from the perspective of minor league players, I explore how players are subjectified as "entrepreneurs of the self." Through accounting numbers and accounting experiences, players "imagine" themselves as "human capital" as they try to maximize their future income. The context of wide income inequalities in the baseball industry has led to the emergence of human capital contracts, such as brand agreement (equitization) and income pooling, that athletes can enter into. Chapter IV provides a critical analysis of this financialization phenomenon, exploring the roles of accounting both in the development and the marketing phases of these financial instruments.

Last, in Chapter V, I conclude this dissertation by bringing the three chapters together to discuss what the critical and qualitative accounting research community can learn from this research project. I posit that, taken together, the three research papers illustrate how baseball players are transformed into human "assets", and that accounting and performance metrics play a key role in this process. Avenues for future accounting research in the domain of sports are also explored.

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CHAPTER II: IT'S ABOUT TIME: TRACKING SYSTEM TECHNOLOGIES AND PERFORMANCE MEASUREMENT

IT'S ABOUT TIME: TRACKING SYSTEM TECHNOLOGIES AND PERFORMANCE MEASUREMENT

Abstract

This paper explores how the introduction of new technological advances, particularly tracking systems, disrupt or change performance measurement and management control practices. It uses the North American baseball industry, a site of inquiry where tracking system technologies have been implemented to realign performance measurement with organizational time rationalities. With the advent of tracking systems, the baseball industry has transitioned towards a "society of control" (Deleuze, 1992). This context is fruitful to explore how monitoring technologies affect performance measurement and the implications for employees subject to them. The findings include showing that new technologies can change both the characteristics and the purpose of performance measurement. Performance measurement becomes more "objective," context-independent, and process-oriented, facilitating a transition towards performance management. Tracking systems impact the temporal properties of performance measurement by acting as a time-compressor, and by enabling the re-contextualisation and the re-conceptualisation of past and future performance. The findings also show how, in a "society of control," performance measurement contributes to performativity.

Keywords: Time; Performance Measurement; Technology; Society of Control; Performativity

IT'S ABOUT TIME: TRACKING SYSTEM TECHNOLOGIES AND PERFORMANCE MEASUREMENT

1. Introduction

Technological innovations and information technologies are disrupting the business world and the wider society (Brynjolfsson & McAfee, 2014). Accounting researchers have started to explore and to conceptualise how new technologies transform accounting and management practices (Schneider, Dai, Janvrin, Ajayi, & Raschke, 2015; Vasarhelyi, Kogan, & Tuttle, 2015; Warren, Moffatt, & Byrnes, 2015), notably the audit function (Dowling & Leech, 2014; Salijeni, Samsonova-Taddei, & Turley, 2019) and corporate reporting (Al-Htaybat & Alberti-Alhtaybat, 2017). However, in the field of management accounting, the impact of new technologies remains under-researched (Quattrone, 2016). This paper seeks to empirically address the following research question: how do tracking systems and monitoring technologies disrupt or change performance measurement and management control practices?

I draw on the North American professional baseball industry, an empirical site that has been at the *avant-garde* of the "data revolution" sweeping over professional sports since the publication of the book *Moneyball* (Lewis, 2003). According to sociologist Allan Guttman (2004), "baseball was sociologically primed for the high level of quantification which quickly became a hallmark of the game" (p. 109). In 2015, performance measurement in baseball has been further quantified by the introduction of camera-based tracking systems. These tracking systems are almost Orwellian in the sense that they collect information on everything that happens on the field, considerably expanding the amount of data recorded during a baseball game. Vince Gennaro, the president of the Society for American Baseball Research (SABR), a baseball research organization, once estimated that, in terms of storage volume, by the end of the first-ever game with tracking systems, more than 98% of data collected in MLB history were attributed to this game, and less than 2% to the previous 190,000 games (SABR Analytics, 2016). Additional monitoring technologies are also used to infiltrate players' back-stage activities such as training sessions and even sleep. Recent technological innovations (such as data analytics and tracking systems) in the sport context provide an opportunity to derive new theoretical and

practical insights on performance measurement and management control (Andon & Free, 2019), adding to prior studies on the role of performance measurement systems in the sport business (Baxter, Carlsson-Wall, Chua, & Kraus, 2019; Carlsson-Wall, Krauss, & Messner, 2016; Carlsson-Wall, Krauss, & Karlsson, 2017).

Methodologically, this study draws primarily on publicly-available data from panels with baseball executives, players, and reporters at leading sport analytics conferences. This data is complemented by semi-structured interviews and other secondary sources, including media articles. Using an abductive approach, this paper finds that new technologies can change both the characteristics (i.e., what is measured) and the purpose of performance measurement. In the baseball industry, with tracking systems, performance measurement is conceived as more "objective," and technology-driven performance metrics as more context-independent and process-oriented. Tracking systems enabled a transition where performance measurement is not only performed for evaluation purposes, but also for projecting and managing present and future performance. I find that tracking systems can address a significant shortcoming of accounting and performance measurement: that financial numbers and performance metrics are essentially backward-looking. This limitation, which is particularly criticized in finance (Desai, 2017), is particularly salient in the baseball industry as traditional performance metrics do not correlate well with future performance. Therefore, relying on these metrics for investment decisions could have potential negative financial consequences. Findings suggest that tracking systems change the temporal properties of performance metrics by acting as "time-compressors," eliminating space-time between performance measurement and decision making (Bhimani & Willcocks, 2014; Lassila, Moilanen, & Järvinen, 2019), and by enabling the re-contextualisation and re-conceptualisation of past and future performance.

In this regard, this study contributes to the accounting literature that explicitly engages with time, which, despite the importance of time in accounting and management, is relatively scarce and concentrated around time management and experience of time (Anderson-Gough, Grey, & Robson, 2001; Ezzamel & Robson, 1995; Nandhakumar & Jones, 2001; Quattrone, 2005). The under-theorization of time in the accounting literature is perhaps not surprising considering the elusiveness of the construct and the wider debates in sociology (Hassard, 1990), anthropology (Hodges, 2008), and philosophy (Le Poidevin

& MacBeath, 1993; Schlesinger, 1980; Williams, 2011) about the conception of time. Drawing on McSweeney (2000), this paper suggests that performance metrics can be temporally fluid and dynamic. It also extends the work of Chakhovich (2019) by showing that technological innovations contribute to align performance measurement with organizational time rationalities and temporal objectives.

From a management control perspective, this paper discusses how the implementation of tracking systems has transitioned the baseball industry towards a "society of control" (Deleuze, 1992). In his text "Postscript to the Societies of Control," French philosopher Gilles Deleuze (1992) describes a shift from Foucauldian disciplinary societies to "societies of control," which are characterized by intersecting systems of control, instant and continuous monitoring, and the digitalisation of individuals (Martinez, 2011). This paper finds that, despite the weakening of human agency in performance measurement, this revamped management control system is nonetheless performative and "productive" in the Foucauldian sense.

From this perspective, this paper also contributes to performativity studies in accounting (Baker & Modell, 2018; McLaren & Appleyard, 2020; Vosselman, 2014) by showing how, in a "society of control," performance metrics act as "passwords" (Deleuze, 1992), as social actors must meet or exceed certain performance metrics in order to enter the system. Drawing on Butler (2010), this finding suggests that performativity can happen without significant human agency or a "sovereign speaker." Nonetheless, the results indicate that social actors subject to tracking systems play an active role and co-construct the relevant "passwords." Tracking systems create the felicitous conditions (Butler, 2010) necessary for players to be "lured into action" (Lassila et al., 2019; Revellino & Mouritsen, 2015) by redesigning *ex post* performance measurement into *ex ante* performance management and fostering a "promise" (Mouritsen & Kreiner, 2016).

In the next section, I outline my theoretical framework, drawing on the temporal properties of accounting numbers and on Deleuze's "societies of control." In section 3, I describe the abductive and qualitative methodology. The analysis is then presented in section 4, setting up a discussion of the theoretical implications in section 5. Finally, section 6 concludes the paper with some thoughts about potential managerial implications.

2. Theoretical framework

This section brings together two different ways of understanding how technologies redefine performance measurement and management control practices. First, I explore the temporal properties of accounting numbers and performance metrics. This theoretical lens is useful to understand why tracking system technologies were implemented in the sports industry and how they change performance measurement. Second, I explore the interplay between technology and management control, building heavily on Deleuze's (1992) society of control and on the recent accounting literature investigating management control beyond the panopticon (e.g., Brivot & Gendron, 2011; Martinez, 2011). Drawing on Butler (2010), I am also particularly attentive to the notion of performativity, focusing on the effects of performance measurement technologies on social actors subject to them.

2.1.Temporal properties of accounting numbers

One of the dominant but ill-conceived views in finance and accounting is that financial reporting and performance metrics are exclusively about the past. Whereas accounting seeks to "tell it as it was" (McSweeney, 2000, p. 767), in finance circles accounting numbers are often criticized, partly because they are static and backward-looking by nature (Desai, 2017). For example, the principle of historic cost accounting means that the accounting values of some assets are disconnected from market values. In *The Wisdom of Finance*, Desai (2017) argues that "finance is a direct reaction against accounting and its limitations" (p. 64). In contrast to accounting, finance ignores the past and present, and is "ruthlessly forward-looking" (p. 65). To a certain extent, (non-financial) performance metrics suffer from the same temporal limitations as accounting numbers since they fundamentally capture past events. Chakhovich (2019) discusses the shortcomings of performance measurement focusing on past performance for decision-making purposes, which "may hinder fast present reactions or future planning, thus making future success more difficult to achieve" (p. 476). As the following case analysis illustrates, there is a certain tension between the past-reflecting information provided by performance metrics and the forward-looking objectives of management.

Theoretical developments in the accounting literature, however, have highlighted that the temporal properties of accounting numbers and performance metrics are more complex than previously thought. One nuance comes from the distinction between the "leading" (forward-looking) and "lagging" (past-reflecting) attributes of performance metrics (e.g., Ittner & Larcker, 1998). More profoundly, McSweeney (2000) argues that "the accounting task of describing the past cannot be accomplished only by considering that past" (p. 769). Rather, accounting for the past also requires imagination and looking forward to a future that is "not-yet and might never be" (p. 785). According to McSweeney, it would therefore be a mistake to consider financial reporting as a "closed *ex post* accounting" (in that all reported events are past at the time of the reporting period end). He instead suggests that financial reporting should be viewed as "open *ex post* accounting" (wherein the anticipation of events that have not occurred by the time of the report must be incorporated to construct an account of past events). To illustrate his point, McSweeney notes that in order to define something as an asset or as a liability, assumptions about future events are required. Furthermore, financial reporting often necessitates revisions and adjustments to accounts of past periods following events obtained in subsequent times, showing that accounts of the past may change as time flows. Even cash flow accounting requires anticipations of events, adding to the "temporally open story" of accounting numbers. In summary, McSweeney's core thesis is that projections are essential for representation of what "actually happened" and that financial reports must necessarily "look forward to the past" (p. 780).

Other theoretical developments regarding the temporal properties of performance metrics relate to "time rationalities" and "time orientation" (i.e., short-term versus long-term decisions) (e.g., Abernethy, Bouwens, & Van Lent, 2013; Palermo, 2018; Van der Stede, 2000). Chakhovich (2019) shows that performance measurements are constructed through different "time rationalities constructs," namely past-based rationality (i.e., the past is a base on which to build the present and/or future performance), present-based rationality (i.e., present actions and measurements are seen as the basic for future performance) and future-based rationality (i.e., future is planned, performance targets are set, and present tasks are derived from these plans and targets). Chakhovich suggests that these time rationalities constructs can be "more closely connected to performance

measurement than the traditional long-term/short-term distinction" (p. 473). Chakhovich thus depicts that time constructs are complex as multiple time rationalities can co-exist within an organization, and that time rationalities, functioning as mediating instruments, shape performance measurement systems. Chakhovich further argues that "performance measurement could perhaps also help in structuring the complexity of time constructs, assisting in managing the conflicts involved" (p. 477). Moreover, Chakhovich suggests that "performance measurement can also structure the complexity of time by using subjectivity" (p. 477), that is the subjectivity over time horizons and the subjectivity to dismiss performance measures deemed not representative of the "real" world.

Philosophically, McSweeney (2000) and Chakhovich (2019) bring perspectives of time that are paradoxical within a particular notion of time, the "linear-qualitative" (Hassard, 1990), which is conceptualized as a succession of discrete time periods. Time, as experienced by human beings, is chronological, linear, and conceived in a way that "the future becomes the present, which becomes the closed, the unalterable past" (McSweeney, 2000, p. 768). Both McSweeney (2000) and Chakhovich (2019) adhere to alternative considerations of time as suggested in the philosophy of time literature[1] (e.g., Hodges, 2008). McSweeney (2000) derives his own philosophical arguments regarding the temporal properties of accounting numbers from "what Augustine called an [entangled] *triple present* (the present of the past, the present of the present, the present of the future)" and from Carr's (1986) viewpoint that "the future, present and past mutually determine one another as parts of a narrative whole" (p. 786). Chakhovich (2019), drawing from the sociology of time, brings the cyclic-qualitative tradition, in which "the past, present, and future are fused together dynamically" (p. 461).

Finally, another theoretical development relates to the impact of new information technologies on organizational spatio-temporalities. Quattrone and Hopper (2005), exploring the implementation of Enterprise Resource Planning (ERP) systems in two multi-national organizations, show that "real-time" information technologies challenge the spatio-temporal framework (e.g., planning, executing, reporting) typical of management

[1] Two broad views of time generally collide in the philosophy of time literature: "A-series" and "B-series." The "A-series position" is "subjective," involves a tensed existence, and corresponds to everyday human time perception of past, present, and future. Alternatively, proponents of the "B-series position" of time argue that time is fundamentally "untensed" (McTaggart, 1908) as it has no past, present and future dimensions.

control systems by collapsing space-time issues. A recent paper by Lassila et al. (2019) illustrates the role of analytics as a time-compressor, shortening space-time distance and allowing quicker managerial and operational reactions. Their study on analytics in the mobile gaming industry shows that "real-time" metrics allow game managers and developers to continuously monitor consumer data. Whereas with traditional performance measurement systems, a time-lag between data collection, analysis, and reporting could have meant consumers moving on to another game if the game were not "good," real-time metrics inform developers of game areas that need to be improved to maintain high consumer retention rates. From financial accounting and auditing perspectives, blockchains and Big Data analytics bring the prospect of "real-time" accounting (Byström, 2019; Dai & Vasarhelyi, 2017), which would not only act as a "time-compressor" but would also completely re-conceptualize the temporal properties of accounting numbers.

Taken together, these theoretical developments, showing that the temporal structures of financial reporting and performance measurement differ from those of ordinary notions of time, are particularly useful to understand how performance metrics may be more than simply static and backward-looking. The case analysis shows that new technologies were implemented in the baseball industry to overcome the limitations of backward-looking traditional performance metrics for performance *projection* purposes, and that new performance metrics, derived from the tracking system technologies, feature re-conceptualized temporal properties.

2.2.Technology and management control

In this section, I explore the interplay between technology and management control processes, drawing on Deleuze's "Postscript on the Societies of Control" (1992). Deleuze's description of the society of control, which marks a point of departure from the Foucauldian disciplinary system, offers a unique perspective in this age of digitalization and mobile information systems to move beyond the panopticon[2] (Brivot & Gendron, 2011; Leclercq-Vandelannoitte, Isaac, & Kalika, 2014; Martinez, 2011;).

[2] Foucault's (1977) metaphor of the panopticon, directly inspired from philosopher Jeremy Bentham's model prison, has long been adopted in the managerial control literature as a core disciplinary technology in the workplace. According to Foucault (1977), the "panopticon must not be understood as a dream building," but

According to Foucault, most institutions that have characterized Western societies since the eighteenth century—family, school, barracks, factories, hospitals—resemble the prison (1977), and they are all animated by the panopticon as the diagram of power (Munro, 2000). These institutions rely on "bounded enclosures made up of divisible, observable and calculable spaces" (Brivot & Gendron, 2011, p. 141) and on a spatio-temporal fixity (Leclercq-Vandelannoitte & Isaac, 2013). The organization of social life in disciplinary societies is distributed in space and ordered in time (Deleuze, 1992).

In his "Postscript to the Societies of Control," Deleuze (1992) denotes that these institutions are finished, being replaced by those of the societies of control. The corporation has replaced the factory, and perpetual training has supplanted the school as continuous control took over from the periodic examination. Whereas "in the disciplinary societies one was always starting again […], in the societies of control one is never finished with anything" (Deleuze, 1992, p. 5). Whereas disciplinary power has not totally disappeared, "the technologies of power are mutating and allowing for new forms of social control" (Munro, 2000, p. 680). Several accounting and management scholars have argued that, with modern technologies, Western societies are now in an era of post-panoptical models of surveillance (Brivot & Gendron, 2011; Eckersley, Ferry, & Zacharia, 2014; Huber & Scheytt, 2013; Laguecir & Leca, 2019).

Deleuze's societies of control can be distinguished from Foucault's disciplinary system in several ways, notably with regards to space-time features. One characteristic of societies of control is that through intersecting systems of control, surveillance technologies are not confined to a particular space or enclosure. Rather, the society of control is characterized by flows, movements, and is virtually unbounded. Martinez (2011), who introduces Deleuze's societies of control to management accounting research, notes that the implosion of organizational boundaries is an important distinction between societies of control and disciplinary societies. A second feature is instant and continuous monitoring, which was introduced in the previous sub-section as "real-time monitoring"

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rather as "the diagram of a mechanism of power reduced to its ideal form" (p. 205). The panopticon metaphor is therefore used by Foucault to represent a disciplinary power, as surveillance targets discipline themselves in order to behave according to specific norms or standards, internalizing the surveillance mechanisms (Leclercq-Vandelannoitte et al., 2014).

(Lassila et al., 2019). Deleuze (1992) states that "control is short-term and of rapid rates of turnover, but also continuous and without limit, while discipline was of long duration, infinite and discontinuous" (p. 6). Martinez (2011) links this perspective to performance measurement, emphasizing that "the speed through which an account of one's performance is generated and flows throughout an information network is also linked to automation" (p. 207). A third feature is the digitalization of individuals, who have become "masses, samples, data, markets, or *banks*" (Deleuze, 1992, p. 5, emphasis in the original).

The distinctions between Deleuze's control and Foucault's discipline are not limited to space-time and technological features. In this paper, I am particularly attentive to the effects of tracking systems and monitoring technologies on surveillance targets. In this regard, Deleuze mentions that discipline and enclosures produce *molds*, whereas controls are a *modulation*, "a self-deforming cast that will continuously change from one moment to the other" (p. 4). Furthermore, Deleuze suggests that the passage from the disciplinary system to the control society changes the labour process as employees are faced with new systems of accountability based on data. Employee motivation is also conceptualized in terms of "brashest rivalry" (Deleuze, 1992, p. 5) as employees are opposed against each other. Deleuze concludes with a paradox, stating that "many young people strangely boast of being 'motivated'; they re-request apprenticeships and permanent training" (p. 7).

The above points on *modulation* and *motivation* direct us to explore the performative power of technologies and performance measurement systems in the society of control. Whereas power has long been conceived as "something which imposes a limit on behaviour and reality" (Munro, 2000, p. 681), Foucault dismisses the idea that power is inherently negative: "In fact, power produces, it produces reality" (Foucault, 1977, p. 194). Foucault's view on power speaks to the notion of performativity[3] as adopted within the social sciences in general. As Bulter (2010) explains: "Performativity starts to describe a set of processes that produce ontological effects […] that work to bring into being certain kinds of realities, that lead to certain kinds of socially binding consequences" (p. 147). In the accounting

[3] Most performativity studies in accounting start with linguistic theories definition of performativity, where a performative utterance is one that does something, "that makes itself true" rather than simply providing a description. According to philosopher J.L. Austin (1975), to be performative, an utterance must be performed by the proper person. For example, when a sovereign ruler calls someone an "outlaw," that person becomes an "outlaw" by virtue of the position of the speaker. This concept has been adopted and adapted by various disciplines, evolving into different definitions.

literature, performativity is used to understand calculative practices that do not necessarily influence the world because they make it conform to the formulas, but because they would lure people into action (Revellino & Mouritsen, 2015). This perspective is reminiscent of Deleuze's (1988, p. 70) conception of power as a mechanism that incites, induces, and seduces.

In a sense, the idea that utterances and calculative practices shape individuals' behaviour corresponds with disciplinary societies "where subjects are organized according to particular functions and become the objects of examinations, ranking schemes, and timetables" (Martinez, 2011, p. 202). According to Butler (2010), the performativity of various institutions requires "spatially distributed and temporally reiterative processes" (p. 149). In other words, the performativity thesis (as understood in the social sciences) implies some sort of human agency and a temporal framework. However, Deleuzian theory on the society of control suggests limited space for agency (Laguecir & Leca, 2019). This view is best encapsulated by the concept of the *code as a password.* Deleuze mentions that disciplinary societies have two poles: "the signature that designates the *individua*l, and the number or administrative numeration that indicates his or her position within a *mass*" (1992, p. 5, emphases in the original). In the society of control, what is important is the code, a code that is a password and no longer the signature or the administrative number. What counts, as Deleuze (1992) indicates, is the "computer that tracks each person's position" (p. 7). This entails that, in the society of control, it is the system itself that decides whether someone can enter a particular space at a moment in time, at least reducing, and sometimes even eliminating, human agency outside of designing these systems. According to Martinez (2011), "the guard in the panoptic tower is at the end of a long network of automated information technologies that rely on statistical information and sophisticated algorithms to mediate the behaviour of the monitored employee" (p. 207). This concept of the *code as a password* is not only crucial to understand how new technologies compress space-time through continuous monitoring, but it also alludes to a form of performativity in which systems can take a life on their own, outside of human agency or with limited performative agency, as long as felicitous conditions are met (Butler, 2010).

Yet, theoretical developments on post-panoptic models of control suggest that social actors play an active role in the control process (Brivot & Gendron, 2011; Munro, 2000;

Leclercq-Vandelannoite et al., 2014). Whereas in a disciplinary system, individuals are molded as docile bodies (Foucault, 1977), with new information technologies, bodies become mobile, "dependent upon communication prosthetics" (Munro, 2000, p. 691). Moreover, fundamental conceptions of communication processes differ between disciplinary system and post-panoptic models of control. Foucault (1977) notes that disciplined individuals are considered as objects of information rather than as subjects of a communication. In contrast, new technologies allow lateral communications and surveillance targets' active participation in the communication flows (Leclercq-Vandelannoite & Isaac, 2013). By embracing mobile information systems, individuals are less considered "subdued prisoners" but more "voluntary participants" in the control system (Leclercq-Vandelannoite et al., 2014). If with new information technologies control is possibly "even more pernicious than panoptic arrangements," it contributes to the adherence to organisational norms that social actors "themselves co-construct" (Leclercq-Vandelannoite et al. 2014, p. 543). This indicates that this form of control— "free control" (Leclercq-Vandelannoite et al., 2014)—has overall performative effects for the social actors targeted by the surveillance and monitoring technologies, as it allows them to "re-produce" themselves. Insights from Mouritsen and Kreiner (2016) add nuance to the above discussion on the performative power of information technologies. They argue that performativity requires a "regime of hope" (p. 49). In a sense, for social actors, especially when they actively use them, new technologies bring a "promissory discourse" and a "commitment to *engage* with a world that is not yet seen" (Mouritsen & Kreiner, 2016, p. 22).

In summary, this theory section brought together two theoretical frames related to the impact of new technologies on performance measurement and management control. The first sub-section explored how new technologies bring not only possibilities of "real-time" measurement but also of re-conceptualizing the temporal properties of performance metrics. The idea of "real-time" or "continuous" measurement and monitoring was further explored in the second sub-section, which illustrates the implications of the shift towards a Deleuzian control society, notably with regards to surveillance targets.

3. Methodology

This study originated during the data analysis of a larger research project focusing on related but distinct research questions related to accounting in the sports industry. The idea was to explore how accounting not only permeates, but can also be informed by, a sub-set of popular culture (Jeacle, 2012). I contend that this study is about "accounting at the margins" (Miller, 1998), using situations from a high-profile but atypical industry to derive management accounting insights (Bialecki, O'Leary, & Smith, 2017).

At first, I started to conduct interviews with social actors in the baseball industry, seeking to understand the broader use of accounting and information technologies in the acquisition, evaluation, and monitoring of employees. The focus was mostly around players' contract valuations and human capital management. The earliest interviews, which started in March 2018, did not address specifically the themes of technology and performance measurement, but these topics nonetheless emerged from the interviews. I therefore adapted the semi-structured interview scripts to include questions related to performance measurement systems.

Overall, this source of qualitative data consists of semi-structured interviews with 35 former or current baseball players, 28 baseball operations specialists, and 14 accounting and business executives. The average interview length was 45 minutes and all interviews, after seeking permission and obtaining informed consent, were audio recorded, and professionally transcribed. The transcripts were first organized into themes. For example, data related to performance measurement was isolated from data related to contracts valuation. To facilitate data analysis and subsequent data collection, I closely read all relevant data related to performance measurement and annotated the transcripts in order to summarize the key trends for each category of informants (baseball operations specialists, players, and accounting executives). This step was crucial to expose the shortcomings of the data.

As performance measurement and technology were secondary themes in most interviews, the initial data analysis revealed only an incomplete story regarding how new technologies, especially tracking systems, impact performance measurement systems. To complement the interview data source, I turned to publicly available data from different sources. The most important source consists of "panel data" from leading sports analytics

conferences. Each year since 2012, the Society of American Baseball Research (SABR) organizes an analytics conference (*SABR Analytics Conference*) in which media members, MLB club executives, industry consultants, and players gather to discuss a wide variety of topics related to analytics. The audio-recording of these panels are available on the SABR's website. Similarly, the *MIT Sloan Sports Analytics Conference* is an annual event bringing together industry professionals from several sports. I listened to 51 panels that occurred between 2010 and 2019. The recordings were professionally transcribed. The transcripts were annotated, and after a careful reading, a summary for each panel was written. Using the narrative strategy (Langley, 1999), data was organized chronologically, to allow the storyline to emerge. I was able to notice the sometimes ambiguous temporal boundaries with the introduction and implementation of the different technologies, starting from data analytics to the tracking systems.

The third data source consists of media articles obtained from the *Factiva* database. Because baseball is a widely covered industry, the search was limited to keywords *sabermetrics, StatCast,* and *TrackMan* from leading newspapers such as *The New York Times*, *The Washington Post*, *USA Today,* and *The Wall Street Journal* since 2010. More than 100 articles were analyzed, and this data was particularly useful to cover the longitudinal aspect of technologies in the baseball industry. Finally, to build up institutional knowledge about the baseball industry in preparation for the interviews or to complement data with additional information, I read over 20 books on baseball.

Data was analyzed iteratively and multiple times. I used an abductive approach (Lukka & Modell, 2010; Lukka, 2014), going back-and-forth between the literature, theory, and data. Whereas the performativity theme was salient in the early stages of data analysis, after careful readings of interview and panel data, the notion of time and performance measurement emerged. I then developed a more specific coding theme. The following analysis is organized based on the theoretical framework that emerged in the latest stages of data analysis.

4. Analysis

At the onset on the analysis, it is important to contextualize performance measurement systems within Major League Baseball (MLB) clubs. Similar to the European football

situation described by Carlsson-Wall et al. (2016), most, if not all, MLB clubs exhibit structural differentiation, as there is a degree of divide between business and sports operations. Both organizational sides have distinct performance measurement systems with relevant and applicable metrics. At the highest level, business operations and baseball operations performance measurement systems are interconnected. For example, while business operations are responsible for generating and tracking revenues, revenue indicators are related to non-financial metrics driven by baseball operations performance (such as league table rankings). One MLB club CFO described the relationship between business operations and baseball operations vis-à-vis performance measurement systems:

> When baseball operations talk about players and how to evaluate them, their goal is to win baseball games. They know that by winning baseball games, it will bring revenues. But they're not held to any [revenue] metrics. Their metric, what they are measured on, is major league wins. (Informant 23)

In this paper, I focus on the performance measurement systems developed by baseball operations to assess the performance of high-profile employees: baseball players. Expenditures related to baseball players compensation, which include salaries and signing bonuses, have annually exceeded 53% of clubs' revenues between 2010 and 2018 (Brown, 2019). For MLB clubs, financial profitability mostly depends on baseball operations decisions. The term *performance measurement systems* is used to encompass systems designed to measure the performance of: (1) prospective players for player acquisition purposes, (2) current players for promotion and development purposes, and (3) current MLB players during contract negotiations.

4.1. Time and Performance Metrics: Scouting and Scoring

For more than 100 years, MLB clubs' players acquisition and contractual decisions were supported by two different and complementary approaches, scouting and scoring, both of which are "deeply concerned with solving the problems of reliably measuring and evaluating people" (Phillips, 2019, p. 7). Scouting is the domain of baseball scouts who scour amateur and professional baseball fields in search of talented players. Acting as appraisers, scouts make investment recommendations to their organization by filling out scouting reports, an information technology conveying qualitative and numerical data

about a player.[4] Additional calculative practices, such as the Overall Future Potential (OFP) score, allow clubs to rank and filter players. Fundamentally, scouting is a future-oriented approach. Scouts look for skills and physical traits deemed predictive of future success. The OFP score is a metric that tries to project the *future* performance of baseball players.[5]

Scoring is a retrospective method, grounded in accounting logics. The scorekeeping system invented by English-American sportswriter and statistician Henry Chadwick is moulded after double-entry bookkeeping (Phillips, 2019). Chadwick "encouraged the awarding of moral credits and debits, the aggregation of them across seasons (and careers), and the analysis of them as data for the measurement of progress" (Phillips, 2019, p. 57). The official scorer records the events (e.g., hits, outs, runs) of a baseball game to compile a few key statistics.[6] Unlike scouting, scoring metrics are about measuring *past* performance.

For most of MLB history, scouting and scoring filled different purposes. Scouting, as a projection performance system, was preconized to evaluate amateur players. Scoring, as an evaluative performance measurement system, was most appropriate to assess the performance of MLB players. The advent of free agency[7] in the 1970s further underlined the importance of performance metrics derived from the scorekeeping system for evaluation purposes. Performance measures became inextricably linked to players compensation, either directly through "performance contracts" (Phillips, 2019) or indirectly as clubs weighed traditional statistics in contract offers. In arbitration, salary disputes became settled using performance metrics from prior years. Players with strong past performance became more likely to earn salary increases. Arbitration and free agency inflated MLB players' compensation as clubs were bidding increasing sums on players with strong traditional performance metrics.

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[4] In some instances, scouts include in their report the player's *worth*, which represents the recommended signing bonus amount.

[5] For example, players who exhibited better past performance may frequently have a lower OFP score than worst past performers if scouts determine they have better future potential.

[6] For most of baseball history, these performance metrics were almost exclusively limited to cumulative metrics such as home runs and runs batted in (RBIs) for hitters and wins and strikeouts for pitchers. Rate stats such as batting average and earned runs average (ERA) and fielding percentage determined, respectively, the quality of hitters, pitchers and fielders.

[7] MLB players who had accrued sufficient service time could become "free agents," and thus negotiate contracts with any club.

In 2000, MLB mandated an investigation on clubs' financial situation and competitive balance as rising player salaries pressurized most clubs' finances.[8] The conclusions of the *Blue Ribbon Report* (Levin, Mitchell, Volcker, & Will, 2000) depicted the prevalent conflicting logics in professional sports between winning and profitability (Carlsson-Wall et al., 2016). My analysis suggests that these conflicting logics arise partly because of temporal misalignments within performance measurement systems. Although academic work has found a positive correlation – and evidence of causality—between players' payroll and team performance (Hall, Szymanski, & Zimbalist, 2002), this relationship may be significantly weakened if there is a temporal misalignment between what player compensation is based on (i.e., past performance) and what it should have been based on (i.e., current performance) or if players remuneration is influenced by performance metrics that do not correlate well with wins. This situation is exacerbated by an inherent accounting problem of professional sport clubs: significant line expenses (e.g., salaries, stadium rent) are constituted of fixed costs (Baxter et al., 2019) and, in MLB, contracts are guaranteed. Under-performance may have significant financial consequences for "small-budget" clubs.

Starting with the Oakland Athletics—famously portrayed in the book *Moneyball* (Lewis, 2003)—as one such financially-struggling small-market club, MLB clubs gradually broke with the traditional performance measurement dual approach of scouting and scoring. They began to favour of advanced metrics developed by the *sabermetrics* movement[9] that were not only undervalued in the free agent market but also deemed more predictive of future performance:

> There's a difference between evaluative stats that tell you what happened, but what we [worry] about the most is predictive—explaining what may happen in the future. We spend a majority of our time on that. (Chris Antonetti, baseball executive, *SABR Analytics 2012*)

As explained in the above quote, MLB clubs sought to address financial issues with new technologies—namely advanced metrics and data analytics—which allowed them to

[8] Between 1995 and 1999, despite substantial revenue growth, (revenues doubled from $1.385bn to $2.787 bn), MLB teams lost, in aggregate, over $1bn, and only three teams out of 30 generated a positive operating income (Levin et al., 2000)

[9] Sabermetrics refer to the shift toward statistical analysis to challenge traditional measures of baseball evaluation.

tap into market inefficiencies. Correspondingly, these new technologies redefined the temporal purpose of performance measurement systems. Within the scoring system, with data analytics, the primary purpose transitioned from *evaluating* performance to *projecting* performance. By using numbers to project future performance, data analytics initiated a wide-range of calculative practices inside MLB clubs' front offices, which had ramifications for the scouting system as well. Clubs hired analysts developing models and algorithms to not only project the future performance of MLB players but also of amateur and minor league players based on factors such as age and quality of opposition.

Statistical analysis, by translating past events into a projectable future, started to intrude into scouts' field of competence, resulting in inevitable tensions between scouts and analysts (Lewis, 2003). Despite scouts' fear of being replaced by analysts, the opposite happened. Whereas data analytics engendered a reconfiguration of the temporal properties of performance metrics, scouting reports were nonetheless considered more predictive than "surface stats," those numbers compiled by official scorers and transformed through data analysis (Longenhagen & McDaniel, 2020). To further address the shortcomings of the backward-looking "advanced" performance metrics, clubs implemented additional technologies, notably tracking systems.

4.2. Tracking systems and performance measurement

In 2015, performance measurement in the baseball industry entered into a new era with the introduction in baseball stadiums of "slightly Orwellian information-gathering apparatus" (Carleton, 2018, p. 247). Camera-based tracking systems, installed in professional baseball stadiums and in several college fields, capture and measure players' movements and record massive amounts of data. At the MLB level, the Statcast technology system:

> utilizes a total of 12 cameras around the park for full-field optical pitch, hit and player tracking. Five cameras operating at 100 frames per second are primarily dedicated to pitch tracking, while an additional seven cameras are focused on tracking players and batted balls at 50 frames per second. (Jedlovec, 2020).

With this technology, clubs are able to collect data on variables that were almost technologically impossible to previously gather such as batted balls' exit velocity, launch

angle, and distance travelled, pitchers' spin rate and breaking balls movement, runners' speed, and so on.

A consequence of this advent of tracking systems and monitoring technologies has been the introduction of new measurements and metrics, which have changed the baseball industry's conception of performance. First, tracking systems recalibrates the industry's debate about "objective" and "subjective" performance measurement. Whereas scouting has always been considered a subjective method—scouts are adamant that their job involves trusting their "eyes and feelings"—scoring aspired to be an objective approach (Phillips, 2019). Sabermetricians sought to debunk the myths of the objectivity of scoring, which relies on the judgment of the official scorer to rule some events as "errors" or "hits," decisions that ultimately impacted widely-used traditional performance metrics. Advanced metrics may have rendered performance measurement more "objective" according to the industry,[10] but tracking systems—because data collection does not depend on scouts' inherent biases and scorers' judgment—reinforce promises of "objectivity." As one industry expert explained:

> People have talked forever about whether a fielder gets a good or bad jump on the ball, but when you're actually tracking down to 30 times a second every fielder's movement and you're correlating that to the ball coming off the bat, you're actually going to have objective, measurable data with respect to whether a fielder reacts quickly, reacts in the right direction. (Bill Squadron, Bloomberg Sports, *SSAC Analytics 2014*)

Second, traditional individual performance metrics have been criticized as context-dependent because they capture the contribution of several other players. Through data analytics and re-formulating numbers, sabermetricians sought to create metrics that would measure the performance of a player independently of his teammates. Even a performance metric like *home runs*, which at first sight depends only on the batter, is inherently context-dependent. It may be easier to hit home runs in certain ballparks because of geographical (altitude), environmental (weather), or architectural (field size) factors, which is illustrated in the following terms by a baseball executive:

[10] Data shows that clubs' executives describe quantification techniques as *objective* analysis while scouting is *subjective* information. Interviewed players also acknowledge the notion that "numbers don't lie."

> When you're in a science lab doing some experiments, the conditions have to be the same. And the toughest challenge we have in finding predictive stats is that the conditions are never the same in baseball. Atmospheric conditions are a big key for some of the results that happen. The grass could be longer, the dirt could be softer, the outfield defense is different, the parks are different, the wind could be blowing that day, the umpire could stink that night, the spin on the ball is different. (Doug Melvin, baseball executive, *SABR Analytics 2012*)

For the industry, tracking systems-generated performance metrics represent a leap forward in the sense that by measuring velocity, angles, spin, and speed, clubs can evaluate players in a context-neutral way.

Third, tracking systems allow another innovation in performance measurement: to transition from measuring outcomes toward measuring processes or actual skills. According to a club executive, this is the most significant breakthrough of tracking systems:

> I think, in different sports, you go through phases of construction and deconstruction of different stats. You take basketball, and in their analytics revolution, the first step was to figure out how good a player was in totality. Then, as they started having motion capture technologies, it became less about how good a player is overall and how they could assess the individual skills of a player. "Can he drive into the paint, and what's that worth to us?" So now you're moving back toward the traditional way of scouting players. I think, with the Statcast data, you're seeing more of that where we're starting to evaluate the players on their skills again, more than their overall contributions. (Farhan Zaidi, baseball executive, quoted in Castrovince [2019])

Tracking systems change performance measurement, with respect to time, in two fundamental ways. First, "real-time" information leads to a collapse of space-time. Essentially, scouting is an activity constrained by space-time limitations. Scouts must physically attend baseball games at a specific location at a specific time. Moreover, for pragmatic reasons, scouting must be performed quickly. Scouts may have only a few opportunities to observe an amateur player and determine if this player is draft-worthy. It is therefore difficult to draw an accurate portrait of a player with a sample size this small.

Similarly, scoring requires longitudinal data collection and analysis. With statistical analysis, small sample sizes may lead to inaccurate conclusions and years of data may be necessary to reveal the talent of a player. According to industry analysts, for both *projection* and *evaluation* purposes, tracking systems act as a space-time compressor:

> It's all about sample size really […] We can now tell if a player [is going to be good] maybe in a single start. We can look at [his] stuff and see how it compares to other pitchers and whether that would lead to success […]. If we have three years of defensive stats, I don't know that it completely changes our perception of what those stats would say, but we might be able to tell in a few games [with tracking systems]. It lets you come to the same conclusions much more quickly at least. (Ben Lindbergh, Media, *SSAC 2015*)

Tracking systems derive metrics for which the "stabilization rate"—that is the number of repetitions required for the metric to stabilize and to become meaningful—is much quicker than most traditional statistics. For example, it is estimated that the stabilization rate of Statcast metrics (such as exit velocity and launch angles) is 45 to 50 balls in play (approximately 15-20 games), whereas the stabilization rate of more traditional statistics (such as batting average) is over 900 plate appearances (approximately 260 games, or almost two full seasons) (Freeze, 2019). Therefore, tracking systems allow for a timelier player evaluation.

Second, the new focus on measuring inputs rather than outputs completely redefines *past* performance measurement. One industry analyst commented that "baseball is a discipline where you could do every thing right and still fail" (Informant 77). For example, a player could possibly hit a ball really hard but directly at a fielder and get an out. Based on traditional performance metrics (batting average), this event would be represented negatively for the hitter. According to a club executive, tracking systems allow to go beyond the box score and to derive metrics that tell a different version of the past:

> The new data has allowed us to look at things in a lot of different ways. We're no longer talking about a single versus a double. We're talking about the vector of the ball coming off the bat and putting a run expectancy on that vector and adding it up over the course of the season and understanding how much variability there is. (Jeff Luhnow, baseball executive, *SSAC 2014*)

In the above quote, the team executive refers to a calculative practice of translating camera-based measurements such as exit velocity and launch angles into *expected* stats. Essentially, the expected stats metrics ignore actual batted balls outcomes, which are heavily captured by traditional performance metrics, and focus on what *should have happened* under completely average MLB game conditions. Expected stats assign an outcome probability to every batted ball based on the results of compared batted balls.

In a way, expected stats differ from traditional metrics because they are not simply backward-looking, but also forward-looking by considering outcome probabilities. It provides "a useful way to compare players' past actual and expected performances" (Sharpe, 2019). This is particularly interesting because whereas traditional performance measures capture what happened in the past, tracking systems-based measures allow to both re-contextualise and re-conceptualise past events. Past events are re-contextualised in the sense that the context that led to the actual outcome is not considered; only the isolated performance of the player matters. Past events are re-conceptualised in the sense that a player who hits the ball hard (high exit velocity) but still made an out is assessed more positively than a player who got on-base on a softly hit ball. Even over the course of a season, because of the aforementioned stabilization rates, discrepancies between actual and expected performance[11] happen, which make it hard to tell if a player was "good or bad, or if he just ran into some good or bad luck" (Informant 77). Among the temporal properties of expected stats is its predictive power, which tends to predict future actual performance well, especially with small sample sizes (Sharpe, 2019). This property is particularly useful for an industry that has become obsessed with predicting and assessing future performance.

4.3. Towards a society of control in the baseball industry

Although MLB clubs have significantly changed their performance measurement systems, scouting and scoring have not been completely dismissed. The analysis reveals

[11] Two opposite examples are Marcell Ozuna's 2019 season and Eric Hosmer's 2017 season. Based on traditional metrics, Ozuna had a poor 2019 season, with a .241 batting average and a .328 on-base percentage. However, expected stats told a different account of his performance. His expected wOBA was .387, good for the top 9% of the league. As a free agent, he got a one-year contract for $18m with the Braves and had a strong 2020 season. On the other side, Eric Hosmer has a strong season based on traditional metrics, but fared much worse according to expected stats. Yet, the San Diego Padres rewarded him with an eight-year contract for $144m, and he struggled in his first two seasons with San Diego.

that there are significant variations across clubs regarding the extent to which decisions are driven by "models." For "old-school" clubs, the managerial philosophy is still to rely heavily on scouts' opinions and on coaches' inputs. Even the most "progressive" clubs try to balance scouting and analytics as scouts gather information that is not easily captured by new technologies (most notably in settings where the technology is not well implemented). One way in which scouts are particularly useful in this "digitalization era" is to assess a player's personality traits and psychological profile. At the amateur level, prior to the draft, scouts are mandated to meet players' family, coaches, and teammates, to "dig deeper" (Informant 15) in order to draw the most reliable evaluations. One professional scout explains how scouting complements "Big Data" in the following terms:

> [Technology] helps a lot, but it does not tell a player's behaviour, if he works hard, if he corrects immediately his mistakes, if his coach always needs to talk to him…actually, all the nuances that you cannot see on a computer screen. (Informant 17)

Therefore, even if human agency is never completely eliminated, this section outlines how, by implementing tracking systems to improve performance measurement, MLB clubs engendered a transition towards a Deleuzian "society of control." As discussed in the previous section, tracking systems allow for "instant and continuous monitoring," with information collected in "real-time," and "intersecting systems of control" to which baseball players are increasingly subject. One industry expert notes that: "for decades, box scores were the only sources of data on player progress. But now practice is producing more data than games" (Sawchik, 2019). In-game tracking systems are complemented by new technologies to monitor players beyond the field. During practices, several players wear body sensors or execute movements in front of high-speed camera systems. Some clubs also gather biomechanical and behavioural data as one minor league player explained:

> They will take your body fat percentage throughout the season, monitor your lifts to see if you're maintaining your strength or even gaining strength. They don't want any [metric] going down basically. […] During the season we use an app, basically a little questionnaire. You fill it out every morning. It asks you how many hours of

> sleep you got. It asks you the color of your urine to see if you're hydrated. Your level of fatigue, your level of stress. (Informant 66)

The aforementioned questionnaires are part of new monitoring technologies that clubs invest in to improve player selection and evaluation. New frontiers in analytics are consistently being pushed, with a focus on biomechanics, medical research, and *neuroscouting* (technologies used to identify and improve players' cognitive attributes). Once a player is employed by an MLB club, monitoring technologies are deployed to teach players on proper nutrition, rest, and training, as explained by a team executive:

> having a front office and medical staff on top of you all the time, it's a little bit restrictive. […] And we're trying to educate as much as we can on how all those things are going to impact their performance on the field over time. One: keep them healthy. Two: hopefully improve the performance. (Mike Hazen, baseball executive, *SABR Analytics 2017*)

New technologies further change how the industry is organized. For decades, the baseball industry has been structured as a ladder. Players first start off as amateurs, playing for their high school team, then move either directly to pro ball or spend a few years in a college before doing so. Within the professional ranks, players first go through the rookie leagues, then multiple levels of single-A ball, then Double-A, then Triple-A, and finally MLB. The whole process is reminiscent of a Foucauldian "disciplinary system" in the sense that it is linear, distributed in space, and ordered in time (Deleuze, 1992), with coaches and staff constantly intervening in player development. The above quote illustrates the shift from a "disciplinary" system to a more Deleuzian control system, in which players are animated, through perpetual training, to re-produce themselves.

MLB's decision to cut 42 minor league affiliates (approximately 1.5 per club) after the 2020 season can be partly justified by how much data is collected. Some clubs feel they are better at identifying the players who have a chance to play in MLB and can afford to release those with bleaker future. Some industry experts contend that new technologies change how players train. "They don't need much space to get better," said one independent coach (quoted in Sawchik, 2019), arguing that video analysis and tracking systems "lessens the need for a player to play in regulation games." Moreover, the transition to a more Deleuzian "society of control" is evidenced by the "digitalization" of baseball players.

Clubs have implemented information systems compiling and processing scouting and medical reports, statistical performance, and contractual information about all baseball players, from superstars to amateur players. Organizational boundaries implode with tracking systems and information technologies.

4.4. The performativity of technology-driven performance metrics

Despite the intrusiveness of tracking systems and monitoring technologies, my analysis suggests that players, rather than being passive subjects, play an active role in this revamped management control system. Actually, as illustrated in *The MVP Machine* (Lindbergh & Sawchik, 2019), some players sparked the changes by embracing data analytics and new technologies to address their deficiencies. Thus, players, attempting "to dissect their performance with unprecedented depth" (Lindbergh & Sawchik, 2019, p. 9), voluntarily contributed to the widespread use of tracking systems and monitoring technologies. These new technologies are particularly appreciated by the younger generation, who "grew up with internet and video games" (Informant 77). Paradoxically perhaps, even if players are aware that management "knows everything" about them, they believe that the "technology definitely has benefited" them (Informant 75). One player mentioned that "numbers don't lie" (Informant 64), and another one emphasized that "technology can really tell you who you are as a player […] and what you need to do to be a good baseball player" (Informant 76).

In this section, I explore how performance measurement in a "society of control" makes performativity happen. The idea that baseball statistics are not merely descriptive, but also performative, is almost as old as the game itself. When Henry Chadwick introduced the scoring system, he was cognizant that "recording and publicizing statistics could change the way the game was played" (Phillips, 2019, p. 48). By tying, directly or indirectly, their compensation to specific performance metrics, players have incentives to model their game after what is valued. A baseball executive underscored this argument by recounting a particular encounter with a star player:

> "They know what we value, right? A couple of years ago, Alex Rodriguez told me something very, very unique. He said 'tell the players what you value and they'll

> make themselves that way'" (Billy Eppler, baseball executive, *SABR Analytics 2016*).

This sentiment is reminiscent of the corporate mantra of "what gets measured gets managed" by illustrating the overall performativity of performance metrics, regardless of the role of technology and human agency in designing or interpreting the metrics.

A distinctive consequence of the transition towards a Deleuzian "society of control" in the baseball industry, however, is the weakening of human agency outside of the design of the analytic system itself. Most MLB organizations rely increasingly on their "data-driven" and "objective" decision models, as explained by a club executive:

> I'd say most teams have like five to 10 people whose job is to approach the game from a modeling and analytics perspective. They're using data sets. They're trying to take new technology and new information, build that into new models. I think when you have that many people, and in some places very important people, like the general manager, it shapes the way you talk about things. It shapes the way you make decisions. (Informant 44)

One kind of decisions shaped by analytics is player selection, during the annual MLB draft (each team used to select approximately 40 players, although the draft format has been recently changed). For player acquisition purposes, MLB clubs have developed algorithms and player evaluation models that combine all information, from scouting reports to performance measures driven by tracking systems. One informant explains the multifaceted ranking process of amateur players:

> Once we get in the draft room, we have two models. One of them is the evaluators' list, which combines [the scouting reports] to make all players commensurable. The other is the analytics list, which classifies players based on their performance and measurables […] Ultimately, we combine these two lists together to get our player ranking. (Informant 43)

If, for some clubs, proprietary database and automated player projection systems help classify the available players, as mentioned in the above quote, for other clubs, models can go as far as *actually* selecting the players, particularly after the first rounds, "so no one executive is responsible for a bad pick, making the draft an objective collaboration rather than an exercise with a singular leader" (Longenhagen & McDaniel, 2020, p. xiv). The de-

emphasis on human agency outside of designing the systems have implications for amateur players vying to get selected, as explained by a player:

> They just have this mold of players, these numbers, these analytics that they're looking at. "We're not going to draft you, we're not going to sign you, we don't want to trade for you if your metrics don't line up with what we are doing and what we have found analytically to work and win." (Informant 65, baseball player)

Deleuze's concept of the *code as a password* is salient in the above quote. To enter a "given barrier"—in this case being selected in the draft—the player must have the proper "password," which means exhibiting certain physical attributes and meeting specific performance metrics. When considering a club that selects players solely based on models and algorithms, the role of human agency is limited to the design of the model, and performance metrics act as an immutable password: either the player has the password or not. In most clubs, however, tracking systems-based performance measures are used as "eyes where [clubs] don't have them" (Informant 42, baseball operations). Numbers driven by tracking systems act as a filter, helping clubs to identify players worth being assessed by a scout. There is a collaborative and confirmatory process between human agency and technology, but if a player cannot meet the velocity MLB benchmark for example, he is likely to get dismissed by the model.

The impact of "models" is also felt in the minor leagues, as both players and baseball operations attest that algorithms, to a certain extent, determine playing time and promotions. Especially in the lowest minor league levels, actual performance based on traditional metrics weighs less than new metrics when it comes to promotions. One player commented that pitchers "with [terrible performance] get moved up because they are really good spin profiles, or their fastball is 98 miles an hour […] because those are the best predictors of major league success." Therefore, data suggests that one way performativity happens in an industry with "society of control" features is through a selection process. Since only players who fit the model—players with the "password"— can enter the barrier, players inevitably resemble what the model states.

This is not to say that players cannot re-model themselves or even contribute to the modulation process by co-constructing, alongside MLB clubs, the meaningful performance metrics or the proper "passwords." One of those new "passwords" for hitters is the launch

angle, which became a key metric once some players, helped by outside consultants, started to change their swing (Lindbergh & Sawchik, 2019). The "launch angle revolution," driven by analytics and monitoring technologies, allowed minor league players and previously-thought "washed-out" veteran MLB players to extend their career. Sport is a "winner-take-all" and zero-sum-game industry (Frank & Cook, 1995), and players have incentives to improve themselves: "it is really scary to reinvent yourself unless the alternative is not being in the big leagues anymore. Then it's less scary" (Brandon McCarthy, player, *SABR Analytics 2014*). In recent years, players have been further convinced to follow the examples of several "fringe players who used technologies and became superstars" (Informant 77, Media).

To understand the "performative" effect of performance metrics produced by tracking systems and monitoring technologies, we need to look back at how these technologies change performance measurement systems and the nature of performance metrics. First, despite the complexity of the technology, these new performance metrics are much simpler than advanced metrics, which require complex calculations and are presented in non-intuitive ways. Metrics like velocity, launch angles, and spin rates are rooted in the baseball language and so are much more intuitive to players. One club executive explained that measurements are now more "relatable to players, analysts and scouts," providing a "common basis for conversation."

The embrace of analytics by players is however only a recent trend. In the early stages, most players despised the advanced metrics, which required complex calculations and were presented in non-intuitive ways:

> The reason why players hate the [analytics] numbers are because they have either a minus at the beginning or a zero. And anything that has a minus or a zero in front players hate. Because even if a guy is just a so-so player who hits .260 with seven home runs and 53 RBIs, that looks better than if you tell him you have a minus two WAR. And so any one of those numbers, they hate it" (Manny Acta, former MLB manager, *SABR Analytics 2014*)

Moreover, players' reluctance to adopt analytics was compounded by the lack of communications from coaches, who felt that analytics and numbers can be paralyzing sometimes:

> A lot of players, they don't like looking at numbers and a lot of coaches don't like the players looking at the numbers because then it takes them away from their game, their strength. They start worrying, they start looking at the board, they start looking on the internet what their numbers are (Eduardo Perez, former MLB coach, SABR Analytics 2014)

The industry has changed drastically in a few years. Clubs are also hiring "conduits," former players with an expertise in both analytics and baseball, to facilitate the communication and to explain *how* players can use performance metrics to improve (Lindbergh and Sawchik, 2019). From this perspective, human agency is restored albeit in a different way, as performativity happens when certain conditions are in place (Butler, 2010). Second, by measuring processes rather than outcomes, clubs employ the rhetoric of using new data to help players to re-produce themselves and to develop new skills. Clubs explain to players that numbers and data are mobilized as tools to improve and manage their performance. This rhetoric is illustrated by the following quote:

> I think as time goes on, players and front office people gain a better understanding of what these numbers mean, what they can do for you, what they can do to help you. The more you present them to players in a positive way, like "here's something that can help you succeed," the more accepting they are. At this point, everybody's pretty used to the numbers and pretty accepting of it. (Informant 61, baseball operations)

As one player observed, the new performance metrics are appealing for players:

> If I hit the ball hard, I count it as a hit. If I hit two balls hard, at the end of the night I was 2 for 4, even though on the scorecard I was 0-fer. If you look at the result, you're going to drive yourself crazy. (John Lamb, MLB player, quoted in Chen, 2016)

New performance metrics are more appealing to players because they conceive them more as part of performance *management* than as crude performance measurement for evaluation purposes. This idea of measuring *processes* rather than *outcomes*, a breakthrough made possible with tracking-systems and monitoring technologies, helps to understand why the transition towards a Deleuzian "society of control" in baseball is productive. For targeted players, it enacts a "regime of hope" (Mouritsen & Kreiner, 2016,

p. 49) in the sense that the past, present, and future can be re-modeled based on what counts, what is predictive, and what is productive.

5. Discussion

This paper is motivated by the advent of camera-based tracking systems to measure performance in the business of sports, a sub-set of popular culture (Jeacle, 2012). The baseball industry is used as a context, notably because its primary league, Major League Baseball (MLB), has been at the *avant-garde* of a data revolution that has spread to other sports and businesses. This context allows me to address the following research question: how do tracking technologies change performance measurement and management control?

The findings show that tracking systems change performance measurement in three different ways, which all have implications for management accounting research. First, tracking systems significantly reduce the role of human actors in the performance measurement processes as meaningful data is collected by cameras and computers than by humans. In a way, performance measurement becomes closer to the ideal of "objectivity" or to what Micheli and Mari (2014) describes as the "physics envy" in accounting. Second, tracking systems derive performance metrics that are mostly context-independent, meaning that they are not influenced by external factors or the performance of others. Third, tracking systems offer a major breakthrough by measuring processes and skills rather than simply outcomes. From this perspective, tracking systems offer an antidote to accounting as a "transversal object which replaces the world by calculations" (Mouritsen & Kreiner, 2016, p. 24). Accounting calculations, by aggregating numerous transactions and events into a few numbers, render invisible the inputs behind the numbers. For example, during a sale transaction, "there is no account of the salesperson's strategies to persuade the customer, and there is no account of the particular customer's idiosyncratic behaviour and preferences" (Mouritsen & Kreiner, 2016, p. 24). Thus, tracking systems allow to shed lights on the processes behind the aggregated outcomes. The following discussion seeks to develop theoretical observations for management accounting research regarding the impact of new technologies on the temporal properties of performance metrics, as well as on the performative effects of tracking systems.

5.1. The dynamic temporal properties of performance metrics

Theoretically, this paper seeks to nuance the dominant and intuitive view in accounting and finance that performance measurement, whether from financial or non-financial perspectives, is essentially about measuring what happened in the more or less distant past. The idea that the past is an indicator of what the future holds does not always sit well with finance (Desai, 2017), a discipline that is primarily future-oriented. The case of the baseball industry depicts the potential financial consequences of relying on backward-looking and static performance metrics for decision-making purposes. At the end of the 1990s, most clubs experienced financial difficulties because they handed out, based on traditional performance metrics, lucrative and long-term contracts to players who were unlikely to repeat their past performances in the future.

This paper contributes to our understanding of how new technologies can address the temporal shortcomings of performance metrics. First, following Chakhovich (2019), who showed that time rationalities and performance measurement systems influence each other, this paper highlights that technology allows performance measurement systems to evolve consistently with organizational time rationalities and objectives. The analysis shows that as clubs became increasingly future-oriented, they realized the limitations of their performance measurement systems. Statistical analysis could indicate players' *past* performance but it lacked the predictive ability sought by clubs' executives. Scouting, which produces future-oriented performance metrics, was often criticized for its subjectivity. The advent of tracking systems eased the tensions between analysts and scouts, and enabled a "common basis for conversation" by collapsing, to a certain extent, prior performance measurement systems (analytics and scouting), into one "objective" and future-oriented system. This reiterates the role of performance measurement in managing organizational conflicts, particularly regarding time rationalities (Chakhovich, 2019). The findings also indicate that the purpose of performance measurement systems is mutable and that technological advances allow mutations to happen. In the baseball industry, tracking systems have supported clubs' ambition to transition the purpose of performance measurement from being primarily about evaluating past performance to being mostly about projecting future performance.

Second, the findings show that tracking systems, with regards to performance measurement, act as a "time-compressor." The accounting literature has long demonstrated that information technologies challenge or at least reduce the length of the typical thought-action sequence in management, which involves planning the future, executing in the present, and then measuring the past for monitoring purposes (e.g., Quattrone & Hopper, 2005). At its core, accounting is a technology that allows to "govern at a distance" (e.g., Neu & Graham, 2006). With "real-time" information technologies, managers are less subject to time-lags between data collection and analysis, allowing them to act more rapidly (Lassila et al., 2019). This paper echoes prior findings in the literature by showing that technologies enable evaluation processes to be done at a distance (i.e., in the front office than on the field), and that managerial decisions can be made quicker. However, this paper differs from previous studies related to "real-time" information technologies by showing that the "time-compression" is related to *what* is measured by the tracking systems. I suggest that the compression of space-time is performed by the shift from measuring outcomes to measuring processes or skills. Expectedly, over time, individuals with the best skills and processes are likely to display the best outcomes. But *over time* is the key factor here. Measuring outcomes, not only in baseball but in other business activities, requires time. Performance measurement is inevitably subject to the small sample errors, as it is not always possible to disentangle skills from luck, unless a longer evaluation period is considered. Tracking systems allow for a timelier evaluation process by introducing performance metrics for which the stabilization rate is shorter.

Third, this paper, building on McSweeney (2000), illustrates how performance metrics can be temporally fluid. Whereas McSweeney (2000) discussed how financial reporting requires to "look forward to the past" (p. 780), this study shows that tracking systems allow to construct performance metrics with dynamic temporal properties. This is best exemplified by the *expected stats*, which are metrics that do not tell what happened but what *should have happened.* Instead of being static and backward-looking, these performance metrics combine different temporalities (past, present, and future) together dynamically. *Expected stats* are metrics that start with past events, that are accumulated and transformed in the present, that are ever-changing as new inputs come into the calculation. From a management accounting perspective, *expected stats* represent a

potential breakthrough for personnel and organizational evaluations, as they allow to re-contextualise and re-conceptualise performance by telling a version of the past that is more informative of the future.

Taken together, these findings – 1) technology allows performance measurement systems to change consistently with organizational time rationalities and objectives, 2) tracking systems act as "time-compressor," and 3) performance metrics can be temporally fluid – have implications for management accounting research as they suggest that performance measurement does not need to be static, backward-looking, and confined to an evaluative role. They indicate that new technologies can alter the purpose of performance measurement and that new performance metrics are continuously shedding lights on employee or firm performance (see Arnaboldi, Busco, & Cuganesan, 2017).

5.2. Performance measurement in a "society of control"

This paper also shows that one consequence of the widespread adoption of tracking systems and monitoring technologies in the baseball industry is a transition towards a Deleuzian management control system. Although most decisions in baseball operations departments are still made by humans, there has been an increasing reliance on computers and algorithms. When it comes to performance measurement, the quest for objectivity led to the reduction, and even almost to the elimination, of human agency. For a managerial perspective, accountability is more diffuse, as managers can increasingly hide behind processes and systems to justify their actions and decisions.

The implementation of tracking systems means that high-profile employees (i.e., the baseball players) are subject to intersecting systems of control and to instant and continuous monitoring. Performance evaluation is therefore no longer limited to specific events in specific settings: it is becoming prevalent in previously non-evaluated contexts and penetrate employees' (players') back-stage settings. Moreover, the accumulation of data necessitates powerful information systems, thus contributing to the digitalisation of individuals. With the emergence of new information technologies, professional sport is a fruitful context that allows to draw theoretical insights for research in management control, particularly regarding the implications for social actors subject to continuous monitoring.

In this paper, I am particularly attentive to the performative role of performance measurement and management control in an industry that resembles a "society of control" where human agency is dispersed and weakened. Whereas prior performativity studies suggest that performativity somewhat depends on human agency (MacKenzie, 2004), the case analysis shows that performativity can happen with limited human agency, downplaying the importance of a "sovereign speaker" (Butler, 2010). This paper suggests that, when human agency is mostly confined to the design of the systems, performance metrics are performative by acting as "passwords" (Deleuze, 1992). Players who do not fit the model prescribed by the system are filtered out, leading to selected or promoted employees resembling the model favoured by the system. As Deleuze (1992) reminds us, however, these performance metrics are always dynamic, as "the card could just as easily be rejected on a given day or between certain hours" (p. 7). This latter point is particularly enhanced when considering the idea that controls are a modulation, a "self-deforming cast" (p. 4). Because professional sport is a "winner-take-all" market, relative performance matters more than absolute standards (Frank & Cook, 1995). Thus, "passwords" are always flexible and dynamic, resembling moving targets, as they vary based on collective benchmarks.

This paper also shows that social actors play an active role in the performativity of performance metrics. By voluntarily using and introducing new monitoring technologies, players contribute to the co-construction of the relevant "passwords." Rather than resist this "pernicious form of control" (Leclercq-Vandelannoite et al., 2014), players embrace the technologies and the revamped management control system. Generally speaking, players do not perceive tracking systems as part of an invasive control environment. Instead, tracking systems are considered as useful "tools" to improve their performance.

In the concluding remarks of his *Postscript on the Societies of Control,* Deleuze (1992) is puzzled that individuals adhere to this idea of permanent training. Of course, in baseball, the financial incentives for players to improve their performance metrics are significant. Therefore, the system becomes "productive" in a Foucauldian sense because it animates social actors—at least those that are capable of taking advantage of the system—to re-produce themselves. This perspective is consistent with the idea that accounting "lures people into action" (Revellino & Mouritsen, 2015, p. 32). I argue, however, that this point

is not sufficient to explain why players adhere to the "society of control." I posit that this adherence is related to two performance measurement changes engendered by the tracking systems. First, the performance measurements derived by the tracking systems such as exit velocity, launch angle, and speed, are intuitive and rooted in the baseball language. As organizations have hired "conduits," former players fluent both in analytics and baseball, players became more involved in the communication processes and were not simply objects of information (Foucault, 1977; Leclercq-Vandelannoitte & Isaac, 2013). In a way, the tracking systems created the felicitous conditions for performativity to happen (Butler, 2010).

Second, the findings suggest that players embrace tracking systems and monitoring technologies because the performance metrics are more process-oriented than simply related to outcomes. These new technologies activate a promise, a "regime of hope" (Mouritsen & Kreiner, 2016, p. 49), because of the gradual transition of performance measurement towards performance *management*. Instead of feeling paralyzed by the omniscience of the tracking systems, players gain an increased sentiment of control regarding their performance. The breakthrough comes from the promise of the new performance measurement technologies, which do not only spell *what* is a "good" performance, but also *how* to achieve a "good" performance. The analysis also indicates that the temporal fluidity of new performance metrics plays a significant role, as players can act in the present, and focus on the future, without being always judged upon past performance.

6. Conclusion

In this paper, I draw on a perhaps extreme case, using the context of the baseball industry, to develop a theoretical story at the intersection between the notions of technology, performance measurement, and management control. With the increasing prevalence of new technologies in organizational life, it is imperative to better understand their potentials and limitations for performance measurement and monitoring purposes, and the implications for employees.

The narrative provided in this paper contrasts with the dystopian and pervasive aspects of the "society of control" (Deleuze, 1992), which have been widely depicted in the popular

culture and supported by accounts of the damaging effects of surveillance capitalism (Zuboff, 2019). I entered the field expecting to find similar conclusions, but the results show an overall positive sentiment vis-à-vis tracking technologies. The intent in this paper is certainly not to dismiss prior concerns. As performance measurement becomes more instantaneous, especially with the possibilities of "real-time" accounting, the risk of making "wrong decisions much more quickly than before" (Quattrone, 2016, p. 120) is accentuated if decisions rely exclusively on outcome metrics. Moreover, there is a particular habitus unique to the sport business that engenders these findings. Professional athletes are used to being scrutinized, which can explain why the distinctive features of the "society of control" are not considered as pervasive as they could be in other contexts. Therefore, since this study is limited to a single context, future research is needed to better grasp the implications for management accounting now that performance measurement is becoming potentially more instantaneous. In a post-pandemic world, with the increase in remote working, it is conceivable that organizations will deploy tracking systems to monitor and control employees. I emphasize that managers must be careful about the pervasive effects and use the technology in a way that can stimulate and help individuals to improve.

Nonetheless, this study is particularly relevant for broader management accounting researchers and practitioners because it highlights that the impact of information technologies on performance measurement can be much more than simply driving quicker reactions (Lassila et al., 2019). Information technologies can completely redesign the purpose and the nature of performance measurement by facilitating a transition from *ex post* performance measurement to *ex ante* performance management, a notion that is often overlooked in the management accounting literature (Broadbent & Laughlin, 2009), and by deriving context-independent, outcome-oriented, and temporally dynamic performance metrics that are useful both for managers and employees because they tell a different version of the past.

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CHAPTER III: PLAYING BALL: ACCOUNTING IMPLICATIONS OF VALUATION PRACTICES IN BASEBALL

PLAYING BALL: ACCOUNTING IMPLICATIONS OF VALUATION PRACTICES IN BASEBALL

Abstract

Focusing on the baseball industry, this paper explores the interplay between accounting and valuation practices. As an unintended consequence of the 2017 Tax Cuts and Jobs Act (TCJA) in the United States, player trades in the sports industry became taxable transactions, forcing clubs to value players' contracts in monetary terms, and raising the uncomfortable question for accountants of how such contracts should be valued. Across the hall, however, baseball operations specialists had been developing valuation practices for operational purposes. This paper addresses how accountants conceive these player valuation practices and how they perceived the taxation changes resulting from the TCJA. Theoretically, this paper draws on Baudrillard's concepts of simulation and hyperreality. The findings show that, according to accountants, such valuation practices are disconnected from the "reality" of accounting. Rather, clubs' accounting executives argue that the dominant signs in sport accounting are cash flows. Moreover, this paper explores how player valuation practices impact clubs' finances, showing that valuation of players' contracts, for operational purposes, has played a key role in controlling clubs' spending. Finally, the analysis shows that MLB clubs' owners take advantage of the baseball operations and accounting "realities" to consolidate their power over other stakeholders.

Keywords: Sport Accounting, Valuation, Baudrillard, Hyperreality

PLAYING BALL: ACCOUNTING IMPLICATIONS OF VALUATION PRACTICES IN BASEBALL

1. Introduction

> "The book value of players is zero [which may not be representative], but there is a lot of things that don't match between accounting and reality anyway." (Accounting Executive 1)

The valuation and accounting treatment of players' contracts have been topics of interest for several professional sport clubs, particularly in the European football industry (Amir & Livne, 2005; Risaliti & Verona, 2013; Rowbottom, 2002). Even if those questions were at some point important for the "Big 4" North American sport leagues,[28] changes to the Roster Depreciation Allowance, a provision that allowed clubs' owners to allocate a portion of the purchase price of a sport franchise to amortizable assets such as players' contracts, rendered the valuation of players' contracts out of the accounting scope for several years. However, an amendment to the U.S. Tax Code resulting from the 2017 Tax Cuts and Jobs Act (TCJA) created new accounting issues regarding players' contracts valuation. For approximately 50 years, professional sport organizations in the United States had been trading players' contracts as tax-exempted like-kind exchanges.[29] In 2017, to offset some of the tax revenue losses from the lower corporate tax rate signed into law by President Trump in the TCJA, Congress altered some provisions of the Code, limiting business deductions and amending section 1031 to repeal like-kind exchanges except for real property, a change projected by the Joint Committee on Taxation to raise $31 billion between 2018 and 2027 (Joint Committee on Taxation, 2017). An (unintended) consequence of this change was that trades of players' contracts became taxable events for the clubs, raising the uncomfortable question of how should players' contracts be valued?

[28] National Football League (NFL); National Basketball Association (NBA); Major League Baseball (MLB); National Hockey League (NHL).

[29] Under tax code Section 1031, if an organization traded one player's contract for another, the transaction was classified as a tax-deferred like-kind exchanges and thus no gain or loss was recognized.

Yet, in the baseball operations departments of several Major League Baseball[30] (MLB) clubs, player valuation practices inspired by financial logics have emerged, which has been depicted in various books (Keri, 2011; Reiter, 2018; Sawchik, 2015), starting with *Moneyball* (Lewis, 2003). According to Helgesson and Muniesa (2013), *Moneyball* is particularly informative for valuation studies as it suggests that "the outcomes of valuations might have re-ordering effects" and that "the making of the valuations performs certain orders that needs to change if the way of doing the valuations is to change" (p. 2). However, the relationship between these new valuation practices and accounting have been mostly overlooked, both in academic research and in popular media. This paper draws on the context of the U.S. baseball industry, triggered by changes from the TCJA, to explore the interplay between valuation and accounting. Specifically, this research asks: how do accountants conceive player valuation practices emerging in baseball operations and how do they perceive the taxation changes resulting from the TCJA? Finally, at a higher level, how then do player valuation practices impact MLB clubs' finances?

The sport context provides a fruitful area to investigate valuation challenges (Andon & Free, 2019), and to contribute theoretically to the accounting literature on valuation (Millo, Power, Robson, & Vollmer, 2020). Prior research has identified that accounting and valuation can be intertwined and mutually constitutive practices (Mennicken & Power, 2015). However, as the sociology of valuation reminds us, valuation practices largely exceed the accounting discipline (Lamont, 2012) and several "orders of worth" co-exist in economic and organizational life (Boltanski & Thévenot, 2006). Valuation practices collide with accounting, creating moments of *dissonance* (Stark, 2011), notably for when it comes to assets that are either intangible or difficult-to-value in monetary terms (Crepaz, Huber, & Scheytt, 2016; Ellwood & Greenwood, 2016). In some cases, new accounting objects emerge, such as brand accounting (Mennicken & Power, 2015; Napier & Power, 1992; Power, 1992). In other cases, new valuation practices fail the "test of accounting" (Annisette & Richardson, 2011) and remain mostly outside of the accounting domain. This paper illustrates that whereas baseball operations specialists embraced the financialization of player valuation for operational purposes, MLB clubs' accounting executives were

[30] Major League Baseball is the preeminent baseball league in the world. Its 30 clubs generate, on aggregate, nearly $11 billion in annual revenues (Brown, 2019).

mostly uncomfortable with the valuation of players' contracts for accounting and tax purposes, arguing that the changes to the TCJA would create "administrative nightmares" (Accounting Executive 7). This tension raises the question of what makes something valuable (e.g., Doganova, 2015), not only in the sense that it is "valued" by social actors, but also that it is possible to assign a value to it, notably in monetary terms (e.g., Doganova & Muniesa, 2015; Svetlova, 2018).

Theoretically, this paper draws on the work of Jean Baudrillard, whose concepts of simulation, simulacra, and hyperreality have been useful to explain accounting phenomena (Bamber & Abraham, 2019; Bougen & Young, 2012; Macintosh, Shearer, Thornton, & Welker, 2000). Baudrillard's concepts are insightful in understanding valuation processes, the interplay between valuation and accounting, and the implications that derive from such interplays. Methodologically, this study combines semi-structured interviews with baseball operations specialists and MLB clubs' accounting executives with secondary data from media articles, conference panels, and business-oriented baseball books.

This paper contributes to a growing, but still relatively thin, literature on accounting and the sports business (Andon & Free, 2019). Financial regulations and salary caps imposed by numerous leagues around the world to their clubs have opened space for accountants and accounting research (Andon, Free, & Sivabalan, 2014). Several papers have explored the role(s) of accountants within the sports industry, such as auditors (Andon & Free, 2012), insolvency practitioners (Cooper & Joyce, 2013) and management accountants (Janin, 2017). This paper provides perspectives on the role of accountants and on the accounting practices within the North American sports business, a context that has been previously overlooked. My research finds that different systems of signs dominate in the baseball operations and finance departments. Whereas baseball operations specialists have developed valuation practices, such as the player asset value, as a way to maximize the efficiency of their financial resources, accountants are mostly concerned by cash flow management. According to clubs' accountants, GAAP-compliant accounting numbers are secondary, and, following Baudrillard, are signs disconnected from their referent. The paper shows how the "hyperreality" of accounting numbers is a core feature of sport clubs' accounting, and that MLB clubs' owners strategically display this "hyperreality" in their interactions with stakeholders such as governments and the players' union.

My study also adds to the accounting literature on valuation studies. It argues that valuation is the outcome of simulations, and that it relies on models and algorithms. It shows that valuation practices can be shaped by financial rationalities and emerge as accountability tools, and nonetheless can be dismissed for accounting purposes because they do not correspond to accounting's particular rationalities and principles. Finally, this research adds new light on the often blurred distinction between evaluation and valuation (Dewey, 1939; Vatin, 2013). In the baseball industry, player evaluation, measured by metrics such as *Wins Above Replacement* (WAR) is related to a player's past and current performance, whereas player valuation, measured by the *player asset value*, is related to a player's current and future profitability. As per the Collective Bargaining Agreement (CBA), a player's salary is usually fixed during a player's first three seasons, and long-term contracts are guaranteed. Therefore, players may have salaries that are not necessarily aligned with their production, allowing clubs to capture players' "surplus value."

In the next section, I review the accounting literature on valuation practices. Then, in section 3, I present the theoretical framework, which is centered around the concepts of simulations, simulacra, and hyperreality developed by Jean Baudrillard. In section 4, I outline the data and methods. The analysis, presented in section 5, is developed into four parts, outlying respectively the historical context of players' contracts valuation, the perspective of baseball operations specialists, accounting executives, and owners. In section 6, I discuss the findings and their implications for accounting.

2. Literature review on accounting and valuation

In the accounting literature on capital markets, researchers are particularly interested in examining the relationship(s) between accounting and valuation. Notably they focus on the value-relevance of accounting, that is whether and how firms' accounting decisions and disclosures influence investors' valuation and investment decisions (Callen, 2013; Kothari, 2001). On one hand of the mutually constitutive relationship between accounting and valuation is the perspective that accounting numbers can derive the value of a firm's equity as evidenced by the accounting valuation models (Feltham & Ohlson, 1995) or, at the very least, provide the basis for valuation practices in capital markets. On the other hand, if accounting numbers can serve as fuel to the valuation machine, valuation practices are

intertwined within accounting financial statements. This is particularly relevant in this era of fair value accounting (Bougen & Young, 2012; Georgiou, 2018; Hayoun, 2019; Roberts & Wang, 2019; Smith-Lacroix, Durocher, & Gendron, 2012).

Beyond capital markets research, there is a growing accounting literature focused on valuation practices that has identified several ways in which accounting and valuation practices interact (Millo et al., 2020). Insights from this literature suggest that the interplay between accounting and valuation can be summarized into three broad perspectives. From the first perspective, valuation is considered a constituent part of accounting. Accounting and valuation practices work together to shape business models and decision making. The paper by Botzem and Dobusch (2017) exemplifies this view. It describes accounting and valuation as inter-organizational practices in the real estate industry that bring about finance-led investment strategies and financialized business models.

A second perspective is that accounting and valuation practices shape—or at least support—each other. Accounting tools and technologies can be deployed to influence or transform valuation processes, and outcomes from valuation can impact accounting and financial statements' reporting. In the context of the art investment field, Coslor (2016) shows how art valuation experts integrate and transform "accounting" information, namely past price data, in their valuation process. Coslor and Spaenjers (2016) link the emergence and the legitimacy of the art investment field to accounting tools, such as art price indexes, to understand the products and to measure their performance. The development of art as a new asset class required appropriate valuation and return measurement techniques to assess and track the investment properties of the artwork. Furthermore, Plante, Free, and Andon (2020) show that valuation work is constrained and enabled by categorisation, and that actors engage in different modes of valuation. Taken together, these studies show that accounting tools and techniques play a crucial role in the valuation process, not just of traditional financial instruments, such as stocks and bonds, but also of difficult-to-value assets.

Finally, a third perspective suggests that accounting and valuation practices are disaggregated. Accounting is viewed as just one way to value objects. Svetlova (2018) illustrates that valuation is more than simply a calculative exercise. Using the example of the contingent convertible bonds ("cocos"), Svetlova suggests that financial products are

not solely valued through the calculative regime of valuation (i.e., by robust mathematical valuation), but also through a consumptive regime of valuation, involving marketing techniques and selling endeavours. Within this stream of literature, it is highlighted that other regimes of valuation— "orders of worth" (Boltanski & Thevenot, 2006)—also often compete with the accounting regime of valuation. One example is the accounting of public heritage facilities or assets. Barton (2000) argues that public heritage facilities are public goods and that they should not be valued according to commercial accounting principles. That such public heritage facilities are highly valued by the community is not debated, but Barton wonders whether social value can be translated into financial values. Ellwood and Greenwood (2016) also argue that heritage assets, because the measurement of their accounting value is fraught with difficulties, should be subject to a separate form of accounting. Their findings suggest that the intrusion of economic valuations into the domain of cultural assets may come to dominate other value considerations, constructing an accounting reality that is not indicative of cultural value.

The work of Stark (2011) provides details of how accounting interacts with competing modes of valuation. His core argument is that organizations thrive in embracing perplexing situations, defined as "principled disagreement about what counts" (p. 5). Although frictions can be destructive, they can also produce innovation. In the context of the management of the arts, Crepaz, Huber, and Scheytt (2016) build on Stark (2011) to explore how accounting systems are related to valuation principles inspired from other "orders of worth" (e. g., political, artistic). In some cases, the valuation practices from other "orders of worth," such as marketing and human resources, collide with accounting to create new accounting objects (Mennicken & Power, 2015) such as brand accounting (Napier & Power, 1992; Power, 1992), intellectual capital accounting (Roslender & Fincham, 2001), and social and environmental accounting (Barman, 2015).

Several papers have enumerated the benefits and limitations of incorporating the valuation of intangible assets within financial statements (Garcia-Ayuso, 2003; Holland, 2003). Although intangible assets are crucial to competitive advantage and indeed seem to represent a growing part of the value of a firm (Lev & Gu, 2016), their valuation methods often "fail the test of accounting" (Annisette & Richardson, 2011) as they are considered "unreliable" and too subjective (Mennicken & Power, 2015). Following their analysis of

brand accounting practices in the late 1980s, Mennicken and Power (2015) suggest that "accounting valuation is 'plastic'—being both simultaneously stable and unstable—due to both methodological variability and the different domains of worth that get registered within accounting concepts and techniques" (p. 208). Even if capital markets agree that brands are strategic and valuable assets of the organization that owns them, which motivated their valuation and capitalization, accountants and regulators contested the varied brand valuation methods.

Overall, this section has brought together the diverse and growing literature on accounting and valuation practices, which interact in multiple ways. In some cases, they can be intertwined practices at the heart of firms' strategies. In other cases, accounting and valuation shape each other. Whereas accounting can be the fuel to valuation processes, valuation outcomes can also impact accounting. Finally, accounting valuations can also be conceived as only one part of multiple regimes of valuation within organizations. However, the literature is relatively silent on how accountants conceive financialized valuation practices that originated outside of accounting (Chiapello, 2015). Why, in some cases, have accountants contested these valuation practices? What are the implications for accounting, broadly speaking, and for accountants when such situations happen? To address these theoretical questions, we turn to the world of Jean Baudrillard, incorporating his concepts such as simulacra, simulations, and hyperreality.

3. Simulacra, simulations and hyperreality

In this paper, I draw primarily on the concepts of simulacra, simulations, and hyperreality, as developed by Jean Baudrillard (1976; 1981) and subsequently "translated" into accounting contexts such as financial accounting theory (Macintosh et al., 2000), corporate social responsibility reporting (Boiral, 2013), and the Q&A portion of earnings presentation (Bamber & Abraham, 2019). I argue this framework is insightful to understand valuation practices and their broader relationship with accounting.

In his early writings, Baudrillard (1972; 1976) had a fascination with value. In *For a Critique of the Political Economy of the Sign*, Baudrillard, seeking to move beyond Marxist concepts of use-value and exchange-value, proposes a theory of sign value, theorizing how value is created and consumed (Graham, 2008). The value of objects, for Baudrillard, is

derived from four logics. First is the functional logic of use value. It is the logic of utility, where the object is considered as an instrument. Second is the economic logic of exchange value. It is the logic of the market and the object takes the form of a commodity. Third, Baudrillard adds the logic of symbolic exchange, the logic of the gift. Here, the object becomes a symbol, such as the wedding ring. Fourth is the logic of sign value. It is the logic of status and difference, in which the object becomes a sign. Although this framework does not apply perfectly to the valuation of players' contracts, I follow Graham (2008), who argues that the notions of simulacra and hyperreality are connected to the critique of the sign. Moreover, these concepts are insightful to understand the valuation of "prestige" goods, such as artwork[31] and professional sport franchises, which plays a crucial role in this paper.

The book *Symbolic Exchange and Death*, published in French in 1976, marks a turning point for Baudrillard. After engaging with creation of value in capitalism in his early work, he introduces simulation and hyperreality as core concepts of capitalism, in which he argues that, in a postmodern[32] society, "every reality is absorbed by the hyperreality of the code and simulation. The principle of simulation governs us now, rather than the outdated reality principle" (p. 2). He denotes a structural revolution of value, as "*referential value is annihilated, giving the structural play of value the upper hand*" (p. 6, italics in original). In other words, there is a breakdown between the sign (value) and its referent. As Baudrillard (1993) mentions, value becomes increasingly the domain of models and simulations:

> The systemic strategy is merely to invoke a number of floating values in this hyperreality. This is as true of the unconscious as it is of money and theories. Value rules according to the indiscernible order of generation by means of models, according to the infinite chains of simulation. (p. 3)

[31] Baudrillard analyzes the art auction to explore the "passage from economic exchange value to sign exchange value" (p. 119).
[32] Despite being labelled as the "high priest of postmodernism," Baudrillard did not actually believe in the term "postmodernism," mentioning that "it's an expression, a word which people use but which explains nothing. It's not even a concept. It's nothing at all" (Gane, 1993, p. 21).

In Chapter 2, Baudrillard (1993) introduces the three orders of simulacra, "running parallel to the successive mutations of the law of value since the Renaissance" (p. 50). First is the *counterfeit*, which operates on the natural law of value. Second is the *production*, the order of simulacrum of the market law of value. Third is the *simulation*, the order of simulacrum on the structural law of value.

This idea that the sign precedes the reality is further developed in *Simulacres et Simulation* (Baudrillard, 1981). The concepts of simulation, simulacra, and hyperreality are extended and defined beyond the law of value to reflect on several aspects of postmodern society, particularly media, information technology, and mass communication, which have had notable impact on accounting (Macintosh et al., 2000). According to Baudrillard (1994), "simulation is no longer that of a territory, a referential being, or a substance. It is the generation by models of a real without origin or reality: a hyperreal" (Baudrillard, p. 1). This definition foregrounds the major thesis from Macintosh, Shearer, Thornton, and Welker (2000) that "many accounting signs no longer refer to real objects and events and accounting no longer functions according to the logic of transparent representation, stewardship or information economics" (p. 13).

Drawing on the successive phases of the image, Macintosh et al. (2000) trace the historical transformation of accounting to support their claim. In the first phase, Baudrillard denotes that the sign reflects a profound reality. It is a faithful and transparent representation. Macintosh et al. associate this era with pre-historic accounting from the Sumerian time and accounting in medieval England, emphasizing charge and discharge accounting, as forms of accounting maintaining a sign/referent relationship. In the second phase, following the order of the counterfeit, the sign masks and denatures a profound reality. Macintosh et al. argue that accounting entered the order of the counterfeit with the shift to permanent investment in stock companies in the 17th century, as income had to be distinguished from capital. In the third phase, the era of production, steered by the Industrial Revolution, the sign masks the absence of any profound reality: "Income was reconceived as the serialized, periodic return do depersonalized capital" (Macintosh et al., 2000, p. 25). Finally, in the fourth phase, the era of simulation, the sign precedes the reality (Baudrillard, 1994, p. 6). Macintosh et al. see the loss of transparency, executive stock options, earnings management, and financial instruments as evidence that we have entered

in the simulation accounting era. Accounting for financial derivatives exemplifies the self-referential paradox of hyperreality, as they argue: "Companies' earnings determine security prices, which determine derivative prices, which determine companies' earnings" (Macintosh et al. 2000, p. 36). From this perspective, accounting reaches a state of "hypertelia," a notion defined by Baudrillard as:

> a way of surpassing a function, past its own objective […] Things go too far […] with systems of economy, knowledge, production, if they go too far in the one direction they get carried away and over-reach their own limits, and at this moment they lose themselves in reversal (Gane, 1993, p. 91).

This is not to say that all accounting practices today are simulations from which signifiers are divorced from the referent. For example, on the balance sheet, the value of tangible assets such as inventory or plant, property, and equipment (PPE) closely maps its referent (Neu, Rahaman, Everett, & Akindayomi, 2010). Cash flows are also representative of the reality (Gumb, Dupuy, Baker, & Blum, 2018).

Baudrillard spoke of hyperreality as "the domain where you can no longer interrogate the reality or unreality, the truth or falsity of something" (Gane, 1993, p. 146). However, even if accounting is "hyperreal" and accounting signs are disconnected from their referent, accounting can nonetheless remain productive (Neu et al., 2010). In an interview, Baudrillard acknowledged that, "of course, simulation is *real*, has material consequences, and is valorized as such" (Gane, 1993, p. 157, italics in original). In this regard, Bougen and Young (2012) thoughtfully explore the productive features of simulacra, which, "as copies of copies," can create "something realer than the real" (p. 399). This concept is further developed in the context of earnings presentations. Bamber and Abraham (2019) theorize that the Q&A part is a hyperreal encounter in the Baudrillardian sense. What is presented to the audience is in fact a copy of copies as it was shaped by multiple rounds of rehearsals. The original would be the unscripted, unprepared version of the Q&A, which would be neither desirable for the firm nor for the analysts/investors. Therefore they argue that the copy is more useful that the original might have been, and that simulation can offer something "realer than real." Bamber and Abraham (2019) extend our understanding of hyperreality by stating the pre-fixe "hyper" does not necessarily mean that something is unreal; instead, it refers to an excess beyond the real.

Macintosh et al. (2000) mention that "while accounting signs might no longer refer transparently to real objects, they clearly are capable of influencing the day-to-day course of events in the material world" (p. 40). Gumb et al. (2018), in their study on the impact of accounting standards of the economic decisions of corporate treasurers, show that hyperreality is fostered by managers who create their own representations of accounting numbers. When he states that "the map precedes the territory" (p. 1), Baudrillard (1994) suggests that the process of simulation constructs new realities and redefines what is considered to be reality (Bougen & Young, 2012; Schinckus, 2018). As noted by Bougen and Young (2012), "simulacra precede the real, as it is through simulacra that we discover a real, with reality being forced to coincide with simulacra" (p. 392). While this process is reminiscent of the performativity thesis (MacKenzie, 2008) that has been well-developed in accounting research, Schinckus (2018) distinguishes financial hyperreality from performativity. Performativity, he argues, requires human intervention, whereas financial hyperreality, as a computerized imaginary construction of financial markets, does not. Exploring the implications of hyperreality in accounting, Macintosh et al. (2000) conclude with a thought-provoking question: "If accounting narratives no longer refer to the real realm of material production and economic activity in the classical sense, what does this mean for accounting and accountants?" (p. 45).

An underlying theme in Baudrillard's thesis is the relationship between power and hyperreality through simulation. The proliferation of simulacra and hyperreal events, produced by different actors of society, could pose a potential threat to power. He writes that: "Hyperreality and simulation are deterrents of every principle and every objective, they turn against power the deterrent that it used so well for such a long time" (Baudrillard, 1994, p. 22). However, when confronted by hyperreality and simulation, power can also use one weapon, that is "to reinject the real and the referential everywhere, to persuade us of the reality of the social" (p. 22). In this sense, Baudrillard argues that when power is confronted by reality, it reacts with deterrence and simulation. But when power is confronted by simulation, it responds by the real. Yet, by trying to secrete "a last glimmer of reality," power "does nothing but multiply the signs and accelerate the play of simulation" (p. 22).

In sum, the above discussion shows that Baudrillard's concepts of simulation, simulacra, and hyperreality are particularly insightful to understand how value is conceived. As Baudrillard noted, "value itself in an artifice" (Gane, 1993, p. 157), the product of simulations. In the financialization era, it has been suggested that valuation, at least in the financial markets, is increasingly disconnected from the "real" and more reliant on the imaginary (Haiven, 2014), or what Baudrillard would call the "make-believe." Finally, Baudrillard's concepts shed light on the interplay between valuation and accounting, as the emphasis on different signs by the different organizational functions foster different realities and explain how these functions—and power—operate.

4. Methodology

The idea for this study emerged following the enactment of the Tax Cuts and Jobs Act (TCJA), which basically made player transactions in the sports industry taxable events. Although the TCJA would impact all four top North American sport leagues, I selected Major League Baseball (MLB) as the site of inquiry because, based on prior institutional knowledge, I knew that in recent years MLB clubs had developed valuation practices related to players' contracts and that I could get access to clubs' executives.[33]

From an accounting research perspective, the North American sport business is particularly interesting, as it has been mostly over-looked by accounting scholars. The accounting practices is this field are generally unknown, especially because most North American sport clubs are privately owned and do not publicly disclose their financial statements.[34] However, every year, the financial magazine *Forbes* publishes a report on *The Business of Baseball*, in which it estimates clubs' value, revenues, and operating income. In its latest report, *Forbes* estimated the average club's revenue at $346 million and operating income at $50 million. *Forbes*' numbers are often questioned by clubs' executives (Spencer, 2008). That a "simulation" of financial numbers circulate in media outlets while the "real" financial numbers are hidden is particularly interesting from a Baudrillardian perspective.

[33] Prior to my doctoral studies, I worked in the baseball industry.
[34] One exception is the Atlanta Braves. For the 2019 season, the Braves reported revenues of $476 million with an adjusted operating income before depreciation and amortization of $49 million.

4.1. Interview Data

The primary dataset is based on 46 semi-structured interviews with former or current baseball industry actors[35] that took place between April 2018 and January 2021. Informants were recruited through personal contacts,[36] email, or LinkedIn. To protect the confidentiality of interviewees and to draw the most accurate picture of the industry, I sought to interview individuals from various MLB clubs rather than focus on a specific organizational case. In all, I interviewed representatives of 20 different MLB clubs. The first sub-group of interviewees (n = 10) included senior accounting executives (CFO, VP Finance, Accounting Director) that have been employed by MLB clubs, on average, for over 15 years. I also interviewed three former senior executives and one accounting consultant providing services to baseball franchises. The second sub-group of interviewees included baseball operations specialists (n = 28), such as scouts, coaches, and analysts. I also interviewed one minor league franchise owner, one human resources manager, and two members of media. The interviews averaged 50 minutes, ranging from 20[37] to 100 minutes. Because of geographic constraints (as MLB teams are in 26 different cities across North America), 33 interviews were conducted over the phone. Face-to-face interviews were realized with 13 informants. After seeking permission, the interviews were all audio-recorded and subsequently professionally transcribed.

The interviews with accounting executives were centered around three major themes. First, I asked informants about the responsibilities of the finance department of an MLB club and their primary challenges and concerns. Second, I questioned them about the relationship between the finance department and the baseball operations department, notably around budgeting processes and accountability issues. Third, I explored whether and how organizations account for the value of player contracts. The interviews occurred after the enactment of the TCJA but before the IRS issued a safe harbour. Therefore, the valuation of players' contracts was a topic of concern for senior accounting executives. For

[35] The research protocol was approved by York University Research Ethics Board.
[36] Prior to my doctoral studies, I worked in the baseball industry for an independent baseball team and for a Major League Baseball organization.
[37] Two informants made clear that they had limited time to answer questions and we aimed to maximize the interview.

the baseball operations specialists, considering their varied backgrounds and responsibilities, the interview format was less homogeneous in order to explore themes relevant to the interviewees. Depending on the role of the interviewees, more specific questions were asked about the acquisition and evaluation (scouts and analysts) and the monitoring (coaches) of players. The primary focus was nonetheless on how baseball players are evaluated and valued.

4.2. Secondary Data

To complement the interview data, I collected secondary data from multiple sources. First, I listened to over 50 hours of panels from two leading sport-industry analytics conferences, the *SABR Analytics* and the *MIT Sloan Sport Analytics Conference*. These events are held annually and gather experts from the baseball industry, including MLB clubs' baseball executives, influential media members, and outside consultants. During these panels, experts discuss various themes related to analytics, including player valuation. These panels allowed me to gather perspective from MLB general managers, which complemented the interview data.

Second, I collected available financial information from MLB clubs. Aforementioned, publicly-available financial statements are scarce. I analyzed the annual reports of Liberty Media, as well as financial information pertaining to the Cleveland Indians, a club that was briefly publicly-traded from 1998 to 1999. The most important financial information comes from the *Blue Ribbon Report* and from former MLB Commissioner Bud Selig's appearance before the House Judiciary Committee in December 2001. In 2000, to form the basis for the owners' collective-bargaining stance (Zimbalist, 2007, p. 161), MLB mandated an independent[38] panel to provide a report—the *Blue Ribbon Report (*Levin, Mitchell, Volcker, & Will, 2000)—on two core issues according to Selig: competitive balance on the field and economic stability of the clubs. Then, the following year, as part of Selig's presentation, MLB disclosed additional documents (unaudited consolidated industry forecast) that offer a glimpse of MLB financial situation at the time.

[38] The independence of the panel has been questioned (Pessah, 2015; Zimbalist, 2007) since its members have had close ties with owners or MLB. No one from the union was included.

Finally, in August 2010, the website Deadspin.com leaked the financial statements of six MLB clubs. I analyzed these documents because the numbers revealed were widely circulated in the media and, in some cases, became politically-sensitive. This was particularly the case for the Miami Marlins, as the numbers were disclosed during their negotiation with local governments for a new stadium. I analyzed these financial statements, highlighting the hyperreality features of MLB clubs' accounting.

Third, articles from online newspapers and specialized media sources was collected. The baseball industry is widely covered in North America with hundreds of publications (including newspapers and specialized websites) publishing baseball-related content daily. Using a systematic approach, a sample of approximately 300 articles was collected, read, and then analyzed. Articles about "player valuation," "baseball economics," "legal affairs," and "business" were collected from the specialized websites *FanGraphs.com* and *BaseballProspectus.com*, two popular sources for baseball analyses and statistics. I daily visited several baseball sites, including *FanGraphs.com*, *BaseballProspectus.com*, *SI.com* and *TheAthletic.com* during the 2018-2019 offseason to gather articles about current baseball issues, in particular those related to free agency, contract negotiations, and minor league players' wages. I also collected information regarding the TCJA and IRS memorandum about the sports business and analyzed court cases regarding the Roster Depreciation Allowance. I also researched all articles published in the *Miami Herald* from 2002 to 2017 pertaining to then Marlins owner, Jeffrey Loria, to understand how accounting was used to convince local governments to invest in a new baseball stadium. Finally, I read 20 business-related sport books, which provided significant institutional knowledge about the field and offered inside views on relevant issues, notably around player valuation.

4.3. Data Analysis

I followed Miles, Huberman, and Saldana (2014) by analyzing data concurrent with data collection. Data analysis was done in an iterative fashion, using an abductive approach (Lukka 2014; Lukka & Modell, 2010). I went through multiple rounds of coding, mostly for the interview and panel data. First cycle codes (descriptive coding, in vivo coding, and process coding) (Miles, Huberman, & Saldana, 2014) were initially developed to generate

emerging themes. This process allowed me to contrast data from baseball operations executives with data from accounting professionals, highlighting the tensions and dissonance between the two groups. Examples of codes pertaining to baseball operations executives are *asset, valuation, NPV,* and *modeling,* and examples of code pertaining to accounting professionals are *non-sense, cash,* and *GAAP*. Regarding the secondary data (media articles and books), the data was analyzed once I had a better idea of the emerging story and theorization. Considering the massive amount of data I collected, I isolated data regarding valuation of player contracts and analyzed it based on the codes developed for the interview data.

5. Analysis

The empirical analysis explores the issues of valuation of players' contracts in the baseball context using Baudrillardian lens, which shed light on broader issues regarding the interplay between accounting and valuation. The analysis is structured into four broad sub-sections. First, I describe the historical accounting significance of valuation of players' contracts. The second sub-section highlights practices undertaken by baseball operations to value of players' contracts. The third sub-section is related to how accounting professionals perceive these valuation practices, notably within the context of the Tax Cuts and Jobs Act. Finally, the fourth sub-section explores how, at a high-level, MLB clubs' owners capitalize on the interplay between accounting and valuation.

5.1. Accounting for players' contracts value

In the sport business, players' contracts are important business and accounting items, particularly in the European football industry, in which clubs have the opportunity to acquire (sell) players from (to) other clubs during specified transfer periods. Under International Financial Reporting Standards (IFRS), clubs capitalize acquisition costs on the balance sheet and recognize profit from the sale of players. Purchasing costs are subsequently amortized over the length of the player's contract. An analysis of financial statements of 18 member clubs of the English Premier League during the 2018-2019 season shows that the average book value of players' registration rights represented 45% of clubs'

total assets,[39] and that clubs generated average profits of £21 million from the disposal of players' contracts.

In North American sports, in which transactions usually involve players for other players,[40] the accounting practice of capitalizing players' contracts is mostly limited to signing bonuses. However, it has historically been an important accounting issue with legal ramifications. In the first half of the twentieth century, MLB clubs routinely traded players for money. One of the most notorious baseball players, Babe Ruth, was sold by the Boston Red Sox to the New York Yankees in 1920 for $100,000 (Haupert, 2015). Clubs generally directly expensed these "financial investments" in the year they were made (Haupert & Winter, 2003). This accounting treatment was eventually challenged by the IRS, which claimed that, because of the reserve clause,[41] players were under contract for a period of time exceeding one year. Thus, according to the IRS, players' contracts should be capitalized and amortized, although the capitalization method was challenged in courts in the late 1920s and early 1930s.[42]

The business practice of purchasing or selling players' contracts eventually faded away as clubs emphasized trading players for other players, but the valuation of players' contracts remained a contentious accounting question with the Roster Depreciation Allowance, a tax provision that allowed the purchaser of a sport franchise to amortize the portion of the franchise purchase price attributable to players' contracts. Because players' contracts were amortizable, and franchise rights (i.e., league membership, regional exclusively, revenue sharing, etc.) were not, the allocation between players' contracts and franchise rights was sometimes disputed in courts. In 1965, the owners of an NFL expansion team, the Atlanta Falcons, attempted to allocate more than 90% of the $8.5 million ($7,722,914) purchase price to the players' contracts, whereas the IRS valued the players' contracts at over $1 million. A consequence of the IRS valuation was that, for the

[39] The analysis shows that the average book value of players' registration rights exceeded £182 million.
[40] Monetary compensations are sometimes included.
[41] For most of its early history, MLB operated under the reserve clause rule, which meant that players were tied to their employing club for the entirety of their career unless they were traded or fired.
[42] In 1934, the Circuit Court of Appeals ruled in favour of the Pittsburgh Athletic Co against the Commissioner of the Internal Revenue.

years 1967 and 1968, the ownership group reported taxable income rather than loss.[43] In 1983, a US District Court stated that the allocation of 94% of the $10.8 million purchase price of the Seattle Pilots to players' contracts ($10.2 million) was reasonable[44] (Selig v. United States). In both cases, the courts made clear that "players are the primary assets of a professional [sport] club" (Laird v. United States) and that a trading market exists even if cash is not the currency. To avoid further allocation disputes, the IRS and Congress simplified the process by allowing 50 percent of the purchase price to be amortized over five years, a rule that was further altered in 2004, as 100 percent of the franchise price is now amortizable over 15 years (Keeney, 2016). The valuation of players' contracts in the United States came mostly out of the accounting scope until the TCJA brought taxation changes in 2017.

Concomitantly with the fading of the valuation of players' contracts for accounting and tax purposes came the rise of valuation practices within baseball operations departments. In the early 2000s, baseball was in the midst of a financial crisis. The liberalization of labour through free agency and arbitration considerably changed the financial structure of baseball teams, which had to pay increasing salaries to attract or retain star players. Except for a few big-market teams, most organizations faced the following problem: spending significant money on players' payroll would increase their odds of winning but also bring (potential) financial instability.

One such financially-struggling small-market club was the Oakland Athletics, portrayed in the best-selling book *Moneyball* (Lewis, 2003). Realizing that traditional performance metrics were overpriced in the free agent market, the Athletics started to look for market inefficiencies, using advanced statistics to identify and acquire players under-valued by the market. Arguably, *Moneyball* revolutionized the way baseball thought about—and valued—baseball players, as explained by one former Oakland Athletics executive:

> [We] always tried to build systems that were really flexible […] I know there was always a lot to talk about on-base percentage, but the reality was we were value

[43] In the ruling Laird v. United States, the United States Court of Appeals, Fifth Circuit, eventually valued players' contracts at $3,3035,000.
[44] The IRS argued that the value was at most $3.5 million.

> investors. At the end of the day, we were always trying to find value, whatever the market allowed at that particular time. (Paul DePodesta, former Athletics assistant GM, *SSAC 2016 Moneyball Reunion*)

Moneyball instilled a financial thinking in baseball front offices (Dubuque, 2019) with an influx of young, often Ivy League-educated and business-savvy individuals (Carleton & Morrison, 2016) coming into the management ranks. Whereas decision-makers in baseball operations had been in the business of evaluating players for decades, usually through scouting and traditional statistics (Phillips, 2019), they came to see themselves as investors, as emphasized by a baseball executive who mentioned: "ultimately, we are investing. I don't think you can invest well without a great process" (Jed Hoyer, *SABR Analytics 2013*). The financialized ethos in baseball operations motivated executives to adapt their process and to develop new player valuation tools to answer the fundamental question: what is this player's worth?

5.2. The valuation of player contracts by baseball operations

Essentially, the main concern for baseball operations is to win games and championships. League rankings and the number of wins in a season are key performance indicators (or signs) that closely map the referent point, which is the club's success level. To win, clubs need to assemble a roster of talented players, meaning that they have to shift their focus from *club* evaluation to *player* evaluation. During games, performance metrics are compiled, and subsequently analyzed by baseball operations analysts as part of the player evaluation process. With the investment mentality colonizing baseball operations departments in the years following *Moneyball*, MLB underwent a "data revolution," and clubs began to develop tools and calculations in order to support player evaluation and decision making. The metric *Wins Above Replacement* (WAR) eventually became the dominant sign when it comes to player evaluation. Fundamentally, the WAR metric measures the incremental contribution of a given player over a hypothetical replacement-level player (i.e., a minor leaguer promoted to MLB to replace an injured player).[45] As a

[45] It is assumed that a team composed exclusively of replacement players would win around 48 games out of 162 in a season. To qualify for the postseason, a team should win between 90 to 95 games and must fill a 25-man roster with players totalling between 42 and 47 WAR. A "regular" player contributes roughly two

retrospective metric, WAR boils down to a single number a wide-range of statistical outputs, and puts all players, regardless of their position, on the same scale. Even if WAR is the output of complex calculations and is not "perfect," the industry agrees that it generally maps its referent relatively well, as noted by a club executive:

> WAR puts all players in baseball on the same scale. There are ways to further refine that, but if you're looking for a quick and dirty way to get an assessment of a player, that's the way to go. (Matt Klentak, Phillies executive, quoted in Castrovince, 2019)

However, as alluded to in the previous sub-section, if winning is the key objective for baseball operations, for most clubs, it cannot be done at all costs.

Accounting constraints force clubs to operate within a budget, and players' payroll, by far the biggest expense line item, becomes another key sign. The objective thus becomes to maximize the number of wins within a given budget and to allocate financial resources efficiently. These financial imperatives trigger a significant shift for baseball executives, who must think beyond player evaluation. This is illustrated by the following quotes from baseball operations specialists:

> The frontier, from my perspective, is really turning that player evaluation into player valuation because that's what I care about […] You have to start thinking about, 'do we develop a Black-Scholes model for talent?' I mean, these are very much like stocks. They are speculative investments. How do you value given the risk? (Jeff Luhnow, former Houston Astros General Manager, *SSAC 2012*)

> The data revolution sparked a lot of sub-revolutions. One of those was we're going to stop thinking of players just in terms of: 'is he good at baseball or not?' We're going to start thinking of them more of in terms of how we value this asset short-term, long-term. How we value this asset within the context of our goal as an organization (Baseball Operations Specialist 17)

By considering players as investments and assets, baseball executives' focus turns on player valuation, which departs from player evaluation in three significant ways. First,

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WAR per season while All-Star players add over five WAR. Alternatively, a player could compile a negative WAR, indicating that he destroyed value over the benchmark replacement player (Baseball-Reference, 2019).

whereas player evaluation is mostly concerned about past and present performance, player valuation focuses on the future. From this perspective, the WAR metric is forecasted. Statistical numbers and biometrics data are notable variables in regression analysis models predicting a major league player's future WAR. Using probability-based formulas assessing players' riskiness, MLB teams' baseball analysts can also project future WAR for minor league or amateur players.[46] The farther the player is from MLB, the more the projected WAR is discounted by a higher risk-factor. Second, player valuation is not simply about measuring players' talent and performance, but mostly about assessing their "profitability." One informant explained that contracts parameters, such as salary and terms, are important variables to determine players' value:

> I think the way you want to think about players, like any company, is players are assets and we can acquire and sell assets. Assets have different values and different levels and different ages, and different times in their life or their contracts. You can take the same asset that's worth the same amount to you in production, but he costs more due to contracts or various other circumstances. […] What somebody is worth to you, that's something most teams are thinking about. (Baseball Operations Specialist 20)

Third, as the above quote indicates, player valuation implies that the dominant signs are to be expressed in monetary terms. To value players as assets, the first step is to determine the value of a WAR in dollars. A simplistic approach, often mentioned in the public sphere, is to consider how much the market typically values WAR using free agent salaries. Using statistical projections, clubs project the WAR production of each free agent and bid accordingly. Whereas each club may price a WAR differently based on their proprietary calculations and market specificities, at the industry level, baseball analysts estimate that one WAR is worth between $8 million and $10 million (Edwards, 2018; McDaniel, 2018; Sarris, 2019). For each player, the WAR production (or forecast) is then multiplied by the $/WAR to determine the production value.

[46] In their scouting reports, scouts are required to grade players' skills and to assign an Overall Future Potential (OFP) score. Teams' scouting databases compile quantitative and qualitative information provided on scouting reports to generate players' performance forecast translatable into projected WAR.

The next step is to calculate the player's "surplus value," which is done by subtracting the contractual commitments (salaries) from the WAR production value. For example, to replace Player B in Table 1, who is projected to provide 2 WAR, a club would have to pay $16 million for a free agent player. Because Player B's salary is $1 million, his projected surplus value is $15 million. Then, consistent with the Net Present Value (NPV) approach, teams can appraise the value of each player by applying a discount rate to the projected future surplus value. The ultimate number produced by the teams' database and algorithms represents the "player asset value."

Interviewees mention that there are variations in the methodologies and some teams are more inclined than others to use this financialized approach in players' contracts valuation, but most baseball operations informants acknowledge the disciplinary and commensurability features of the framework. The following quotes express such perspective:

> [It is a] nice framework for comparing teams, comparing players, looking at the value created by players, and it also lends itself nicely to putting players into financial terms, converting those WAR values into dollar values, which opens up a whole suite of different analysis techniques. It's not just a short cut. It's a productive framework and a good way to answer a lot of interesting questions about baseball. (Baseball Operations Specialist 25)

> I see the discipline in that. I see the value in [attempting] to value everyone in that way and to try to have some consistency. […] I think it helps [teams] drive their decision-making, it helps to bring clarity to what can be very difficult puzzles to solve. (Baseball Operations Specialist 16)

The "player asset value" framework is indeed useful for many decision-making situations, such as roster composition, establishing the value of a free agent, assigning signing bonuses, and valuing prospects and minor leaguers for trade purposes. On the flip side, there are limitations to the "player asset value" framework. Reducing players to one number comes with a loss of information. Moreover, baseball operations executives, in their communications with stakeholders (i.e., scouts, coaches, ownership, fans, media) must be able to explain their decisions beyond mentioning the single metric (Baseball

Operations Specialist 25). However, the biggest caveat is that "the goals of finance are different than the goals of baseball" (Baseball Operations Specialist 17). Despite the prevalent financial logics in baseball operations, MLB teams are not necessarily profit-maximization entities, as stated by a baseball operations analyst:

> There is the idea that you can value all of this stuff. You can treat it all like stocks, and bonds, and whatever, and try to maximize your portfolio, but maximizing your portfolio isn't really going to maximize your probability of winning a World Series (Baseball Operations Specialist 17)

As a sign, the player asset value departs significantly from the ultimate organizational objectives of winning games and championships, which are the dominant referents in baseball operations.

5.3. The player asset value, a hyperreal valuation model

Even if baseball operations executives have created financialized valuation devices (Chiapello, 2015), such as the player asset value, partly because of the accounting constraints imposed by finance departments, accounting executives have been mostly absent from the development or interpretation of these devices. In fact, with the TCJA repealing the tax-exempted like-kind exchanges in 2017, player valuation practices entered the accounting domain for the first time since the changes to the Roster Depreciation Allowance. For accounting executives, the new tax law was received with uncertainty and incomprehension, and perceived as a potential "administrative nightmare" (Accounting Executive 7), especially as how to value players in a way that could be justified to auditors and tax collectors. Even the founder of a consultancy that has developed a software to determine the dollar value to every professional baseball player admitted that calculating value for tax purposes "is the question that somebody has to answer, that nobody in the baseball space has" (Tankersley, 2018). This comment raises the question of why valuation practices developed for operational purposes may not be adequate in an accounting/tax context.

Unlike English Premier League clubs, MLB clubs carry very little intangible assets related to players' contracts on their balance sheet.[47] The difference is easily explained by how player transactions are structured within the two leagues. English Premier League clubs acquire players with cash, whereas in MLB, transactions usually involve players for other players. In the context of the TCJA, the chief legal officer of Major League Baseball argued that "there is no fair-market value of a baseball player" (Tankersely, 2018). One club's accounting executive echoed this comment, mentioning "there is not an interchange of players" (Accounting Executive 12) in baseball, in which players are exchanged for money. For accounting executives, the "player asset value" is therefore only hypothetical or, in Baudrillard's words, a simulation.

Since most MLB clubs are privately-held with light reporting requirements, reflecting the "simulated" value of baseball players is beyond accountants' concerns:

> I don't know how it can be done. And frankly, I don't know why it is something that should be done. I'm not sure ownership cares about that. The most important thing is how much cash is coming in, and how much cash is going out. Cash management is very important. This is what I care about. Profit and loss statement and balance sheet are not that important. (Accounting Executive 10)

The above citation is representative of how the informants working in an accounting role view the role of a finance department for an MLB club. Especially for clubs that are not a subsidiary of a publicly-traded company, managing cash flows is the key concern and ownership is mostly interested by cash-basis accounting reports, which closely "map the referent" (Gumb et al., 2018), as they have not been through simulation processes and orders of simulacra (Macintosh et al., 2000). The following quote further epitomizes the emphasis on cash-basis accounting in the industry:

> They just care about the cash. That's why I say cash is king in this business. We have to do GAAP accounting for our auditors, as required by the league and by the banks, but there is a baseball accounting for which is basically 'what are your commitments and your cash payments?' That's a challenge for a baseball team, doing GAAP accounting, and more industry-related accounting. (Accounting Executive 3)

[47] This is based on a sample of five clubs that had their financial statements leaked in 2010.

There is a nonetheless a consensus amongst interviewed finance executives that MLB clubs are a "baseball-driven business." One of the most important cash outflows is related to players payroll, which is estimated to oscillate around 40% of clubs' revenues.[48] In most cases, MLB player contracts are guaranteed. Therefore, player salaries are fixed costs, as described by one accounting manager:

> The implications of a bad contract dwarf anything else we do here. We could go $1 million over budget on something on the business side, but that's not even close to the implications of spending $30 million over the next three years on a player that doesn't play. (Accounting Executive 9)

Whereas this quote refers to the budgetary pressures from a "bad contract," it also implies that there are "good contracts," which occur when players over perform their salaries. Intuitively, winning teams are more likely to draw fans, thus increasing revenues. Productive players with a relatively low salary are considered valuable.

At a high-level, MLB clubs accounting executives generally agree with their baseball operations counterparts that players are the primary assets of a professional sport club. One accounting executive acknowledged that "if you think of a sports team, the value is in the players. It is most valuable element," even though this value is not reflected as assets on the balance sheet (Accounting Executive 6). However, assets can have value without valuation (Svetlova, 2018). According to accounting executives, the value of player assets is inherent in the franchise value, but it is futile to try to value players intrinsically and separately (Accounting Consultant 1). One informant commented: "It's kind of a reach to [try] to determine what a player value is in terms of dollars and cents. I think ultimately it comes down to the team wins. A player may be worth a lot, but it has limited value when the team is not successful" (Accounting Executive 4). This quote refers to the difficulty of establishing a consistent valuation method across all clubs. The value of a player depends on several factors, including the overall team performance and the size of the club's market: the same performance would theoretically yield more revenues in a bigger market than in a small market.

[48]For the year 2019. Total team payroll data collected from www.spotrac.com; Total revenues data collected from https://www.forbes.com/mlb-valuations/list/

The methodology to calculate the "player asset value" based on an industry-wide $/WAR number is considered by most accounting executives as a simulation lacking an accounting substance. This is acknowledged also by baseball operations analysts:

> You have a player with control over two more years. If you're not going to [compete for these two years], it really devalues the player compared to having the same player to a different team that might fit the major league team [best]. So, the same player might be worth two different dollar figures to two different teams. (Baseball Operations Specialist 15)

> I think from an accounting standpoint, we don't really tackle it in that way. What we do in baseball operations, which is trying to win baseball games, doesn't tie perfectly to dollars. If you have a winning team you're gonna do better on the business side. That's gonna drive ticket sales, sponsorships, opportunities for revenue. But it's not like every time so-and-so hits a home run we make $5,000. It's not that straightforward. (Baseball Operations Specialist 16)

A different approach is to consider the marginal revenue of a player (Scully, 1974). In this line of thinking, teams can calculate how much marginal revenue— from ticketing, merchandising, sponsorship—is generated from additional wins. The team's position in the standings, its likelihood to reach post-season play, market-specific characteristics, and the elasticity of its attendance are all factors that should influence the monetary value of a WAR (Law, 2017). Some clubs' accounting executives relate that part of the budgeting process is to determine how much extra revenues is expected to be generated by extra projected wins. However, although "there is a broad correlation between winning and selling tickets, the correlation is not super direct" (Accounting Executive 2). For some clubs, revenues are not as sensitive to team performance or may lag team performance, as emphasized by an accounting executive:

> Frankly, it's rare that we look at a player and look what the impact will be on the revenue. [We] might be a little different because we have a very passionate fanbase here and people just like to come to the park itself. We don't see big swings in attendance. We do see down years, but our down year might be that we are down 2,000 fans per game for the year […] You get into the other issue that it's hard to

> predict what one player will do when you have a team of 25 players, it's hard to isolate that player. I think it's such a leap to go from player performance to revenue, it's not worth the exercise, we very rarely place a revenue number on a player's acquisition. (Accounting Executive 12)

The relative inelasticity of revenues to team performance mentioned in the above quote is compounded by the fact that, in recent years, MLB clubs have become less reliant on in-stadium revenues, driven by fan attendance. A recent estimate, before the abbreviated 2020 season due to the COVID-19 pandemic, indicated that 40% of revenue comes from tickets, concessions, and other gate-related income (Passan, 2020). The other 60% of revenue comes from local television contracts (long-term contracts that do not fluctuate based on team performance) and national revenue sources (national television contracts, league-owned media entities, licencing, merchandising, and corporate sponsorships) that are equally distributed among the 30 clubs. Moreover, a portion of "high-revenue" clubs' local revenues are transferred to "low-revenue" clubs through a revenue sharing scheme.[49]

There is however one type of player-related intangible asset that appears on (most) clubs' balance sheet: signing bonuses. When they sign their first professional contract, amateur baseball players receive a signing bonus from the organization, which then secures their exclusive rights for at least the next six years.[50] Players cannot move to another organization unless they are traded or released. Signing bonuses can be significant expenditures, as MLB teams spent on average $10.5 million to sign players selected in the 2019 draft and more than $5.5 million in the 2018-2019 international free agent market, for an average total exceeding $16 million.[51] Some teams elect to directly expense bonuses as incurred, in line with cash-basis accounting principles.[52] GAAP-compliant teams

[49] The system is based on revenue, not on profitability. Under the terms of the 2017-2021 collective bargaining agreements, 34% of the local revenues (ticket sales, corporate sponsorships, food and beverage, local TV and radio broadcast deals) less stadium operations expenses are subject to revenue sharing. Revenue sharing was strongly resisted at first by high-revenue clubs—New York Yankees' owner George Steinbrenner once compared it to a "socialist state" (Pessah, 2015).

[50] Teams hold exclusive rights on players for the first six years of their minor league careers. If they are promoted to the major league level, teams hold their rights for another six years. Minor league contracts are not guaranteed. Therefore, MLB organizations can release (layoff) players at any time without compensation.

[51] Data manually collected from https://www.mlb.com/draft/tracker

[52] The Internal Revenue Service requires MLB teams, for taxable purposes, to capitalize and amortize players' contracts for a seven-year period (IRS, 2013). From a financial accounting standpoint, MLB teams have some discretion over the accounting policy regarding amateur signing bonuses.

capitalize the amounts on the balance sheet, subsequently amortizing them over a specific timeframe. However, as illustrated by an accounting executive, this capitalization policy is not popular at the ownership level:

> I know owners get really frustrated when they got all this stuff tied up in the balance sheet and they have to look at the cash flow statements and see weird lines of players' acquisition costs plus cash, minus cash. They say: "I committed $14 million in the draft, I know 50% of it is going out in July/August and the rest of it is going to go out next year in February. Why does it look crazy?" Well, GAAP. (Accounting Executive 2)

Although the capitalization of signing bonuses represents a departure from cash-basis accounting, one could argue that it is more informative of the club's future situation. The best amateur prospects command high signing bonuses, thus, in theory, clubs that have invested the most in signing bonuses are likely to reap the benefits in the future. Signing bonus spending is one of the rare numbers that gets reported externally. Informants mentioned that, when the club is struggling, managers and ownership tend to communicate to fans that the club has invested to acquire promising players. Moreover, because the intangible assets represent the amount of dollars spent to acquire amateur players, at first sight, there is not a complete sign-to-referent breakdown. However, as reminded by an accounting executive, capitalized signing bonuses may not tell much more than the historical costs at which players were acquired: "The reported valuations are the acquisition costs. The dollars spent, that's the initial valuation. It shifts from dollars spent on the prospects to [other variables]" (Accounting Executive 2). The shifting happens either up or down. In some situations, prospects become successful major league players and their "value" rises considerably. As per GAAP accounting rules, the "value" is not driven up in financial statements. In most cases, prospects do not reach the MLB level and are released with an unamortized amount tied to their names. Therefore, clubs need to write the intangible assets off.

In sum, this sub-section illustrates that, according to accounting professionals, the valuation of player contracts is utterly complex, and that reflecting the value of players in the financial statements would require "a lot of judgment" and a "lot of subjectivity,"

producing financial numbers disconnected from the underlying reality of the finance department (which is to manage cash flows). Even the capitalization of signing bonuses creates unnecessary net income volatility and renders financial statements less interpretable. Whereas accounting executives agree that players are indeed assets, they maintain that players cannot be intrinsically and separately valued. Ultimately, the IRS agreed that valuation of player contracts lacks accounting substance. The valuation issue convinced the IRS to provide a safe harbor procedure "permitting teams to treat the value of traded personnel contracts and draft picks as zero if certain conditions are satisfied" (IRS, 2019). The IRS (2019), emphasizing on the "subjectivity" of the valuation processes, cited "it is unusually difficult to assign an objective monetary value to the personnel contracts or draft picks."

5.4. The hyperreality of MLB clubs' accounting

The previous two sub-sections explored how the baseball operations and finance departments operate in two different "realities," a chasm that is exemplified by the valuation of players' contracts. This sub-section explores the interplay between these "realities." First, it focuses on the consequences of the player asset value framework on MLB clubs' finances, and second, on how MLB clubs' owners can orchestrate value creation through this interplay.

5.4.1. A "realer than real" system

Most interviewed individuals in baseball operations and finance stressed that there is a divide between their departments. The relationship is "cordial and very important" (Accounting Executive 2), but departments operate within distinct (hyper)realities. This is not to say that the accounting function does not have an influence on baseball decisions—as all teams operate under a budget—but the important baseball decisions (e.g., free agent signing, significant trade, players' payroll budget) are undertaken by the baseball operations department and approved at the ownership level without much consultation with finance professionals, as explained by an accounting executive:

> I really think baseball drives it […] I really don't know that anybody in finance drives it, but I think what I've seen with clubs is when ownership has a fiscally-driven plan, finance has more sway in what is done because finance has been [appointed to say] this is the overall plan put out by ownership or senior leadership. They're the ones to guide on that path […] But for an organization not necessarily dialed in the dollars in making decisions, finance has a diminished role on that senior level. (Accounting Executive 2)

Therefore, the analysis suggests that, even if MLB clubs' accountants routinely navigate between four set of books—cash-basis accounting; GAAP-accounting; tax-accounting; and MLB format for league-wide reporting—it is a fifth set of books, developed and managed independently within the baseball operations department as "a system of assigning values to players" (Accounting Executive 11), that has the most material consequences for organizational decision-making. In this case, the *player asset value* act as a version ("copy") of accounting and is, despite the accountants' claims that it lacks an accounting substance, nonetheless productive and useful. On some levels, it is a "realer than real" accounting system.

Valuation practices are often derived from a need to justify actions to ourselves or to others (Boltanski & Thévenot, 2006; Stark, 2011). The baseball context is particularly auspicious to justify actions with valuation devices because of the emotions and passionate interests of various stakeholders (Baxter, Carlsson-Wall, Chua, & Kraus, 2019). One former MLB team general manager mentioned that *Moneyball* became important because ownership groups started to realize that their club could benefit from relying more on corporate practices (Neyer, 2018). These new valuation practices emerged as tools to sanitize clubs' finances and to invest only in productive "assets," as summarized by a baseball reporter:

> Teams, drawing on analytics that assign specific dollar values to individual players, enter free agency with a pre-determined notion of what a player is worth. The teams' evaluation models are similar, so often the values they assign player are similar. And with the market increasingly flooded with interchangeable parts […] teams can wait to get the best possible deals. The smaller the contract, the better the chance for surplus value. (Rosenthal, 2019)

The above quote indicates that, although the player asset value framework can be conceived as a simulacrum, it has had "real" consequences on clubs' finances by restraining player salaries.

In the late 2010s, with the ever-rising revenue streams from broadcasting and media rights, it was suggested that financial constraints may not justify anymore to (re)-produce simulations regarding player contracts value (Lindbergh, Sullivan, & Dubuque, 2019). However, the *player asset value* framework has been "copied" over by specialized media, which have adopted the finance language to analyze baseball decisions. Players' contracts are discussed in terms of risk and return on investment (ROI) (Kaplan, 2019) and transactions are scrutinized with financial tools (McDaniel, 2018). Likewise, financialized valuation methods are used to value each team's farm system (Edwards, 2018) and draft picks (Rescan & Alonso, 2018). The advent of specialized baseball websites such as *FanGraphs* and *Baseball Prospectus* has created platforms for baseball analysts to provide cutting-edge analyses before joining MLB clubs' front offices.

The player asset value framework has started to permeate how fans think about player transactions, as acknowledged by one accounting manager: "[Surplus value] is a proxy for a good signing. That's the first thing I do when I see a signing. Okay, it's 5 years at $40 million, what does that work out in terms of surplus value?" (Accounting Executive 9). A suggested repercussion of this "realer than real" accounting system is that it continues to restraint ownership over handling multi-year contracts to free agent players. One team president noted during an analytics conference that emotions in baseball can easily impact decision making. The player asset value framework serves to distance executives from their emotions. This perspective is stated by a baseball writer:

> I think one thing that has led to the free agent freeze is in part due to the sabermetrics and the writing because you don't want to be the one who signs [bad contracts]. Four or five years later, you have people writing to make fun of you every single day. […] No teams are in danger of going broke because of all the money coming in. But you don't want to be the guy paying $20m or $30m to a player who is contributing nothing to your bottom line. That's a big culture change. (Rob Neyer, *SABR Analytics 2018*)

Another significant consequence of the financialized ethos in baseball was "tanking," defined as "clubs intentionally fielding teams of players less talented than they could field" (Calcaterra, 2019), a phenomenon that became widespread in the 2010s. As calculations showed that it is more profitable over time to invest in the draft than in free agency, some clubs have been less inclined to spend massively in the free agent market in recent years (Rosenthal, 2019), preferring to allocate their budget to sign and develop younger players, emphasizing the future than the present. Moreover, because of the relative inelasticity of clubs' revenues to team performance, it was possible for these intentionally struggling teams to increase their profitability by reducing players payroll expenses while maintaining a significant level of revenues.[53]

5.4.2. The hyperreal accounting claims of MLB clubs' owners

> "I told the owners to judge me on the value of their franchises. It's fair to say they did all right while I was in charge" - Former MLB Commissioner Bud Selig (Selig & Rogers, 2019)

Despite the emphasis on cash-basis accounting, the analysis of accounting disclosure performances[54] by MLB clubs' owners in the last decades indicates that different numbers are produced and circulate in frames of consumption (Vollmer, 2007), contributing to the hyperreality impression of financial numbers. In 2000, MLB disclosed the *Blue Ribbon Report* (Levin et al., 2000) that showed that during the period 1995-1999, only three teams out of 30 generated a positive operating income and that, in aggregate, MLB teams lost $1.049 billion. However, the financial magazine *Forbes* estimated that during these years, MLB clubs made a $400 million profit (Pessah, 2015). In 2001, appearing before the House Judiciary Committee, Baseball Commissioner Bud Selig provided documents showing that 25 clubs were expected to lose money (and only five would make money) and that the consolidated loss for all 30 clubs was estimated to be $519 million. Excluding interest

[53] For example, Forbes estimated that in 2013, the Houston Astros, generated operating income of $55.9 million despite having the worst record in MLB, with 51 wins and 111 losses.
[54] It is primordial to emphasize that most MLB clubs are privately-owned, and because financial statements reporting is not mandated, accounting disclosures are scarce, and often happened strategically in the context of negotiation with stakeholders (notably the player union and governments).

expenses, depreciation and amortization, the consolidated loss was reduced to $232 million. On the balance sheet side, Selig stated that total industry debt was over $3 billion, a number that ballooned to $8 billion when adding deferred compensation and future guaranteed obligations to players. That different numbers were mentioned to express losses and debt indicate a sign-to-referent breakdown in MLB's accounting. Members of Congress and players criticized these numbers for being disconnected from any external reality:

> The summary information they have turned over to us is meaningless in the absence of learning details concerning related party transactions, salaries and fees received by the owners and their families, and the impact of stadium acquisition loans by stadiums. In essence, what they have told us is, "We lose money, but we can't trust you with the details." (Rep. John Conyers Jr., D-Michigan, quoted in Associated Press [2001])

Whether the accounting numbers from the *Blue Ribbon Report* and from updated version presented at the House Judiciary Committee in 2001 faithfully represented the external reality of MLB clubs' financial performance is beyond the point. Rather, the argument is that clubs, in their accounting claims, often depart from cash-basis accounting and operating income, to focus on net income, accounting for interest, depreciation and amortization expenses. Depreciation and amortization expenses are notable accounting items that are derived from the interplay between valuation and accounting. The Roster Depreciation Allowance (RDA) has been a significant non-cash expense for several clubs over the years. A former club president once said, referring to the RDA: "under generally accepted accounting principles, I can turn a $4 million profit into a $2 million loss, and I can get every national accounting firm to agree with me" (Alexander, 2013).

The case of the Miami Marlins illustrates how the valuation of players' contracts—that is how much of the purchase price is attributable to the value of players' contracts—impacted clubs' accounting. When Jeffrey Loria purchased the Marlins in 2002 for $158.5 million, he quickly turned his attention toward convincing local governments to build and finance a new baseball stadium. He often reported the club's accounting losses to media, usually in the neighborhood of $20 million per season (Dorschner, 2003; Jackson, 2004; Stoda, 2003). As the Marlins were getting closer to an agreement with Miami-Dade County

for a new stadium, *Forbes* estimated that the Marlins were amongst the most profitable teams in MLB. In August 2010, the website Deadspin.com published leaked financial statements of five clubs, including the Marlins. The financial statements revealed that the Roster Depreciation Allowance certainly played an important role in "creating" the accounting losses reported by the Marlins, something that *Forbes* did not include in its estimations. When the Marlins franchise was bought in 2002, a cost of $152.6 million was recorded for franchise rights and other intangibles, including $98.6 million (64%) to the value of players' contracts, which were amortized within six years. The value of concession and parking rights, national and local broadcasting rights, and sponsorship agreements, amounting to $23.1 million, had been mostly amortized prior to 2008. Therefore, between 2002 and 2007, the Marlins amortized nearly $121 million of intangible assets, which artificially contributed to the reported accounting losses.

Another way that sport team owners can obfuscate the "real" performance of their club is by manipulating the boundaries of the firm. Sport team owners often own other related assets, such as the stadium, parking, concessions and TV stations that broadcast the games. These assets can be set up as separate legal entities. Because of the revenue-sharing scheme implemented in MLB, in which a portion of "high-revenue" clubs' revenues are transferred to "low-revenue" clubs,[55] ownership has incentives to shield money away from other clubs in related-party transactions. For example, in 1997, former Marlins' owner Wayne Huizenga claimed that the club lost $34 million despite winning the World Series. Wayne Huizenga was also the owner of the stadium in which the Marlins played and the owner of the sports TV network broadcasting Marlins games, and therefore had the opportunity to allocate Marlins' revenues to the stadium, and to deflate broadcasting rights. Zimbalist (2010, p.15), arguing that this accounting was part of a strategy to shame local governments to build a new retractable-roof stadium, debunked these claims and rather estimated that the Marlins made a profit of $13.8 million, adjusting for $40.1 million in revenues that had been attributed to the stadium and subtracting $3 million of bloated costs. Moreover, the franchise value appreciation is often omitted by owners in their communication with stakeholders. For example, when the COVID-19 pandemic forced MLB owners and

[55] The system is based on revenue, not on profitability.

players to negotiate the terms of an abridged season, two owners made the following comments regarding clubs' finances:

> The industry isn't very profitable, to be honest. [Players] think owners are hiding profits […] It's a bit of a zero-sum game" (Bill DeWitt Jr. St. Louis Cardinals owner, quoted in Rogers, 2020a).

> Here's something I hope baseball fans understand. Most baseball owners don't take money out of their team. They raise all the revenue they can from tickets and media rights, and they take out their expenses, and they give all the money left to their GM to spend. The league itself does not make a lot of cash. I think there is a perception that we hoard cash and we take money out and it's all sitting in a pile we've collected over the years. Well, it isn't (Tom Ricketts, Chicago Cubs owner, quoted in Rogers, 2020b)

Even if, after adding back revenues attributed to related assets and amortization of franchise costs, MLB clubs are "unprofitable" or break even, owners are likely making significant return on their investment from rising franchise valuation. According to *Forbes*, the average franchise is worth $1.85 billion (Ozanian & Badenhausen, 2020). In 2020, during the COVID-19 pandemic, the New York Mets were sold for over $2.4 billion (DiComo, 2020). In 2019, the Kansas City Royals, one of the small-market clubs, were sold for $1 billion. The prior owner, David Glass, had purchased the club for $96 million in 2000 (a pre-tax compounded return on investment of 12.43%). In 2017, Jeffrey Loria sold the Miami Marlins for $1.2 billion. In 16 years as the owner of the Marlins, despite the claimed accounting losses, the franchise value appreciated by more than $1 billion.

Focusing on clubs' net income (net loss) numbers and omitting rising franchise valuation obfuscate the "real" financial portrait of MLB clubs. But the example of the Miami Marlins—a struggling franchise with a damaged brand after years of alienating fans and the community—also shows that franchise valuations are simulacra. There is a limited number of professional sport clubs and the value of a franchise often depends more on prior transactions than on intrinsic characteristics. Franchise value is more often than not completely disconnected from accounting income numbers: "If the reported financial losses of franchises were the whole story, it would defy all the laws of economics for team

values to be rising over the years" (Zimbalist, 2010, p. 9). As reminded by a minor league franchise owner, in professional sports, "the values have no relevance to profit" (Minor league team owner 1).

In summary, this section showed that accounting simulations, such as the player contract valuations, and MLB clubs' rare public statements about accounting, often providing a hyperreal version of financial performance, are productive for owners. They act as simulacra and become "realer than real." With regards to the early 2000s accounting performances, Commissioner Selig convinced the owners to act to improve the league's and clubs' financial situation, increasing the revenue-sharing scheme and imposing a luxury tax threshold—provisions that were opposed by the players' union (Pessah, 2015). MLB clubs' owners claims of "unprofitability" played a significant role to convince governments to provide subsidies and grants to build or renovate baseball stadiums (deMause & Cagan, 2008). Since the turn of the 21st century, 16 baseball stadiums occupied by Major League Baseball (MLB) teams have been built and only one of them was entirely privately funded (National Sports Law Institute, 2017). Finally, the argument that the valuation of player contracts is "hyperreal" was productive for MLB clubs. According to one estimate, the new tax law would have created a new latent deferred tax liability of, on average, $23.7 million for each club, representing 61 percent of a club single year's operating revenue (Chambers, Elzweig, & Shaheen, 2018).

6. Discussion and Conclusion

The objective of this paper has been to explore the interplay between accounting and valuation, using the baseball industry as a backdrop. The review of the accounting literature suggests that, in some cases, accounting and valuation are disaggregated practices, as other regimes of worth compete with accounting (Boltanski & Thévenot, 2006; Mennicken & Power, 2015), which create moments of dissonance (Stark, 2011). Empirically, this paper is motivated by the enactment of the TCJA in 2017, which made player trades in the American sport business taxable transactions, forcing sport clubs' finance department to value player contracts in monetary terms, an endeavour already undertaken by most MLB clubs' baseball operations departments. The TCJA created a situation where valuation

collided with accounting, but rather than creating a "new accounting object" (Mennicken & Power, 2015, p. 215), accounting professionals declined to support the relevance of these valuation practices, which "failed the test of accounting" (Annisette & Richardson, 2011). According to accountants, the TCJA would have created a valuation puzzle and an "administrative nightmare."

This paper argues that Baudrillard's notions of simulation and hyperreality shed light on the interplay between accounting and valuation. The analysis also reveals that distinct referents and signs dominate MLB clubs' baseball operations and finance departments. From a baseball operations perspective, winning games and championships is the key concern, and players are evaluated in terms of their marginal contribution with the WAR metric. However, to achieve owners' objective to maximize return on investment, baseball operations operate within a budget, mostly centered around players' payroll. To combine the sport logic with the financial logic (Carlsson-Wall, Kress, & Messner, 2016), baseball operations developed new calculative tools and valuation practices following an accounting-like logics, drawing on the Discounted Cash Flow model (Chiapello, 2015; Doganova, 2014). These valuation practices derived a sign, the player asset value, that is simultaneously productive and relatively detached from its referent (winning).

From the finance department perspective, the main concern is on managing cash flows, and both cash outflows and inflows are the dominant signs. According to accounting executives, the "reality" of a sport club accounting is presented in a cash-basis accounting format. The profit and loss statement and the balance sheet, which follow GAAP, do not have the ability to convey meaningful information to ownership and to the various department heads, including baseball operations. The case presents the capitalization of signing bonuses, intangible assets related to players' contract, as an example of a "sign-to-referent breakdown" that creates volatility and uncertainty in the financial statements. The empirical analysis shows that the finance department dismissed the idea of assessing the value of players' contracts in monetary terms, especially for accounting and tax purposes. Even if, arguably, players are the primary assets of a sport club, as stipulated in court cases, accountants state that player contracts valuation cannot be grounded in any accounting reality. According to accounting professionals, the valuation practices in baseball operations are, in Baudrillard's words, simulations, which create a hyperreal accounting

system. It is important to emphasize that, in this paper, the term hyperreality is used, following Bamber and Abraham (2019), to express something beyond the real.[56] The accountants acknowledge that players' contracts exist, and that these contracts have a value, but that the value of a player's contract cannot be determined according to the "reality" of accounting. In this regard, this paper suggests that systems of signs foster the emergence of different realities within organizations, realities that can be conceived as hyperreal by organizational actors that are in a different silo.

By drawing on Baudrillard, this paper contributes to valuation studies, notably by suggesting that value is the domain of models and simulations, and that it depends on simulations. Both in the accounting and valuation literature, several scholars (e.g., Barman, 2015; Muniesa, 2011; Plante, Free, & Andon, 2020) have demonstrated that valuation requires work. Simulations are part of this work. The empirical case of the baseball industry shows the different steps required to transform a player into a valuable asset. In a way, the *player asset value* number is a sign that precedes the (accounting) reality. It does not depend on the veracity of accounting numbers. It is hyperreal in the sense that it brings an excess beyond the "reality" of accounting or of baseball (as baseball operations specialists acknowledge that the player asset value does not necessarily represent their reality, which is to win games). Rather than being "unreal," the *player asset value* becomes a new reality constructed through models and algorithms (Bougen & Young, 2012). Moreover, because it is copied and reproduced in media while the "real" accounting numbers are obfuscated, it becomes "realer than the real."

Furthermore, this paper shed lights on the distinction between evaluation and valuation, a core issue in valuation studies (Dewey, 1939; Vatin, 2013). In baseball operations, player evaluation is related to player performance and talent, whereas player valuation is related to player profitability. Player evaluation and player valuation depend on different temporalities and on different signs. Player evaluation is related to past and present performance. The WAR metric is one of the dominant signs for player evaluation. On the flip side, player valuation depends mostly on future performance, and the forecasted WAR and salaries become the key signs, meaning that player valuation is expressed in

[56] As demonstrated by Mattessich (2003), the pre-fixe "hyper" "may refer to an excess beyond the norm but not necessarily to anything unreal" (p. 452).

monetary terms. Therefore, a comparison of two players, as demonstrated in Table 1, could show that the best player is not necessarily the most "profitable" one. This shift from player evaluation to player valuation, driven by simulations, has had, in Baudrillard's words, "material consequences" (Gane, 1993, p. 157). Compounded by the relative inelasticity of MLB clubs' revenues to team performance, the focus on player valuation may direct clubs' attention away from winning in the present and towards accumulating a portfolio of "highly-profitable" players.

Even if the baseball operations "reality" is not transposed or integrated within the accounting "reality," this paper shows that, at the ownership level, it has been instrumental to the sanitization of MLB clubs' finances. However, the analysis indicates that accountants may have played a lesser role than baseball operations in restoring MLB clubs' profitability. I posit that the accounting frame (standards) and the obsession of accounting with the idea of representing "reality" push valuation work away from the accounting sphere. In the baseball case, accountants are involved with valuation only when accounting standards mandate them to do so, and in most circumstances, the involvement is limited to record the outcome of the valuation work, not to conduct it.

Accountants shield themselves by delegating the valuation work to experts (Coslor, 2016; Coslor & Spaenjers, 2016; Plante et al., 2020). This is not without consequences for accounting and accountants. The case analysis indicates that the parallel accounting system implanted in baseball operations becomes the dominant system for strategic decision making, undermining the influence of the finance department on baseball operations. These new accounting signs (WAR, $/WAR, player asset value) circulate in the industry and become cyclical and self-referential to the point that player salaries are suppressed by the outcomes of the simulations. Accountants are still involved in setting the budget and recording the transactions, but most important financial decisions—such as signing a free agent player—are made at the ownership level, bypassing the finance department. As a consequence, accountants' roles may be limited to bookkeeping and controlling the business-side departments (e.g., ticketing, marketing, concessions, etc.), which, in the sport context, are not the primary drivers of organizational success. In this regard, accountants may not have the "strategic" role that is often depicted in the accounting literature, including in the sports industry (Janin, 2017).

This paper also contributes to the accounting literature by highlighting that hyperreality is a core feature of sport clubs' accounting. For internal purposes, cash-basis accounting reports are favoured, but for external purposes, the emphasis is on GAAP-compliant financial numbers, which bring a sign-to-referent breakdown. Because MLB clubs' financial statements are not publicly-disclosed, owners have the power to present accounting numbers that are "hyperreal," in the sense that the public cannot interrogate their "reality or unreality" (Gane, 1993, p. 146). Different layers of numbers present a different reality. For example, the income from operations or the EBITDA, calculated by *Forbes*—which closely maps the cash-basis accounting prized by the accountants for its "realism" and "objectivity"—presents a different reality than net income. Whereas clubs can be considered profitable from a cash-basis accounting perspective, they may not be anymore when considering interest or non-cash items such as depreciation and amortization expenses.

This paper illustrates that the interplay between valuation and accounting, notably when it comes to intangible assets (players' contracts and franchise rights), contribute to the "strategizing" exercise (Kornberger, 2017) conducted by MLB clubs' owners in their political game with governments and the players' union. The most prominent example in this paper is the Roster Depreciation Allowance. Whereas accountants claim that player contracts cannot be valued, paradoxically, it was a widespread practice that owners engage with to reduce their tax liabilities and to present their accounting in a politically-favorable way. I posit that, in this regard, accounting enters in a state of "hypertelia," that it surpasses its function to convey useful information to stakeholders. The question thus becomes how accounting can be presented in a way that is useful for the clubs' owners.

When confronted by the reality of rising player salaries in the late 1990s and early 2000s, owners responded with claims of losing money, arguably intensified by the amortization of the Roster Depreciation Allowance, a simulacra used to inscribe the value of players' contracts into the clubs' books. The outcomes of additional simulations in baseball operations, such as the player asset value framework or similar calculative practices, have contributed to suppress, or at least control, player salaries, and to swing the power balance towards ownership in labor relationships. Years later, when simulations posed a threat to power, such as when the TCJA required clubs to value player contracts,

owners and accountants "reinjected the real," persuading the IRS that player contracts cannot be valued in monetary terms. Another example is when the owners "omit" to consider the rising franchise value in their accounting.

Although not necessarily a core focus of this paper, the franchise value is nonetheless relevant to further engage the ideas of Baudrillard with accounting and valuation. Arguably, the franchise value is disconnected from the financial numbers, both from the balance sheet and from the income statement. As evidenced by the case of the Marlins, clubs can accumulate losses for years and yet have their value appreciate significantly. I suggest that the valuation of sport franchises follow the logic of sign value, the logic of status and difference. The number of professional sport franchises is limited, and, in a given year, only a handful of franchises become available for sale. Purchasing a sport franchise is thus prestigious, as wealthy individuals enter into a "select club."

The example of the franchise value also suggests that valuations can be simultaneously real, hyperreal, and unreal, indicating that Baudrillard's phases of the image overlap: very different things fit neatly into one bucket. For example, when there is a franchise transaction, a specific value is established, and cash is exchanged between the buyer and the seller. In a way, value could be "real," but the valuation work is nonetheless the product of simulations, suggesting that the sign may mask (the absence of) a more profound reality. What is the value of the franchise, really? When considering that the value of a franchise is influenced by the value of other franchises, we enter into a self-referential cycle. This is even amplified between transaction dates, as the value changes over time, often with the signifier divorced from the referent, allowing the owners to dismiss the franchise value appreciation as being "unreal," something that should not even be mentioned until its "reality" becomes materialized.

To conclude, this paper sought to shed new light on the interplay between accounting and valuation. The above discussion aimed to illustrate what Baudrillardian lens can teach us about accounting and valuation practices, particularly in the sport business, an industry that is arguably hyperreal in itself. Considering that this is an industry emotionally-charged for various stakeholders (Baxter et al., 2019), I contend that paying attention to the hyperreal features of sport accounting must be a part of the game.

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APPENDIX

Table 1

Player Evaluation versus Player Valuation

	Player A		Player B	
WAR	4		2	**From an evaluation perspective, Player A is "better" than Player B**
$/WAR	$8,000,000		$8,000,000	
Production Value	$32,000,000		$16,000,000	
Salary	$ 20,000,000		$ 1,000,000	
Surplus Value	$12,000,000		$15,000,000	
Contract years	2		3	
Discount rate	10%		10%	
Player Asset Value	$20,826,446		$37,302,780	**From a valuation perspective, Player B is "more profitable" than Player A**

CHAPTER IV: HUMAN CAPITAL CONTRACTS: FINANCIALIZATION THROUGH IMAGINATION

HUMAN CAPITAL CONTRACTS: FINANCIALIZATION THROUGH IMAGINATION

Abstract

This paper investigates the emergence of human capital contracts, particularly in the field of professional baseball. It explores the technologies and rationalities underlying two models, equitization and income pooling, and addresses how human capital contracts impact the subjectivity of participants. The paper finds that human capital contracts are financialized devices, the outcome of a "work of financialization" by creative financial firms, and that accounting logics and technologies underpin their emergence. It also shows that human capital contracts participants, despite playing an active role in this "work of financialization," use these devices as a reaction to the culture of financialization. Drawing on the concept of the imagination, this paper suggests that accounting harnesses the human capital subjectivity through the power of the imagination. A core argument is that accounting numbers and the way people experience accounting shape the imagination, which then contributes to subjectivation. Human capital contracts impact the imagination of participants, enabling them to foresee a brighter future. Human capital contracts act as a coping device and provide an escapist form of imagination, allowing individuals to escape or attenuate their unpleasant experience in "winner-take-all markets."

Keywords: Financialization; Human capital contracts; Imagination; Emotions; Sport; Self-accountability

HUMAN CAPITAL CONTRACTS: FINANCIALIZATION THROUGH IMAGINATION

1. Introduction

Connections between accounting, neoliberalism, and financialization have increasingly interested accounting scholars (Chiapello, 2017; Himick and Brivot, 2018). One connection relates to how the shareholder value primacy has influenced corporations' accounting and reporting practices, strategies, and narratives in their communications with investors and stakeholders (e.g., Cushen, 2013; Froud et al., 2006), while another connection considers how financialization "insinuates an orientation toward accounting and risk management into all domains of life" (Martin, 2002, p. 43). This latter approach, which studies the financialization of everyday life, is concerned with the rise of citizens as investors, who must become financially literate, embrace risk-taking, and learn calculative assessments (e.g., Bay, 2011; Gilbert, 2020). In this paper, financialization[1] is conceived both as a cultural phenomenon (Haiven, 2020) and as a socio-technical process (Chiapello, 2020) that depends on the *imagination* of social actors. Through imagination, financialization transforms organizational, accounting and control practices, and configures subjectivities (Aitken, 2020; Haiven, 2014a, 2014b).

Under financialized neoliberalism, individuals must "imagine" themselves as *human capital* (Brown, 2015; Feher, 2018: Foucault, 2008; Haiven, 2020), and accounting plays a constitutive role in this process of subjectification and subjectivation.[2] Accounting technologies, such as management control systems, are developed to generate employee behaviours consistent with an entrepreneurial *ethos* (Cooper, 2015a). Financial mechanisms such as debt and micro-credit shape individuals as "financially responsible" (Gilbert, 2020) and reconfigure accountability relationships (Alawattage, Graham, & Wickramasinghe, 2019). Actuarial techniques are deployed to classify and price people according to credit risk, enabling individuals with high scores to maximize their human

[1] This paper acknowledges the various and sometimes conflicting definitions and perspectives on financialization, not only in the accounting literature but in the broader social sciences (see *The Routledge International Handbook on Financialization* [Mader, Mertens, & van der Zwan, 2020] for current debates in financialization studies).

[2] Following Hamann (2009), subjectification refers to the government of others whereas subjectivation refers to the government of one's self.

capital (Fourcade & Healy, 2013). The accounting literature has well documented the detrimental effects of neoliberalism and financialization, such as bolstering inequalities (Fourcade & Healy, 2013), precarity and poverty (Danson, Galloway, & Sherif, 2020), work intensification (Cushen, 2013) and modes of oppression (Baker & Brewis, 2019).

Despite the prevalence of the human capital subjectivity in the financialization era, in most cases, the concept of human capital is rather metaphorical and imaginary, a by-product of the financial ideology framework (Davis, 2009) that permeates language and culture in contemporary Western societies (Haiven, 2020). From an organizational perspective, even if organizations often describe employees as *assets* and human capital, they do not own employees. Rather, human capital refers to the value of the sum of the talents of individual employees that an organization may appropriate for itself (Thompson, 1999). From an individual perspective, even if people are shaped as "entrepreneurs of the self" (Foucault, 2008) or "rated agencies" (Feher, 2018), the opportunities to trade their human capital, that is the value of their future earnings, are limited and even considered "unthinkable" (Cooper, 2015b, p. 80).

Yet, in the sport business, the phrase "human capital" has a different substance. In European football, for example, players are routinely bought and sold by clubs, and the purchase price is capitalized on the balance sheet. Furthermore, in recent years, human capital contracts (HCCs)—defined as a contract in which individuals pledge a percentage of their future income in exchange for upfront financing or services—have started to emerge in North American professional sports. In 2013, *Fantex Inc.* launched an Initial Public Offering (IPO) of shares linked to future earnings of NFL player Vernon Davis. In exchange for equity capital of $4.2 million, Davis agreed to distribute 10% of his future earnings to investors. Another form of human capital contract that emerged in the baseball industry is income pooling. Individuals join a group (known as a pool) and agree to distribute a share of their future income with fellow pool members.

This paper investigates human capital contracts (HCCs),[3] which, besides a few legal studies (Medeiros, 2016; Oei & Ring, 2015), has insofar mostly escaped the attention of

[3] Human capital contracts in this paper differ substantially from third-party ownership of players, a practice that has been banned by the European Parliament. With third-party ownership, players may not be aware that their "economic rights" are owned by a third-party. With the financing phenomenon described in this paper, players must agree to participate into the contract.

academic research, particularly in accounting and finance. HCCs are not confined to the sport and entertainment industry. Various forms of HCCs are spreading in other fields, notably in education, where income-share agreements offer an alternative to student loans. Students obtain "equity" financing, either from a third-party financial institution[4] or directly from the education institution.[5] In exchange, investors get a share of students' future earnings. The concept of income pooling is also offered to entrepreneurs and business school graduates.

Drawing on the empirical site of the baseball industry, where HCCs have been offered to athletes, I address two related research questions. First, I explore the technologies and rationalities underpinning the emergence of two different models of HCCs: income pooling and equitization. Second, I address how human capital contracts impact the subjectivity of participants, being particularly attentive to the roles of accounting and finance in this process. The sport setting enables me to look beyond macro structures in Western societies and to examine the emergence of human capital contracts vis-à-vis managerial practices. Throughout its history, Major League Baseball (MLB) has drawn scrutiny for its controversial managerial practices, notably related to the remuneration of minor league players. Whereas the annual salary of players under an MLB contract exceeds, on average, $4 million, several minor league players employed by MLB clubs earn below $10,000 per year (Rosenthal, 2018). From a methodological standpoint based in secondary data (media articles and radio interviews), I conducted a discourse analysis of HCCs providers in the sports business to understand how HCCs work and why they exist. Then, I performed 51 semi-structured interviews, mostly with current and former minor league players, to shed light on the lived experience of minor league baseball players, who are the main target of HCCs.

The findings show that HCCs are the outcome of a "work of financialization" (Chiapello, 2020), not only by the HCC firms but also by the participating individuals, and that accounting logics and technologies underpin their emergence. In this regard, this paper contributes to the accounting literature by showing that financialization is enabled through

[4] 13th Avenue Funding, Lumni, and Vemo Education are examples of firms offering income-share agreements.
[5] Purdue University is a pioneer in income-share agreements offered directly by the education institution.

accounting. Accounting technologies, such as valuation and rankings, play an important role in the development of HCCs, echoing previous findings related to other financial innovations (Alawattage et al., 2019; Cooper, Graham, & Himick, 2016). This paper also shows that social actors play an active role in their subjectivation, as they turn to financialization—by participating in HCCs—as a reaction to the "culture of financialization" (Haiven, 2014a) and the human capital subjectivity prevalent in the baseball industry. It adds to a conversation about how accounting and financialization shape people's subjectivity (Alvehus & Spicer, 2012; Cooper, 2015a; Cushen, 2013; Cooper, 2015a; Gilbert, 2020).

Beyond arguing that accounting shapes subjectivity, this paper also seeks to explain *how* accounting shapes subjectivity. Extending the work of Haiven (2011) on financialization and imagination, I posit that accounting harnesses the human capital subjectivity through the power of imagination. Within the accounting literature, a handful of papers have critically engaged with the concept of "imagination," notably with regards to accounting education (Araujo, Rodrigues, & Craig, 2017; Boyce & Greer, 2013; Young & Annisette, 2009) and alternative accounting (Gray, 1998). A key point in this literature is that accounting can be developed through the imagination, that is that people can imagine new forms of accounting. In this paper, I argue that accounting shapes people's imagination, which then contributes to subjectivation. Accounting numbers, such as expected rewards, and accounting experience (i.e., micro-accounting skills and financial literacy) influence how individuals imagine themselves and their future, thus shaping their behaviours. Accounting may thus sustain the human capital subjectivity, but it can also foster alternative imaginations that are inconsistent with it. The paper shows that HCCs participants are engaged in a re-imagination process that changes how they think about themselves and how they foresee their future, allowing a more accountable version of themselves to emerge.

This paper contributes to social studies of finance (Vollmer, Mennicken & Preda, 2009) and critical finance studies (Bay & Schinckus, 2012; Svetlova, 2018) by showing that emotions are inherently related to financialization at every stage of the "work of financialization." It responds to a call for research to explore the relationship between "calculation, emotion, affect, and valuation" (Mennicken and Sjögren, 2015, p. 4).

Findings show that individuals are driven to HCCs not only from a rational standpoint, but also to escape or attenuate the unpleasant feelings they experience in a "winner-take-all" market (Frank & Cook, 1995). Although individuals may find humanity and "peace of mind" with financialization (Desai, 2017), HCCs, as financialized devices, foster an escapist form of imagination (Boyce & Greer, 2013) rather than a more radical or creative form of imagination (Haiven, 2014a, 2014b). Therefore, HCCs may be considered as a coping device for the participating individuals, but the findings suggest that they are unlikely to generate significant change in the minor league baseball system.

The remainder of the paper is structured as follows. In section 2, I introduce the theoretical lens, approaching financialization as a cultural phenomenon (Haiven, 2014a) and as a socio-technical process (Chiapello, 2020) that depends on the imagination of social actors. I describe prior theoretical discussions related to the human capital subjectivity, notably related to the roles of accounting. In section 3, data and methods are presented. Section 4 is segmented into three parts. First, I explore the rationalities and technologies underpinning HCCs. Second, I highlight the contextual factors that led to their emergence in the baseball industry. Third, I analyze how participating into HCCs impact individuals' subjectivity and sense of accountability. In section 5, I discuss the implications of the findings, and conclude with a call for future accounting research on HCCs.

2. Theoretical Lens

This paper approaches financialization as a cultural phenomenon that permeates not only organizations but also everyday life (Martin, 2002). Financialization, from a cultural standpoint, can be defined as "an ethos where the techniques, metaphors, dispositions, narratives, ideas, ideologies and relational practices we associate with high finance come to have purchase over a wide diversity of other fields of practice, social life and imaginative expression" (Haiven, 2020, p. 349). The sports business, for example, similar to other forms of cultural production, is not necessarily dominated by financial markets, but social actors come to espouse and adopt the imperative of speculation, monetary measurement, and individualistic competition "in which everything of material or immaterial value is transformed into an asset to be leveraged" (Haiven, 2020, p. 349). In this paper, I draw heavily on the connections between finance and imagination, inspired by sociologist Max

Haiven (2011, 2014a, 2014b, 2020), who has himself built on the work of several theorists in his writings.

This paper defines the imagination both as the creativity of social actors, not only to invent fictions and art, but also to imagine solutions to current and future problems, and, following Appadurai (2000), as a driving force, "a faculty that informs the daily lives of ordinary people in myriad ways" (p. 6). Paradoxically perhaps, if the imagination allows people to conceive "collective patterns of dissent" and to "seek social redress," Appadurai notes that "it is in and through the imagination that modern citizens are disciplined and controlled" (p. 6). From an individual perspective, the imagination corresponds to "the way we gain some sense of the forces that impact our lives, and the way we project ourselves into the future and gain inspiration and direction from the past" (Khasnabish & Haiven, 2014, p. 4).

The notion of the imagination is discussed around three themes in the following sub-sections. First, I discuss the creative impulse behind financialization and the roles that accounting plays in creating financial products. Second, I explore how the imagination, under financialization, drives the human capital subjectivity. Finally, the third sub-section discusses the role of the imagination in reactions to mode of subjection.

2.1. Imagination and Financialization

According to Haiven, the concept of imagination is key in understanding finance and capitalism. Through imagination, finance allows capital to reach out into the future and to "map the social through the apprehension of risk, by measuring social possibility quantitatively" (Haiven, 2011, p. 112). Capital rests upon the imagination of investors, who must imagine the world in such a way that drives them to invest, and on the "creative work of financiers, who must dream up ever more sophisticated investment vehicles" (p. 96).

The creativity of the financial sector is an inherent theme in Eve Chiapello's framework of financialization as a "socio-technical process" (2020), which is useful to understand how financialized devices, notably HCCs, are imagined and developed. Chiapello (2020) defines financialization as a "specific process of transforming the world, objects, organizations and the problems we encounter, by the introduction of 'financialized' practices, theories and instruments" (p. 81). This approach is particularly

relevant when considering financial instruments such as human capital contracts, social impact bonds, and carbon market, which seek to address problems with the "addition" of finance. From this perspective, financialization refers to a process of "colonization" with "financialized" valuation techniques that present issues from the investors' viewpoint (Chiapello, 2015).

The "work of financialization" requires three broad operations: problematization, tangibilization, and financial structuring. First, problematization includes "operations through which things and activities are redefined as questions of investment, which requires categorizing and interpreting the world using the words and perspectives of an investor" (Chiapello, 2020, p. 85). It is from this perspective that people's skills and knowledge are imagined—or metaphorically translated into—as "human capital" and that "social questions become questions of investment in human capital" (p. 86). Second, tangibilization consists of making assets and liabilities, usually through quantification. Thus "human capital" becomes calculable and is assigned a value. Finally, financial structuring involves operations which organize monetary flows, such as contracts. Accounting technologies play a significant role in the financial structuring stage. An example of how accounting enables financialization is the development of social impact bonds, which rely on several accounting tools such as budgets, future cash flows, discounting, performance measurement, and auditing (Cooper et al., 2016).

The accounting literature mostly engages with the imagination in the context of accounting education, so that students can imagine what is or what may be "possible both in and through accounting" (Boyce & Greer, 2013, p. 111). The critical accounting literature highlights that although the financial sector is creative, its imagination is often limited to the addition of finance. Solutions to social and environmental problems, which are often the consequences of the hegemony of finance, ultimately remain within the frame of finance and accounting. This is why several scholars have called for more critical forms of imagination and for imagining alternative forms of accounting (Gray, 1998). The imagination of the finance sector ultimately contributes to shape the imagination of social actors in a way that is consistent with the ethos of finance. In their study of social impact bonds, Cooper et al. (2016) showed that bringing market forces (investors) into a space

traditionally occupied by government and not-for-profit organizations, transforms "all participants in the bonds […] into entrepreneurs" (p. 63).

Approaching financialization both as a cultural phenomenon and as a socio-technical process driven by the imagination of finance workers provides the theoretical tools to explore how the process of "adding finance," either with financialized instruments or with financial ideologies and discursive practices, is transformative for social actors, notably on their subjectivity. In the next sub-section, I explore how, under a financialized world, individuals imagine themselves as "human capital" and the implications of this subjectivity for people's (self-)accountability.

2.2. Imagination and Human Capital Subjectivity

In his book *Financialization of Daily Life*, Randy Martin (2002) explains how financial markets transform people into investing subjects: "[Financialization] asks people from all walks of life to accept risks into their homes that were hitherto the province of professionals. Without significant capital, people are being asked to think like capitalists" (p. 12). Financialization, which shapes "how individuals come to think about themselves, take stock of how they are doing and what they have accomplished, and how they know themselves to be moving […] yields a particular subjectivity" (Martin, 2002, p. 9). There is a broad consensus, following Foucault's 1978-1979 lectures on *The Birth of Biopolitics*, that under neoliberalism and financialization, individuals are subjectivized as *entrepreneurs of the self*. Individuals must "imagine and advance themselves" (Haiven, 2020, p. 351) to manage their "human capital," that is their capacity to accumulate wealth through wages and incomes. Haiven, echoing Appadurai (2000), argues that imagination guides the process of negotiating social values: "Imagination is the critical site where the individual and the social co-constitute one another" (Haiven, 2011, p. 98). Haiven adds that values shape imagination, which informs social cooperative action, which influences values, in a cyclical way. Thus, imagination plays a central role in shaping the subjectivity of social actors. Imagination, as a cognitive and emotive process, depends on mediated impressions, social narratives, and experience. This paper shows how accounting numbers and technologies contribute to these conditions by mediating impressions and shaping people's lived experience. Then, imagination leads individuals toward a sense of

possibility, cues for social action, and a sense of social totality. This entails that individuals gain an agency, clouded by "narcissism, desire, fear and power" (p. 96), that allows to locate themselves and to project future outcomes (Haiven, 2011). In other words, financialization shapes the imagination of social actors, and with this financialized imagination, individuals come to conceive themselves as human capital.

The human capital subjectivity takes its roots in the human capital theory developed by Chicago School economists Theodore Schultz and Gary Becker. *Prima facie*, the theory of human capital sought to measure the return on an individual's investments in skills and knowledge. It provided a framework for calculating whether an individual should seek employment, thus settling for immediate income, or pursue additional training and education, aiming for higher income. Consequently, the human capital theory also serves to explain earnings inequalities as "earnings are made dependent on the amounts invested in human capital, and the latter are assumed to be determined by a rational comparison of benefits and costs (Becker, 1975, p. 133).

Whereas for Marx labour is the sphere of exploitation and wages are the price at which individuals sell their labour power, neoliberals reconstitute labour as a *capital* and wages as the *return* on that capital. Foucault (2008) argues that from the neoliberal perspective, humans are machines that produce an earnings stream, that have a lifespan and an obsolescence. Building on Foucault's discussion, Lazzarato (2017) adds that the technique of capitalization transforms the worker into "a sort of permanent and multiple enterprise," where the logics of capital and of costs and benefits dictate the worker's "management of all its relations, choices, and conduct" (p. 17). With the advent of financialization, *homo economicus* is being further reshaped as "financialized human capital" (Brown, 2015) and "rated agency" (Feher, 2018). Individuals invest in their human capital to attract investors or to maintain a figurative credit rating (Brown, 2015). As a whole, the human capital subjectivity constitutes a type of "governmentality" that permeates all aspects of human existence (Read, 2009) and of social relations (McNay, 2009). It alters individuals' expectations and imaginations of themselves within contemporary society in different ways.

First, individuals are rendered responsible and self-accountable for their own success and failure (Harvey, 2007). They have only them to blame if they fail to imagine a way to

maximize their economic situation (Haiven, 2011). In everyday life, entrepreneurial subjects have an increased responsibility of "self-care" regarding social risks such as illness, unemployment, and poverty (Lemke, 2001). In the workplace, processes of subjectification entail behavioural changes consistent with entrepreneurship qualities such as self-organizing and self-monitoring, as well as activating powers of self-motivation (Bröckling, 2015). Managers have adjusted the way management accounting and control techniques are deployed. For example, management accounting practices have shifted from strategies of "imposing control" to favor strategies of "eliciting commitment" (Cooper, 2015a). However, this managerial revolution has not been considered "a celebration of worker empowerment" by critical management researchers, "but rather in terms of the apparent power of normative strategies of control to perfect employee subjection" (Roberts, 2005, p. 623). Accounting contributes to the human capital subjectivity by supporting financialized mechanisms that transform individuals, even beyond the workplace. Debt, for example, helps to create financialized subjects and leads them to adopt financially responsible behaviours (Gilbert, 2020). In the context of microfinance in Sri Lanka, "basic accounting technologies and interpersonal accountability" enable lending to women and engender a transformative process for participants, as microfinance "reconfigures the convivial relations of women into financial relations" (Alawattage et al., 2019, p. 38).

Second, the human capital is a "competitive self," which has further implications for accountability relationships. Whereas in its classical economics version, *homo economicus* is conceived as a partner of exchange (Foucault, 2008) whose wealth and success are dependent on its fellow trade partners (Laval, 2007), the neoliberal *homo economicus* is imagined as a competing entrepreneur (Bröckling, 2015) in the "formal game of inequalities" (McNay, 2009). Under neoliberalism, inequalities are not only tolerated, but must be implemented and promoted (Lazzarato, 2009). Thus, in the workplace, monitoring and ranking tools, which "create the growing divisions in wealth and income" (Cooper, 2015a, p. 15), produce and reproduce an individualized sense of self (Roberts, 1991). Roberts argues that the self is constantly preoccupied with its position within the organization and by the perception of others, which generates a sense of self that is solitary and singular. From a societal perspective, (welfare) systems designed to protect workers or

to attenuate (income) inequalities through re-distribution schemes are seen as "anti-competitive" and the neoliberal society must endorse "individual social policy" rather than collectivization or socialization (Lazzarato, 2009). The neoliberal ideology and the culture of financialization promote the emergence of "winner-take-all" markets, characterized by growing income inequality. The sport and entertainment industries offer a "hyperbolic portrait of the future of all labor markets under financialization" (Haiven, 2020, p. 353). Underpaid workers, imagining themselves grabbing the expected rewards promised to a tiny portion of them, engage in intense competition and over-investment (Frank & Cook, 1995).

Third, financialization, as a "starting point for a new conception of risk and security" (Lazzarato, 2017, p. 23), instills an appetite towards risk for subjectivized individuals. Financial risk may be associated with loss potential, but it is also a recipe for reward (Martin, 2002, p. 103). But the routinization of risk under financialization exceeds the reward potential. Risk becomes normative:

> because the embrace of risk means one is embedded in the reality of the present. A risk taker is one who lives for the moment—the historical moment in which risk management ascends to the status of common sense. To be risk averse is to have one's life managed by others, to be subject of their miscalculations, and therefore to be unaccountable to oneself (p. 106).

Despite the emphasis on risk management put toward them, financialized individuals—as the price of their talent is set by the purchasers—are at the mercy of the markets. As Martin argues: "Humans are to act as if they were capital by assuming the uncertainty of outcome without exercising control over the conditions of making wealth" (p. 112). Overall, the human capital subjectivity illustrates how financialization "demands a transformation of the imagination towards a mapping of future potentials, the calculative activities of risk management and notions of hedging" (Haiven, 2020, p. 349). The phrase "human capital" does not only imply that individuals have to invest in themselves, but also that they are reduced to a present value of future but uncertain cash flows, and that they should be entitled, in the present time, to capitalize on this value.

I conclude this sub-section by highlighting that accounting technologies, notably management control systems, play a crucial role in constructing the human capital

subjectivity within organizations with a dual process of subjectification and subjectivation (Gilbert, 2020). From a subjectification perspective, that is the government of others, performance metrics are mobilized to control employees closely. But management control systems are also deployed to facilitate processes of subjectivation, that is the government of one's self, to generate employee behaviours consistent with the entrepreneurial *ethos* (Cooper, 2015a). A core argument of this paper is that through imagination employees are active in this subjectivation process and financialization becomes an employee control strategy (Alvehus & Spicer, 2012; Cushen, 2013). Whereas pressures of financialization passed from top management to employees can cause insecurity, work intensification, distress, and anger among knowledge workers, employees may ultimately participate in their subordination by pursuing "financialized performative interventions" in order to secure their precarious position (Cushen, 2013). In the next sub-section, I discuss how imagination can be mobilized to generate reactions to modes of subjection and to the financialization of the self.

2.3. Imagination and Reactions to Modes of Subjection

In an essay about himself, which he wrote in the *Dictionnaire des Philosophes* under the pseudonym of Maurice Florence (1984), Foucault elaborates on the legacy of his research project in these terms:

> He first studies the ensemble of more or less regulated, more or less deliberate, more or less finalized ways of doing things, through which can be seen both what was constituted as real for those who sought to think it and manage it and the way in which the latter constituted themselves as subjects capable of knowing, analyzing, and ultimately altering reality. (p. 463)

According to Foucault, when it comes to ideas such as neoliberalism and financialization, social actors play a constituent and active role in the process of subjectivation. This perspective suggests that the human capital subjectivity cannot be conceived solely as inescapable and imposed by the dominant structures through mechanisms of subjectification. Instead, individuals contribute to their own subjectivity through actions and reactions. Both Alvehus and Spicer (2012) and Cushen (2013) have notably highlighted this perspective, showing that financialization involves active employee

participation. In this regard, Haiven (2020, p. 353) mentions that financialization is not "experienced as a dystopian imposition from above, but [is] a transformation in the nature of agency and empowerment" (Haiven, 2020, p. 350).

This section explores how the imagination can be mobilized to generate reactions to modes of subjection, which could be conceived on a spectrum. On one end of the spectrum, the imagination contributes to the subjectivation process with its controlling and disciplinary features (Appadurai, 2000). In Foucauldian terms, the imagination is thus mobilized in a way that engenders reactions that are *(re)productive*, in the sense that social actors produce and re-produce, sometimes mechanically, attributes of the mode of subjection. This is the perspective I have discussed in length in the previous sub-section.

Moving along the spectrum, the imagination can take a form of escapism. It is a form of imagination that is projective, that is in the domain of fantasy and that helps participants to cope with daily struggles (Appadurai, 1996). The role of the imagination as a coping device is highlighted in the context of accounting education by Boyce and Greer (2013). Young and Annisette (2009), quoting Johnson (1993), note that improving imaginative capabilities allows social actors to live better lives. However, the escapist form of imagination by itself may not be sufficient to generate social change (Boyce & Greer, 2013; Haiven, 2014a). At the other end of the spectrum, Appadurai (1996) emphasizes "that fantasy can dissipate, but the imagination, especially when collective, can become a fuel for action. The imagination is today a staging ground for action, and not only for escape" (p. 7). Khasnabish and Haiven (2014) call this form of imagination the "radical imagination," which is incompatible with capitalism. This is the form of imagination that is closer to the notion of resistance and that is necessary to transform the world.

The imagination, both as an escapist device or as a driving force, can generate reactions that are altering and that transform individuals' subjectivity. This paper argues that reactions to modes of subjection do not need to be confined in one camp. Although some reactions may be more *(re)productive* than *transformative* (or vice-versa), they may simultaneously share (re)productive and transformative attributes, which implies that subjects may engage in activities that bring them both closer and farther to the mode of subjection. Reactions may include the "addition" of finance (Chiapello, 2020) through "financialized" instruments (e.g., social impact bonds) that are designed to address social

problems sometimes caused by financialization and neoliberalism. For social actors, financial innovations act as "technologies of the self" (Foucault, 1988) and transform thoughts, conducts and way of beings. In a provocative thesis, Michel Feher (2009, 2018) proposes that modes of subjection can be defied from within, "by embracing the very condition that its discourses and practices delineate" (2009, p. 21). Social actors need to both identify and espouse their subjective condition, and to appropriate it for their own purposes (Feher, 2019). To alter the human capital subjectivity shaped by financialization, Feher suggests "embracing the idea that we are all investors in our human capital" (2009, p. 38) and appropriating "the rating game" (Feher, 2019). From this perspective, financialization can be considered as a reaction to subjectivation, encompassing both (re)productive and transformative features (Haiven, 2014a).

Thus, in this paper, I argue that entering into human capital contracts is a reaction that follows a similar re-productive and transformative path. In the context of education, young people, shaped as "investors" and "entrepreneurs of the self," may turn to financialization by entering into an income-share agreement to improve their odds in an uncertain job market. The following case shows that HCCs are financialized devices, enabled by accounting technologies, that participants use as a reaction to the prevalent human capital subjectivity in the baseball industry. The individual may still be subjectivized as "human capital" but participating into a human capital contract transforms his subjectivity according to his own imagination and preferences.

3. Study and Methods

This study is part of a larger research agenda involving performance metrics and accounting in the business of sport.[6] In this paper, the primary context is the field of baseball, an industry[7] largely dominated by Major League Baseball (MLB). MLB consists of 30 organizations with a complex structure underneath the main club. Each organization

[6] The research was approved by the Research Ethics Board of York University and Université Laval.
[7] Baseball is amongst the most popular sports in several countries in Asia (Japan, Taiwan and South Korea) and Latin America, where professional leagues are established. MLB operates in the United States and in Canada.

enters into contractual agreements with a number of minor league clubs,[8] which serve as a platform where approximately 180 players develop their skills before reaching the MLB level.

The research idea originated during the spring 2018, when the U.S. Congress approved the *Save America's Pastime Act*,[9] which regulated how much minor league players should be compensated for their work, following lobbying from MLB organizations (Waldon, 2019). This event illustrated the "culture of financialization" (Haiven, 2020) and the neoliberal ideology entrenched in the industry. Whereas, in aggregate, MLB clubs generated revenues exceeding $10 billion during the year 2018 (Brown, 2019) and that MLB players, who are unionized, receive average annual salaries of $4 million, most non-unionized minor league players are paid under $10,000 per year (Rosenthal, 2018). This governmental intervention circumvented lawsuits from current and former minor league players fighting for minimum wage in the minor leagues.

I first started to collect secondary data, mostly media articles related to the *Save America's Pastime Act*, and then I entered the field and arranged[10] semi-structured interviews with current and former minor league baseball players to better understand how accounting and finance technologies are used to monitor, evaluate, and remunerate them. Questions were centered around their lived experience in baseball, starting with the draft, the negotiation process of the signing bonus, and the minor league lifestyle. During the interviews, informants opened up and shared details about their sometimes harsh working conditions. This qualitative data was analyzed with the software *NVivo 12 Pro*, and following Miles, Huberman, and Saldana (2014), data analysis was concurrent with data collection. First cycle codes were developed using the elemental methods of descriptive coding, in vivo coding, and process coding (Miles et al., 2014). This coding scheme was particularly useful to generate emerging themes. A second coding process was developed

[8]Starting in 2021, each MLB club will have five minor league clubs in the U.S. and a complex with international prospects in the Dominican Republic. A few minor league clubs are owned directly by the parenting organization, but most minor league clubs are owned by a separate entity, which enters into a Player Development Contract with the MLB club.

[9] The Save America's Pastime Act ensured that minor league players would be compensated at least the federal minimum wage for a workweek of 40 hours, only during the championship season. Overtime work and spring training were exempted and not compensated.

[10] Most participants were recruited either on LinkedIn or via personal contacts.

using the theoretical lens of financialization, and codes that resonate with subjectification (e.g., *manipulation*, *lack of control over self*) or subjectivation (e.g., *imagination*, *dream*, *rationalization*, *competition*) started to emerge.

After the first wave of interviews, I witnessed the emergence of two different models of human capital contracts, namely equitization and income pooling, offered to minor league players. I interviewed representatives from two companies, and I complemented the methodology by conducting a discourse analysis of HCCs firms based on publicly-available data. Because the sport business is largely covered in the media, there is a richness of data related to HCCs firms. Overall, I collected and analyzed more than 100 articles related to HCCs both in the fields of sport and education, as well as over a dozen of podcasts and radio interviews. These podcasts and radio interviews provided insightful data as the rationalities and technologies underlying these models were discussed in length. These audio files were transcribed. I also consulted and analyzed content of HCCs firms' website was also consulted and analyzed, which included presentations on the firms' business model, blogs, executive profiles, and some participants' testimonies. Following an iterative process, I coded the data using Chiapello's (2020) methodological approach to financialization, using the *problematization*, *tangibilization*, and *structuring* categories. This coding process was particularly useful to better understand the roles of accounting technologies to support these financial devices.

As one objective of the study is to understand the impact of human capital contracts on participants' subjective condition, I conducted another round of interviews with current and former minor league players, adjusting the interview script to understand why they would be attracted to, or repulsed by, human capital contracts, and how it changes their perspective. In all, this study includes 51 semi-structured interviews with former (n = 15) and current minor league players (n = 25), as well as other baseball industry participants. The average interview length was 45 minutes, with a range between 20 minutes and 85 minutes. In some situations, the interviews were arranged at the ballpark before a game, therefore players had limited time. The script was adjusted accordingly to gather the most meaningful answers. Due to geographic constraints, 27 interviews were conducted over the phone, whereas 24 interviews were conducted face-to-face. Participants received the

informed consent form, and, after seeking permission, were recorded. The interviews were subsequently transcribed.

4. Analysis

The analysis is structured around three foci. In the first sub-section, drawing on Chiapello's (2020) methodology of financialization, I provide an overview of human capital contracts and analyze the rationalities and technologies underpinning two models, equitization and income pooling, offered to professional baseball players. In the second sub-section, I present the field of baseball, and analyze how players, through two key accounting numbers, are subjectivized as "human capital." I posit that this subjectivity is sustained by the power of imagination. Finally, in the third sub-section, I analyze the emergence of HCCs in the baseball industry as a reaction to the human capital subjectivity.

4.1. Human Capital Contracts

Human capital contracts are a relatively new financing phenomenon and include several heterogeneous models (Oei & Ring, 2015). A common characteristic of HCCs is that participants agree to distribute a percentage of their future earnings in exchange for upfront financing or services. HCCs are financial products that depart from debt to feature "equity-like" mechanisms. The idea, however, is not especially novel. Several Nobel Prize-winning economists such as Milton Friedman (1955) and Gary Becker proposed the concept to finance education (Palacios, 2004). In recent years, financial firms and education institutions have started to offer income-share agreements to students. Rather than having a fixed amount to reimburse, students pledge a specific percentage of their future income for a specific number of years to investors. If a financed student gets a lucrative job, the investor's return on investment is higher. On the flip side, if the student cannot find a job upon graduation, the investor gets nothing. Outside of education, a precursor of HCCs was the "Bowie bonds," asset-backed securities of future revenues of albums recorded by David Bowie, issued in 1997. In the field of professional sport, particularly in the North American baseball industry, two HCCs models are currently offered to athletes: equitization and income pooling.

The equitization model (sometimes known as brand agreement) is very similar to income-share agreements in education. In exchange for a specified percentage of future earnings, the athlete receives upfront money. *Fantex Inc.*, formerly listed on NASDAQ, introduced equitization in the sport business, signing contracts with 20 athletes across three professional sports: baseball, football, and golf. Although *Fantex* eventually closed its trading platform, citing low trading volumes and limited investor interest,[11] other iterations of the equitization model followed. *Big League Advance (BLA)*, a privately-held company, invests in minor league players, offering deals in the array of $250,000 to $350,000 for approximately 10% of an athlete's future earnings. Another privately-held company, *X[10] Capital Management* (*X[10]*) targets players who have recently graduated to MLB and offers deals in the range of a few million dollars.

Another model proposes to athletes (and individuals from other industries) a completely different financial product: income pooling. Similar to equitization, participants trade off a portion of their upside potential, sharing a percentage of future earnings amongst pool members. Pool sizes and rules vary, but one example from the baseball industry would be a pool of nine members who agreed to contribute 10% of earnings above $1.5 million. If only two reach MLB and retire with career earnings of $51.5 million, all pool members including the income pooling firm, which makes money by having a participation in every pool, would receive $1 million.[12]

The emergence of HCCs can be analyzed as a "work of financialization" (Chiapello, 2020) supported by the imagination of financial workers. Both in the field of education and in the sports industry, HCCs emerged as a solution following a problematization process. In education, problems include rising student debts in the United States and the uncertain job market that awaits graduates. Proponents imagine that income-share agreements not only provide an opportunity for students to graduate debt-free, but that they also align the interests of students and education institutions, which may undertake additional efforts to place graduates in the job market.

Professional sport, particularly the baseball industry, is structured in a way that "young athletes are not allowed to tap into the value that they are creating for their teams in the

[11] As of 2020, *Fantex* continues to distribute dividends to investors who purchased shares of players.
[12] ($51.5m - $1.5m) x 2 = $100m; (10% x $100m) / 10 = $1m

marketplace until several years into their career" (*X*[10] representative, quoted in Kapoor & Katt, 2020). This is a consequence of the remuneration system under the collective bargaining agreements. When they become professionals, players sign a "rookie" contract, which tie them to their employer for a specific number of years, with little negotiation power. They are thus artificially underpaid and cannot move freely to another club until they have accrued the necessary service time to become free agents. Moreover, the problem is accentuated for minor league players, who are often paid under $10,000 per year. The CEO of *BLA*, a former MLB player, said he founded the company to help players struggling with low wages and facing long odds (Ring, 2018). During his minor league career, he noticed a player "dumpster diving" for food after a game (Dickey, 2018), and added:

> The idea came from seeing my friends, the vast majority trying to live their dream and for whatever reason not making it. It's heartbreaking to see. People are trying to live their American dream, but 90 percent don't play a day in the majors and when it doesn't work out, they see their lives completely change (*BLA* CEO, quoted in Evans, 2018).

Income pooling was imagined as a solution to "winner-take-all" markets, in which a majority of people will not be superstars and thus left with very little financial security. Professional sport is a risky career environment and an injury can easily derail a player's career, thus destroying his human capital. The income pooling firm CEO mentioned:

> We all use financial tools to help control the riskiness of our most significant assets: home, auto, health, investments, etc. It is strange, then, that there is a dearth of options for our most significant asset: our ability to generate future income. This problem is felt acutely by those who enter winner-take-most careers, which are particularly volatile and uncertain. (Income pooling CEO).

According to Chiapello (2020), "the second activity in the work of financialization is giving embodiment to these visions" (p. 86). Through tangibilization operations, individuals, imagined as "human capital" during the problematization phase, are transformed into "assets" for investors. In the case of human capital contracts, accounting technologies, such as calculative and valuation practices, ranking tools, and performance metrics, are deployed to support this financialization process (Mennicken & Espeland, 2019). Both equitization and income pooling firms rely on financialized valuation

techniques (Chiapello, 2015) to calculate athletes' expected value. However, the logics of finance work differently for equitization and income pooling. Equitization firms, which take an equity stake in the human capital of individuals, share attributes with other investment activities performed by financial firms. They seek to invest in the most profitable "projects." By definition, investing in professional athletes in a risky endeavour (Knowledge@Wharton, 2013). Equitization firms perform a venture-capitalist approach and sound due diligence to mitigate risk. They rely on sophisticated tools to skirt potential adverse selection issues. Only athletes whose profitability score exceeds the firm's investment model criteria are worth an investment, which means that not all athletes are attractive from a financial perspective. The income pooling model is more inclusive, as the objective is to find a pool for all interested players, but it nonetheless relies on classification techniques (Fourcade & Healy, 2013) to rank players based on their expected value and likelihood to reach salary benchmarks. An interested player is offered a few pool options and has to be voted in by fellow pool members. Typically, players with similar characteristics (e.g., expected value, draft rounds, minor league level) pool together. If high expected value players are sought-after, there are possibilities of no fit for low expected value players.

The final stage of the "work of financialization" is related to structuring monetary flows within regulatory frameworks and to offer investment vehicles to investors (Chiapello, 2020). It is at this stage that the "contract" part of the human capital contract gets structured. The business models of HCCs firms come with significant regulatory, legal, and accounting challenges. From a regulatory standpoint, HCCs have been controversial and criticized for predatory tactics from unscrupulous investors. In 2019, the *Professional Athlete Funding Act* was enacted in the state of Delaware to authorize and establish regulations pertaining to player brand agreements. From a legal perspective, considering both equitization and income pooling make money out of the participants' income contributions, the legal contract between the firm and participants becomes the backbone of the business model.

Accounting also plays a significant structuring role in the execution of HCCs, notably when it comes to identifying and to verifying the income or earnings used to calculate the obligation. In some cases, the definition of income can be very simple and easy to audit

(e.g., baseball salaries, which are publicly disclosed). What counts as eligible income and how these earnings are verified, especially since HCCs are spreading outside of professional sports, can become more complex problems. The *Fantex* model was impeded because some players were not allowed to disclose publicly the endorsement amounts received from sponsors. In the income pooling model, the value provided by the firm rests on structuring the distribution of money amongst pool members, ensuring that "people are contributing the appropriate amount as previously agreed upon by the group and therefore accounting appropriately for each person's contribution and subsequent distribution" (Income pooling CEO). The income pooling firm provides to participants not only the bookkeeping that shows their contributions and distributions, but also an accounting of the expected value of the pool.

This latter point is particularly relevant for the firm itself and its investors because its value is likely to be captured mostly in the long-term. In one podcast interview, the income pooling CEO mentioned that the group of players currently on the platform was expected to generate $635 million over the course of their career, but it may take years before the firm can actually start to generate revenues out of this model. A freshly-drafted baseball player who joins a pool may take six to eight years before contributing to the pool. Accounting tools beyond traditional financial statements are thus required to communicate value to investors. One option currently contemplated by HCCs firms to tap into the unrealized value of their client base would be to securitize cash flows, allowing investors the ability to buy a portion of a pool for cash. Although this idea is only hypothetical at this stage, it would certainly involve further accounting tools to support this additional financialization process.

4.2. The field of baseball and human capital subjectivity

In this section, I analyze the context surrounding the baseball industry, where HCCs emerged, and describe the culture of financialization (Haiven, 2020). It shows that players come to imagine themselves as "entrepreneurs of the self," even before they reached professional status and that two sets of accounting numbers play a key role in harnessing this imagination.

The first accounting number is the *signing bonus*. When they sign their first contract, players receive an amount of money in exchange for their exclusive rights for the next six years.[13] After being drafted by a Major League Baseball (MLB) club, players usually begin their professional career in one of the minor leagues underneath MLB, where they develop their craft for annual salaries often below $10,000, hoping to be eventually promoted to the "big club." However, most minor league players never get that chance. Based on data collected from the magazine *Baseball America*, fewer than 19% of players drafted between 2003 and 2009 played at least one game at the major league level.[14] For most players, the signing bonus is the major source of income during their minor league journey. For players selected in the first rounds, the signing bonus may exceed $1 million, but for players selected in the later rounds, they often receive a signing bonus of $10,000 or less.[15]

The signing bonus turns amateur players into "human capital," both from an organizational and individual perspectives. For clubs, drafted players become "assets" and not only metaphorically. In fact, most clubs capitalize signing bonuses as intangible assets on their balance sheet and subsequently amortize the amounts over the length of the contracts. Accounting technologies and valuation practices are deployed in this financialization process. Constrained by budgeting and financial regulations, clubs draw on performance measures and algorithms to determine signing bonus amounts. For players, the signing bonus transforms them into "entrepreneurs of the self" who must maximize the value of their human capital (Foucault, 2008). Prior to the draft, amateur players make several "investments" to maximize their bonus, such as participating in tournaments to increase their visibility, hiring personal coaches and purchasing technologies to improve their performance metrics, and soliciting the services of an agent/advisor to negotiate on their behalf. As "human capital," amateur players are inherently speculative (Feher, 2018). Another way for players to maximize their bonus is to use their "leverage" or "options" (in baseball jargon). Because players have multiple draft opportunities, they may decline a contract offer to pursue their post-secondary education, imagining they will get a higher

[13] Teams hold exclusive rights on players for the first six years of their minor league careers. If they are promoted to the major league level, teams hold their rights for another six years. Players cannot move to another organization unless they are traded or released.
[14] Hand-collected data. 6,363 players were drafted and signed, and only 1,158 reached MLB level.
[15] Based on data from the 2019 draft. The draft format was altered in 2020 due to the COVID-19 pandemic, and further draft changes will be implemented in 2021.

bonus the next time. While they may improve their "stock" by doing so, it is also possible they will not. One informant once turned down $500,000 after being drafted, only to sign four years later for $121,000.

If players turn to speculation to maximize their bonus, it is not necessarily "about getting rich. It is more about that the club realizes it is making an investment in you" (Former player 3). Beyond financial stability, the bonus helps players to position themselves in the competitive and "cut-throat" environment that is professional baseball. The industry is structured as a "zero-sum-game": if a player gets promoted to a higher level, another has to move down or to lose his job. There was a consensus among informants that money brings opportunities. High-bonus players acknowledge the benefits of additional playing time and indulgence from the organization when they struggle. Players, internalizing the "human capital" subjectivity, often rationalize minor league life based on accounting logics, citing profitability concerns:

> You've got your prospects, who are going to be the ones invested in because you can only afford to invest fully in so many guys. If you were to invest as much of what is required to bring along every player in the minor leagues, you'll lose out when they don't make it (Player 11)

The need for managers to be "accountable" to shareholders who approved signing bonus expenditures is also mentioned by minor league players to illustrate the stickiness of the number:

> If you have a Ferrari and a 2007 Civic in your driveway, which one are you going to wash more often? The Ferrari! It is the same thing in the minor leagues. How are you going to justify to your boss that you fired a player to whom you gave $2 million? Even if he sucks, you will promote him. You need to justify his money. (Former player 6)

The signing bonus, an accounting number that comes to define players (Mennicken & Espeland, 2019) turns players into investors. Most informants mentioned they were advised to invest their bonus in capital markets, but bonus-related investments go beyond investing in a mutual fund. Players recognize that to climb the minor league pyramid and maximize future incomes, they need to be dedicated to baseball and to invest in themselves through healthy food, training programs, and equipment. If financially possible, they should avoid

working in the off-season to focus on their training. This requires micro-accounting skills, especially for low-bonus players, who "check [their] bank account every day" (Player 17) and "really learn how to budget" (Former player 3). One former player recalled his experience in these terms:

> After tax, I had $18,000 left. Players who succeeded put themselves first, all the money they had was invested in themselves, in their trainings. I tried that too. My bonus lasted roughly three years because $18,000, you don't go crazy with that. (Former player 1)

Historically, MLB clubs have invested very little in their minor league system. Not only were player salaries below poverty-level, but organizations provided little support to players in terms of nutritious food options, housing, and equipment (a situation described metaphorically as the "Hunger Games" by psychologist and baseball columnist Russell A. Carleton [2018]). A club executive justified these practices by saying "we like 'em hungry" (Neyer, 2018), referring mostly to the hunger to reach the next level. Players further participate in their subjectivation by over-investing in themselves. When it comes to training for example, the "workplace" and "everyday life" are blurred (Martin, 2002) to the point that the work mandated by the organization is almost undistinguishable from voluntary time investment undertaken to increase their human capital. One team executive commented: "They want to make the major leagues and the only way is by playing and working out…My argument is: they'll do it voluntarily anyway. […] They know they are small corporations themselves. They can make millions" (Team Executive 1).

The "millions" refer to the second key accounting number: MLB player salaries. In the glamorous MLB, lucrative broadcasting contracts and ticket sales allow the top players to earn salaries in excess of $30 million per year. Even if there are significant income inequalities within an MLB club, the minimum salary of $555,000 (in 2019) is several times the average minor league salary. Thus, the industry is characterized by "winner-take-all" market dynamics (Frank and Cook, 1995)

According to most informants, the best thing about playing in the minor leagues—and the reason they persist—is "the opportunity to chase a dream" defined by *high expected rewards*. Combined with a social narrative (Haiven, 2011) that the minor leagues are a "grind" and a "rite of passage," MLB salaries harness the imagination of players, often overconfident that they will succeed and make millions in their career. One informant said

that, at first, he was not worried with his lower signing bonus or minor league wages, because he was always thinking about the "big leagues, where the money is," adding: "what's an extra $50,000 right now if I do make the majors?" (Player 4). Because of the high expected rewards, players imagine themselves as human capital, meaning that they have a valuable future. Therefore, the imagination gives players a "sense of possibility" and a "futurity" (Haiven, 2011). This is how they come to believe that low minor league wages, job precarity, and poor working conditions motivate them to work harder, to avoid complacency, and to adhere to the often-told mantra "if you don't like it, play better" (Former player 5). MLB salaries are the "carrot at the end of the stick" (Former player 13). One interviewee was particularly adamant that minor league wages should remain deflated:

> I am kind of biased when a lot of these guys are complaining about money. Why does an organization want to keep a player who is only aspiring to be a minor leaguer? You want to be a big leaguer. And if you are not better than a big leaguer, why do you deserve to get paid money that you are going to be fine with, and that you are going to get comfortable with? You don't play as well […] It's a driven-based sport. (Player 3)

However, during the same interview, the informant added: "my career was never in my own hands. I could control it kind of, but not really," acknowledging the illusionary effect of the human capital subjectivity.

The analysis shows that accounting numbers such as the signing bonus and the high expected rewards shape players' experience and mediate impressions so that the individuals imagine themselves as "high-value" human capital and adhere to the dominant social narratives. The imagination is thus mobilized to discipline and control players (Appadurai, 2000). However, data shows that accounting numbers can also mediate impressions in the opposite way. Players who experience the key accounting numbers differently—either because they got a lower bonus or because they are financially literate enough to understand that behind the high expected rewards are volatility and high failure rates—deplore the "winner-take-all" market dynamics and cite salaries as "the worst thing about playing in the minor leagues" (Player 19). As a former player explained, "If you do the numbers, the percentage of guys that make it is infinitesimally small, let alone the percentage of guys that stay long enough to make any king of real living in the major

league" (Former player 10). This is why disillusioned current and former players have tried in recent years to resist the human capital subjectivity and to expose their working conditions and remuneration. They contemplated traditional avenues such as lawsuits and unionization to counterbalance the power of teams' owners in labour relationships. Due to the failure of these strategies, some players now react to this "culture of financialization" (Haiven, 2020) by "financializing" themselves through HCCs, which I discuss next.

4.3. HCCs and Subjectivation

This section analyzes participation into a human capital contract, whether with equitization or income pooling, as a reaction to the "culture of financialization" depicted above. According to interviewed players, the emergence of HCCs is inexorably linked to the "fiasco that minor leagues is and [its] financial system" (Player 18). One player said: "There's such staggering income inequalities in professional baseball. I think it makes personal rational sense to put in measures to address what the organizations aren't going to do themselves" (Player 19).

The equitization model is one of those measures as it provides immediate liquidity to participants. This model is enticing for players who received a lower signing bonus or are struggling financially. These are the players for whom the imagination wavers. The equitization model harnesses a re-imagination process in which players can foresee themselves again as "entrepreneurs of the self" (Foucault, 2008). According to equitization firm representatives, the acceptance of the model depends partly on the participants' imagination, who must contemplate how capital will "help them grow" (HCC Firm representative 3) and to advance their career:

> Are they going to make more than 2% in their career by doing a deal with us? It really doesn't matter how much money they have if they think, 'Okay, by getting this money now so I don't have to be an Uber driver, I can work out. Will I end up making more than 2% throughout the course of my career because I did that or not?' I think that if a guy makes $100 million and we get $2 million, even if we gave him $50,000, well, maybe if we didn't give him that $50,000, he doesn't make that $100 million. (*BLA* CEO, quoted in Lindbergh & Sullivan, 2018)

Banking on the equity, players can reproduce the expected behaviours by investing the amount in themselves through offseason training and a healthy food program. From this perspective, participating in the equitization model is a reaction that mostly reproduces the human capital subjectivity. The idea is for players to take advantage of "the rules of the game," to use the investment to better position themselves in the competitive and individualistic field of professional sport.

Players who experience accounting numbers (i.e., signing bonus and high expected rewards) positively are less likely to be attracted to this model unless they imagine the possibilities of falling short of their potential (because of an injury for example). For financially literate and/or risk-averse players, equitization is considered a risk management tool. They prefer to sell a portion of their uncertain human capital to monetize in the present time their income potential. Rather than being at the mercy of their investors (Martin, 2002), in this case the employing MLB organization, individuals become engaged in a "work of financialization" (Chiapello, 2020) to assess and appropriate their own expected value. Accounting tools and technologies not only support the financial engineering of HCCs, but also contribute to the internalization and acceptance by prospective clients. In a way, entering into a human capital contract summons individuals' calculative agency (Callon, 1998; Mennicken & Espeland, 2019). Players require financial literacy skills (Bay, 2011) to weigh risks and potential rewards. For example, one player who accepted an equity deal with *Fantex* estimated he could almost double the amount he received over time by investing it at 8% or 9%. He calculated he would need to earn over $60 million over his career to reach the point where he would have to pay back more than he received (Moura, 2017). Thus the imagination that is harnessed by the equitization model is consistent with the ethos of financialization (Haiven, 2014a). Individuals embrace the idea that they are "investees" and "human capital" (Feher, 2018), and equitization allows not only individuals to "alter their human capital," as Feher (2009) points out, but to sell it.

The income pooling model perhaps best illustrates the tension between subjectivation and the reactions of acting subjects to subjectivation. As a "financialized device," income pooling bring participants closer to the human capital subjectivity, but to defy it from within (Feher, 2018). The success of income pooling for players to address the current situation of poverty and powerlessness depends even more on the imagination. This is

particularly the case for players who received a lower signing bonus. Whereas equitization provides instant cash flows to participants, income pooling is unlikely to significantly change participants' short-term financial situation and working conditions. Income pooling does not involve cash swaps until a specific threshold of income is reached, which, for baseball players, may come only several years later. Yet, participants explain that income pooling is a way to appropriate their "human capital" subjectivity in order to regain some control:

> It feels nice to actually have control of one thing other than performing on the field. […] Even if I have a phenomenal year, there's no guarantee that they're going to promote me or sign me back, it's out of my hands. I can pick the guys in my pool and get that advantage. It's a really cool way to understand that not everything is out of my hands (Player 24).

Some players even see income pooling as part of a "resistance" toolkit, to build awareness that "the system is pretty broken and need a big revamp" (Player 22). A key finding of this paper is that accounting technologies and financial literacy are required to harness the imagination of a futurity (Haiven, 2011) promised by income pooling. As the above quote alludes to, with income pooling, imagination is less about the self and more about imagining the potential of others. The concept entails that participants are not solely "investees" but also "investors." They fundamentally invest a portion of their future earnings for a percentage of their peers' future earnings. As "investors," they need to develop their "own synthetic 'imagination' of the world" (Haiven, 2011, p. 112) and of the "assets" they invest in. For example, one player said:

> If I go from making $10,000 a year in the minor leagues, and then all of sudden, because I'm in a pool with somebody who makes the major leagues, I make $300,000 off of that guy, then I can use that to start a business, to buy real estate, to invest in the stock market (Player 23)

Another one added: "I'm very much a cheerleader of them and their on-field successes because the more that they do better, the higher likelihood that they can be a contributor to the pool" (Player 21).

In their "investor" role, participants engage in valuation practices and consume accounting information. They are presented with financial data from the income pooling

firm about fellow pool members, which allows them to "imagine" their own financial future. For business-savvy athletes, income pooling is essentially having a "diversified investment portfolio" (Player 18). The income firm CEO explained the company's role in the following terms:

> [We] act as an advisor and market-maker. Ultimately, the player controls who he pools with and on what terms. We provide advice and digestible data science to allow those athletes and their financial advisor and agent, whoever is part of the decision making group, to make an informed financial decision (Income pooling CEO)

The above quote emphasizes that players can pool with whoever they want, but the financial logic underlying the model suggests that players with similar expected values are likely to pool together. It is therefore possible that a pool of low-expected value players may ultimately yield next to nothing. However, a pool comprised of first-round picks is likely worth millions. Arguably, income pooling is a model that works best for top prospects and high-expected value individuals. The challenge, however, is that these players do not experience accounting numbers in a negative way. Their imagination is consistent with the "financialized imagination" supporting the human capital subjectivity. They likely embrace their subjectivity; they received a high signing bonus, meaning they do not struggle financially, and they forecast high expected rewards, ignoring the inherent risks of playing professional sport. The lack of financial literacy amongst baseball players is one major hurdle for income pooling to scale. For top players, income pooling is not *a priori* intuitive: "Your average baseball player is not going to understand all the math behind variability and the volatility of career and spreading out risk and diversifying and marginal utility" (Player 24). Therefore, most of these players must go through an education process to be convinced about the benefits of income pooling. Thus, the firm must introduce the financial product to prospective players with an alternative forecast of their future earnings:

> For first-round draft picks, expected future earnings are $39 million—but this average doesn't tell the whole story. In reality, just over 30% of first rounders will ultimately earn next to nothing from their baseball careers, while the other 70% will earn on average $56 million over their careers. […] The upshot is that even among

> the most secure prospects, there is a massive variance in career earnings. No first-round picks expects to fail, but many of them will (Excerpt from the income pooling firm website)

By nature, most athletes are overconfident and do not foresee failing to reach the major leagues. To enter in a human capital contract, participants need to re-imagine their future with a dose of self-awareness. Once they consider the risk of failure top prospects come to see "winner-take-all" markets less favourably, but this does not mean that overconfidence disappears. In the case of income pooling, most players, even after they come to understand the level of risk that comes with their career, "believe that their value would be higher than [the] pools that they're presented" (Player 22). Sometimes, prospective athletes may defer their participation by a year, speculating they will raise their stock:

> I haven't joined a pool given that I have such a small sample size in professional baseball so far. I only felt comfortable with joining a pool of players that I really thought had a chance to make it to the major leagues. At that point, [the income pooling firm] is not going to be able to match me with [high-expected value players]. I basically opted to bet on myself and raise my stats before considering entering a pool. (Player 25)

Deferring participation might be fruitful for low-expected value players, but top prospects may destroy their value by doing so. A representative from the income pooling firm states that players are "encouraged to sell high on their value," especially considering that players may become humbled by their performance metrics as they progress in their career. By internalizing this counter-account of expected rewards in their human capital subjectivity, players imagine income pooling as an "insurance-like policy," as a "safety net," or as a way to achieve a "safer financial future" (Player 21) if they fail to reach the major leagues (Kurunmaki, Mennicken & Miller, 2019). One player explained: "by spreading the risk of not having a big league career, I have now given myself the freedom to attack my career with little fear of failure" (Participant, from income pooling firm website). Another one talks about empowerment through income pooling:

> With the landscape of professional baseball in the USA, there are very limited options to control your financial landscape. My financial priorities do not align with the winner-take-all structure that MLB presents, so having an opportunity to change

> my financial outlook in a way that better represents my preferences is certainly empowering (Player 19)

Here, income pooling, as a financialization tool, comes to be experienced as "a transformation in the nature of agency and empowerment" (Haiven, 2020, p. 350). Income pooling, as a reaction, changes how players conceive themselves as "human capital" and their sense of accountability. As mentioned in the above quote, rather than feeling unaccountable to themselves (Martin, 2002), players argue that risk management increases self-accountability.

This idea, however, does not sit well with all players. From a neoliberal perspective that praises self-responsibility and competition, the idea of a re-distribution scheme such as income pooling is seen as "anti-competitive" and is disturbing (Lazzarato, 2009). Individuals who decided not to join a pool mentioned they are afraid that they would have to renounce to their competitiveness and confidence that helped them reach professional status. According to some interviewees, income pooling, is "kind of betting against yourself" (Player 17). Potential moral hazard issues scare off some individuals unwilling to contribute financially to fellow athletes who (they see as) not working hard enough to succeed. A former player observed that, with income pooling, "the winners lose, and the losers win" (Morizio, 2020). Participants disagreed that they would play "less hard," noting that there is "way more financial incentives to make it yourself" (Player 19). My analysis suggests that participants feel even more accountable, both to themselves and to their peers.

This feeling of accountability may be related to how participants select their fellow pool members. Beyond the aforementioned valuation based on financial data, participants rely on performance metrics and on qualitative factors, assessing their personality and intrinsic qualities. In some cases, pool members may be teammates, friends, or opponents they respect both for their baseball and humane skills. As one player said:

> I see what kind of person he is, asking: "Why should I have him in our pool?" And sometimes it's not strictly based on talent. I just want the guys that are going to fight for me in the long run. We make it more like a fraternity, a brotherhood. We make this another kind of support system, so I don't want a selfish person in the group. (Player 24)

Because they end up as a community, and often become friends, participants "don't want to be the rock" (income firm CEO). According to participants, income pooling adds an extra motivation, driving "everyone to compete more to not only help themselves out, but help everybody else as well" (Player 23). They feel that, if they succeed, they will help "good people" to start a new life outside of sports. As one player explained: "Those who do make it know they're impacting [their fellow pool members] lives much greater than they are negatively impacting themselves financially. […] I guess if you're selfish, then it's probably not for you" (Player 18). The idea of sharing their success—and a percentage of their upside—with others breaks with the characterization of the "entrepreneur of the self" as a profit-maximizer and greedy individual.

Besides diversifying career risk and investing in the human capital of others, the "power of a community" is one of the main reasons why income pooling is compelling. When it comes to entrepreneurs or MBAs, the pool could be conceived as a network of individuals who cooperate and share best practices, skill sets, and advice. In professional sport, however, the community is largely "emotional" (Income pooling firm CEO). In the interviews, many players emphasized how much minor league life is a solitary experience. Players confessed they are constantly worried about losing their job. Within an organization, players might be friends who help each other to cope with the hazards of minor league life, but they are also direct competitors. This competition may erode bounds between teammates and create an individualized sense of self (Roberts, 1991). In this regard, income pooling alters participants' sense of self, from an individualized one to a more interdependent one (Roberts, 1991). As each pool is self-financed by members, the social dynamic and the camaraderie generated by income pooling can potentially reverse the ill effects of internal competition on the sense of self:

> One of the unintended consequences we didn't see coming is we are having baseball players come back to us and say the game is much less lonely than it was before. Baseball need not be zero-sum. If somebody in my pool gets called up, it means I win. […] I'm rooting for that individual, because it means a tiny bit of me gets called up (Income pooling firm CEO)

One player added:

> It makes it more about cheering each other on, rooting each other on and wishing for the best successes for each one of us. It is just creating less of a money or a business sense but more of a pulling for each other and a kind of communal place (Player 18)

Although players recognize income pooling "is not a perfect solution" (Former Player 11), they see it as "another good tool [for minor league players] that want to go to battle for the little guy" (Player 24). At this stage however, this is a tool that is not likely to destabilize the system in place. The gap between the "haves" and the "haves-not" participating in income pooling may be reduced, but fundamentally, income inequalities between MLB and the minor leagues will persist. Whereas players may have sought "resistance" with income pooling, data indicates they are more likely to achieve resilience and to attenuate the unpleasant logics of the human capital subjectivity through the power of an escapist form of imagination. As noted by one participant:

> It is peace of mind of knowing that there's a decent chance you're going to get some money from what you're doing even as you toil away making three or four dollars an hour. There probably is a pot of gold on the other side of the rainbow. That is comforting (Player 23).

To cope with the low minor league salaries, players can imagine a better financial future through income pooling.

5. Discussion

This paper explores the emergence of human capital contracts, specifically in the baseball industry, with the objective to understand the rationalities and technologies underpinning two different models, equitization and income pooling, and to understand how these contracts impact the subjectivity of participants. The analysis shows that human capital contracts are "financialized" devices (Chiapello, 2020) that are used by players as a reaction to the dominant human capital subjectivity in the baseball industry. At a more abstract level, this paper is particularly attentive to the roles of accounting in the "culture of financialization" (Haiven, 2014, 2020), notably when it comes to the imagination. The analysis shows that accounting plays key roles in supporting the "work of financialization" (Chiapello, 2020). Human capital contracts, similar to social impact bonds and micro-

credit, are financialized instruments that seek to address social and environmental problems with the "addition" of finance. The findings show that accounting logics and technologies are involved across the different operations. During the problematization phase, problems are seen through the lens of finance and accounting. The issues in education are of affordability and financing. In professional sport, the issues are related to the temporal and collective distribution of earnings. Accounting technologies can then play an important role in supporting the financialization process by giving an embodiment to the financial workers' visions. During the tangibilization phase, accounting tools and valuation practices are deployed to calculate individuals' expected value and to classify them according to their "asset quality." With the equitization model, unprofitable individuals are left out, which is not necessarily the case with income pooling (although the most valuable individuals are nonetheless privileged) (Fourcade & Healy, 2013). Finally, during the structuring phase, accounting functions (e.g., budgeting, auditing, reporting) support the effective functioning of human capital contracts. In sum, the paper shows that financialization is enabled through accounting, contributing to previous studies related to financial innovations (Alawattage et al., 2019; Cooper et al., 2016).

The analysis also shows that accounting is involved in fostering the human capital subjectivity, the dominant mode of subjection under financialized neoliberalism, both through subjectification and subjectivation. In the accounting literature, the role of accounting in enabling the subjectification (the government of others) and subjectivation (the government of one's self) of employees as "entrepreneurs of the self" has been well documented (Cooper, 2015a). In this paper, I depart from prior studies showing how management control systems are deployed in a way that "elicit commitment" to highlight that accounting numbers, such as signing bonuses and expected future salaries, shape baseball players as "human capital." Although MLB organizations benefit from the players' entrepreneurial behaviours, these accounting numbers are mostly related to subjectivation as they are internalized by players, who become active constituents in the process of imagining themselves as "human capital." A key finding is that accounting harnesses the "human capital" subjectivity—and subjectivation in general—through the power of the imagination.

In this regard, the paper extends Haiven's work on finance and imagination (2011, 2014, 2020). It shows that accounting shapes imagination, which then contributes to subjectivation. Accounting numbers, such as the signing bonus, mediate impressions. This number essentially transforms the player into an "asset" for the organization and acts in a way that it becomes easy for the player to imagine himself as an "investment" and as an "entrepreneur." The role of MLB player salaries is even more central as they are interpreted as *expected rewards*. Expected rewards mediate impressions and alter experiences in a way that players tend to forget the harsh working conditions they experience in the present time because of the promise of a bright (and profitable) future. The expected rewards and the signing bonus further support the dominant social narratives in the minor leagues where players are considered "apprentices" and praised for their competitive drive.

Accounting can also mediate impressions in a different way, however, allowing individuals to imagine a future that is inconsistent with the human capital subjectivity. If accounting helps to sustain the illusion, it can also reveal it. The analysis shows that low-bonus players, who must tightly manage their budget, experience accounting differently than high-bonus players. For them, the possibilities of a brighter future diminish as they experience the minor league life in a stressful way, and are unhappy living paycheck to paycheck. For these players, the expected rewards are less expected, and they rationalize managerial decisions based on accounting logics. Because they do not represent "big investments," they do not expect to be promoted over their high-bonus teammates. When it comes to expected rewards, imagination does not only depend on the presence of accounting, but also on its absence. This is because individuals who are less financially literate (Bay, 2011) or who only see a partial accounting (by being unaware of their downside) do not imagine their future in the same way than those who understand that behind the expected rewards number are high failure rates.

This paper also argues that entering into a human capital contract is a reaction, albeit a "financialized" one (Chiapello, 2020), that individuals either contemplate or undertake to "resist" their situation. The word resist is between quotation marks for two reasons. First, the reaction is not necessarily articulated with counter-conducts (Barthold, Dunne, & Harvie, 2018) but mostly with behaviours consistent with financialization. After all, HCCs are financialized devices, imagined within the frame of finance. According to Haiven and

Appadurai, only a more radical form of imagination, shared collectively and dismissing capitalist features, may bring social change. Thus, the reaction is overall reproductive in the sense that human capital contracts may bring participants closer to the human capital subjectivity. Second, the reaction does not seek to change the system in place. Rather, to paraphrase Maurice de Certeau (1988), it acts as a "tactic" that allows individuals to navigate the intricacies of the system.

The analysis illustrates that for prospecting clients, accounting technologies are also involved in the "work of financialization" (Chiapello, 2020) entailed to adhere to human capital contracts. So although individuals further participate in their subjectivation as a "human capital," they appropriate it for their own purposes (Feher, 2018) to be less at the mercy of their investors (Martin, 2002). Again, imagination, supported by accounting tools, plays a crucial role in the subjectivation process. Embracing their human capital subjectivity, participants engage in valuation practices to assess their own expected value. Valuation arguably requires the imagination to imagine the future risks and possibilities (Haiven, 2011).

I posit that the equitization model mostly replicates the imaginary process first engendered by the signing bonus. Essentially, the equity and the bonus are very similar: players receive money and they are expected to invest it in themselves. They are thus in a position to compete in the "winner-take-all" market (Frank & Cook, 1995) and to imagine obtaining the expected rewards. In this case, the human capital subjectivity is reproduced and consolidated as equitization maintains players' individualistic sense of self (Roberts, 1991). Alternatively, the income pooling model is particularly relevant in illustrating how subjectivities can be transformed by imagination. According to the theoretical framework, entering into an income pool is a more transformative reaction than equitization. Income pooling entails that participants must imagine a different future than the one they *a priori* foresaw. For overconfident individuals, an accounting of their expected rewards, emphasizing the potential risks and failures, is presented. In order to conceive the benefits of income pooling, participants must first imagine the possibility of a future in which they fail (Kurunmaki et al. 2019), and, second, to imagine a future in which their peers, the individuals they have invest in, are successful. Through this imagination, income pooling participants transform their own human capital subjectivity, departing from the depiction

of the "entrepreneur of the self" as risk-taking, profit-maximizing, and individualistic subject. Instead, participants imagine themselves as risk-managing, solidary, and accountable people. Although detractors claim that income pooling as a re-distribution scheme is essentially "anti-competitive" (Lazzarato, 2009), participants feel even more competitive and driven to succeed in order to help others.

These findings have broader implications for financialization studies. First, this paper shows that emotions are inherently linked to financialization. As Haiven (2011) points out, finance is a sphere of representation and agency that is "clouded by narcissism, desire, fear, and power" (p. 96). It is also a mechanism used by individuals to "gain agency over the precariousness and contingency of the future" (Haiven, 2014a, p. 71). For some players, HCCs, as an "idea of finance," allow an unattainable future to present itself (Bay & Schinckus, 2012). The culture of financialization prevalent in the baseball industry is largely sustained by dreams, emotions, and behavioural traits. Players are grateful to chase their dream and are hopeful (and perhaps overconfident) to realize them. Negative emotions such as fear (of losing their job) and loneliness are also perceived as motivational drivers. The reaction to "financialize" themselves is driven by a combination of rationality and emotiveness. Players certainly need to be calculative and rational when it comes to assess their expected value, but the decision to accept an equity deal or to join a pool is accentuated by emotive impulses. Individuals who hate the system and their human capital subjectivity conditions are more inclined to seek avenues to resist it. Outside of sports, the idea of income pooling is appealing to business school graduates and entrepreneurs to capitalize on lucrative opportunities and to build a business network, attenuating their "fear of missing out." Overall, what HCCs provide, besides the financial aspects, are emotional (short-term) benefits driven by the escapist form of imagination. This is particularly apparent with income pooling. Players speak of income pooling in terms of empowerment, "peace of mind," and "comfort." Their agency is diffused within a group of individuals and, correspondingly, they feel less lonely. Whereas individuals may have sought resistance, they more likely found resilience. Income pooling provides players with an escape from their harsh reality, allowing them to dream again.

Second, the above point about emotions suggests that individuals find humanity with financialization (Desai, 2017). In the critical accounting literature, most studies conclude

that financialized neoliberalism is detrimental for the society, employees, and the environment (Chiapello, 2017). This paper leans in this direction to a certain extent, but it also highlights that financial innovations can be designed in a way that is more collective. Income pooling emulates insurance as it brings together people who spread the risk and the rewards (Knights & Vurdubakis, 1993). The concept of income pooling is even more powerful from a humane perspective because participants get to know and support each other. Income pooling does not need to be only a financial experience. It can dissipate self-absorption by engaging the individual into a more socializing self, opening possibilities for the accountable self (Roberts, 1991).

A third implication further nuances this optimistic idea. On the one side, the imagination allows individuals to find "peace of mind" and "humanity" through financialized instruments. On the other side, a "financialized" imagination may impede more critical imagination. As Haiven (2011) mentions, "so strong is the hold of finance on the imagination today that social problems seem to have few answers that are intelligible outside a market logic" (p. 116). Using financialized tools to address social and environmental problems may lead to the reproduction of the financialization features and logics. With HCCs, creditworthy and high-value individuals will be privileged over less profitable people. The instruments may be beneficial for participants, but they do not fundamentally challenge the macro- and micro-structures that led to their emergence. Ultimately, HCCs cannot dethrone more equitable corporate practices, progressive taxation, and welfare safety nets as the primary options to challenge neoliberalism and financialization.

6. Conclusion

In the concluding remarks, I want to emphasize that HCCs constitute a phenomenon of interest for accounting scholars. This study is essentially primarily exploratory as the overall ramifications are unknown. Future research, relying on longitudinal data, is needed to shed additional light on the ethics of HCCs, especially considering concerns related to the "indentured servitude" (Cooper, 2015b). Individuals could become influenced by capital markets if additional companies, investors and financial institutions join this human capital industry or if current companies further financialize athletes by securitizing their

streams of cash-generating assets and selling them off to investors. Potential gambling issues and the sometimes twisted finance ideas—such as products allowing to short people's human capital—could have devastating effects.

With HCCs spreading to non-sport contexts, it could open space for interesting accounting questions. For example, as income pooling enters the fields of entrepreneurship and MBAs, it provides a promising context to study the notion of accountability. Because pool members play the dual role of "investor-investee," they are also both accountors and accountees vis-à-vis fellow participants. The role of the financial firm, which has a share in every pool, cannot be dismissed when analyzing accountability relationships. This paper suggests that income pooling opens possibilities for a socializing form of accountability, producing a sense of self that draws individuals into relation with others (Roberts, 1991). At first, pool members all have a similar expected value, but over time, stock values of participants widen. Auditing expertise may be required to consider the fluctuations of individuals' expected value and to audit financial statements and tax returns to ensure compliance from participants. As some participants become payers or recipients, how does that change accountability relationships? How accounting numbers and performance metrics become analyzed by pool members? The income pooling context allows to dig deeper on the possibilities and limits of accountability (Messner, 2009; Roberts, 1991, 2009).

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CHAPTER V: CONCLUSION

CONCLUSION

By drawing on the baseball context, this thesis is intended to shed light on contemporary accounting-related issues, namely performance measurement and management control, valuation practices, and human capital contracts. A core argument of this thesis, as highlighted in Chapter I, is that the sports industry, because of its idiosyncrasies, provides fruitful avenues to explore accounting and management questions. Empirically, the thesis specifically explores the North American baseball industry, which has been through significant changes in the last two decades. I identified the beginning of the 2000s as a turning point for managerial practices in Major League Baseball (MLB) clubs. At that time, several MLB clubs claimed financial difficulties, such as operational unprofitability and increasing debt burden, as depicted in the *Blue Ribbon Report* (Levin, Mitchell, Volcker, & Will, 2000). The financial struggles, according to MLB clubs' owners, were attributable to rising player salaries. Following decades of being artificially compressed by the reserve clause, a legal provision that allowed MLB clubs to retain indefinitely players' contractual rights, player salaries started to increase exponentially. Whereas some clubs located in the bigger media markets were still able to turn a profit while adding high-salary players to their roster, the situation was dire for most "small-market" clubs, which then started to find new ways to evaluate players and to find market inefficiencies.

This situation is described in Chapter II, which explores, from the perspective of baseball operations specialists, how clubs have used new technologies to improve players performance measurement. At first, clubs relied on statistical analysis to find under-valued players, but new technologies, culminating with tracking systems, further transformed performance measurement and management control practices. This chapter adds to a growing accounting literature on technological innovations and Big Data analytics (e.g., Bhimani & Willcocks, 2014). It suggests that, with tracking systems, performance measurement is considered more "objective," and that technology-driven performance metrics are more context-independent and process-oriented. Moreover, the sport context provides a site of inquiry that resembles a "society of control" (Deleuze, 1992) with intersecting systems of control and continuous monitoring. This setting allows for an

investigation of the performativity (Butler, 2010) of a management control system characterized by the weakening of human agency in performance measurement.

The focus on player evaluation was however only a first step for several MLB clubs. In Chapter III, I describe the translation of player evaluation into player valuation by baseball operations specialists. The baseball context allows for the opportunity to shed light on the distinction between evaluation and valuation, two concepts that are often blurred in valuation studies (Dewey, 1939; Vatin, 2013). Whereas player evaluation relates to players' talent, skills, and performance, player valuation considers financial variables (notably salaries). The findings of Chapter III also enhance our understanding of sport accounting practices and of the role of accountants in a baseball club, adding to the accounting literature on the sport business (Andon & Free, 2012; Cooper & Joyce, 2013; Janin, 2017). My research suggests that the interplay between accounting and valuation fosters a "hyperreal" accounting that MLB clubs' owners strategically display in their communications with stakeholders.

Chapter IV focuses on the perspective of minor league players, who have been in the news in recent years because of their work precarity and low wages. It discusses the emergence of human capital contracts, namely brand agreements (equitization) and income pooling, which are financial products that provide money or services to athletes in exchange of a portion of their future earnings. In this chapter, I explore the technologies and rationalities underlying equitization and income pooling, and articulate how these contracts impact the subjectivity of participants. This chapter contributes to the accounting literature related to financial innovations (Alawattage, Graham, & Wickramasinghe, 2016; Cooper, Graham, & Himick, 2016) and on how accounting shapes individuals' subjectivity (Alvehus & Spicer, 2012; Cushen, 2013; Gilbert, 2020a).

1. The "asset-ification" of human capital

Underlying this thesis is a story of "asset-ification"[1] and the financialization of human capital. As a whole, this thesis contributes to the accounting literature related to human capital and accounting for people. In a paper entitled "Damned if you do, damned if you

[1] I use this term to describe processes of turning things or people into "assets."

don't," Roslender, Marks, and Stevenson (2015) present the diverging perspectives about human capital accounting. A dominant assumption in this literature is that a different classification of employees, being labelled as "assets" than as "expenses," could have positive benefits for labour. Employees could be viewed as something to invest in and to maximize as opposed to objects to wear down and to minimise (Roslender & Stevenson, 2009). On the other hand, the re-objectification of employees from costs to assets has been interpreted with real skepticism, as a "troubling extension of the logic of capital" (Spence & Carter, 2011, p. 311).

This thesis shows that, in the baseball industry, high-profile employees (players) are transformed into "assets" by their employing organization. However, this "asset-ification" process is done mostly outside of the accounting realm. Chapter III highlights that clubs' accounting executives, in the context of taxation changes, have contested the idea of assessing the value, in monetary terms, of players' contracts. Contrarily to the European football industry, players' contracts (except for signing bonuses) are not capitalized on the balance sheet. Even if players' contracts arguably meet the accounting definition of an asset (Thompson, 1999), the Baudrillardian analysis indicates that, according to accountants, the valuations of players contracts are "simulations" detached from the accounting "reality" of MLB clubs. Nonetheless, technology-derived performance metrics and "financialized valuation methods" (Chiapello, 2015) allow baseball operations specialists to create a parallel "accounting system," in which players are assessed according to their "asset value." The "asset-ification" story is expanded by considering how players, with the help of financial firms, have been further transforming themselves into financial "assets," as depicted in Chapter IV. Taken together, the three chapters allow for a thoughtful discussion of the implications for individuals subject to the "asset-ification" of human capital. Overall, this thesis, to paraphrase Roslender et al. (2015), posits that players are "damned" if they are assets and "damned" if they are not.

On the one hand, players are "damned" if they are considered "assets" because the "asset value," as explained in Chapter III, consists of the sum of discounted surplus values, which are the differences between a player's annual production and salary. Therefore, it implies that the "asset value" is fundamentally derived from underpaying the player. The idea that professional athletes with million-dollar contracts are underpaid may be shocking,

but according to clubs' calculative practices, players are considered "assets" because they could—or should—have been paid even more. A similar logic supports the market value of European football players. If clubs are willing to invest millions of Euros to acquire players' registration rights, it is because they expect these players to generate revenues in excess of their salaries. For this reason, data analytics and valuation practices have been often seen as "anti-players." In February 2021, one of baseball's best players made headlines when he commented that "analytics aren't helping players get paid, either" (Martino, 2021).

On the other hand, players are "damned" if they are not considered "assets". At the MLB level, free agent players who do not generate high surplus values, either because of their declining production or their potentially elevated salaries, can become "liabilities" and face limited opportunities to prolong their career. The focus on surplus value means that most clubs favour productive but still underpaid players who help to achieve both winning and profitability. In Chapter IV, the distinction between "assets" and "non-assets" is evidenced by the signing bonus, an accounting sign that reflects the value of a player for the club at the time of his acquisition. Signing bonuses consolidate the perspective that minor league players are organizational assets. Interestingly, signing bonuses are classified as intangible assets from an accounting perspective, as they are usually capitalized on the balance sheet. In recent years, the most promising amateur prospects (i.e., those considered as "assets") have received seven-figure signing bonuses, whereas most other amateur players (often considered as "non-prospects") have received bonuses of $10,000 or less. Low-bonus minor league players, who also have to cope with low annual wages, envy their high-bonus counterparts, not only because of the financial resources they enjoy, but also because they are convinced that players labelled as "assets" are given more opportunities by the organization. As a reaction to the culture of financialization in the baseball industry, players have been attracted to human capital contracts. In a way, the equitization model (brand agreement) plays a similar role to the signing bonus, providing financial resources for athletes to invest in themselves. Income pooling is another financial product that allows athletes to mitigate income inequalities by investing in their peers. For human capital contracts participants, becoming an "asset" provides a way to cope with the risks related to a "winner-take-all" market (Frank & Cook, 1995).

Recent events in the baseball industry (not all of which are included in this thesis) suggest that, despite the tensions arising from the "asset value" calculations, it is nonetheless preferable for players to be labelled as "assets" than as "expenses." In time for the 2021 season, MLB made significant changes to the minor league operations, cutting 42 teams (approximately 1.5 per club). This decision can be explained, as mentioned in Chapter II, by the technological innovations enabling clubs to target players worthy to be invested in, thus reducing the number of minor league players under contract and cutting expenses. Another reason provided by MLB officials is that the changes will allow clubs to make investments in their minor league players (Cooper, 2020). As a result, minor league salaries will increase,[2] and players will play in upgraded facilities and be provided with nutritious food options. Arguably, the investment thinking in baseball operations have showed that is it overall profitable for clubs to invest in their minor league players. In a way, these recent events support the argument from the nineteenth-century German economist Johann Heinrich von Thüren (1783-1850), who wrote that putting monetary values on humans could be positive, that "it could lead to better treatment of humans, and could be a way of indicating that every single individual is inherently of value" (quoted in Mårtensson, 2009, p. 842). This thesis shows that players have also adhered to this perspective, as they have been playing an active role in their "asset-ification," not only by turning to human capital contracts, but also by investing in themselves through their embracement of tracking systems and monitoring technologies to manage and improve their performance.

2. Theoretical implications for accounting research

Theoretically, this thesis brings together a number of concepts inspired from a wide range of theorists such as Gilles Deleuze, Jean Baudrillard, and Michel Foucault. I contend that a common thread in the three chapters, from a theoretical perspective, is the concept of time. It is particularly salient in Chapter II, which discusses how technological innovations impact the temporal properties of performance measurement. Tracking

[2] Minimum weekly salary for rookie-level players will increase from $290 to $400; from $290 to $500 for Class A players; from $350 to $600 for Double-A players; and from $502 to $700 for Triple-A players (Cooper, 2021).

systems and data analytics act as "time-compressors," allowing performance to be measured and analyzed quickly. The chapter also suggests that performance metrics can be temporally dynamic, being both able to better predict the future and to tell a different version of the past. Theoretically, Chapter II contributes to prior discussions about the temporal properties of accounting numbers[3] (McSweeney, 2000) and time rationalities in accounting (Chakhovich, 2019).

The emphasis toward the future can be seen as a by-product of the financialization of (management) accounting practices. Whereas accounting numbers and performance metrics are fundamentally oriented toward the past (as they capture and reflect past events), finance decisions require a forward-looking orientation (Desai, 2017). Chapter II describes how, according to MLB clubs, past-reflecting performance metrics were not aligned with the investment mentality taking over baseball operations departments. The focus shifted from the evaluation of player performance toward the projection of player performance. In Chapter III, this orientation toward the future underlines the player asset value framework. The value of players contract is assessed based on players' future profitability. At this stage, decision makers in baseball operations imitate investors, who are solely focused on the future. The work of Liliana Doganova (2014, 2015) in valuation studies illustrates that values, particularly those obtained with the Discounted Cash Flow method, are derived from the future.

Chapter IV, focusing on the perspective of minor league players, is also related to time through the concept of the imagination, which corresponds to "the way we project ourselves into the future and gain inspiration and direction from the past" (Khasnabish & Haiven, 2014, p. 4). In this chapter, I draw heavily on sociologist Max Haiven, who has written extensively about the imagination and finance. According to Haiven (2011), it is the imagination that enables finance to reach out into the future. The chapter shows that accounting numbers, either past-reflecting (signing bonus) and forward-looking (expected

[3] Deleuze's philosophy of time, which he mostly wrote about in his books *Difference and Repetition* (1994 [1968]) and *Logic of Sense* (1993 [1969]), could provide an interesting theoretical framework to explore the temporal properties of accounting numbers. I did not follow this avenue in this thesis because the empirical setting did not exactly fit. However, through his three syntheses of time, Deleuze expresses the idea that the past, the present and the future are dimensions of the same time, that there is a contraction of different temporalities in the present.

rewards) influence how individuals imagine themselves and their future. The key argument of this chapter is that accounting harnesses the human capital subjectivity through the power of the imagination, which gives individuals a "sense of possibility" and a "futurity" (Haiven, 2011). For individuals struggling in the present time, human capital contracts enable them to foresee a brighter future.

Post-structural theorizations of power from Deleuze and Foucault (Langley, 2020), as well as post-modern concepts from Baudrillard (McGoun, 1997), have been useful to understand finance and financialization. Whereas the work of Deleuze and Foucault is helpful to analyze how subjects turn to financialization to "confront the uncertain future" and to "render the future actionable in the present" (Langley, 2020, p. 70), Baudrillard provides theoretical tools to understand the work of financiers in the game of modern finance. Although it was not done explicitly in Chapter IV, these philosophical inspirations overlap around the notion of the imagination. From a Foucauldian perspective, the imagination is related to subjectivity, about how individuals imagine themselves as a specific type of subject, whereas from a Baudrillardian perspective, the imagination is closely related to notions of simulations and hyperreality. Baudrillard often spoke about the role of "*l'imaginaire*" (the "make-believe") (Gane, 1993) in postmodern society. Chapter III depicts the creative impulse of baseball operations specialists, driven by an investor mentality, who have created tools and frameworks that became "realer than real." In a way, baseball operations specialists, contrarily to accountants, can display their imagination because they do not have to abide to a particular "reality." Overall, in this thesis, I have found the philosophical influences of Deleuze, Foucault and Baudrillard, despite their significant differences, helpful to explain both the production and consumption of financialization by social actors.

3. Limitations and future research

Although this thesis is intended to illustrate that the sports industry is a fruitful area to study accounting issues, it faces a number of limitations. At a high level, the argument is that the business of sport is a sort of laboratory, which may shed light on contemporary issues, but because of its particular habitus, the sports industry may not be necessary

representative of a broader range of industries. For example, the conclusions of Chapter II, on tracking systems and monitoring technologies, are overall positive and suggest that athletes have largely embraced these technologies for performance management purposes. However, even if the baseball context allows to investigate the impact of a "society of control" (Deleuze, 1992), these results may not hold true in a different context. Baseball, and to a certain extent professional sport, is a domain where players are used to a high level of quantification and scrutiny from their employing organization, media, and fans. The transition towards performance metrics that focus on inputs rather than on outcomes has been welcomed positively, but the idea is certainly not to encourage every organization to implement tracking systems as part of its management control systems. Contextual and cultural factors must be considered when interpretating the conclusions of this thesis. Another example is related to human capital contracts, which are entering other fields and industries. Although I contend that the theoretical implications discussed in Chapter IV are informative for education or entrepreneurship, specific results may differ in those fields. Future research could therefore explore the impact of human capital contracts on participants in non-sport settings.

Methodologically, this research mostly relies on interviews, which comes with limitations. Although I was pleased with the quality and the quantity of informants, I am aware of potential (self-)selection biases, as interviewees with a finance or economics background may have been more inclined to share their experience with an accounting researcher than potential interviewees with absolutely no interest in accounting. Moreover, it is possible that some informants may have shaped some of their answers by emphasizing the financial aspects. The use of secondary data helped to attenuate some of these concerns, but, arguably, observations would have enriched the data set, particularly when it comes to understand how accounting and finance tools are used in the baseball operations department. Furthermore, this thesis focuses on a single site of inquiry within the broader business of sports. I selected a specific field, the North American baseball industry, and future research could look at other professional sport leagues around the world.

Finally, I want to highlight avenues for future accounting research related to the sports industry. Within baseball, the concept of academies in Latin America is particularly interesting from a human capital perspective. Players from countries such as the Dominican

Republic, Venezuela, and Panama can sign a contract with an MLB when they turn 16 years-old. However, these players are usually recruited a few years earlier by trainers, often known as *buscones*, who develop prospects in an academy before they are eligible to sign an MLB contract. In exchange for the training costs, trainers receive a percentage of players' signing bonuses. This industry does not receive a lot of media attention, and we know very little about the accounting and financial mechanisms that are used by the *buscones.* Moreover, in recent years, MLB has implemented financial regulations in international scouting, and have tried to shed light on several financial scandals happening in Latin America. I contend that this context could also be investigated from a governance and financial regulation angle.

In Chapter III, I discuss how MLB clubs' owners use the "hyperreality" of accounting in their communications with stakeholders. Future research could possibility explore how these stakeholders consume this accounting information. This question would perhaps best be studied in the British football industry, as some clubs are publicly-traded. Moreover, even privately-held clubs must disclose their financial statements through the Companies House agency. Thus, football fans in the United Kingdom have accessed to their clubs' financial information. Considering the conflicting logics of winning and profitability (Carlsson-Wall, Kraus, & Messner, 2016) and the emotions (Baxter, Carlsson-Wall, Chua, & Kraus , 2019) in the business of sports, this context could add to the literature on the consumption of accounting signs (Graham, 2008).

In North America, several professional sport clubs have convinced local governments to subsidize or to finance the construction of new facilities (i.e., arenas, stadiums) in the last two decades. This situation was alluded to in Chapter III. One popular financing mechanism was for cities and counties to grant municipal bonds to investors, which would be reimbursed through a tax on tourism. However, the COVID-19 pandemic, with its attending lockdowns and travel restrictions, created issues for local governments who were in danger of not collecting the necessary revenues to meet their obligations to investors. This financing mechanism of sport facilities is particularly interesting from a neoliberal perspective and could further contribute to the literature on accounting and debt (e.g., Gilbert, 2020a, 2020b).

The COVID-19 pandemic has been transformative for several industries, not the least for the sports industry. Most clubs across the world were forced to play games without fans in the stands, considerably reducing revenue streams. The pandemic has exacerbated the transition to a business model more dependent on broadcasting and media rights. The longer term impact of the pandemic on the sports industry, particularly from an accounting perspective, is certainly amongst the topics that researchers should attend to in the coming years.

To conclude, I posit that the three research papers in this thesis not only bring novel theoretical perspectives on accounting issues, but also address deeper contemporary and social issues, particularly in the workplace. With the technological advances that have the potential to disturb the business world, transitioning organizations and industries into "societies of control" (Deleuze, 1992) and "winner-take-all markets" (Frank & Cook, 1995), I echo the comment from Brynjolfsson and McAfee (2014) that scholars should study "industries with a concentration of high-income superstars like professional sports" (p. 247). This thesis therefore sheds light on these issues, and seeks to open space for future research in the sport context, and to generate further discussions and reflections about the notion of human capital.

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