

# **COMPETITIVE BALANCE IN VEIKKAUSLIIGA AND LIIGA**

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ABSTRACT

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Since the nominal paper by Simon Rottenberg in 1956, in which he discussed the notion of competitive balance for the first time, the theory has been a backbone in team sport economics. However, recent empirical evidence shows a clear trend of decrease in the levels of competitive balance across different leagues and sports around the world. A clear gap in the evidence exists in the Finnish sporting context and therefore this thesis aims to determine the current levels of competitive balance in Veikkausliiga and Liiga and how these levels have evolved throughout the last 30 years (1990-2019).

The theoretical framework of this thesis can be traced to Simon Rottenberg's theory of competitive balance and uncertainty of outcome, which is widely considered as the kick-start for team sport economics. The theory states that in order for a sport league to thrive, to attract spectators and thus be more profitable, the teams must be of approximately similar strength. Dominance, or in other words, a monopoly position of one or a few teams would harm the league, the main product itself.

In order to measure the levels of competitive balance in the two leagues, a series of widely established measurement methods were used. The tools included the Herfindahl-Index, Gini Coefficient, standard deviation and historical winning percentages.

The results show that, on average, competitive balance has improved in Liiga over the research period, whilst it has remained relatively stagnant in Veikkausliiga.

Key words: *competitive balance, uncertainty of outcome, sport leagues, Veikkausliiga, Liiga*

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# 1 INTRODUCTION

Since the days of Ancient Greece until the modern era symbolised by rapid digitalisation and industrialisation, large masses of people have been drawn to spectate a rather peculiar form of human activity. Millenniums ago, people filled large stone-built arenas and colosseums to witness human beings compete against each other to determine who was the strongest, who was the fastest or who could jump the longest. The tales of the heroes passed onto poems and stories, which were forever carved into legends and myths. Thousands of years later, the same phenomenon still exists. People all over the world fill up gigantic state-of-the-art stadiums and arenas or follow their heroes through the use of emerging digital platforms. The methods and measurements of competition have drastically changed throughout the years, but the very heart of the activity remains the same: winner takes it all. This particular human activity, that is being described, is evidently sport.

Sport has ingrained itself into our very lives, so much that our lives revolve around it. We attend sporting contests in greater numbers than ever before. Emerging technologies have given people around the world a possibility to experience sporting contests in a completely new way, social media has brought our sporting heroes closer to the fans, around the clock talk shows discuss hot sporting topics of the day and different forums are filled with people discussing the playing tactics of their favourite teams. The barriers of the traditional definition of sport have been broken and this has paved the way for new sports to enter the market, such as eSports, which is the highest growing sport at the moment. Additionally, the equalisation in society and improving gender balances have supported exponentially the rise of women's sport as its own branch of the massive sport industry. In all, as the previous statements showcase the importance of sport for human beings, it is only logical that the market size of the industry is massive and immensely fast-growing, showing no signs of slowing down in the upcoming years.

Estimations on the size of the sport industry vary importantly. Some estimations place it around 500 billion dollars, whilst the most enthusiastic ones value it to over 1.3 trillion dollars (SportyCo, 2017; Business Research Company, 2019; A.T. Kearney, 2011). The scope of sport is so broad that it is extremely difficult to choose one correct measurement method. Others

might only include the core of the sporting economy, whilst others might add the massive branch of sporting goods, or the ever-increasing sector of sport recreation to the measurement as well. This is the reason why estimations of the global value of the sport industry vary greatly. Anyhow, the growth of the global sport industry has been rapid during the 21<sup>st</sup> century and the increase in market value is not set to stop any time soon. As a matter of fact, The Business Research Company (2019) predicts that the compound annual growth rate of the global sport industry will rise from 4.5 percent to over six percent by 2022. The largest factor in this major increase can be attributed to the explosion in value of television rights. The global value of television deals is estimated to sit currently at slightly under 50 billion dollars (Rethink Research, 2019). The National Football League (NFL) holds the most lucrative broadcasting deal with a yearly deal of over six billion dollars, whilst the English Premier League has been quickly increasing the value of its broadcasting rights to over two billion dollars yearly in the 21<sup>st</sup> century (Statista.com, 2016). In the future, streaming and other innovations in transmitting are set to open new doors for sport broadcasting and drive the overall value of the global sport broadcasting rights through the roof. It is predicted that improvements in digitalisation, in the form of streaming and direct-to-consumer content, will result in a growth of 75 percent for the global broadcasting rights in the next five years and thus emphasise the growing economic power of the sporting industry (Impey, 2019).

Whilst the sporting industry is exponentially growing, differences in market size and volume arise within the industry itself. Geographical irregularities place an emphasis on the economic prowess of different regions around the world. Profit-driven and highly capitalistic North America takes a slice of over 30 percent of the global market, followed by Europe and Asia-Pacific (Business Research Company, 2019). Secondly, differences arise from sport disciplines themselves. Here, the largest slice of the pie is attributed to association football, with a 43 percent take of the global market. American football is second (13 %) and baseball completes the podium (12 %). A clear distinction is made between individual and team sports, with the latter clearly dominating the industry in terms of market power. Tennis is the first individual sport to appear on the list at the 7<sup>th</sup> position with a global financial share of four percent (SportyCo, 2017).

Team sports, which will be the main focus of this master's thesis, account for the majority of the financial share in the sporting industry. Teams such as Manchester United or Real Madrid in football, New York Yankees in baseball and Dallas Cowboys in American football are global institutions and their brand values can be measured in billions. These brands are recognised from their economic power that exceeds the borders of the sporting activity itself. Dallas Cowboys have been for long the highest valued sports team in the world with a total value of 5.5 billion dollars, the red colour and nickname "The Red Devils" of Manchester United is known in every corner of the world and the crest of New York Yankees has become a global fashion icon, to the extent that many people do not even relate it to the sport team itself.

However, amidst the financial power and the massive capitalist wheels that forge impressive amounts of profit in team sports, we tend to forget the very core of the industry. This very core still remains a sporting contest between different teams, competing against each other during a time period of a season. The most central product of these above-mentioned multinational brands still remains the games that they play against other teams. A game between two sport teams is characterised by the fact that the winner cannot be determined before the end of the said contest. Every sport purist would recall situation where the underdog, the David, beats the Goliath. A situation where a higher placed team is stunned by a team placed in the lower tiers of a league. For example, the unbelievable season of Leicester City in 2015-2016, a small team from East-Midlands who was given odds of 5000/1 to win the Premier League, claimed the title at the end of the season before world-known giants such as Liverpool, Manchester United and Arsenal. And who could forget the 1980 Olympic Gold medal won by the US team against the mighty Soviet Union? The Us team, comprised of mostly amateurs, beat the star-filled Soviets 4-3 and claimed Olympic gold. The event has passed onto popular culture, and is known today as the Miracle on Ice.

Whereas outcome uncertainty and balance of competitiveness between competing teams is deemed crucial by sport romantics, spectators and fans, it has also become an important aspect in the money-making sector of sport. According to many academics and countless studies in the area of team sport research this aspect of uncertainty is the most, or one of the most, central factors in team sport economics. Uncertainty of the final outcome creates tension and suspense, which on the other hand attracts fans and spectators to attend or follow a particular sporting



contest in the stadium or via television. A sport, which is not trying its best to enhance the competitive balance within its operations will be missing out on a large number of spectators who will deem that the competition is not exciting enough and is therefore not maximising the prospective revenue it could generate. More spectators mean more revenue, and thus teams need to cooperate off the pitch to find solutions in protecting the competitive balance of a league.

The above-mentioned aspect of cooperating outside the field of play is a defining factor in team sport environment. In any other industry, working closely with the competitors would be highly ineffective and counterproductive, but in professional team sports it is the only option for a league to thrive. The notions of competitive balance and uncertainty of outcome were first discussed by Simon Rottenberg (1956) in his famous article *The Baseball Player's Labor Market*. Rottenberg claimed that in order for a league to be stable, competitors need to be of approximately similar size to succeed and that unbalanced competition would result in fans losing interest in the particular league. Rottenberg's work can be described as the founding father for the academic research on the economics of sport and his theories will be used thoroughly in this thesis. Another important theorist is Walter Neale (1964) with his paper called *The Peculiar Economics of Professional Sports*. In his paper, Neale rejects monopoly position in sport league economics and presents his famous Louis-Schmelling paradox, which showcases the importance of competitive balance and equal powers of playing strength. The third major publication is Peter Sloane's (1971) *The Peculiar Economics of Professional Sports: A Contribution to the Theory of the Firm in Sporting Competition and in Market Competition*, which theorises the uncertainty of outcome hypothesis and competitive balance from a European team sport view. The three above mentioned make up the holy trinity of the theoretic framework for the research of competitive balance and the uncertainty of outcome. Other notable works which draw the theoretical framework for this thesis are for example Noll (2003), Szymanski (2000, 2003) and Késenne (2007) and a plethora of other papers, which are used in more depth in the following literature review chapter.

Whereas the literature underlines the importance of competitive balance for the health of a sport league, the perceived numbers behind the phenomenon are concerning. For example, according to CIES Football Observatory (2018) overall competitive balance has been declining in

European football during the last ten seasons, with the breadth of teams celebrating championships at the end of the season becoming narrower and narrower. The growing problem has been noted at the very top of the pyramid as UEFA's president Aleksander Čeferin deems increasing competitive imbalance as one of the biggest threats for football: "Let's put our cards on the table and be honest with ourselves: the biggest challenge over the next few years will be competitive balance" (Warshaw, 2017). However, the issue is not limited to football only, but rather imbalances in playing balance affect other team sports as well. As CIES Football Observatory (2018) concludes, the issue goes far beyond the scope of football: "Competitive balance is a crucial issue for the whole of collective sports".

Seen the importance of the theory for sport economists and the current alarming empirical evidence, the study of competitive balance provides an interesting area of research. Competitive balance research studies conducted within European football are numerous and the number has been growing during the last decade. Studies researching the levels of competitive balance in ice hockey are also numerous, but the scope is almost solemnly placed on National Hockey League and studies made in other leagues and countries are difficult to find. However, even with a growing number of academic studies in the topic, a significant gap in the research exists in Finnish team sports. Academic research on the economic aspects of professional team sports in Finland remains close to none. The scope is limited to namely a few master's thesis projects (see for example: Jalkanen, 2012). Significant competitive balance and uncertainty of outcome studies are yet to be conducted for the biggest sports leagues in the country. The complete absence of said researches justifies the need for this particular research project. Therefore, this master's thesis project will study the levels of competitive balance in the two biggest team sports in Finland, ice hockey and football and their respective highest-level leagues Liiga and Veikkausliiga. The research question is structured as follows: "What are the levels of competitive balance in the two above-mentioned leagues and how have these levels evolved during the 21<sup>st</sup> century?" The timeframe represented in the thesis will span from the 1999-2000 season until the last complete season, which is the 2018-2019 season.

The continuation of the thesis is structured as follows. The next chapter will provide a comprehensive review of the main theories behind competitive balance and uncertainty of outcome using existing literature and provide an in-depth representation of league structures

and their peculiarities in Europe and North America. The chapter is concluded with a short description of the Finnish ice hockey and football leagues. Chapter 3 will present the main methodological tools and the research procedure used in the thesis, such as the Herfindahl Index, Gini Coefficient, Standard deviation and historical winning percentages. Chapter 4 provides a thorough demonstration of the research findings and Chapter 5 aims to discuss the results of the afore-mentioned findings and draw a clear picture of the current state of competitive balance in Finnish ice hockey and football leagues. Chapter 6 concludes the master's thesis and provides directions for future studies on the topic.

## **2 SPORT LEAGUES**

The following chapter will dive into the world of professional sport leagues by discussing their peculiar nature and distinctive characteristics. We will look at how sport leagues are formed and what they consist of. The second part analyses the peculiarities of the European and North American sport models and how the respective models have shaped the sporting leagues on each continent. The chapter is concluded with a brief introduction of the two main leagues which will be under closer review in this research project: The Finnish football league, Veikkausliiga and the Finnish ice hockey league SM-Liiga.

### **2.1 Sport leagues – A general overview**

For this research a distinction between individual and team sports needs to be made. As the term implies, an individual sport describes a sporting activity where the provider of the sporting activity is a single athlete. In contrary, team sports, which is the main research segment for this particular thesis operate on a distinctively different basis. In the case of team sports, the provider of the product is the league itself and the main product is a match between two different teams competing on the field. In order to provide a perfect product, teams must be organised in a symbiotic environment: they need to arbitrate the rules and regulations of the game, agree on several governing policies to protect the interests of every single team, they need to advance economic and marketing strategies to develop the financial sustainability of the league, to democratically share the fruits of this process and lastly, of course to determine the winner on the playing field.

A league is an entity of several teams, spanning from different clubs or teams. A league can be nationally or internationally contested. For example, in Europe football teams have a possibility of operating on both, a national league, and in an intra-national competition, such as the Champions League or the Europa League. The league itself is governed by a selected governing body or a commissioner, who represents the teams' interests. The teams compete during a span of a season and the winner is crowned as the champions. In open leagues, lower placed teams will be relegated to lower divisions, whereas in leagues operating on a closed league basis,

relegation poses no threat. League structures and characteristics vary between European and American leagues. These several differences in league structures lead to different strategies and operational activities within different leagues, for example concerning inter-season strategies, recruitment processes and revenue generating activities (Jasina and Rothoff, 2010).

For the purpose of this research project, it is paramount to understand the major differences between the European and American sport models, as these characteristics have been researched to have significant impacts on the power balances within specific leagues. It is clear that the repercussions for competitive balance are different with the two distinctive systems. The major characteristics of both models are depicted in detail below. The analysis of league structures and peculiarities follows mainly Noll's (2003) five main principles when studying the organisational forms of sports leagues: *format, hierarchy, multiplicity, membership and governance*.

## **2.2 European sport model**

The roots to the European sport model are rooted deep in history. Whereas, the American sporting structure relies heavily on profit-maximisation and commercialism, the European model has its roots ingrained to the concept of amateurism and volunteerism. This has created a culture where emphasis is placed on sporting success, rather than economic prowess. Although, Rottenberg (1956) placed a major importance on the economic profits of a sport team in his inaugural paper, Sloane (1971) on the other hand, was the first to emphasise the fact that sport teams might not always operate on a profit-maximising function. He proposed a utility maximising design to team sport management, which encompasses aspects such as sporting success, match attendance, general economic stability of the teams and healthiness of the league. According to Andreff and Szymanski (2006) a clear implication of this proposed model is that the league is likely to be more unbalanced, when the emphasis of sporting success dominates profit maximisation.

As discussed above, historically the major objectives of sport team owners in Europe have been purely on playing success. However, the last decade has seen a major shift towards an

Americanisation of European team sports, with private and foreign investors taking over teams and taking a more profit-maximising stance in the management of clubs. A so-called foreign capital revolution has kicked off in European sport, especially in football. For example, more than 90 percent of teams playing on the top two tiers of the English football pyramid (Premier League and Championship) are owned by private majority, and 60 percent of these owners are from foreign origin (Rohde and Breuer, 2016). Most of the foreign investors are, not so surprisingly, from the United States.

Two types of playing schedules exist within European sports: a round robin or an elimination tournament (Noll, 2003). A round robin structure consists of a predetermined set of fixtures for every team during a seasonal scope. At the end of the season the aggregate results are summed together, and the champion is determined. The schedule in Europe is usually balanced, which means that every team plays each other an equal amount of times. Additionally, to the round robin structure, one or more elimination tournaments exist as well. These are for example, national cup competitions or intra-national cup competitions, such as the Champions League. However, these elimination tournaments are autonomous competitions, and do not have an effect on the league standings.

In Europe the league hierarchy is pyramidal. The league sitting at the top of the pyramid is the first division or premier league, which is followed by inferior divisions. The number of vertical divisions vary between different countries and different sport leagues. However, the pyramidal structure remains in place most of the time.

When discussing the organisational and multiplicity of leagues in Europe, team sports are organised in a way that only one league occupies the highest position in the league hierarchy. Multiplicity of lower leagues however can vary from country to another. In England the sixth division, The Football Conference, is divided into multiple leagues. In Finland, you only need to descend to the third division to find a multiplicity of leagues operating on the same hierarchical level. However, some exceptions to single-league-memberships exist. For example, intra-national competitions such as the Champions League and the Europa League in football, permit a team to compete in two different leagues at the same time.

The defining principle of European sport structure is a system of open leagues, and the notion of promotion and relegation. A pyramidal league structure allows any team, big or small, to have a theoretical possibility of reaching the top tier, or in the opposite example, to fall down to the lowest divisions. Entrance to the league happens via registration, but the team needs to start from the very bottom of the league system. So, bearing this in mind, to reach the top level from the lowest division in English football requires eight promotions and takes at least a decade (Noll, 2002). Not the most inviting structure to new investors who desire short-term profit maximisation. This hierarchical structure acts as a substitute model for the relocation of teams and franchises to geographical locations where market powers are more dominant, which is a feature commonly associated to the US sporting model (Andreff and Szymanski, 2006). Noll (2002) proposes that the incentives for effective team management are greater within the European model, as teams can obtain financial benefits from promotion, as well as economic sanctions from relegation. Additionally, Noll (2002) argues that the system has a net positive effect on matchday attendance and general interest of the public.

When it comes to governance, the European sport league landscape is highly regulated and ruled by strong non-governmental national and international governing bodies. The governing bodies act as an arbitrary and jurisdictional entity towards the league's operations. Rules and regulations of the game are decided within the governing bodies, as well as player and team eligibility. In all, they assess issues regarding format, hierarchy, multiplicity and membership (Noll, 2003). Some exceptions still occur in Europe. For example, The English Premier League is a private entity, which separated from the English Football Leagues in 1992. However, some form of cooperation and authority still lies with the Football Association of England.

### **2.3 North American model**

After assessing the peculiarities of the European sport model, it is only fair to highlight some of the characterising aspects of the US model, or the North American sport model.

As discussed above, the European sport model puts a strong emphasis on sporting success, even with the threat of financial instability that it poses. The American sport model is characterised

by strong commitment to achieve financial and commercial success, sometimes with the expense of sporting success. It is therefore no surprise that the financial ventures of American sport teams are much more profitable, than those of their European counterparts. The Forbes Top 50 list of valuable sport teams boasts almost entirely North American sport teams. Only eight football teams made the list, with NFL, NBA and MLB dominating the list. NFL team Dallas Cowboys tops the list with a value of around five billion dollars and an operating income of 365 million in the year 2019 (Badenhausen, 2019). Whilst football is the largest and most followed sport in the world by a mile, its biggest league, The Premier League, made a total profit of “only” five billion in 2019, whereas the NFL made almost three times the amount, over 13 billion dollars (Badenhausen, 2019). The financial gap between European and US teams emphasises the dominance of North American sport leagues in terms of economic prowess.

This clear distinction in organisational strategy (revenue vs. utility) has formed a distinctive league structure to the American team sport landscape. Below are depicted the characterising aspects of North American sport leagues.

All of the four major North American sport leagues employ a mix of round robin and an elimination tournament. The regular season, which is played as a round robin system, determines which teams continue their seasons into the championship tournament, also called the play-offs. Round robin in America can be balanced (e.g. Europe) or unbalanced, meaning that each team plays some teams more times than another (Noll, 2003). The standings are determined by either points (NHL) or winning percentages (NBA, NFL). The elimination tournament that follows is usually seeded, which means that higher placed teams will face lower placed teams early on (1<sup>st</sup> in NFL’s round robin faces the 8<sup>th</sup> in the first round of the play-offs). In the elimination tournament that follows the regular season, teams are dropped after losing a determined number of matches, and the championship winning team is the team that wins the “grand final”.

Whereas the European sport league hierarchy is highly vertical, the American model is a lot more autonomous, with the major league in each sport sitting unchallenged on the throne. The sports still share some other levels of leagues. Baseball has a total of five leagues, which can



be classified as professional sport leagues (Major League, AAA, AA, A, Rookie). Ice hockey has two levels, and basketball and American football both have one. Noll (2003) argues that in America, universities act as substitutes for the European divisional system. The National Collegiate Athletic Association (NCAA) is the satellite organisation for intercollegiate sports in America. The NCAA has four divisions in American football and three for ice hockey, basketball and baseball.

Contrary to the European league structure, North American sport has multiple conferences or divisions at the top of the pyramid. Baseball is an exception, as it even has two different leagues (National and American) at the major league level (Noll, 2003). The major leagues of each of the four major sports, are each divided into separate divisions and conferences. Divisional and conference standings determine whether a team qualifies for the play-offs or not. Conferences and divisions are usually geographically determined, which means that teams from different regions rarely meet outside of the elimination tournament. Intercollegiate sport teams are equally organised into several leagues in each level of the hierarchical system. For example, the highest football division (Division IA) has over 100 teams divided into 14 horizontal leagues (Noll, 2003).

The membership structure of North American leagues varies significantly from its European counterparts. All of the four major leagues in North America are closed leagues, Major League Baseball, National Basketball Association, National Hockey League and National Football League. Additionally, the ever-growing football league Major League Soccer is equally a closed competition. North American leagues are closed leagues, also called monopolies or cartels. The leagues are governed by the members, in other words teams in the league. Common strategic directions and rule changes are democratically voted on. Entry to the league can occur only through an entry fee, after which entrance is granted by the already existing members. The fees are exceptionally high. Houston Texans entered the NFL in 2002, in exchange of a 700-million-dollar fee (Jasina and Rothoff, 2010) and more recently the Las Vegas Golden Knights submitted a transaction of 500 million dollars to enter the NHL two years ago (Carp, 2016).

The authoritarian dominance of the league members has geographical implications as well. As discussed above, in European leagues any team, despite its geographical location, can move up or down the hierarchical league structure. However, in North America local competition over market power is restricted via an exclusive territorial right. This means that only one team can operate at a designated region, which is usually a metropolitan area (Noll, 2003), with a possibility for franchise mobility (Andreff and Szymanski, 2010). This particular arrangement gives a significant advantage for teams operating in closed leagues, compared to those in leagues with a system of promotion and relegation. Regardless of sporting success, teams are assured a place in the league for following seasons, putting a cross for new competitors into their local market (Noll, 2003). The rationale for the structure is that two teams from the same economic region cannot sustainably live with each other: increased competition for playing talent and success will lead for the least successful team to suffer from low income and high costs, and will eventually lead to that team being driven from the market (Noll, 2003). The theory however can be contested as empirical evidence from Europe clearly shows that the absence of territorial restrictions has little, or no effect on local markets. Cities with multiple, successful teams are abundant: Manchester (United and City), Madrid (Real and Atletico), Milan (AC and Inter) and last, but not least, London which comprises a quarter of the teams in the English Premier League.

Alongside new entrants by entry fees, another corresponding system to the European promotion and relegation system, is the relocation of teams and franchises. An existing team in North America has the right to relocate to a new market area, with the democratic consent of other teams. Relocation in the American sporting sphere is not a rare occurrence, as during the last 60 years, the four major sports leagues in North America have seen over 30 franchise relocations (Ford, 2017). For example, Charlotte Hornets relocated to New Orleans in 2003 (Noll, 2003), NFL team Rams moved from St. Louis to Los Angeles in 2016 (Ford, 2017) and starting from the season 2020, the Oakland Raiders will be known as the Los Angeles Raiders (Farmer, 2019).

From a governance point of view, North American leagues are governed as forms of joint ventures. The authority lies within the members of the leagues and a democratically elected commissioner who acts as a representative of the teams. Rules and regulations are commonly

discussed and voted upon democratically. No governing bodies and/or other governing institutions exist, and if they do, they do not have any authority towards the leagues. For example, NBA and NHL dominate their respective sports and place little, or no value, for the events of the international governing bodies of the particular sports (FIBA and IIHF) (Noll, 2003).

Lastly, as the notion of competitive balance is highly valued and protected within North American sports leagues, several rules are in place to protect the competition and the owners' interests in America. Rules that would be prohibited under antitrust laws in other sectors, are used to enhance competitive balance. Some of these exceptional rules are for instance limitations on player signings (free agent, reserve clause), revenue sharing between rival teams, common sale of broadcasting rights and restrictions of entry for new teams (Szymanski, 2010). This form of jurisdictional looseness is however justified and is based on the belief that league members have a responsibility of cooperating in order to produce a common, profitable product and to secure a more evenly balanced competition. Szymanski (2010, 141) concludes that: "Restraints that promote balance are therefore deemed justifiable, and reasonable forms of those listed above have all been accepted as legitimate".

	U.S. Sports	Football in Europe
League system	Closed, no promotion or relegation Teams compete in single league competition	Open, annual promotion and relegation Teams may compete simultaneously in many competitions
League functions	Collective sale of TV rights Centralized marketing	Collective sale of TV rights
Competition between clubs	Limited substitution by consumers	Significant potential for substitution
Competition between leagues	Numerous cases of entry by rival leagues	All leagues contained within the established hierarchy
Player market	Rookie draft Salary caps (NFL, NBA) Collective bargaining	Active transfer market
Revenue sharing	Equal division of national broadcast income Gate sharing (NFL 40%, Baseball average 15%, NBA 0%)	Sharing of television income Little or no sharing of league gate revenues Some sharing of gate from cup competitions
Competition policy	Antitrust exemption for baseball  Sports Broadcasting Act exempts national TV deals from antitrust	Centralized sale of TV rights under attack Selected interventions (ticket allocation FIFA)

Table 1. Differences between the North American and European sport models (Szymanski and Valletti, 2003)

## 2.4 Veikkausliiga – Finnish Football League

Finnish football pyramid is organised hierarchically in seven divisions in men's category, and respectively five divisions in women's category. Until the year 2019, the highest three divisions were organised and governed by the Finnish Football Association, whereas the lowest divisions were coordinated by regional competition offices. With an organisational change in 2020, the power and coordination of every division in the country was centralised under the Finnish FA (Palloliitto.fi, 2019). The highest level of Finnish men's football, which is also one of the two main research subjects of this thesis, is Veikkausliiga. It is named after the main sponsor Veikkaus Oy, which is a government-owned betting organisation, and has been holding the naming rights to the league since 1992. Mestaruussarja, roughly translated to Championship league, preceded Veikkausliiga and represented the highest level of Finnish football during 1930-1989.

Since the creation of the league, the championship winning trophy has been awarded a total of 30 times. Helsingin Jalkapalloklubi (HJK) had the privilege of lifting the first ever Veikkausliiga trophy in 1990 and is currently the most decorated club in Veikkausliiga's history with 13 championships. Haka, from Valkeakoski, holds the second highest number of championships with a total of five, followed by Tampere United (3) and FC Jazz (2). Additionally, seven more teams have won the championship once (Veikkausliiga.com, 2020). HJK can be considered as the flagship of Finnish football, as it is the only Finnish team that has managed to qualify for the two major European competitions, the Champions League in 1998 and the Europa League in 2014.

The league is comprised of 12 teams. The leagues structure in Veikkausliiga is typical in relation to the European model of sport as it operates as an open league system. The highest placed team wins the championship and the lowest is relegated to the second division, also known as Ykkönen. The team placed on the 11<sup>th</sup> position plays a two-legged relegation duel against the second placed team from Ykkönen, the winner of the match-pair is promoted to Veikkausliiga and the loser is forced to take a step down to the second division. For the 2018-2019 season, the league went through an important structural change with the addition of a play-off phase after the regular season. The regular season is played as a round robin tournament with a balanced match schedule, meaning that teams play twice against one another, once at home and once away, bringing the total number of matches to 132. The league is then split into an upper six-team "championship series" and a lower "challenger series" made up of the lowest placed teams. The winner of the championship series wins the championship and the lowest placed team in the challenger series is relegated to Ykkönen. Additionally, a five-team final stage is played to determine the allocation of the final Europa League qualifier spot for the following season. This takes the total number of games played to 167 during the entirety of the season.

As in every other league in Europe, the highest placed teams in the Finnish league are awarded spots for the qualifiers of European competitions for the following season. The winner advances to the second qualifying stage of the Champions League and the 2<sup>nd</sup> and 3<sup>rd</sup> placed teams take part in the first qualifying round for the Europa League. A fourth spot in Europa League qualifiers is awarded to the team that wins the national cup, Suomen Cup. Two cup competitions

exist alongside Veikkausliiga: Suomen Cup (National Cup) and Liigacup (League Cup). They are both contested in an elimination competition structure and are independent from Veikkausliiga. Teams from lower divisions can also take part in these competitions. However, for the sake of this research, further study of the cup competitions is not necessary, as the focus will be solemnly placed on leagues.

Another peculiarity of the Finnish league is that it is played during the summer season, when most of the European teams are on a summer break. The season starts in mid-April and concludes with the final tournament for the last Europa League spot in October. This reverse-system can be traced to climate-related reasons, and thus summer leagues seem to be the norm in other Nordic countries as well, except in Denmark which has opted for a summer league.

## **2.5 Liiga – Finnish ice hockey league**

Ice hockey is the largest sport in Finland, and thus represents an anomaly in the European sporting landscape which is massively dominated by association football. A yearly report by Sponsor Insight (2019) places ice hockey as the number one sport with an important margin, whereas football does not even make the top 5 (Yle Urheilu, 2019). International success and the overall popularity of the sport have lifted its national league as the leading team sport league in Finland. As a matter of fact, it is the only fully professional sport league in Finland, with an annual average salary of around 75 000 euros (Tapio, 2019). In comparison, the annual average wage in Veikkausliiga remains under 20 000 euros (Uusitupa, 2018).

The hierarchy of the Finnish ice hockey is organised as follows: SM-Liiga represents the highest and most prestigious league in the country. Mestis (Championship) is the second highest league, followed by Suomi-Sarja (Finland league), which are both single-tiered leagues contested nationwide. The three highest leagues are followed by three regional divisions comprised of multiple leagues. Apart from Liiga, which is an autonomous business entity, every other league and division is organised and governed by the Finnish Federation.

Finland's ice hockey league, also known as Liiga after a re-branding process in 2013, was officially formed in 1975. The name Liiga will be used as well in this research. It replaced the previous SM-Sarja (Championship league) and was awarded autonomy from the Finnish Ice Hockey Federation. Autonomy allowed the league a possibility to pursue its own strategic paths, professionalise and further develop the league without a controlling authority. Strategic decision making has lifted Liiga to the very top of ice hockey leagues in the world. NHL remains the pinnacle of ice hockey, with KHL coming second. However, after the two major leagues, a group of European leagues make up the second tier of leagues in terms of playing power. Liiga being amongst them.

Only four teams have continuously played in the league since its creation in 1975: HIFK, Tappara, Ilves and TPS. Tappara and TPS have the most championships, with ten each. They are followed by the 21<sup>st</sup> century powerhouse Oulun Kärpät (8) and Jokerit (5) from Helsinki, who controversially left the league in 2014 and entered the international Kontinental Hockey League. An additional five teams have managed to lift the Kanada Malja (Canada Bowl), which is the name given to the trophy awarded to the championship-winning team. The pre-Liiga era saw a larger number of different teams winning the championship, most notably Tampereen Ilves, who amassed 15 titles during this period, and only one during their time in the Liiga.

The structure of the league has varied greatly throughout the years. The league operated as an open league until the year 2000 after which it was closed and memberships for further teams were denied. The league was briefly opened again during the season 2008-2009, with an introduction of promotion and relegation play-offs, but the league council decided to close the league again after the season with a unanimous agreement amongst the owners of each team. As of today, membership to the league may be granted through a license agreement, which encompasses areas such as stable financial status, viable strategic plans and up-to-date infrastructures. If a team passes the criteria, membership to Liiga can be granted. Vaasan Sport in 2014 and Kouvolan KooKoo in 2015, were admitted entrance to the league with this method, satirically also called "cabinet decision". With the latest team additions, the current number of teams in Liiga is 15.

The season in Finland runs from early September to early May depending on the outcome of the final matches. This means that seasons in ice hockey and football overlap only for a couple of months. The winner of the championship is determined with a typical North American-styled seasonal structure. The regular season is played as a round robin tournament. Each team plays a total of 60 matches, bringing the total number of games played during the regular season to 450, which is over double the amount compared to Veikkausliiga. After the regular season is concluded, the eight highest placed teams proceed to an elimination round with the highest placed team playing against the 8<sup>th</sup>, the second against the 7<sup>th</sup> and so on. The last two teams remaining play a grand final with a best-to-four system. Play-offs and a closed league system is clearly indicating that the Finnish ice hockey league has adopted a North American model of league structure.



### 3 UNCERTAINTY OF OUTCOME AND COMPETITIVE BALANCE

Chapter 3. draws a comprehensive image of the main theoretical framework surrounding this research project. Following a brief introduction to the economic study of professional sports, the notions of competitive balance and uncertainty of outcome are defined and discussed in the sub-chapters 3.2 and 3.3. The latter part of the chapter provides an insight into the empirical evidence found. from Europe and North America about the current levels of competitive balance and provides a justification for the necessity of this research.

#### 3.1 Research of economics of sport

Simon Rottenberg's seminal article in the *Journal of Political Economy* in 1956, is widely regarded as the very first academic publication that treats sport as an economic activity. It provided a kick-off for the development and research of economics of sport. The core notions of this master's thesis project, uncertainty of outcome and competitive balance, were discussed for the first time. Rottenberg's article was shortly followed by other notable publications, such as Walter C. Neale's *The Peculiar Economics of Professional Sports* (1964), which draws a picture of the peculiarity and specificity of the professional sports leagues. Neale, similarly, to Rottenberg, rejects the notion of monopolistic domination in sports leagues in favour of a common and even market. Mohamed El-Hodiri and James Quirk (1971) were the first authors to formalise the model of a professional sport league. Another significant author in this area can be considered an Englishman, Peter J. Sloane. Whereas all the afore mentioned authors focused solemnly on North American markets, Sloane's article *The Peculiar Economics of Professional Sports: A Contribution to the Theory of the Firm in Sporting Competition and in Market Competition* (1971) is considered as the first significant publication on the topic on European soil. Sloane elaborates some of the theories in the founding articles, and even challenges some of the previously presented notions. His famous theory emphasised that not all sport teams are profit-maximisers of nature, but rather utility-maximisers. His theory was clearly applicable in European team sport culture. Starting from the 1980's the research of sport economics, competitive balance, uncertainty of outcome and the study of sports leagues increased exponentially, resulting in a difficulty to have a clear overview of the new literature.

Of new publications, a worthy mention is Downward and Dawson's (2000) comprehensive book *The Economics of Professional Team Sports*, and a plethora of insightful publications that were used for this research project, such as Szymanski (2000, 2003), Borland and Macdonald (2003), Noll (2003) and Késenne (2007) to name a few.

### **3.2 Uncertainty of outcome hypothesis (UOH)**

Rottenberg's seminal article *The Baseball Player's Labor Market* (1956) defines several aspects that have shaped the economics of sport. The article has been widely recognised as the first academic study on the economics of team sports. He recognised the peculiar nature of sports leagues as a form of labour and product markets, however pointing out that they may be analysed using basic economic frameworks and studied like any other industry. This fact has helped the evaluation and study of the sports leagues throughout the years and made it significantly easier to research. As a matter of fact, many of Rottenberg's visionary findings are in permanent use as of today. However, even though the economics of sports leagues could be studied via a general economic framework, two unusual characteristics stand out from Rottenberg's paper: the league was highly monopsonistic and in order for the league to be economically stable, competitors must be of similar size.

*Uncertainty of outcome* is one of the defining principles for the economics of team sports. It is the core notion of sport, the factor that lures consumers to watch sporting events. Who would watch a race, where the winner is known before the starting pistol has fired? Or who would attend a football match, where the winner can be determined before the referee has blown his whistle? The uncertainty of outcome hypothesis (UOH) was first introduced by Rottenberg (1956). This theory is based around the measurement of fan behaviour. Uncertainty about the final outcome results in larger crowds, larger gate receipt and thus a larger amount of revenue. In other words, the uncertainty of outcome hypothesis draws a picture between the connection of the amount of competitive balance in a certain league and the fans' demand for the said product (Manasis, Ntzoufras & Reade, 2015). Szymanski (2003) concludes that a set of three basic assumptions describes clearly the uncertainty of outcome hypothesis. Firstly, that unequal distribution of resources leads to an unequal competition. Secondly, public interest declines

when the outcome of the contest becomes predictable, in other words, when outcomes become less uncertain. And finally, the third point states that sport-specific redistribution structures increase match uncertainty.

Another major finding was the fact that the Major League Baseball operated on a monopsonistic nature (Rottenberg, 1956). A monopsonistic market exists when there is only one single buyer, in other words, the teams itself. At the time of the publication of Rottenberg's article, The Major League Baseball utilised a *reserve clause* system. The system implied that once an individual player's contract ran out, his playing rights were still owned by the team he played for, and that team had a renewal clause for the contract of the said player. Free movement of labour and free labour markets did not exist. Rottenberg observed that the reserve clause had no effect on the player allocation within teams in a sport league. Rottenberg also studied various systems that were in place to protect the notion of competitive balance. Systems deemed to enhance talent allocation within teams in a league, such as revenue sharing and salary regulations were also rejected by Rottenberg, by stating that they had no effect on the talent allocation. This result is considered as one of the cornerstones of economic research within sport. It is called the invariance principle.

The invariance principle therefore asserts that a structural change from a system that uses reserve clause to free agency, has no direct implication on the uncertainty of outcome (Dobson and Goddard, 2001). The invariance principle can be described as an application of the famous Coase Theorem (Coase, 1960). Funnily enough, Rottenberg's invariance principle preceded the Coase Theorem by four years, emphasising the importance and pioneering impact of Rottenberg's theories. The Coase Theorem implies that in a competitive market environment "given that resources are freely exchangeable the distribution of their ownership among agents is irrelevant to ensuring that they are used efficiently" (Sloane, 2006, 3). In the case of team sports, free agency does not change the optimal allocation of playing talent, players, and thus has no implication for competitive balance (Dobson and Goddard, 2001).

Whereas Rotenberg's article produced the kick-off for the academic study of team sport economics, Walter Neale's paper *The Peculiar Economics of Professional Sport* does not fall

far behind. The article picks up where Rotenberg left his theories and frameworks and provides new insight into the world of team sport economics. Neale's major findings were related to the unusual market structures of professional sports leagues. Neale (1964) implies, that a firm operating in any other industry would consider a monopoly position as the ideal market position. Smaller competition results in a situation where a monopolistic firm is the sole supplier, generating more profit and thus maximising revenue. However, Neale's paper reveals that in the professional team sports world, a monopolistic position is not a desirable position as it would affect the common market negatively. In other words, dominance of a single team would create an output which is not merchandisable (Neale, 1964). Thus, rather than thinking of a single team in a selected league as a firm, Neale suggests that the league itself represents the firm. We can therefore talk about a system that maximises joint profits and can be defined as a cartel (Coakley and Dunning, 2000; Downward and Dawson, 2000). The situation described above is famously called the *Louis-Schmelling Paradox*. A concrete example from the boxing world is used to unfold the term. Joe Louis, a heavyweight world champion in the 1930's wishes to maximise his profits. Therefore, he needs a strong and equal contender to compete against. Max Schmeling, a German boxer and world champion equally, is a worthy opponent. Doubt about the final outcome rises, and thus increases interest towards the fight and the overall entertainment value of the product. A Louis needs a Schmeling and a Schmeling needs a Louis, just like teams in a professional league need each other.

Neale successfully transferred the afore-mentioned example into a professional sports league environment. The New York Yankees, who dominated baseball in the 1950's paradoxically attracted larger crowds during a spell when they did not perform as highly. This phenomenon was called the *Yankee Paradox*. The Yankee Paradox is an empirical statement which states that fans value winning tied contests and balanced competition, rather than recurrent dominance. The main idea of the theory is that market dominance would be in fact self-harmful (Vrooman, 2015). Again, in the case of the 1950's Yankees, a higher level of uncertainty and competitiveness resulted in more media coverage, larger crowds and higher profit, just as Neale had implied in his article. This symbiosis between the teams in a cartel is famously described as a "natural monopoly", as one single league has the power to produce the product at a significantly lower cost, than multiple other leagues (Neale, 1964).

Following Rottenberg's and Neale's work on the subject of sport economics in American sporting context, it was only a matter of time that the research would be extended to the Old Continent. Peter Sloane (1971) challenged the main presumption of Rottenberg's invariance proposition, which states that the main objective of sport teams is profit-maximisation. Sloane proposes a utility-maximising function, which has its roots in European football and the owners' historical interests on winning, rather than maximising revenue. The main assumptions of utility maximisation, alongside sporting success, are the general health of the league (competitive balance), stadium attendance and economic independence.

Clearly defining and using an accurate measurement scale of the uncertainty of outcome has been a challenge for many years. How to measure it correctly? What is an accurate time frame? What level of uncertainty can be justified as being the right one? Brandes and Franck (2007) state that in order to derive sensible and accurate measurement methods for competitive balance, it is crucial to identify the time scale during which competitive balance is researched. Over the years, the research on competitive balance has led to analysing uncertainty of outcome and competitive balance on three different time horizons (See for example: Borland and Macdonald, 2003; Késenne, 2014; Brandes and Franck, 2007). The first horizon deals with short term uncertainty of outcome, which reflects the outcome of an individual match. The second horizon, seasonal or mid-term uncertainty of outcome studies competitive balance on a seasonal scope, for example the championship phase, play-offs (certain sports), relegation battle, cup competitions, as well as continental and inter-continental tournaments (Champions Hockey League, Club World Cup of Football). The third horizon, long-term uncertainty of outcome, broadens the scope of measurement and reflects the levels of uncertainty over several seasons. In other words, whether a continuing dominance of one or more teams exists (Borland and Macdonald, 2003; Késenne, 2014; Brandes and Franck, 2007).

### **3.3 Competitive balance (CB)**

*Competitive balance* is considered by many as one of the core notions of sport and it can be directly linked to the uncertainty of outcome hypothesis. Competitive balance showcases how evenly or unevenly teams are balanced in terms of competition in a sport league. The more

evenly balanced the teams are in terms of playing power, the tighter the matches are. On the other hand, uneven balance results in one or more teams dominating and thus claiming a monopoly position in a league. In a perfectly balanced league, every single match would host a high level of outcome uncertainty, with both teams as likely to win, and therefore compete for the championship. In other words, there would be a huge difficulty in predicting the championship winning team for the following season. Competitive balance can be closely linked with spectator expectancy on the result of a sporting contest. A perfectly balanced competition allows every single outcome to be theoretically possible, in other words there is complete uncertainty about the outcome. In contrary, when the contest is perfectly unbalanced the winner is known before the event itself (Buzzacchi et al., 2010). The notion of competitive balance can be seen walking hand in hand with the afore-analysed term of uncertainty of outcome, and they form together the backbone for the study of power balances in team sports economics.

Competitive balance as a theory is extremely dynamic, and as a result it has long been difficult to classify. Fort and Macxy (2003) categorised the empirical study of competitive balance and the existing empirical literature into two major sub-categories. The first category studies the literature revolving around competitive balance itself. Fort and Mcxy describe this line as the ACB line. This line of research studies how competitive balance has evolved throughout the years and how external factors, such as changes in sport policies and business practises, have shaped the literature. The second line focuses on the study of the impact of competitive balance on the environment, for example fans and other consumers. The second line measures Rottenberg's (1956) uncertainty of outcome hypothesis (UOH) literature. According to Fort and Maxcy (2003, 156) "Both ACB and UOH contributions are equally important to our understanding of the relationship between league behaviour, competitive balance, and fan welfare".

Another difficulty in competitive balance study has been measuring it. What is the ideal amount of competitive balance? How can it be measured? Evans (2014) categorises the measurement of competitive balance into three separate groups: measures of concentration, measures of dominance and measures combining concentration and dominance. The first focuses on measuring the spread in a league, meaning that emphasis is placed on the closeness of the league

standings, rather than calculating the relative performance of one single team. Dominance based measures focus on the contrary. Here, the measure of competitive balance is calculated based on an individual team's, or a group of teams', performances during a span of multiple seasons. This measurement type provides an important long-term scope into the study of competitive balance from a strategic point of view. An example of this type of measurement can be simply the number, or percentage of league titles won by a single team. The last measurement category combines the two above mentioned aspects. The author confirms that the mixed type of measurement provides a "high level quantified assessment of the level of competitive balance" (Evans, 2014, 45).

However, the above-mentioned measurement types provide only one of the many theoretical approaches to quantify the assessment of competitive balance. Needless to say, that there is not one single correct answer, and the assessment of competitive balance needs to be individually tailored and designed to fit the correct research environment. The quantification of competitive balance has been for many years a common issue for sport economics researchers. To showcase the scope of existing measurement methods Zimbalist (2002, 112) claims that "There are almost as many ways to measure competitive balance as there are to quantify the money supply".

### **3.3.1 Uncertainty of outcome and Competitive balance: empirical evidence**

Since the first mention of competitive balance in Rottenberg's paper in 1956, the theory has established itself as one of the basic principles of the economics of team sport. However, some theorists and other empirical findings have questioned the uncertainty of outcome hypothesis and the importance of competitive balance on stadium attendance. Rottenberg's theory implies that imbalanced competition has a negative impact on stadium attendance, TV viewership and fan interest. Recent research on the matter has however been divided and two opposing teams have emerged on the playing field of competitive balance theory: those who demonstrate that uncertainty of outcome and competitive balance is the defining factor of fan interest, and those who reject the afore mentioned notions and attribute consumer's demand for sport to other factors.

Empirical theory from European football actually presents a contradicting result to Rottenberg's work. Attendance rates in European football leagues are in rise (Brandes and Franck, 2007; Pawlowski, 2013; Poli et al., 2019), despite the fact that the overall levels of competitive balance have not significantly increased, and are in fact decreasing (Brandes and Franck, 2007; De Jonghe and Van Opstal, 2010). In England for example, the average attendance rate fell more than 50 percent during the last four decades before the emergence of the Premier League in 1992, and then between 1992 and 2001 exploded through the ceiling with an increase of over 60 percent, despite ticket prices going up and competitive balance significantly decreasing, with only three different champions during this period (Zimbalist, 2002). The theory and reality are at a crossroads and research on the subject needs to be developed further. Below, we look at empirical evidence on competitive balance across leagues, both in Europe and North America.

### **3.3.2 Empirical evidence from Europe**

In its monthly report, CIES's Football Observatory (Poli et al., 2018) showed a sharp trend towards a greater imbalance in European football during the last years. The sample of the report grouped 24 leagues across Europe. The imbalances in playing strength were apparent on both, seasonal level and match level. The seasonal imbalance was depicted with a percentage of points achieved at the end of the season by the championship winning team. The rate rose from 71 percent to 76 percent in just under ten years. The level of imbalance is even clearer in the Big-5 (Premier League, La Liga, Bundesliga, Serie A, Ligue 1) leagues, with the winner claiming more than 83 percent of the overall points. On a match level analysis, the imbalances are equally visible. During the research period of 2009-2018, the percentual rate of matches ending with a goal difference of three or more rose from 13,8 percent to almost 16 percent. In the Champions League the change is the most visible. It presented the highest proportion of matches ending with a goal gap of at least three goals, across the European leagues: namely 21 percent. This figure is particularly alarming, as the Champions League represents the peak of the European football competition pyramid, with the best teams of each country competing against each other. A plethora of further academic studies show a decline in competitive balance across football leagues and intra-national competitions in Europe (Plumley et al., 2018; Ramchandani et al., 2018; Binder and Findlay, 2012).



What does the empirical evidence showcase in terms of equal competition and demand for the sporting contest in Europe? Forrest and Simmons (2002) propose that more spectators are attending matches in English football when competition is balanced. Falter and Perignon (2000) and Garcia and Rodriguez (2002) obtain similar results from their respective researches in the French and Spanish leagues. Additionally, a study by Schreyer et al. (2018) examined TV audience demand for the German Bundesliga and validates the uncertainty of outcome hypothesis as the demand for even matches was significantly high. The evidence that states the opposite is equally abundant: Pawlowski (2013) challenges the idea that an imbalanced competition would negatively impact the consumers' demand. In contrary, he states that empirical research in European football suggests that attendances in matches with equally balanced teams, do not showcase as an increase in ticket sales. Czarnitzki and Stadtmann (2002) demonstrated that neither short-term uncertainty nor seasonal uncertainty had significant effects on attendances in the German football league. Cox (2018) states that stadium attendance in the English Premier League is higher when the probability of the home team winning is high, rather than when the outcome of the contest is uncertain. Martins and Cró (2018) obtained a similar result from their research based on the Portuguese First Division. Finally, Jespersen and Pedersen (2018) reject the theory of UOH in all four major European football leagues, and stating that spectators in the Italian and Spanish leagues favour contests reduced levels of uncertainty.

### **3.3.3 Empirical evidence from North America**

In the North American sport leagues, the competition seems to be more balanced than in Europe and empirical research seems to back this statement. For example, in the NHL during a research period ranging from 1993 to 2016, York and Miree (2018) found that 16 out of the 30 teams won the championship and historically only five of the 30 teams (as of 2018 the number is 31 with the introduction of the Las Vegas Golden Knights) have not featured in the Stanley Cup finals. The research also calculated the Herfindahl-Hirschman Index (HHI), a measurement method, which analyses inequality or concentration of championships, and the numbers were in the low 0.17 to 0.21. A perfectly unbalanced league has a ratio of 1.0 and perfectly balanced 0.1. The level of competitive balance is therefore statistically very adequate in the NHL.

Empirical studies on other American professional leagues show similar, or slightly more unbalanced levels of competitiveness. Although, a study by Rokerbie (2014) demonstrates that all four major leagues present different trends in the evolution of competitiveness over the years. The Baseball leagues (American and National) have gone to opposite directions, with the American League becoming more unbalanced and the National improving its parity. The NHL has consistently improved its levels of competitive balance in the last 30 years and the NFL has had historically equal levels of competition during the last decades. NBA, which is generally considered as the least competitive of the four North American major leagues (Rokerbie, 2014), has still a fairly competitive level of competition. A study by Bowman et al. (2012) emphasises this with a point spread analysis to prove that competitive balance is adequate in the NBA, with a clear improvement during the two last decades.

The effect of competitive balance on attendance rates has however mixed results, similarly to studies made in Europe. A paper by Knowles et al. (1992) studied betting lines and their direct impact on the uncertainty of outcome of a set of matches in the MLB in 1988 and demonstrated a notable correlation between tight competition and stadium attendance. On the other hand, Coates and Humphreys (2012) find that close competition in the NHL results in a lower attendance, and in contrary attendance increases when the probability of the home team winning is high. Lee and Fort (2008) studied the impact of uncertainty of outcome on matchday attendance between 1901 and 2003 in the MLB. Their main finding is that no significant levels of increased attendance were linkable to balanced levels of competition during regular season, but play-off uncertainty had a clear impact on attendance levels. Finally, a comprehensive research by Mills and Fort (2014) on the impact of competitiveness and UOH on attendances across all four major sports leagues in North America through three different research dimensions: single game uncertainty, play-off uncertainty and uncertainty across several seasons. The results are varied: NBA and NFL demonstrate some form of correlation between equal levels of competition and attendance, with NBA supporting game uncertainty and NFL play-off uncertainty as a factor for increases in attendance. In contrary, UOH is not compatible with fan interest in MLB and NHL. In fact, higher levels of seasonal uncertainty decreased attendance in the NHL. The authors share a concluding remark on their findings and portray major gaps in theory (Mills and Fort, 2014, 216): “There is now ample evidence that outcome

uncertainty really just does not matter (much) for North American pro sports in the way Rottenberg suggested”.

The gap between theory and empirical evidence seems to be surprisingly wide, and studies made in the 21<sup>st</sup> century seem to widen this gap more and more. Why are Rottenberg’s and Neale’s theories praised and deemed ground-breaking and still very much up to date today by some of the leading sport theorists, and on the other hand contradicting empirical proof on the topic? Pawlowski (2013, 342) argues that even if empirical evidence suggests otherwise, it does not showcase the irrelevance of competitive balance to sports fans “but rather that the variations in CB that have actually been observed have not been large enough to affect demand”. Therefore, the central question in assessing CB according to Pawlowski is: How unbalanced a sporting league has to be in order for competitive balance to matter? We come back to the same problematic questions posed earlier about the difficulties of measuring CB and uncertainty of outcome. This measurement difficulty and plethora of different econometric methods may prove being the reason behind the large-scale mixture of varying results throughout the years. However, the theory is still widely celebrated and thus deserves further research. The need for further research in the peculiar area of UOH and CB justifies the need for this master’s thesis.

Based on the theory part, the ever-growing issue of competitive balance and the important gap in Finnish sport league literature, the following research questions will be answered during the course of the research:

- What are the levels of competitive balance in the Finnish football (Veikkausliiga) and ice hockey (Liiga) leagues and how have the levels evolved during the research period (1990-2019)?
- Which one of the two leagues is more competitive? Are they comparable?

## **4 METHODOLOGY**

The following chapter will outline and describe the main methods of research used during the course of this master's thesis. The first section will explain the methodological structure taken to approach the topic and describe the type of data which was used. The second section will outline the main research methods and procedures and outline the main data collection methods and explain why this kind of data was chosen for the research. Section three aims to highlight the main methods by which the selected data was processed and analysed. And lastly, the final section will justify the methodological structure undertaken, and provide a clear evaluation of the selected methodological approach.

### **4.1 Research approach**

The aim of this thesis is to study the evolution of competitive balance in the Finnish football and ice hockey leagues over the years. The previous literature review highlighted the problem and provided a springboard in justifying the need for further research on the topic in Finland. The widespread nature of the theory of competitive balance has produced a creation of numerous academic and scientific methods of measurement for competitive balance (CB). There is therefore no need to assemble new measurement procedures, as already existing methods have been deemed valid and reliable by a number of researchers and theorists. As CB symbolises the power balances in sport leagues, it is generally researched and measured via numerical data, and most of the time the data is derived from league standing tables. The same approach will be undertaken in this thesis as well. Therefore, the kind of data investigated will be quantitative data.

Quantitative research studies data, which are presented in numerical forms, and uses mathematical equations and operations in order to study their characteristics (Walliman, 2018). It is the most effective way when measuring, ranking or trying to identify patterns in a research environment. On the other hand, qualitative research aims to answer the question "why?", by describing and interpreting patterns of behavior and trying to find in-depth insights of different phenomenons and concepts. Tracy (2013, 3) describes qualitative research as follows:

“Qualitative research is about immersing oneself in a scene and trying to make sense of it...”  
 The main research target of this thesis is not trying to answer the question “why?”, but rather find numerical values and facts about the levels of CB in Finnish football and ice hockey, and therefore the research project opted for a quantitative method of approaching the topic. However, the topic is definitely not tied to a quantitative research procedure, and future researches on the topic are encouraged to undertake qualitative methods to find root causes for the phenomenon and numbers derived from this project.

## 4.2 Data collection methods

As discussed above, the data was derived from league standings throughout a number of years. A league standing is comprised of several aspects, the most important being obviously points earned from wins and draws. Other numbers included can be for example goal difference, scored goals, conceded goals or winning percentages. The values displayed in the league tables vary greatly between different leagues, sports and countries. For this thesis, we will only be looking at points earned by teams at the end of each season and wins and games played. Therefore, league points, games played, and wins represent the main researched data in this thesis. Depicted in Figure 1., is an example of a league table, with the number of points highlighted on the furthest column from the right-hand side, as these values are used to calculate the Herfindahl-Index, Gini Coefficient and the standard deviation. As well as games played and wins highlighted on the left side of the table, as this set of data is used to compose the historical winning percentages. The other variables represented in the table are the position and name of the team, Draws (D), Losses (L) and Goal Difference (GD).

	<b>G</b>	<b>W</b>	<b>D</b>	<b>L</b>	<b>GD</b>	<b>Pts</b>
1. FC Inter	<b>22</b>	<b>13</b>	3	6	14	<b>42</b>
2. KuPs	<b>22</b>	<b>11</b>	7	4	16	<b>40</b>
3. Ilves	<b>22</b>	<b>11</b>	7	4	11	<b>40</b>
4. HJK	<b>22</b>	<b>8</b>	10	4	6	<b>34</b>

Table 2. Example of a league table

The data derived from league tables can be considered as already existing data, or in other words secondary data. This means that the data was constructed by someone else than the main researcher. Smith (2008) introduces secondary data as a re-analysis method of already existing data with enhanced statistical, methodological and theoretical procedures, in order to answer a new research question. The main trait of secondary data is the fact that it has been already validated and presented in a summarised form, and therefore there is no need for major evaluations and operations regarding large and complex datasets (Smith, 2008).

Three possibilities arised, as where the data could be retrieved from. Firstly, from the official websites and archives of Liiga (Liiga.fi) and Veikkausliiga (Veikkausliiga.com) respectively. From Wikipedia, which holds extensive league tables throughout the years, and lastly from official season books of football and ice hockey released at the end of each year, which have large-scale data ranging from league tables to top scorers and attendances. A decision was made to collect the data from the official websites of the two leagues, as the data was deemed to be valid, coming from an official and reliable source. Collecting the research data from the websites provided additionally an easy access to the data, which was already in an electric form, and was therefore effortlessly transformed into personal databanks for further analysis.

The time range of the researched period was chosen to be starting from the season 1990-1991 and ending in the last completed season 2018-2019. The websites of Liiga contained extensive tables until the year 1975. However, league standings from before 1990 in Veikkausliiga and the former Mestaruussarja were difficult to retrieve and thus the decision was made to conduct the research for both leagues during the time frame of 1990-2019. The chosen frame would be extensive enough to provide an interesting and in-depth analysis on the issue of competitive balance and its development throughout the years. The researched data was narrowed down to regular season standings, meaning that play-offs were not included in the case of ice hockey. The same procedure was opted for football and the data gathered for the season 2018-2019, which saw the introduction of a new play-off system, only comprised that of the regular season.

### 4.3 Data analysis

The following section will outline the main procedures of how the acquired data is analysed. The data in this thesis is analysed through two statistical operations: the Herfindahl Index and the Gini Coefficient. The two statistical measures are presented below.

#### *Herfindahl-Hirschman Index*

The Herfindahl-Hirschman Index (HHI), more commonly known as the Herfindahl-Index, is a statistical measurement method of concentration. The index was developed by A.O. Hirschman and O.C. Herfindahl and was first presented by the former in 1945 in his book *National power and the Structure of Foreign Trade* (Rhoades, 1993). It can be used in several instances measuring concentration, but it is most commonly used when researching market concentration and the competitiveness of different markets. The HHI is calculated by squaring the market share (points acquired in a sport league) and then summing the squares (Rhoades, 1993). The equation is formalised as follows (Naldi and Flamini, 2018):

$$\mathbf{HHI} = s_1^2 + s_2^2 + \dots + s_n^2$$

Where  $s$  is the percentual market share (points) and  $n$  is the number of firms (teams) in the specific market

The range of the HHI ranges from 0 to 10 000, with 10 000 indicating that only one firm would have all the market shares in a selected market, in other words, a monopoly situation and unequal competition. On the other hand, an index of 0 would mean that the market share is equally split within thousands of different firms, and therefore resulting in a situation of a perfect competition. In a sport league context, 0 would mean that every team in a league has the same amount of points and 10 000 that one team has obtained every single point. A clear framework of the numbers does not exist, and every result needs to be treated individually according to the context. The United States Department of Justice suggests that an HHI of over 2 500 represents a highly concentrated market, meaning that one single entity holds most of the resources in that market, and an HHI lower than 1 500 represents a low concentration where

the situation is closer to a perfect competition situation. An index between 1 500 and 2 500 is considered as medium or moderate concentration (Rhoades, 1993).

Professional sport leagues are environments generally characterised by a strong concentration of either points, wins, or other variables to a small number of teams performing better than others. Competitive balance issues can be related to inequalities and disproportions in short-term and long-term outcomes. Therefore, a measurement method that studies concentration and inequality, such as the Herfindahl Index has been widely used in a team sport context, when measuring competitive balance, both in American and European contexts and in a variety of different sports (Feddersen and Maenning, 2005; Owen et al., 2007; Totty and Owens, 2011; Mourão and Cima, 2015; Tuğbay, 2017). Even its strength as a measure of competitive balance, it still has its flaws. Evans (2014) notes that the major difference when applying the Herfindahl Index to a sporting league, opposed to another industry, is that the number of teams in a league has an impact on the final value of the index. The values are overstated in leagues comprised of a smaller number of teams, than the leagues with more teams. However, this is a minor issue which has no major impact on the outcome of the measurement and the analysis of the results.

#### *Gini Coefficient and Lorenz Curve*

The Gini Coefficient is perhaps the most used statistical measurement when calculating inequalities in distribution. It was developed by an Italian sociologist and statistician Corrado Gini in 1912 and first introduced in his famous publication *Variabilità e Mutabilità* (Variability and Mutability) (Ceriani and Verme, 2012). The most common use of the Gini Coefficient is measuring income distribution amongst different nations and is therefore a vital tool for economic policymaking for governments around the world (Genčev, 2019). However, the Gini Coefficient can be used to assess any kind of inequalities. The scale of the coefficient ranges from 0 to 1, or 0 to 100 percent. A value of 0 represents perfect equality and on the contrary 1 depicts complete inequality. In practice, this would mean that a nation with a Gini Coefficient of 1 would mean that one single individual would earn all the money and everyone else nothing, and a Gini Coefficient of 0 would represent a nation where everyone has exactly the same revenue. When translated to a sporting context, a Gini Coefficient of 0 would depict a league



with an equal distribution of points amongst every team, and conversely a value of 1 meaning that a single team dominates the league claiming all the points. *De facto* this would obviously not be possible as Mizak et al. (2005) highlight that in any sport league (other than a two-team league), one single team cannot claim all the points during the course of the season.

Lorenz Curve is a graphical representation used in synergy with the Gini Coefficient. Gastwirh (1971, 1037) defines the Lorenz Curve hence: “The Lorenz Curve plots the percentage of total income earned by various portions of the population when the population is ordered by the size of their incomes”. The Lorenz Curve can be thought of a graphical presentation of inequality. Below is an example of a Lorenz Curve.

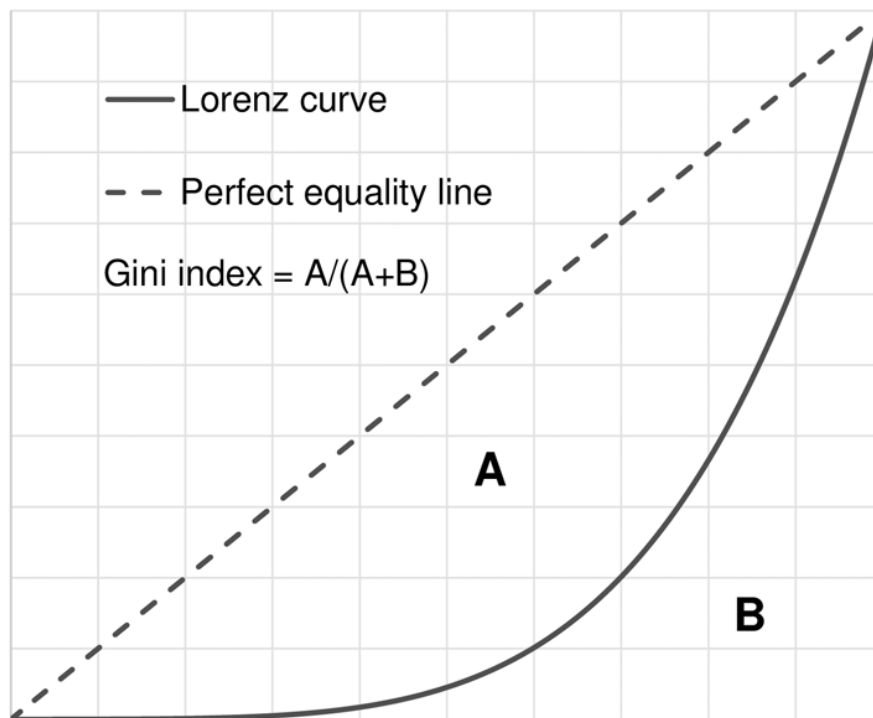


Figure 1. Example of a Lorenz Curve (Sitthiyot and Holasut, 2020)

The 45-degree dotted line represents the equilibrium, in other words perfect equality. The other line on the other hand is the Lorenz Curve. The Gini Index can be calculated through the Lorenz

Curve. It is the ratio of the area in-between the line of equality and the Lorenz Curve (A), over the calculated area under the equilibrium curve (A+B). The formula is presented below:

$$\text{Gini Coefficient} = A / A + B$$

The closer the Lorenz curve is to the line of equality the less concentrated the results are, meaning in the case of sport leagues that they are more competitively balanced. The further away the curve is from the equilibrium, the less competitive it is. A 90-degree curve represents a situation of complete inequality. As discussed above, the Lorenz Curve serves as a visual representation of the levels of inequality and an aid in composing the Gini Coefficient. However, due to the difficulty of composing a Lorenz Curve over a number of years, this thesis will only be focusing on the Gini Coefficient and use the Lorenz Curve solemnly as visual assistance in the calculations. Below is a concrete example of the Lorenz Curve when examining the competitive parity between different leagues:

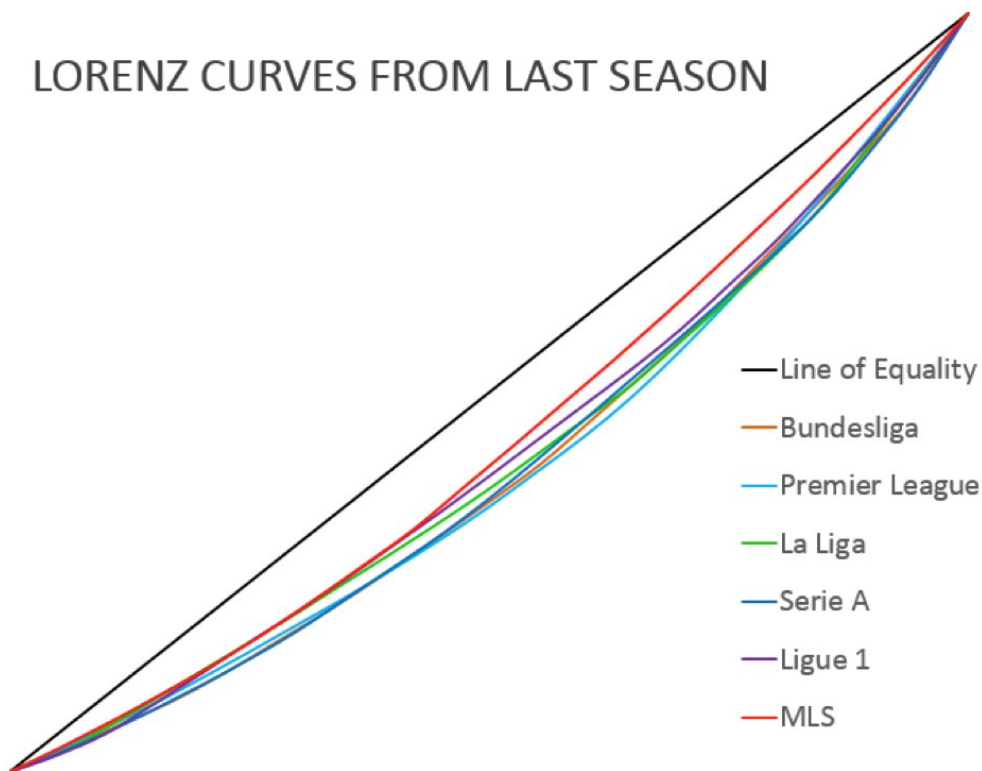


Figure 2. Example of a Lorenz Curve in team sports environment (Kent, 2015)

### *Standard deviation*

Standard deviation is a statistical measurement of spread within a set of variables. Simply put, it means how dispersed the values are from the perceived mean of the population in question. A low standard deviation means that the majority of the values are close to the mean of the population, and on the other hand, a high standard deviation means that the values are more separated from each other. In a sport league context, this would translate to a small standard deviation meaning that the point spread is low and a high deviation that the point spread from the mean is relatively high. The formula for the calculation of the standard deviation is presented below:

$$\sigma \approx \sqrt{\frac{\sum(x - \bar{x})^2}{n}}$$

Where  $x$  is the set of values,  $\bar{x}$  is the mean of the population (in this case the points acquired by a particular team) and  $n$  is the total size of the population

### *Historical winning percentage*

The last measurement method used in this research project is historical winning percentages. The calculation of winning percentages is a classic tool when analyzing power relations in a sports league context. In some leagues, winning percentages can even determine a team's position within a league. The NBA or the NFL, for instance, use this model to determine league positions. In other leagues, such as Veikkausliiga and Liiga, it is mostly used for statistical and analytical purposes only. The calculation of winning percentages is relatively straightforward. The total number of wins acquired during the research period is divided by the total number of games played and finally multiplied by 100 to get a percentual form, rather than decimal form.

#### **4.4 Reliability, validity and ethics**

The major purpose of research papers and other academic studies is to produce new information about a particular subject. The point of academic publications is to find gaps in knowledge, bridge gaps in literature and to educate people about issues and phenomenon's around us. The biggest nightmare of a researcher is to provide the general population with false information, or in other ways inadequate, invalid and lacking facts about the subject in question. It is therefore imperial that the notions of reliability and validity would be considered with great attention, when constructing a research paper. Additionally, the issue of ethicality needs to be taken into consideration.

Before the core analysis could begin, the data was checked and deemed reliable and complete. In this case the league standings from the official websites (Liiga.fi and Veikkausliiga.com) were mirrored with league tables from alternative electronic sources. Reliable data was then transferred to personal databanks in digital form, where it was stored in a shape that was ready to be analysed. Once the data was classified as valid, both, the Herfindahl-Index and the Gini Coefficient, were calculated by using set calculations in Microsoft Excel and the Lorenz Curve was graphed via the same statistical software. The standard deviation and the historical winning percentages were equally calculated using Excel. The measurement results were double-checked by using online calculators programmed to compute HHI, Gini and Standard deviation, and compared to the results obtained by the manual Excel calculations. A positive result from the double-check validated the data and so it was ready for formatting into text.

When constructing a research, the measurement methods need to be taken under consideration. Are they valid in terms of this particular research? Will they provide enough information to answer the research questions? In the case of this research, all of the afore-mentioned measurement methods (Herfindahl-Index, Gini Coefficient, standard deviation and winning percentages) are commonly used measures when studying the implications of competitive balance in national sport leagues. Therefore, there is no fear of using wrong, or in other ways inadequate, types of quantification procedures. The measurement methods can therefore be considered as reliable.

Finally, the ethicality aspect places every researcher into a place where they need to consider its implications to the research process. Is the project dealing with human subjects? Is sensitive information involved? These are just some of the important questions that need to be contemplated during a research project. However, this research proposes no such issues. Ethics-wise this thesis has no big implications as it does not deal with human subjects or other sensitive and confidential information. The information and data used is publicly open to everyone to see.

## 5 RESULTS

The following chapter will present the results from the data analysis for both, Liiga and Veikkausliiga. Every measurement method will be outlined independently, and the results presented, in its own sub-sections.

### 5.1 Herfindahl-Index

The Herfindahl-Index, as discussed before, shows the degree of concentration in a specified target group. The Herfindahl-Index is abbreviated to HHI to visually ease the flow of the research. HHI can range from 0 to 1 or 0 to 1000. In this thesis the perceived HHI values will be presented in the latter format. Additionally, the values are displayed to two decimal places. The average HHI for the studied time period of 1990-2019 for Liiga is 806.86 and 873.92 for Veikkausliiga respectively. The visual representation is presented below in the form of a line chart.

The HHI value for Liiga maintained a steady horizontal line for the time period of 1990-1999, with the value staying close to 900 throughout the ten-year period. The fluctuation ranged from 854.64 to 907.61. The start of the new millennia however showed an important decrease in the HHI values, with the chart indicating a downward slope for the remainder of the studied time scale. The years 2000-2005 were characterised by HHI values ranging from 808.16 in the year 2001, to 908.87 in the previous year. After the year 2005, the value has stayed under 800 for the remainder of the perceived time period, with HHI values ranging from 695.18 (2018) to 776.72 (2008). The three years between 2016 to 2018 were the years where the concentration of the points was the lowest and the HHI values under 700. The last year of the researched time period (2019) showed a result of 700.10, whereas the first (1990) was 905.93. The highest perceived difference between two seasons was 213.69, with the season 2000 indicating an HHI value of 908.87 and the season 2018 695.18 respectively.

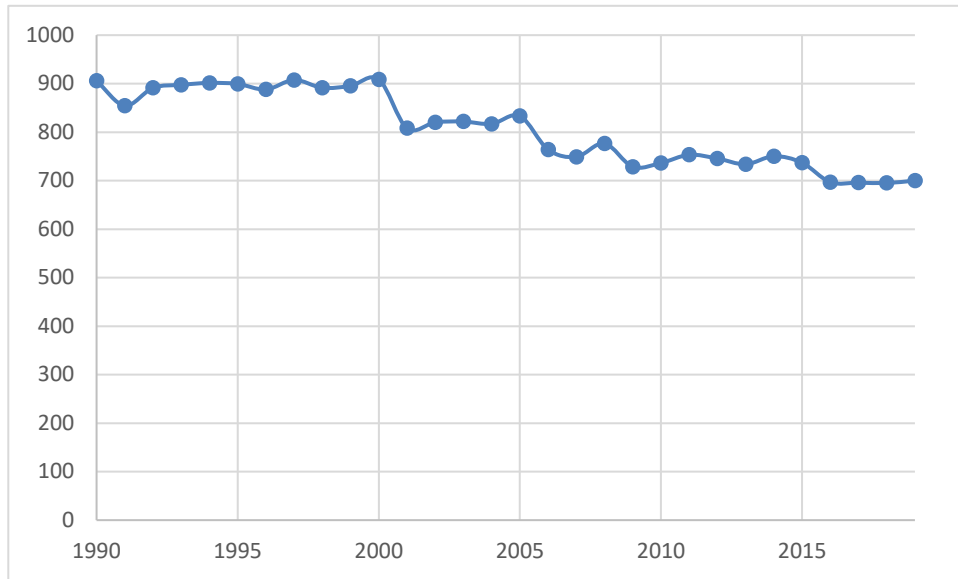


Figure 3. HHI Liiga, 1990-2019

The first four years (1990-1993) of the research time period for Veikkausliiga showed a steady value set bouncing slightly over or under 900. The years 1994-1998 were characterised firstly by a rapid decrease in the values (754.05 in 1994), followed by an equally quick rise during the latter years, with the value reaching as high as 1068.94 in 1997. The afore-mentioned value represents the highest HHI number in the whole data set, including both Veikkausliiga and Liiga. Starting from the year 1999 the HHI value decreased to as low as 747.85 in 2010, with the years from 2003 to 2010 depicting the lowest HHI values ranging between 747.85 (2010) and 829.93 (2006). The year 2011 showed a sudden spike in the numbers, cementing the HHI values of the later years between 868.32 (2012) and 930.68 (2018). The last year (2019) of the data set showed a number of 900.25 versus 902.78 in 1990, with a difference of only 2.53 with the values of the first and last year of the research period. On the other hand, the highest calculated difference between two yearly values was 321.09, with the highest HHI value acquired in the year 1997 (1068.94) and respectively the lowest in 2010 (747.85).

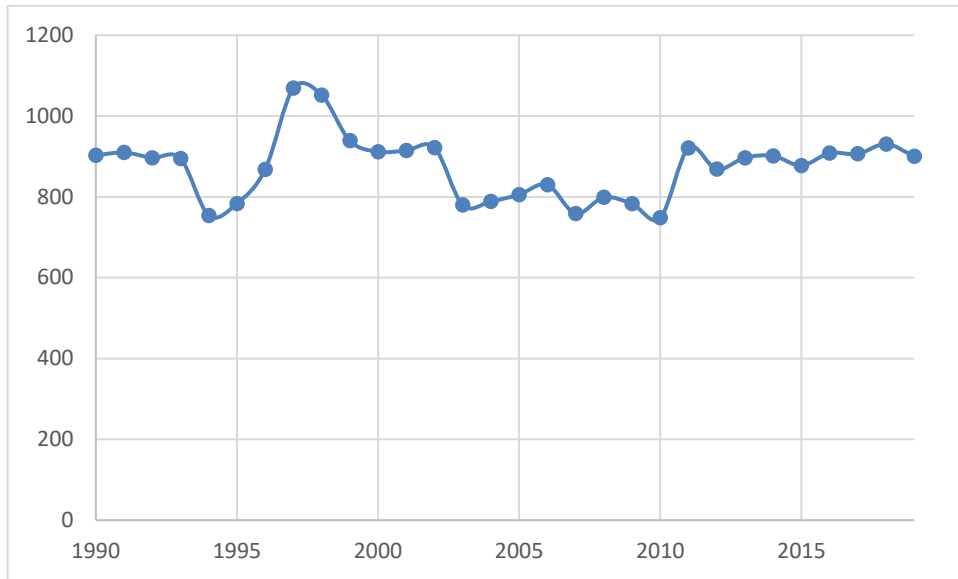


Figure 4. HHI Veikkausliiga, 1990-2019

## 5.2 Gini Coefficient

The Gini Coefficient studies the inequalities of distribution of points within a league. It can be depicted either with a percentage or a value number between 0 and 1. This thesis will use the latter form of description. The findings are expressed to the third decimal. The abbreviation for the Gini Coefficient utilised in this thesis is GC. The calculated average for the GC in Veikkausliiga amounted to 0.159 and the corresponding value for Liiga was 0.133, with a calculated variation of 0.026 between the two leagues.

The GC value for Liiga depicts a quick decrease at the very start of the research scope, with a drop from 0.165 in 1990 to 0.088 in the following year. The years 1992 to 1999 show a relatively weak fluctuation between 0.140 and 0.169, with a short spike in the year 2000 with a value of 0.170. The years following (2001-2008) the quick spike show an equally steady line with GC values ranging from 0.122 to 0.166. The years 2009 and 2010 represent the lowest points on the line chart with GC values of 0.079 and 0.098, alongside years 2013 (0.090) and 2015 (0.098). The latter years (2010-2019) of the research period are showing the lowest levels of GC with values set between 0.132 and 0.090. The last value of the data set is 0.121 in 2019



and the first 0.165 in 1990. The lowest GC value was perceived in 2009 with a value 0.079. the highest value on the other hand was 0.170 in the year 2000. The difference between the two extremes is 0.091.

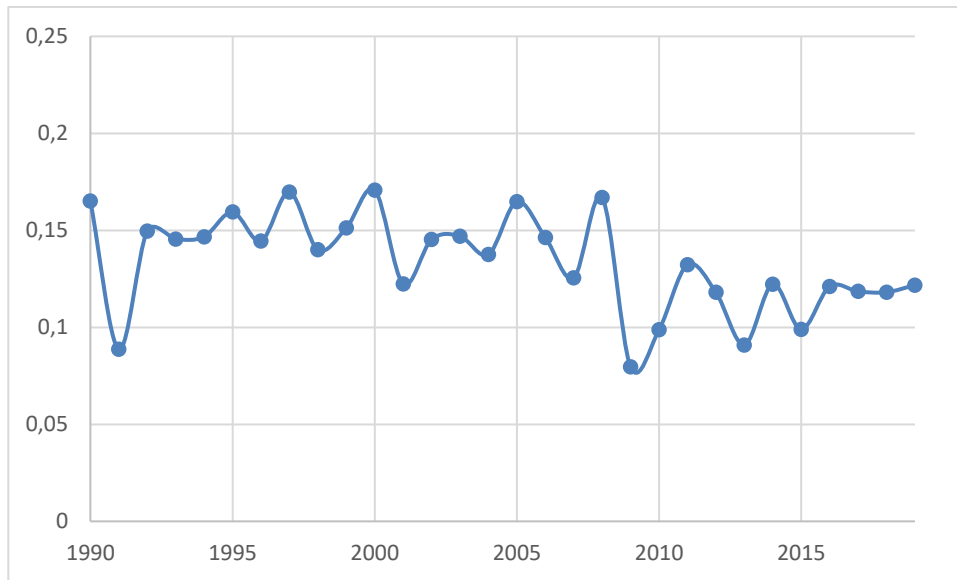


Figure 5. Gini Coefficient Liiga, 1990-2019

The GC for Veikkausliiga starts with a steady almost-horizontal line with values ranging from 0.149 to 0.154 between the years 1990 and 1994. After a short spike in 1997 the curve decreases to 0.110 in 1996, which will remain the lowest GC value during the researched years. In 1999 the value jumps to just under 0.200 where it fluctuates between 0.170 and 0.191, until reaching the highest value of the time period at 0.203 in 2005. The rest of the perceived time period is presented with highly unstable levels of fluctuation, with the line forming several spikes during the latter years, and no stable or horizontal lines can be detected (Figure 6). The changes in GC during the years 2006-2019 range from 0.118 in 2012 to as high as 0.191 in 2008. The last GC value (2019) and the first (1990) are the same 0.159. The highest calculated difference between two values is 0.093. The highest value being 0.203 (2005) and the lowest 0.100 (1996).

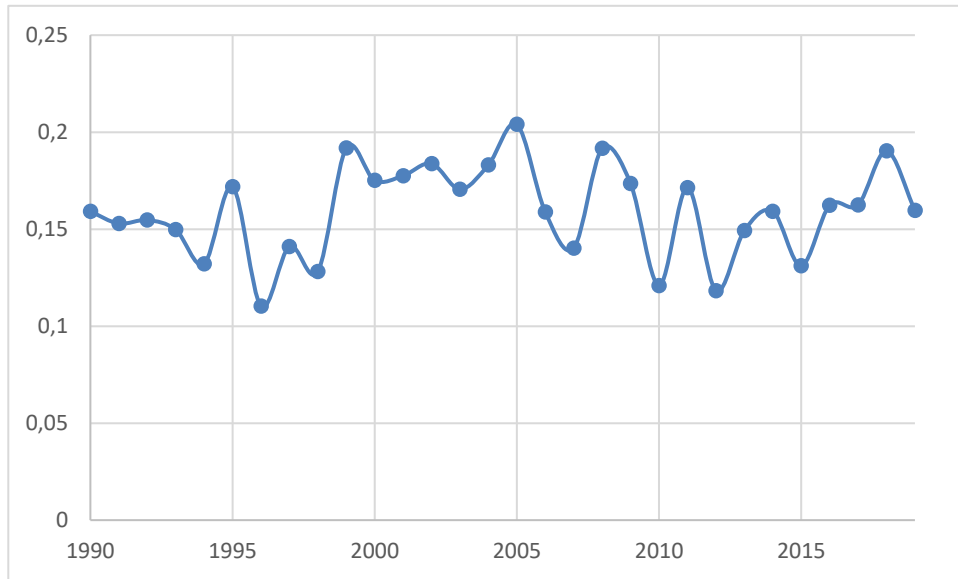


Figure 6. Gini Coefficient Veikkausliiga, 1990-2019

### 5.3 Standard deviation

Standard deviation measures how much the results deviate from the mean. The value obtained is always the same as the studied target, in this case the results are points. The values obtained are presented to the second decimal and the term standard deviation is abbreviated to SD. The average SD for Liiga throughout the years 1990-2019 is 16.24 points and the counter-number for Veikkausliiga is 10.93. The difference between the two values is 5.31.

The SD for Liiga starts off from just under 13.0 in 1990 and immediately hits the lowest recorded value in the following year, 7.04. After which the value climbs back to over 12 and remains steadily between 11.60 and 16.26 points during the time period of 1992-2004. The steady values of SD in points during the mentioned years is clearly visible in Figure 7. as a quasi-horizontal line, with little alteration to any direction. In 2005 the SD rises by almost 10 points to 24.24 and reaches the highest SD of 24.83 in 2008. The beginning of the 2010's is characterised by unstable fluctuation between different levels of SD with numbers varying between 14.89 and 21.05. The last four-year period indicated a stabilisation of the SD between 18.0 and 20.0. The last research value is 20.15 in 2019 and the first on the other hand amounts

to 12.99 (1990). The lowest SD was recorded in 1991 with a value of 7.04 and the highest in 2008, with a value of 24.83. The difference between the two extremities is 17.79.

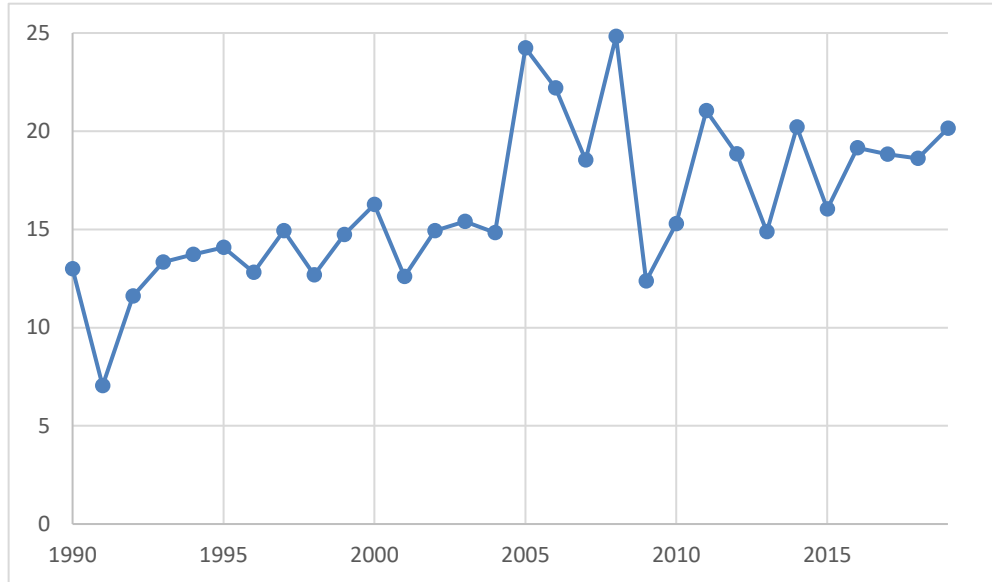


Figure 7. Standard Deviation Liiga, 1990-2019

The standard deviation shows no consistent patterns for Veikkausliiga. 1990 shows a low SD of 6.35, however jumping to 13.59 the following year and further to 12.77 in 1992. The years 1993-1999 show a relatively small amount of dispersion between the SD's recorded in every year with a range of 6.18, which is the lowest perceived value, to 11.24 in 1999. From 2000 to 2019 the SD values fluctuate between 8.75 and 15.44 with a slight increase in the values towards the latter period of the research scope. The line is relatively horizontal with only slight differentiation in values on a yearly basis (Figure 8). The last value of the period is 8.45 in 2019 and the first being 6.35 in 1990. The highest value is 15.44 recorded during the season 2018 and its lowest counterpart 6.18 in 1996. The difference between the two is 9.26 points.

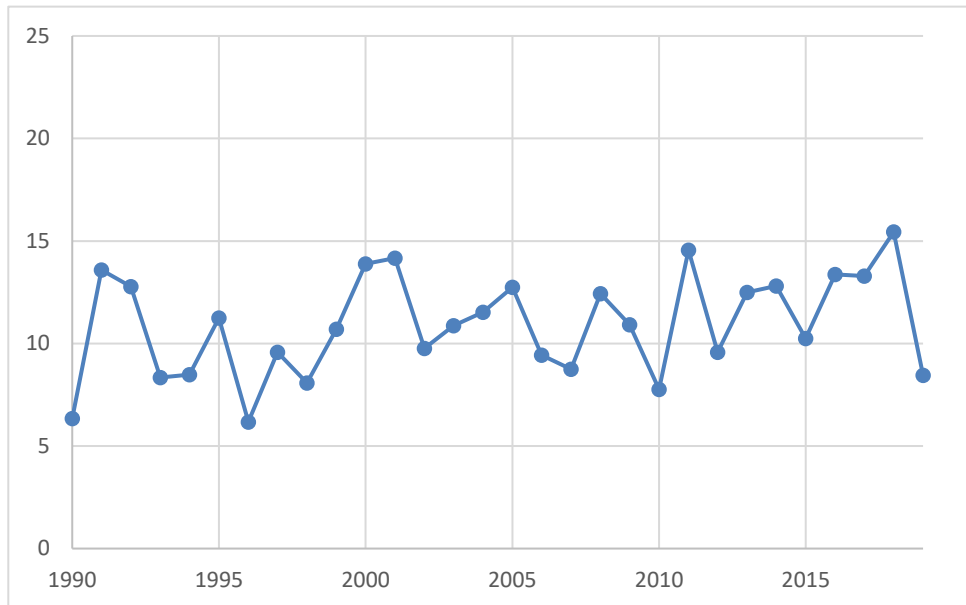


Figure 8. Standard Deviation Veikkausliiga, 1990-2019

#### 5.4 Historical winning percentages

Historical winning percentages were calculated for the time period of 1990-2019. Teams having played at least five seasons or more in the top-flight divisions were included in the listing to avoid issues with invalid data. The team name is presented on the left bracket and the winning percentage on the right one (see Table 3 and 4). The percentages of the winning rates are expressed to the second decimal.

There are 16 teams on the list, having played a minimum of five full seasons in the highest level of ice hockey in Finland during the years 1990-2019. In terms of individual teams, Jokerit holds the highest winning percentage of 50.90 percent during the researched years. It is notable that during this time Jokerit have played only 25 of the possible 30 seasons, after leaving for the KHL in 2014. Second on the list is Kärpät with a winning percentage of 50.70 percent. Jokerit and Kärpät are the only two teams with a winning percentage higher than 50 percent. Similarly, to Jokerit, Kärpät have not competed in the first division for the full period of research, having 19 seasons out of 30 under their belt. The other extremities on the list are Sport with a winning percentage of 26.70 percent and KooKoo, which holds the jumbo-spot with a winning

percentage of only 26,30 percent. The difference between the highest (Jokerit) and the last winning percentage (KooKoo) amounts to 24.60 percent. Of the 16 teams presented in the table below (Table 3) only seven have been in the highest division for the entirety of the research scope (i.e. 30 years) 1990-2019. These teams are TPS, HIFK, Tappara, JyP, HPK and Lukko. In the other end of the spectrum, KooKoo has the least amount of years in the top-flight division with five full seasons.

Team name	Winning percentage (%)
Jokerit	50,90 %
Kärpät	50,70 %
TPS	47,60 %
HIFK	47,30 %
Tappara	44,70 %
JyP/JyP HT	43,70 %
HPK	42,50 %
Lukko	40,30 %
Blues/Kiekko-Espoo	37,80 %
Ilves	37,20 %
Ässät	35,90 %
KalPa	35,00 %
SaiPa	33,60 %
Pelicans/Reipas	32,90 %
Sport	26,70 %
KooKoo	26,30 %

Table 3. Historical winning percentages in Liiga

As for Veikkausliiga, the number of teams having played five or more seasons in the highest division of the Finnish football pyramid during the years 1990-2019 is 20. The table is presented in Table 4. HJK dominates the winning percentage ranking by a value of 54.90 percent, being the only team with a percentage of over 50 percent. The second team on the list, Tampere United, follows with a value of 49.30 percent and the podium is filled by FC Haka, coming third with a winning rate of 46.40 percent. On the opposite side of the table, JJK has the lowest winning percentage with a rate of 21.90 percent. Following JJK comes FC KTP with a

percentage of 24.00 percent and FF Jaro with 31.00 percent. The difference between JJK's and HJK's percentage is 33 percent. Concerning the number of seasons in Veikkausliiga during the research period, HJK is the only club to have remained in the top-flight for the entirety of the years 1990-2019. Second on the list is Kuusysi/FC Lahti (FC Lahti was founded in 1996 after the emergence of Kuusysi and Reipas) with 26 out of 30 seasons. Behind the two aforementioned teams, a plethora of clubs have spent 20 seasons or more in the highest division including TPS, RoPs (24), FC Inter, MyPa (23), FC Haka, VPS, FF Jaro (22) and KuPs (21). Due to the European sport model of relegation and promotion, several teams have played under 5 seasons in Veikkausliiga during the research period, however these were not included in the list to avoid invalid data. The teams that have the least number of seasons in Veikkausliiga included in the table are JJK (5), SJK, FinnPa (6), MP (7) and FC KTP (9).

Team name	Winning percentage (%)
HJK	54,90 %
Tampere United	49,30 %
FC Haka	46,40 %
MyPa	43,60 %
FC Honka	43,50 %
SJK	42,20 %
FC Lahti/Kuusysi	38,70 %
FC Inter	38,40 %
FC Jazz/PPT	36,00 %
IFK Mariehamn	35,90 %
Ilves	35,80 %
TPS	35,70 %
FinnPa	34,70 %
VPS	32,70 %
KuPs	32,20 %
RoPs	31,90 %
MP	31,50 %
FF Jaro	31,00 %
KTP/KooTeePee/FC KTP	24,00 %
JJK	21,90 %

Table 4. Historical winning percentages in Veikkausliiga

## 6 DISCUSSION

The following chapter will present and discuss the results presented in the previous chapter. The results will be mirrored with the theoretical framework and the research questions will be answered.

### 6.1 Competitive balance over the research period (1990-2019) - Liiga

Analysing the levels of competitive balance in the Finnish football ice hockey league throughout the research period, will take its form through analysing each of the measurement methods separately. Starting with the Herfindahl-Index, which focuses on measures of concentration, that is concentration and distribution of points. The HHI shows a positive trend for competitive balance in Liiga. The curve is downward facing, showing improvements in competitive balance towards the latter years of the research period. Two major drops in the values of the HHI can be perceived from the figure Figure 5. Firstly, in the year 2000 when the index dropped over a hundred points from low 900's to low 800's and secondly, another majorly important year for rapid regression in the curve happened in 2006 when the index dropped below 800, where it has remained ever since.

The changes can most likely be attributed to changes in league structure. The 2000-2001 season was the first season which was competed as a closed league structure, meaning that the relegation knockouts were scrapped completely. Additionally, the number of teams was increased from twelve to thirteen, and as a result the total number of matches played by each team rose from 54 to 56. Secondly, during the season 2004-2005, the points system was changed to the modern version, where a win is awarded with 3 points, an overtime or penalty shoot-out win 2 points and overtime or penalty shoot-out loss 1 point. Before this season, a win was awarded with 2 points and a loss with 0. During the season no significant change in the HHI can be detected, but the next season points an important drop in the HHI values. The newly introduced point system might have had a beneficial aspect for lesser ranked teams, as is showcased by the decrease in the HHI values, to gain more points and thus affecting positively the overall concentration of points in the league.

The difference between the first index in 1990 (905.93 HHI) and in 2019 (700.10 HHI) is 205.83, in other words, the difference is over 25 percent. It can therefore be determined from the HHI measurement that competitive balance, in terms of the concentration of points per team, has greatly improved in Liiga throughout the research period. Additionally, it can be determined, that the change has been slow and steady, rather than a set of sharp spikes on particular years.

Moving on to the Gini Coefficient, which measures inequality or dispersion in a set of variables, in this case, the dispersion of points. Whereas it was easy to find a clear pattern of constant decline in the HHI ratios, the Gini Coefficient of Liiga provides a less clear image of competitive balance during the research period of 1990 to 2019. As the figure shows (Figure 7.) the 1990's shows a relatively steady and horizontal line, with GC ranging in the high 0.14 and just below 0.16 area (except for a short and sharp spike in 1991) and no clear pattern can be perceived in the numbers of competitive balance. The beginning of the 2000's shows a similar style of steadiness in the Gini values, however, with more yearly fluctuation in the extremes. Starting from the year 2009, the GC takes a plunge under 0.1 and remains in the lower spectrum of the index for the remaining years, with the years 2016 to 2019 being the steadiest of the research period with minimal variation in the coefficient.

The reasons for the results are more difficult to perceive as with the HHI. Surprisingly, the changes in league structure in terms of number of teams, points or games played does not seem to have an important effect on the GC value. In the season 2008-09 a big spike can be seen in the value, as GC improves importantly. This can most likely be attributed to the fact that relegation knockouts were restored. More significant games meant that even the lowest placed teams had an incentive to fight until the very end of the regular season. The relegation knockouts were in place for an additional four years after which the league system was returned to a closed league. Aside, from the 2008-09 season, the following years did not see an important decline in the GC values, and thus the theory that the knock-out games made the league more competitive cannot be fully supported.



The difference between the first perceived coefficient in 1990, which was 0.165 and the last one in 2019 representing 0.121 is over 30 percent. Similarly, to HHI measurements, the GC seems to be declining in the ice hockey league throughout the years, indicating an improvement in the dispersion of points between teams in the league. Simply put, judging by the Gini Coefficient, the competitive balance has improved importantly towards the later years of the research scope.

The third measurement method under the magnifying glass is the measurement of standard deviation. As opposed to the positive results obtained from HHI and GC for Liiga, the standard deviation ratios seem to follow a separate trail. Figure 9 draws an upward curve in the standard deviation ratio. The first fifteen years (1990-2005) of the research period are characterised by a steady ratio ranging on average between 12.0 and 16.0, going as low as 7.04 in the year 1991 and 11.60 in 1992. During the season 2005, the ratio jumps to over 20 points and even 24,83 in 2008. The following years present an unstable pattern as the ratio fluctuates importantly year after year, before steadying during the years 2016-2019 to a ratio between 18.0 and 20.0.

A similar pattern of stabilisation during the last three years of the research period were obtained from the results from HHI and GC as well. It seems, that the levels of competitive balance have reached a relatively stable point, however the research period is still too narrow to draw any major conclusions. Nevertheless, whereas the results of HHI and GC painted a picture of improvement in the levels of competitive balance, the trend is quite the contrary in terms of standard deviation. The difference between the first variable in 1990 (12,99) and the last, which is 20,15 in 2019 is over 13 points and 43 percent. From the standard deviation measurements, it can therefore be assumed that competitive balance has not improved, but rather inclined during the research period.

However, this can be attributed most likely to the fact that the overall points tally has increased in Liiga. In 1990 the regular season was completed after 44 games and the winner (TPS) had acquired a total of 65 points. When compared to the season 2018-19, which was topped by Kärpät, with a total number of matches reaching 60 and the amount of points 137, we can clearly

see that standard deviation might increase with such an important augmentation in the aforementioned values.

The last measurement method looks at historical winning percentages during the years 1990 to 2019. Whereas the three afore-mentioned calculations look at the league as a symbiotic element, the winning percentages inspects whether dominance is dispersed equally or concentrated to a small group of teams. In case of ice hockey, only wins during regular time (60 minutes) are accounted in the winning percentage, even though a team can “win” through overtime or penalty shootouts as well. However, these are universally recognised and classified as draws. Additionally, only wins during the regular season were included in the calculations, the play-offs were not included.

The winning percentage table in Liiga shows that two teams have a percentage of over 50. Jokerit with 50.90 percent and Kärpät with 50.70 percent. The gap to the following teams is over three percent, with TPS and HIFK coming next with winning percentages of 47.60 percent and 47.30 percent respectively. The last team with a winning percentage of over 40 percent is Lukko (40.30 percent) on the 8<sup>th</sup> spot. The last team on the full list is Jokipojat with a winning percentage of only 18.20 percent, which is 32.70 percent smaller than the winning percentage of Jokerit. Bearing in mind that Jokipojat have only played three full seasons in the highest division, the comparison needs to be treated with academic caution. The biggest difference in winning percentages between two teams that have been in Liiga for the entirety of the research scope is over 10 percent (TPS with 47.60 percent and Ilves with a winning percentage of 37.20 percent).

When looking at championships won, the majority of the titles is concentrated to the teams having the highest winning percentages. Only eight teams have won the championship during the thirty-year research period. TPS has a total of eight championship titles, Kärpät seven and Jokerit five. In total the three teams possess 66.60 percent of all the titles won during this period. The three teams are also the highest ranked in the winning percentage table (Figure 9.). The top five of the winning percentage table hold 83.30 percent of all the championships and the top seven 96.60 percent. Ässät, with a historical winning percentage of 35.90 percent, is the only

team with a historical winning percentage lower than 40 percent to win the championship. When split into decades, the 1990's saw three different champions, the 2000's six and the 2010's seven different champions. In overall, the championships are concentrated to a small number of teams, characterising weak competitive balance. However, the number of different champions has more than doubled in the 2010's compared to the 1990's, suggesting an improvement in competitive balance regarding teams lifting the championship trophy. However, looking blindly at championships won can be misleading. A clear dominance of two teams, Kärpät and Tappara, has emerged during the latter years, with one of the two teams claiming a place in the finals during the last seven seasons.

## **6.2 Competitive balance over the research period (1990-2019) - Veikkausliiga**

The Herfindahl-Index for Veikkausliiga during the thirty-year research period starts from a ratio of around 900 during the four first years of research, before taking a sharp decline to mid 700's in 1994 and 1995. This plunge is followed by a rapid rise in the HHI ratio to well over 1000. The years 1999 to 2002 the HHI returns to its starting position around 900. 2003-2010 represent the best years in terms of lowest HHI values with the ratio ranging between mid 700's and low 800's. Starting from the year 2011 the index has stabilised in its starting values between 800 and low 900's. No clear pattern of increase or decline can be derived from the data of Veikkausliiga. Figure 6 shows unpattern-like spikes in the line.

The difference between the first and last value is a mere 5.68, speaking of a lack of major improvement in the levels of competitive balance over time. Additionally, as opposed to the results obtained in the HHI measurements for Liiga, the results show a greater variance in the index across different seasons, meaning that Veikkausliiga is more vulnerable to rapid changes in concentration of points, and that the change can happen on a short period of time. On a positive note, the latter years (2011-2019) represent the most stable the index has been during the research period, possibly indicating a more stable future for the concentration of points.

The Gini Coefficient for Veikkausliiga follows a similar path than the Herfindahl-Index. A clear pattern is hard to find. The ratio starts at around 0.15 before starting a frantic rollercoaster

movement from 1994 to 1998, ranging from 0.11 to 0.17. 1999 to 2005 represent the most stable period for the GC. On the other hand, those years also represent the worst point dispersion in the league, with GC numbers differing between 0.17 and 0.20. The remaining period of research (2006-2019) is characterised by strong variation in the GC almost on a yearly basis. The range of the values differ between as low as 0.118 in 2012 and 0.191 in 2008. This substantial fluctuation is clearly visible in Figure 6.

The last recorded GC value in 2019 amounts to 0.159, which is almost identical with the starting value in 1990. It can be derived from the afore-mentioned analysis that based on point dispersion competitive balance has seen no major improvements during the research period. Similarly, to the results obtained from the HHI analysis, the GC seems to be equally oscillating almost yearly, and no clear patterns can be derived from it.

The reasons for the fluctuating results obtained from both the HHI and GC are only hypothetical. The number of games played or the number of teams in the league, or otherwise any structural change, seems to have relatively low or no effect on the HHI and GC values. One of the possible hypotheses might be associated to the fact that open leagues are more dynamic in terms team retention in the league. Relegation is a big threat sporting-wise, but also a hugely important when speaking of financial aspects and the very survival of teams. Bad results can quickly turn things to bad really quickly. Even the most successful teams are not immune from relegation to lower leagues and financial issues, such as the examples of FC Haka (third most successful team during the research period in terms of winning percentage) and Tampere United (2<sup>nd</sup> highest winning percentage) would suggest.

The standard deviation for Veikkausliiga continues a similar trend with the results acquired from HHI and GC measurements. The values start from 6.35 in 1990. The first decade of the research scope is defined by the most fluctuation recorded in the research. During this period, the difference between the highest value, which was recorded at 13.56 in 1991 and the lowest, 6.18 in 1996, is 7.41. The time period from 2002 to 2009 can be considered as the most stable, when it comes to standard deviation. The values vary from just under 9.00 to values slightly over 12.00. The final decade represents the time period with the average highest standard

deviation rates, with numbers averaging just under 12.00 (average 11.80, during the years 2010-2019) and going as high as 15.44 in the year 2018. In other words, the point spread in the leagues has been the highest in the later years. This might be associated with HJK's newly asserted dominance in the league during the last decade.

As mentioned previously, the results obtained from the standard deviation analysis, reflect a similar trend with the results obtained from HHI and GC measurements, with extremely dynamic and varying values, and a difficulty of finding a downward or upward slope in the standard deviation numbers (Figure 10). When it comes to competitive balance according to standard deviation, whereas there is no important incremental rise in the values, the last decade has the highest average standard deviation of points, thus indicating a negative trend in terms of competitive balance when analysing the spread of points during a particular season. The negative trend could be associated with HJK's dominance during the last decade.

Lastly, the analysis of the historical winning percentages for Veikkausliiga shines light to a similar trend as in Liiga. HJK has the highest winning percentage, with an important number of 54.90 percent. HJK's winning percentage is the only one above 50 percent. Tampere United follows with a percentage of 49.30 percent and FC Haka completes the podium with 46.40 percent. The extent of HJK's dominance is represented with a difference of 8.5 percent to third placed FC Haka. JJK is the worst student on the list, with a winning percentage of only 21.90 percent. The difference between the winning percentages of HJK and JJK is 33 percent. The difference is huge, but again, we need to keep in mind that JJK has played only five full seasons in the top-flight during the research period, as opposed to HJK's 30 seasons.

When mirroring the winning percentages with championships won, a clear pattern emerges. HJK, at the top of the winning percentage table, holds over 43 percent of all the titles won during the thirty-year research period. HJK and FC Haka hold 60 percent of the titles and the top-three including Tampere United have won 70 percent of the championships. Rest of the titles are relatively evenly spread, with teams with low winning percentages having been able to snatch a championship in the course of history. KuPs has the lowest historical winning percentage out of the title-winning teams, with a rate of 32.20 percent. In total, there are a total

of 11 teams that have won the championship during the years 1990-2019, meaning that approximately every three years, there is a new team clinching the title, speaking of a relatively positive historical trend in terms of competitive balance in the football league. When looking at the number of different champions during each of the ten-year periods during the research scope the dispersion is as followed: five different champions during the 1990's, five during the 2000's and four during 2010's. The differences are minimal, however as with the ice hockey league, a dominance has emerged during the latter years. As a matter of fact, HJK has claimed seven out of the ten last championships.

### **6.3 Comparison between Liiga and Veikkausliiga**

The following chapter will provide a short comparison of the levels of competitive balance between the two studied leagues.

The HHI ratios of both leagues are represented in Figure 13. The curve of Liiga proposes a gradually downward facing curve, with improving ratios of HHI during the research period. Veikkausliiga seems more prone to rapid changes in points concentration, than its brother-league. The first years are characterised by great amount of fluctuation, however from the year 2000 until the year 2010, the two leagues seem both to have a positive trend of gradual improvement in competitive balance. The trend is short-lived for Veikkausliiga, as of 2010 the curve takes a jump and stabilises over 200 HHI points above the respective curve of Liiga. This is due most likely to the newly-formed dominance of HJK during the 2010's. The dominance of Kärpät and Tappara, on the other hand, does not show in the HHI ratio of points concentration for Liiga in the later years, meaning that despite the domination of the two teams, the points are still relatively well concentrated during the regular season. The average HHI for Liiga is 806 and the respective value for Veikkausliiga is 873.

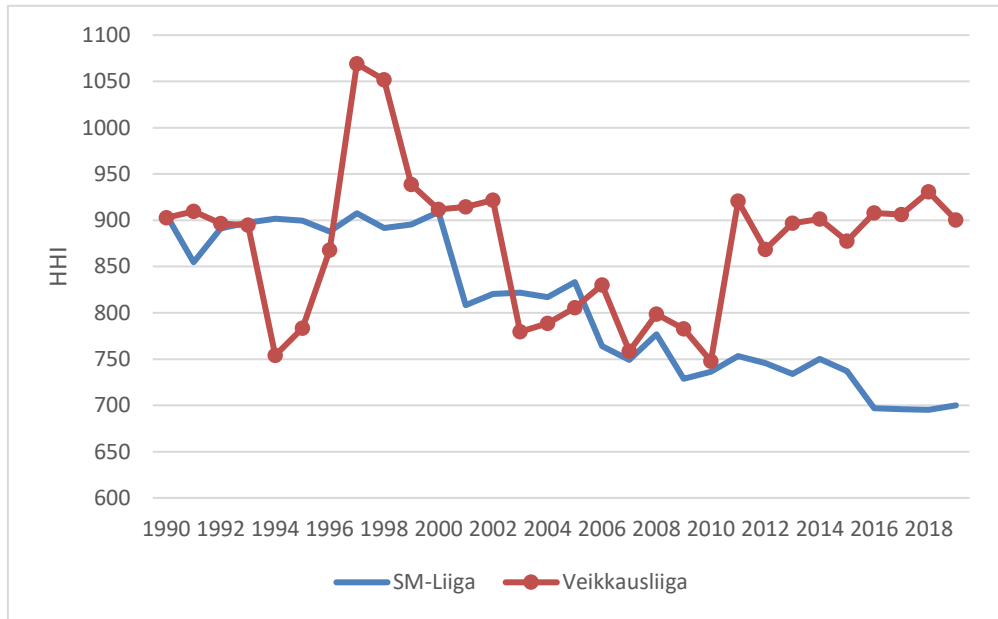


Figure 9. HHI, comparison between Liiga and Veikkausliiga

The GC comparison on the other hand is not as clear as with the HHI index. As the figure below (Figure 14.) presents, the GC is more prone to yearly fluctuation than the HHI. During the first ten-year research period (1990-2000) the GC's of the two leagues are ranging on relatively same levels. The last twenty years are dominated by Liiga's lower values. The average coefficients for both leagues are 0.133 for Liiga and 0.159 for Veikkausliiga.

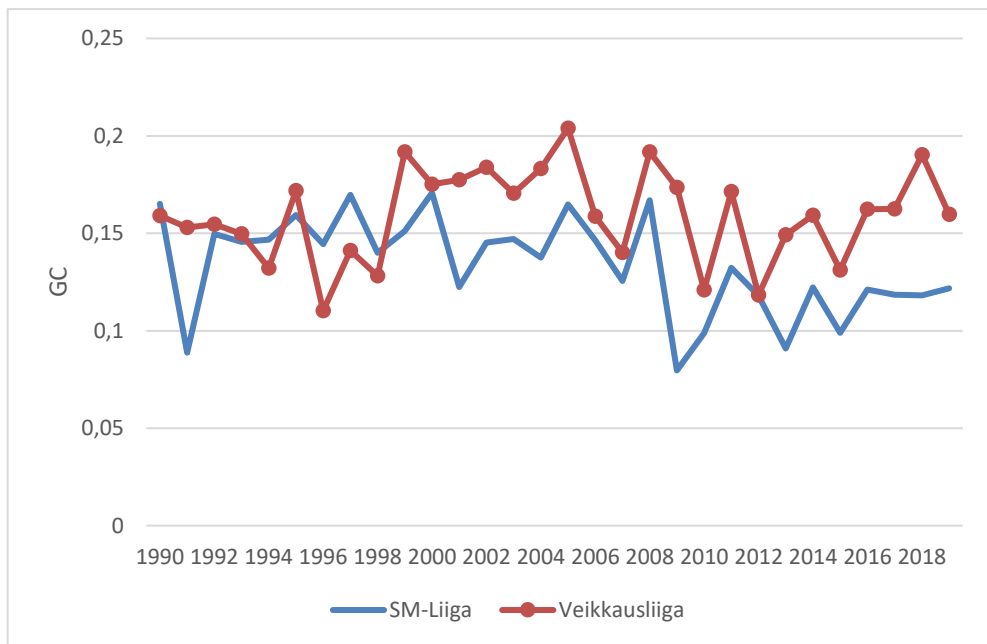


Figure 10. GC, comparison between Liiga and Veikkausliiga

Standard deviation and the comparison between the two leagues are presented in the graph in Figure 15. As opposed, to the two afore-analysed measurement methods, standard deviation ratios are better in the Veikkausliiga, rather than in Liiga. The curve for the standard deviation in Veikkausliiga has remained relatively horizontal around the value of 10 points. The average standard deviation of Veikkausliiga during the research scope is 10.90. Whereas, the curve of Veikkausliiga has remained comparatively stable, standard deviation of points has risen gradually in Liiga. Additionally, Liiga saw a spike between the years 2005 and 2008 before stabilising around 18.0 and 20.0. The historical average for Liiga is 16.20. The difference between the two leagues slightly under six points. The rapid change in the standard deviation in Liiga can most likely be explained by the rise in the number of games played and thus in the rise of points distributed at the end of the season. Additional points may result in the point spread widening, thus resulting in a higher standard deviation.



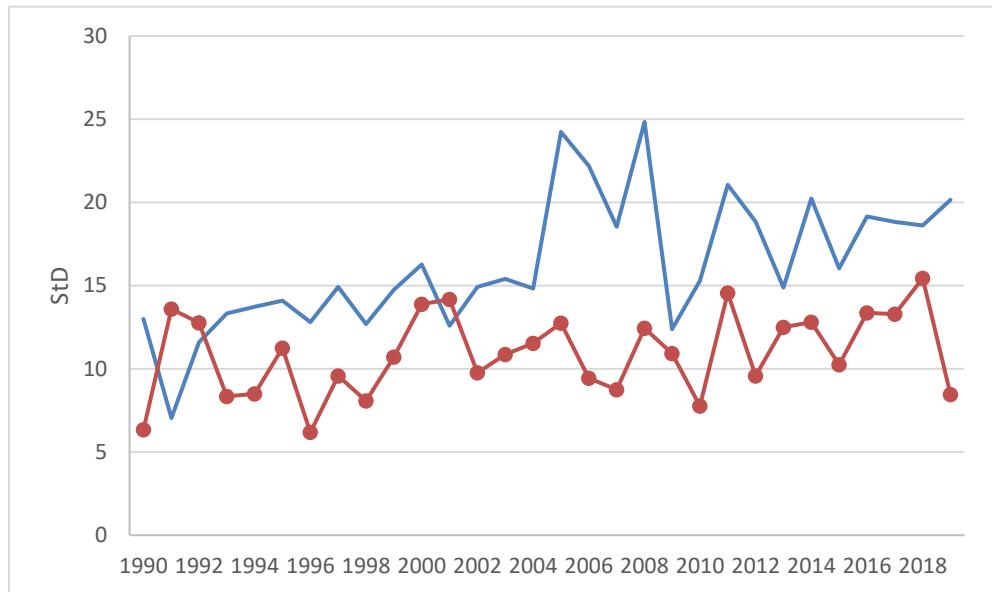


Figure 11. StD, comparison between Liiga and Veikkausliiga

Lastly, when comparing the historical winning percentages and championships won by different teams, results show a homogenous tendency. Both leagues have teams that dominate the league in terms of winning percentages. HJK has the highest winning percentage, by a large margin, of the two leagues combined, speaking volume of a one-team domination in Veikkausliiga. In Liiga, the winning percentage rates are more evenly spread across the top teams. However, when looking at the larger picture, the intra-league differences in winning percentages are minimal, and the tendency of teams with higher winning percentages winning most of the titles is apparent in both leagues. On the other hand, when looking at the number of different champions Veikkausliiga triumphs over Liiga with 11 different title-winners, as opposed to eight in Liiga. In Liiga, the title-winners hold the highest places in the winning percentage list (Ässät being the only exception), whereas in Veikkausliiga the spread of the championship winning teams is larger. Thus, the data reveals that clubs outside the traditional powerhouses in Veikkausliiga, have higher chances to a surprise championship title than the respective teams in Liiga.

## 7 CONCLUSIONS

The last chapter will provide a short summary of all the main aspects discussed in this thesis. This chapter will also answer the research questions and provide directions and suggestions for future researches on the topic.

This master's thesis set out to draw a more comprehensive image of the issue of competitive balance in Finnish sport leagues, more precisely in Veikkausliiga and Liiga. Based on the theoretical framework surrounding the issue globally, the following research question was aimed to be answered:

- What are the levels of competitive balance in the Finnish football (Veikkausliiga) and ice hockey (Liiga) leagues and how have the levels evolved during the research period (1990-2019)?

The first research question sought to shine light on a wider global issue that has been affecting team sports in recent times. The issue of competitive balance has not been recorded, or thought to be of particular importance, in Finland as much as elsewhere in the sporting world. The research on the topic had been mainly limited to master's thesis projects, and actual measurements of the phenomenon had not been conducted. This research question provides knowledge on the concrete measurements of competitive balance, and most importantly whether or not, due to ever-growing financial side of sport and a shift from a societal phenomenon to a more economically driven industry, the levels of competitiveness have shifted during the last thirty years.

This thesis studied the notion of competitive balance through four different measurement methods: The Herfindahl-Index, Gini Coefficient, standard deviation and historical winning percentages. The methods assured that a clear image of the competitive balance could be constructed based on a series of different calculations, emphasising different aspects of competition. In terms of Liiga, three of the four measurement methods show a positive trend in the levels of competitive balance, with a positive improvement towards the last years of

research. The concentration of points in the league (HHI), measurement of dispersion of points (Gini Coefficient) and the number of different emerging champions during the last years have improved. The fourth measurement method, which is the standard deviation, has on the contrary sloped to an opposite direction. However, this statistical peculiarity is most likely due to the changes in league structure, and more precisely in the number of games. The rise in the number of games during the regular season from 44 to 60 plays evidently an integral part in the ratios of standard deviation, thus affecting it negatively. The values of standard deviation are susceptible to error, and in such, need to be treated with attention to detail. The data provided from this research gives a good note for the shift of competitive balance levels in Liiga during the research period. However, looking blindly at data can be misleading. As it was earlier determined, dominance of one or more teams has always taken place in the league and the newly emerged monopoly of Kärpät and Tappara questions the positive data regarding the improvement in competitive balance.

For Veikkausliiga, the results varied somewhat drastically from the rather positive results of Liiga. A positive trend was not perceived from the data. Quite the contrary the levels of competitive balance seem to be stagnant or decreasing towards the latter years of the research period. Concentration of points within the league (HHI), dispersion of points (GC) have both diminished during the thirty-year research scope. Standard deviation and titles won by different teams have remained relatively stable every ten-year period during the full length of the research scope. As with the ice hockey league, the dominance is concentrated to a small number of teams. HJK has a monopoly position in terms of success in the league, which has become more dominant during the last decade. Competitive balance can therefore be considered as decreasing in the Finnish football league.

The sub-question under the scope was as follows:

- Which one of the two leagues is more competitive? Are they comparable?

Comparing only the data obtained from the research, it can be derived that Liiga has the better values regarding HHI and GC. Veikkausliiga on the other hand outtakes Liiga in terms of

standard deviation and the number of different champions. However, is this data reliable? Is it valid? Can two different leagues, from two different sports, with completely different structures be objectively compared? Some form of basic comparison can be done, especially with calculation methods that are not tied to structural aspects. HHI, GC and winning percentages are excellent methods to study these aspects. However, structural differences pose a threat to intra-sport league comparison. The complexity and specificity of different sport models, as discussed in the literature review section of this thesis, pose an integral issue in the reliable assessment of different sets of data. Therefore, a comprehensive comparison between the two leagues is difficult to produce and is perhaps a good grasping-point for future academic researches.

In all, the data obtained from the research project was positive and clear images about the topic of competitive balance were able to be built. The research questions had a broad scope and managed to aid the researcher in order to build a comprehensive picture of the issue at hand. However, this was only the first step towards understanding the issue of competitive balance in the Finnish sporting context. The abundance of different emerging measurement methods will provide future researchers with more tools to understand the dynamic concepts of competitive balance. Each different method will bring new insight into the ensemble. There is no right or wrong measurement method, and every way of measuring the phenomenon proposes its own twists and challenges. As it was mentioned earlier in the literature review, Andrew Zimbalist's (2002 112) quote sums up the issues of measuring of competitive balance perfectly: "There are almost as many ways to measure competitive balance as there are to quantify the money supply".

## **7.1 Suggestions for future research**

Regarding the first research question about the current levels of competitive balance, it is hard to determine what a "good" or "bad" level of competitive balance is. The lack of previous research in Finland, and most importantly the lack of a comprehensive theoretical framework surrounding the analysis of the results of different measurement methods, proposes a cloudy vision regarding the results obtained in this thesis. A series of values, ratios and numbers were

obtained from the calculations. But what to do with the values given? How to interpret them correctly? A clear benchmark is lacking, and the plethora of different already-existing measurement methods adds more confusion and question marks to the mix.

Yes, some frameworks for value-comparison already exist. For example, The United States Department of Justice proposes that HHI ratios of under 1 500 represent a situation of good concentration. If this framework would be applicable to the sporting context, both Veikkausliiga and Liiga would have exceptional ratios of points concentration (Liiga's average 806 and Veikkausliiga's 873). The specificity of the sport league environment poses a difficulty of using a ready-made framework from a completely different field of industry. Thus, the creation of a framework, with categorised values for a sport league context, both for football and ice hockey (and why not add additional sports to the list) would be hugely beneficial for future quantitative research on the topic of competitive balance.

In order to draw a cohesive picture of the phenomenon of competitive balance in Finland and to create a framework around its measurement, it is imperial to have an international point of reference and comparison. Several researches have taken place outside the Finnish sporting environment, especially for the sport of association football, however a comprehensive research with an extensive and uniform methodology and data collection methods spanning across different countries is needed. The data gathered from foreign leagues would aid in the construction of a clear image of the levels of competitive balance in Finland, and how the results can be mirrored on a global scale. This sort of research is exceptionally vital for the sport of ice hockey, due to the lack of previous studies. However, the complexity of league structures across different sports and countries alike, provide an interesting question for researchers willing to take the challenge.

Lastly, and probably most importantly, this thesis has tackled the issue of competitive balance from a quantitate perspective. The notion of competitive balance has been quantified and the basic question of "what" has been answered. The next step towards understanding the phenomenon even better is to answer the question "why". Why are there perceived differences across several years? Do league structures have anything to do with the levels of competitive

balance? Which model is more suitable for increased competitive balance: the European or North American model? Does relegation and promotion affect the competitiveness of the Finnish ice hockey league? Should Americanised drafts, reserve clauses and salary caps be introduced in Veikkausliiga to boost competitive balance? The questions are limitless. Qualitative research has the power to answer questions that quantitative research cannot. A qualitative research radaring deep into the root causes of the levels of competitive balance acquired from this research is needed to better understand the challenges affecting competitiveness in Finnish sport leagues.

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