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The Impact of Multi-Club Ownership on Football Transfers and Performance: Insights from Internalisation and Business Group Theories

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ABSTRACT

This thesis applies ideas from internalisation and business group theories to examine how multi-club ownership (MCO) affects football transfers and player performance. The study thoroughly examines player performance and transfer activity between clubs in Europe's Big 5 leagues that are part of MCO systems. Using data from five seasons before the acquisitions and every season afterwards until 2023–2024, the study looks at the financial synergies and strategic benefits offered by MCO arrangements. Key findings show that although MCOs can profit from cost-saving structures and network effects, the performance results of the players were conflicting. To provide a thorough examination, the study makes use of web-scraped data from the FIFA video game series and Transfermarkt.com. To assess transfer trends and player performance measures, techniques such as propensity score matching and outlier identification are utilised. The findings illustrate the complexity and strategic management needed for effective multi-club ownership, providing significant theoretical and practical implications for stakeholders in the football business.

Keywords: Football, Ownership Models, Internalisation Theory, Business Group Theory

JEL Classification: C31; F23; Z2

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Introduction

Soccer (football) has recently seen a reoccurring phenomenon in club ownership. Private investors and large corporations gain control over not just one but multiple football clubs, hoping to create synergies and benefit from them. This practice is also referred to as multi-club ownership (MCO). As Breuer (2018) defines, an MCO exists where a single entity owns a majority stake in multiple professional football clubs and controls daily operations simultaneously. The notion of control is essential, as there are several examples of clubs that are not officially owned by the same entity but are clearly controlled by it. From 2021 to 2023, the clubs involved in such an MCO rose from approximately 115 to more than 300 (Harris, 2024). Famous examples are Manchester City, which is controlled by an entity that has a majority stake in nine different football teams, and RB Leipzig, which is part of the Red Bull franchise, controlling a total of six football clubs.

Clubs involved in an MCO system hope to benefit from several advantages the system provides. As Dias (2021) finds, clubs that are part of an MCO can profit from a global scouting network and talent pool, reducing costs and increasing the quality of talent they can acquire. While this scouting network enables MCOs to find young talent at a low price, it also decreases the cost of acquiring senior players on the transfer market, as players can be exchanged within the clubs of an MCO (SwissRamble, 2024). Additionally, smaller clubs within an MCO regularly receive young and promising talent from the organisation's largest club, aiming to develop them and ultimately send them back to the leading club. Benefits also reach outside the football field with a significant increase in brand recognition (Richardson, 2023) and savings in other operational costs, such as marketing.

While the topic of MCO receives increasing interest in the footballing world (Sport Business, 2023), there needs to be more quantitative research on the effect on the performance of such a system. Most current research comprises case studies and descriptive papers such as SwissRamble (2024) or Carvalho (2023). The research focuses on the controlling entity rather than the football club's benefits. The only attempt to quantify the effects of an MCO was conducted by Lundgren and Heljeberg (2021). They could not find a significant performance deviation while focussing only on the top two English divisions.

Case studies like Chadwick et al. (2023) focus on individual MCOs. However, within those MCOs, they derive benefits and challenges from the standpoint of the largest and most central club. This focus on the so-called “flagship club” neglects the interests of smaller clubs within the organisation that serve as “feeder clubs”. There is little available research about the profitability and performance of those lower-ranking clubs.

The commercialisation of professional football (Andreff & Staudohar, 2000) has attracted investors interested in profitable investment opportunities. Especially increasing revenues from broadcasting rights have seen the football market increase its worth significantly (Dima, 2014). Previously, an investment in a football club was a losing business and was often due to the affiliation of the investor to the football organisation. From a financial standpoint, being part of an MCO is potentially more attractive due to significant cost savings. The question for investors arises whether this system also provides clubs with performance benefits on the pitch, leading to brand expansion and stability.

Another concern is related to the current regulation. As the governing body UEFA (Union of European Football Associations) currently prohibits MCO systems, it will be insightful to see whether such a system delivers long-term performance benefits to the teams. It would provide investors and the UEFA with new and concrete arguments to change the current regulations

and adapt them to the inevitable emergence of MCOs. Therefore, this research will focus on the question:

How does multi-club ownership impact football transfers and player performance?

The concept of MCOs shows various parallels to the theoretical insights of internalisation theory. For example, interactions in the transfer market continuously create asymmetric information, as the buying club fears that the selling club is withholding information about the player's health or performance. To decrease this cost, MCOs can use their extensive scouting network and training facilities to find and develop players without buying them from external clubs. This will decrease their transaction cost and, if done correctly, lead to profit maximisation. To explain this phenomenon with international business theory, a broad overview of internalisation theory and business group theory is provided in the literature review.

This paper will analyse the transfer activity and performance of multi-club ownership teams and compare them to non-MCO clubs. I will consider the "Big 5" leagues from England, France, Germany, Italy, and Spain, as they are responsible for more than 50% of the European market share (Deloitte, 2023). With data from the German statistics platform transfermarkt.com, I will construct a data set containing players' performance and transfer history. Based on these statistics, I will apply a matching analysis that aims to compare players transferred within and outside of an MCO.

This paper aims to contribute to the field of sports management. It will give valuable insight into the effect of MCOs on a club's performance. This will help club managers and owners decide whether to create or join an MCO. It will also be interesting to fans, as their largest fear is losing their competitive edge once they join an MCO as a feeder club. This paper aims to

align the presented academic theory with the practical example of football. This allows me to test the validity and applicability of the theories mentioned.

Literature Review

The following section will elaborate on the available literature about MCOs. I will explore the benefits and challenges of such a system and give a broad overview of the MCO landscape in the Big 5. Furthermore, I will present the theoretical background of internalisation theory and business group theory based on principles from international business theory.

History of Multi-club Ownership

The rise of multinational enterprises has not halted from the world of soccer. The first example of a multinational approach to football club ownership in Europe arose in the late 1990s. The British investment company ENIC acquired stakes in multiple European football clubs. By 1999, ENIC owned stakes in 6 different European football clubs (Cherpillod & Perez, 2012). Their club portfolio consisted of the Glasgow Rangers FC in Scotland (25,1%), FC Basel in Switzerland (50%), Vicenza Calcio in Italy (99,9%), Slavia Praga in the Czech Republic (96,7%), AEK Athens in Greece (47%) and in Tottenham Hotspur in England (29.9%). While some of these stakes were of minority size, the company held majority stakes in 3 clubs simultaneously.

In 2000, ENIC filed a formal complaint against the governing body of European football, the UEFA. By UEFA regulation, no two clubs that participate in a UEFA club competition may be owned and/or controlled by the same entity (Cherpillod & Perez, 2012). This rule aimed to maintain the independence of clubs and, therefore, the integrity of the competition. The UEFA aimed to prevent match-fixing or other behaviour that could be considered unfair. ENIC argued that this rule prevents investment in clubs and, therefore, hinders the growth and development of the sport.

The European Commission rejected the complaint as they agreed with UEFA's argument that this rule was established to keep up the integrity of the sport and not to prevent investment in

clubs and competitions. The Commission established that the uncertainty of the outcome of UEFA's club competitions was in the public's interest and, therefore, is worth protecting. Although this limits the freedom of action of clubs and investors and might negatively affect business and commercial growth, the Commission decided that such a ruling falls outside the scope of competition rules. With the rejection of ENIC's complaint, the chapter on multi-club ownership has been closed for now. Merely seven years later, however, an even bigger wave of multi-club investments should occur, changing the ownership landscape in professional football for the foreseeable future.

The second wave of MCO investments was initiated in 2008 when the City Football Group (CFG) bought Manchester City. The entity owned by the Abu Dhabi United Group extended its portfolio to twelve club ownerships. Nine strategically positioned clubs worldwide are owned solely by CFG (Chadwick et al., 2023). The following years, especially the early 2020s, saw multiple different MCOs arise, with renowned examples like the Red Bull franchise, 777 Partners, or the Saudi Arabian Public Investment Fund (PIF).

Goals and Advantages of MCOs

This study will focus on the football clubs themselves, and the advantages to the investors of MCOs, such as profit maximisation, political influence, or reputation improvements, will not be examined. The goal is to identify the club's advantages based on transfer policy and on-pitch performance. A concept well-known to economists is economies of scale. MCOs can create such economies by constantly expanding their network and capabilities with decreasing marginal costs. Once the extensive scouting and training network is in place, it is relatively cheap for a club to find and develop new talent. This will save the club vast amounts of money, as they will not have to buy a player of similar quality on the transfer market later (Barbuscak, 2018).

While it would be significantly more expensive, an individual club could also set up a comparable scouting network in different regions. However, they would quickly face the second problem an MCO can solve. As Menary (2021) points out, young, talented players need playing time to develop and reach their full potential. A club in the Big 5 is unlikely to play a talent at such a young age, as they cannot afford to lose matches to develop a future talent. Therefore, flagship clubs can loan out their talented players to smaller clubs in lower and less competitive divisions within the MCO. Such clubs are typically called “feeder clubs”, as their task is to play and develop the young players and send them back to the flagship club once they have reached a certain level. The more extensive an MCO network, the more intermediary levels there are, which means the organisation can offer the players an ideal club at any given time (Chadwick et al., 2023).

Knowledge exchange is another significant benefit that MCOs can provide. Coaches, managers, or the medical staff can exchange best practices in situations unknown to the respective club. Clubs can use this knowledge and then apply it to their respective region. Over time, this creates an extensive database that will benefit the entire network and give the clubs a competitive edge against their opponents. Similar synergies can be drawn from the shared use of facilities, such as training grounds or medical centres (Chadwick et al., 2023). Players and managers from clubs within the MCO can use and inspect the facilities of the flagship club. This will save costs and improve the player's recovery or the manager's training methods, resulting in an efficient system achieved by network effects.

As mentioned in Bond et al. (2020), the financial wedge between smaller clubs and large football organisations constantly increases. Clubs, therefore, need help to keep up financially and are very regularly operating at or below the level of bankruptcy. Involvement in an MCO will provide clubs with an initial financial injection that can help them recover their debt. At

the same time, it will also provide them with long-term financial stability and access to the abovementioned network effects (Sports Business, 2023). This mitigates financial obligations for smaller clubs and allows them to take on riskier investments in players or facilities that benefit them. Rohde and Breuer (2016) found a similar phenomenon in their research on the profitability of private investment in football clubs.

Lastly, Richardson (2023) focussed on the internationalisation of football teams. MCOs can help them expand their brand internationally and create a fan base, thereby merchandising sales or broadcasting revenues. Significantly, an increase in streaming numbers can benefit clubs, as broadcasting payments make up 75% of their revenues (Dima, 2014). The global presence can help attract young talent and create revenues for individual clubs. As a result of this brand recognition, clubs can also extend to other platforms, such as social media or streaming. Chadwick et al. (2023) call this the "Disneyfication" of soccer.

MCO Landscape in Europe's Big 5

This study will focus on the top divisions in Europe. This so-called "Big 5" contains the top divisions of England, France, Germany, Italy, and Spain. They are broadly accepted to be the best national competitions worldwide and, therefore, are the focus point of many different studies concerning ownership and financial research on football teams. The annual review of football finance from Deloitte (2023) shows that the Big 5 combined make up more than 50% of the European football market size. Andreff & Staudohar (2000) and more recent studies like SwissRamble (2024) or Harris (2024) point out that clubs playing in the Big 5 have the potential to become the flagship of an MCO conglomerate. Such a flagship is the most prestigious club of an MCO conglomerate and often the ultimate destination of players that are funnelled through the different development stations within an MCO.

To define clubs that are part of my research, I use a similar definition as Lundgren and Heljeberg (2021). To be part of the data set, a single entity must have majority stakes and active control in at least two professional football clubs. Additionally, at least one of these teams needs to play in one of the Big 5 Leagues of Europe in the 2023/24 season. As of March 2024, there are 17 such MCO conglomerates. The biggest (and arguably most famous) one is the City Football Group. After acquiring Manchester City in 2008, they entered the English Premier League. With the incoming funds, Manchester City established themselves in the top flight of English football and have dominated the competition ever since. Next to Manchester City, CFG also has stakes in eleven other clubs on all continents except for Africa and Antarctica. Of those twelve ownerships, CFG holds a majority stake in nine football teams around the globe (Chadwick et al., 2023).

The second major MCO organisation is Red Bull. The energy drink producer is well known for its engagement in sports activities as a platform to promote their products. While active in extreme sports, Formula 1 and Motocross, they also own six football clubs. The company follows a very strategic approach to all their business decisions. After acquiring Austria Salzburg, they rebranded the club with their firm colours, a new logo and a brand-new training and academy facility. They followed similar approaches with their clubs in Leipzig, New York, Bragantino and Liefering (Harris, 2024).

The COVID Crisis saw an increase in investment from American investment companies. 777 Partners is one of them, which quickly entered the playing field and now holds a portfolio of 8 different soccer teams across the European and international top leagues. Another example is BlueCo, a consortium led by Todd Boehly that acquired FC Chelsea in 2022, followed by their acquisition of FC Strasbourg in 2023. Long-time Olympiacos FC owner Evangelos Marinakis

established his own MCO with the acquisitions of Nottingham Forest in 2017 and Rio Ave FC in 2023.

Another large inflow of investment came from the Far East. The Saudi Arabian Public Investment Fund (PIF) made the news in 2021 when it acquired majority stakes in Newcastle United. Ahead of the 2023/24 season, they also took a 75% stake in four clubs of the Saudi Pro League. Another example is Abdullah Bin Mosaad Al Saud, who acquired Sheffield United in 2013 and expanded his club portfolio to five teams from 2018 to 2021. Other MCOs have emerged in the last few years based on club owners who wanted to diversify their portfolios using network effects and reduce operational costs. A comprehensive list of all multi-club involvements is added to the appendix.

These examples give a broad overview of the existing MCOs and their owners. From a more profound analysis based on Breuer (2018) and SwissRamble (2024), I can define three general types of MCOs. The first system will be called the “headquarters system”. The City Football Group or the Red Bull GmbH use this system. The strategy is based on one leading player, namely the flagship club. This club is often the most successful in the most renowned league. For example, for the City Football Group, it is Manchester City, and for Red Bull GmbH, it is RB Leipzig.

This club is supported by multiple smaller league clubs that are used to develop young talent, which are destined to play for the flagship club. With an intrinsic loan system, the players are moved to these so-called feeder clubs for one or more seasons and will receive more playing time on those teams. Lundgren and Heljeberg (2021) argue that playing time is the most crucial factor in developing a young player. The feeder clubs often play the same or a similar style of football, further accelerating the player’s development. This headquarters system functions as

a funnel for young players, where the ultimate goal is to bring up young talents to the flagship clubs or sell them for a profit to finance the system further (SwissRamble, 2024).

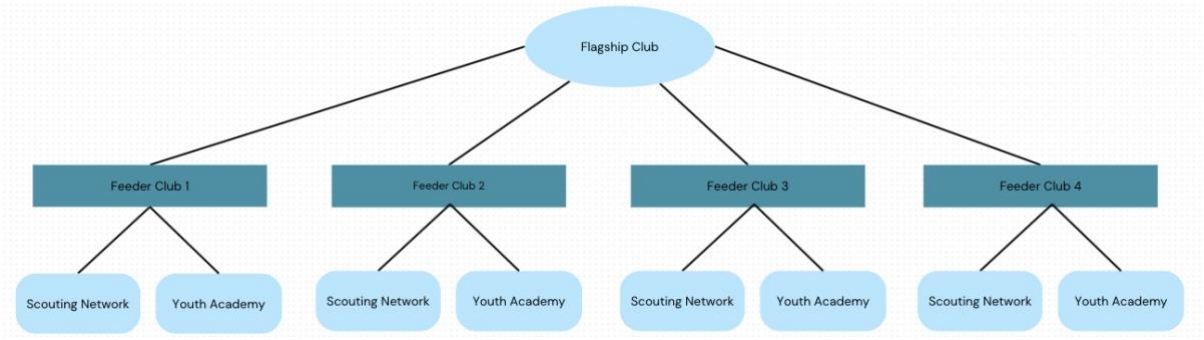

Figure 1: Example of a headquarters system (own illustration)

The 777 Partner Group, or Ahmet Schaefer's Core Sports Capital, follow a different strategy. They own clubs across multiple first and second European and international football divisions. The difference to headquarters systems is that there is no clear leading club. The clubs share resources and knowledge and use network effects within the systems. The expected benefits are manifold, but the main arguments for such a strategy are sharing risks and mitigating information asymmetry for the transfer market (Aarons, 2023).

The clubs expect to be able to adapt to unexpected situations, such as injuries or risk of relegation, as they share players and training methods. Additionally, being part of such a business group system gives the clubs financial stability. This allows them to develop long-term strategies that would only be available to them with the financial backing of the MCO. Business groups also use the ability to give players more playing time at different clubs within the system. However, there must be a clear destination club for the best players. Therefore, they constantly evaluate the best-case scenario for the player and the relevant clubs.

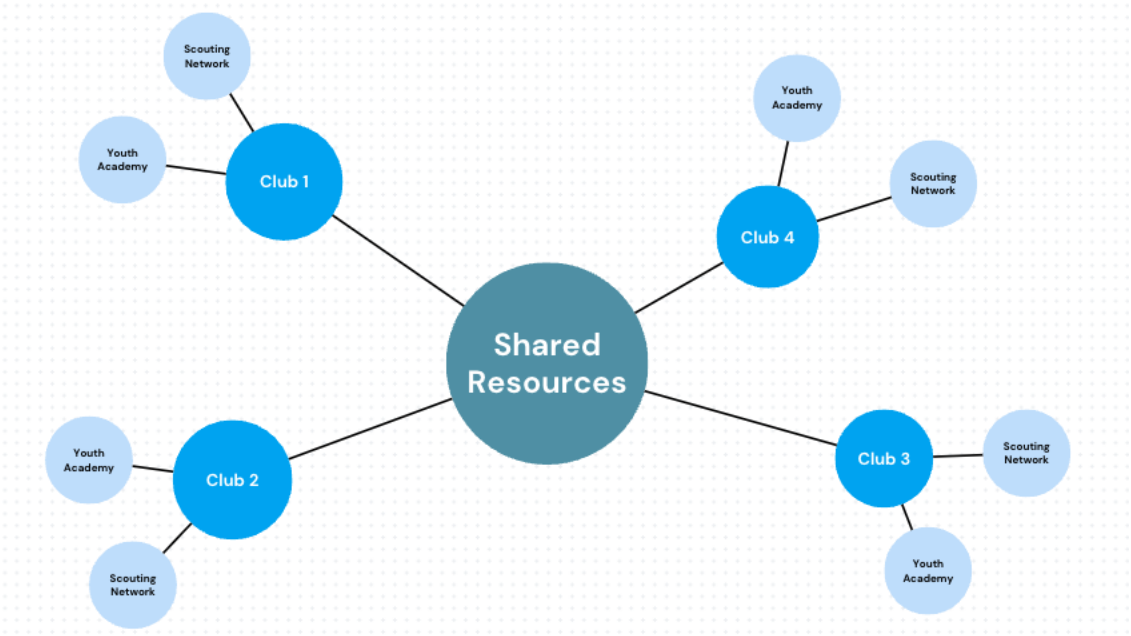

Figure 2: Example of a business group system (own illustration)

The third and last system consists of MCOs that own multiple clubs but do not make use of the network benefits created. I call this group “portfolio diversification” clubs, as they are mainly a tool for investors and owners to spread their investment in football across different markets and competitions. Examples of this system are Joey Saputo and Rocco B. Commisso. They are both North American businessmen with an Italian background who started investing in sports with MLS football clubs. Over the years, they both acquired an Italian club, namely Bologna FC 1909 in the case of Joey Saputo and AFC Fiorentina, which was acquired by Rocco Commisso in 2018 (Levy, 2019).

There is no known connection between the MLS and Serie A clubs of both investors, and the investments can be classified as diversifying their investment portfolio (De Vries et al., 2012). Rocco Commisso often stated that he has been dreaming of owning an Italian football club for

a long time (Levy, 2019). Other examples, such as the Saudi Arabian Public Investment Fund (PIF), have acquired stakes in four Saudi League clubs in 2022. This investment was mainly due to the increasing interest in the league and the ambition of the PIF to own and control a significant share of it.

Finances within an MCO

As mentioned above, an MCO can profit from multiple different synergies. One of them is financial and poses a complication to the Financial Fair Play (FFP) regulation of the UEFA (UEFA, 2023); since the introduction of FFP in the 2011/12 season, clubs have been obliged to stabilise their financial situation and give insights in the club's profits and expenses. While this keeps clubs backed by wealthy investors from spending horrendous sums on players, MCOs can find a way around this system. They can set transfer fees according to their liking, and therefore, a club can receive a player for a minimum fee, while his actual price might have been out of budget. Vice versa, a club that needs to sell players to reduce its debt can sell a player, at a price point well beyond his actual valuation, to another team with the MCO portfolio.

Additionally, owning a single football club, let alone multiple, is not known to be a profitable business (Rohde & Breuer, 2016). For many MCO investors, money is abundant as they are willing to invest heavily to kickstart the operations. A prominent example is Manchester City, which has suffered a total loss of over £800 million over the last decade. Without the financial support of an owner with massive capital, this business would be infeasible. Another example is 777 Partners, which acquired six different soccer clubs within two years and had a pending agreement to purchase Everton FC. However, a report by The Athletic shows that the company is involved in several lawsuits concerning outstanding payments for their previous purchases.

Contrary to the idea that an MCO provides clubs with financial stability, this would destroy all clubs within the 777 portfolio (Menary, 2021).

A third reason why the current regulations offer different loopholes for MCO is the definition of investment in players. While the FFP prohibits excessive spending on player transfers, these regulations do not hold up for investments in training facilities or scouting staff. Therefore, MCOs can establish central training facilities and medical centres that are shared by all clubs within the network, therefore drastically reducing the cost per club.

Theoretical Background

The following sections discuss the prevailing theoretical background behind the concepts and mechanisms of multi-club ownership. This theory can be found in international business theory and has two main predecessors in the academic world. The first is internalisation theory, which has its roots in MNE theory, developed by the likes Mark Casson (1976), Peter Buckley (2009) and John H. Dunning (1988). This theory is very suitable for describing and analysing the concepts of MCO using a headquarters system. For MCOs using a business group system, the eponymous theory is an academic theory that will be used for this research.

Internalisation Theory

The term internalisation theory was coined by Stephen Hymer in his PhD dissertation from 1960, which was published posthumously in 1976. The theory describes the process a multi-national enterprise (MNE) follows in its operational business decisions. Works like Rugman (1980) or Buckley & Casson (2009) describe internalisation as the decision of whether a company wants to make a particular product itself or whether it wants to acquire it in external markets. When the external solution is more expensive than internalising the operation, the

MNE should produce the product or acquire the necessary knowledge to keep the production in-house.

Neoclassical economic theory often assumes perfect markets when analysing market behaviour and determining prices. On the contrary, internalisation theory assumes market imperfections. These imperfections in international markets can be caused by various factors, such as transaction costs and geographical differences (Dunning, 1988), as well as human components, such as bounded rationality or opportunism of agents (Williamson, 1981). The larger a company's "outsider position" (Johanson & Vahlne, 2009), the larger its exposure to market imperfections. This principle is often called "liability of foreignness" and imposes significant challenges to MNEs that want to expand to foreign markets.

In their seminal work, Buckley and Casson (1976) stress the existence of information asymmetry in a market. The larger the wedge between buyer and seller, the more risk is involved in every transaction, complicating contract negotiation and driving up transaction costs away from a Pareto-efficient outcome. Asymmetric information can be minimised by internalising those processes that expose the companies to significant risks in external markets (Buckley & Casson, 2009). The internalisation process cannot outperform the Pareto efficient level, but since the external market is practically incapable, it enables the firm to strive for such an outcome.

External markets can act as a threat to companies in industries that rely heavily on R&D and knowledge transfer. Firms will boldly engage in transactions with external companies in markets that need more organisation and regulation regarding intellectual property (IP) protection. Therefore, Casson (1982) states that industries and companies with a high R&D reliance will benefit from internalising their operations, as they can protect their intellectual property.

Internalisation theory integrates with Dunning's (1988) OLI framework and emphasises the importance of the location of choice. While the location can offer various benefits to the MNE, such as cheap labour costs, access to resources or beneficial tax rates, these markets are often less regulated and expose the company to risk (Rugman & Verbeke, 2005). This outsidership risk can create transaction costs and shift the company away from the Pareto efficient outcome (Keppler, 2010). By internalising the operations in this region, the company gains insider access to resources and reduced costs while minimising the transaction costs of operating in the specific location.

Lastly, internalising operations maximises a company's control over its production (Rugman, 1980). The MNE can optimise and expand the production process, as they possess all the necessary information. This provides the company with a competitive edge over other parties that outsource their production and cannot control this process directly. In the long run, this will save the company negotiation and transaction costs and enhance their product beyond the market level.

Business Group Theory

The second most common system, which is represented in my assembly of MCOs, is the business group system. Here, no club is defined as a clear leader, and the teams aim to use network effect and knowledge sharing. The concept closely aligns with the idea of business group literature. Although this strategy is mainly used in emerging markets (Bugador, 2016), several examples of such systems also exist in European and North American markets (Belenzon & Berkovitz, 2010). Any market that is not regulated sufficiently or inconsequent in the frequency and magnitude of trades can be a potential target for business group setups (Cheong et al., 2010).

Business groups use their combined size and expertise to improve their negotiating position. Their ability to share risk (Khanna & Yafeh, 2005a) and benefit from knowledge spillover effects (Bhaumik & Zhou, 2014) aim to put them ahead of their non-affiliated competition. Due to their internal markets, business groups can create lower transaction costs for their members, ultimately resulting in higher profit margins (Cheong et al., 2010). Additionally, they also found that business group affiliates show higher capital-to-labour ratios, indicating more intensive use of capital. Bugador (2016) shows the ability of business groups to capitalise on their shared knowledge and expertise to create economies of scale. Their expertise and size in marketing allow them to save costs and, therefore, create higher profit margins.

The literature is diverging when it comes to quantifying the benefits of business groups. Belenzon and Berkovitz (2010) found business group affiliates to be more innovative than non-affiliates. While knowledge spillover was found to have little influence on innovation, they argued that internal markets and more competitive funding conditions drive innovation within business groups. This financial network can create safety and opportunities for firms that they cannot find on the open market due to regulation insufficiencies and corruption.

Khanna and Yafeh (2005a) researched risk diversification across business groups in emerging markets. While they found several markets where affiliate firms could share their risk across the network, the research was still looking for clear patterns. Similarly, Bhaumik and Zhou (2014) researched the effect of business groups on technological progress in India. While they found short-term boosts in innovation and technological improvement, they identified that business groups suppress innovation in the long run. Inefficiencies and moral hazards within the network would allow non-affiliated firms to catch up and surpass business groups in the long run.

Holmund & Törnroos (1997) and Dau et al. (2021) observed a beneficial creation of mutuality within the business groups. The interdependency of the firms creates trust and helps the firms navigate markets with weak institutions. By applying agency theory and stewardship concepts, they argue that business groups can outperform unaffiliated firms due to an improved utilisation of shared resources. Dau et al. (2021) stress the importance of a conclusive and regularly reviewed strategy within the business group to prevent the inefficiencies explained by Bhaumik and Zhou (2014).

Hypothesis Forming

In previous sections, I have outlined the common ground of MCOs in football and the theoretical background of internalisation theory and business group theory in IB studies. This next section combines the theories to create the research question and additional hypotheses. This research aims to measure the effect of multi-club ownership on a club's on-pitch performance.

Internalisation theory serves as a theoretical approach to analyse MCOs. Football clubs act as entities, becoming MNEs with their investment in other clubs worldwide. Given the nature of the football transfer market, the buying club is exposed to a lot of information asymmetry, as they cannot be sure about a player's health status and performance determinants. Therefore, every transfer comes with high transaction costs, raising prices and delivering sub-optimal results for the club (Rugman & Verbeke, 2005). Since scouting and training of young talent is very similar to the definition of R&D, I can follow Casson (1982) and expect that internalising operations will benefit football clubs.

Once the club has solved market imperfections by internalising transfers, it can use location-bound benefits and network effects. As MCOs have clubs in less developed footballing countries or lower divisions (SwissRamble, 2024), they gain access to cheaper talent, giving the company a competitive edge. An example of this location advantage is Belgium, where work permit standards for non-EU players are relatively low, allowing clubs to bring foreign players into the European league system. As of 2023, 12 Belgian clubs were involved in an MCO (Harris, 2024).

The notion of control from internalisation can also be found back within MCOs. As they have more information and control over the development of players, they can further optimise this process. For example, clubs within the City Football Group and the Red Bull club portfolio are notorious for implementing a similar play style across all their teams (Chadwick et al., 2023). This allows players to train and play in the same formation and system, even though they play for different clubs. With the long-term goal of playing for the flagship team, the players need less time to adjust, which can benefit their new club immediately. This concept aligns with Rugman (1980) and the idea that internalisation gives the MNE more control.

Transaction costs have a significant influence on the transfer decisions of football clubs. As these costs are very high, clubs engage in relatively few trades with external clubs. While works as Mourao (2016) or Dobson & Gerrard (1999) have tried to build generalisable models to estimate a player's optimal transfer fee, there are still many market imperfections that raise transfer prices above a Pareto optimal level (Dunning, 1988).

Internalising this operation by buying different football clubs and using them as player hubs will decrease these transaction costs. The clubs can monitor the players and create a complete data set on their health and performance. Therefore, transfer decisions can be made more

efficiently and will likely perform better. The combination of these assumptions results in the formulation of my first hypothesis:

H1: Clubs will engage in more MCO transactions per season after joining an MCO than before the acquisition.

With this first hypothesis in mind, I will consider the performance of transferred players in the second step. As previously mentioned, internalisation can drastically reduce the risks and costs of a transfer on the open market (Casson, 1982). This benefit stems from two different reasons. The first reason is information. Clubs are better informed about the quality of the asset (the player) they purchase. This means that they are aware of potential challenges that the player might bring with him. The second benefit stems from the improved utilisation of R&D, or scouting and training in this case, as the clubs can recruit more young players and develop them within the system. This is more cost-efficient than buying developed assets (players) on the open market (Fisch, 2012).

H2: New arrivals transferred within an MCO network show better on-pitch performance than arrivals from external clubs.

The second part of the research will focus on the difference between MCO systems. Research on this issue has yet to be discovered by the author. Although most literature assumes the advantages of an MCO to be equal across all members of the portfolio, there is no evidence quantifying this assumption. I identified three different database systems operating with differing approaches and goals. The analysis needs to be more detailed to identify the effect of MCO involvement accordingly. The following section will provide such an approach.

Headquarters and business group systems make use of similar approaches when it comes to network effects. However, in terms of their transfer policy, they apply different strategies. Headquarters systems utilise their network to develop players at lower levels and then send them back to the flagship club, given that they performed according to expectations (Menary, 2021). Occasionally, players are sold to external clubs to create revenue that can be reinvested in the system. This strategy demands a high frequency of transactions to maximise the probability of creating players that can perform at the highest level.

Business groups use the network mainly for network effects and improved market conditions. These improved market conditions allow the clubs to implement long-term strategies that they could not apply otherwise, given that their position in the competition often asks for immediate solutions that might hinder long-term growth (Gabison, 2024). They also benefit from a financial safety net created by the common ownership of a liquid entity.

Regarding transfer policy, business groups are interested in optimising the position of every club individually. As there is no clear leader within the system, every club has a responsibility and expectation to use the internal resources to the best of their capabilities. This is often reflected in the transfer of players, where the aim is to support the receiving club temporarily. This need might be created by injuries or troublesome performance in the club's competition. Transfers are, therefore, sought to be an immediate fit for the receiving club and a compensable loss for the sending club (Aarons, 2023).

Lastly, clubs within a portfolio diversification model are unrelated in their transfer policy. The reason behind the formation of the MCO often lies outside of sporting performance and is not aimed at utilising network effects. Therefore, the clubs experience minimal impact on the MCO association regarding transfer policy. While they also benefit from a financial boost, their goal

is not to develop players within the network but rather to improve their own position in their domestic market. Following this line of argumentation, I hypothesise:

H3a: Headquarters systems show the largest annual increase in MCO transfers, followed by business group clubs and portfolio diversification clubs.

A further dissection of the different MCO systems will be implemented in the following section. Within headquarters systems, I naturally find two different types of clubs: flagship and feeder. They hold different positions within the systems and are, therefore, likely to show different behaviour regarding transfer policy. As a flagship club is by default the most competitive and prestigious club, its ability to attract world-class talent feeds the system with new players. These players are then distributed across the feeder clubs, where they are trained and given playing time to reach their potential.

Therefore, feeder clubs are forced to play the hand they were dealt. They have a straightforward task within the system, and depending on the amount of decision-making that the MCO puts on them, feeder clubs might be forced to act in the best interest of the entire MCO. This means fielding as many players from the academy as possible. While this might mean a suboptimal starting eleven for the club, the MCO might profit due to the quicker development of their trajectory players (SwissRamble, 2024).

Given the system's mechanism, the flagship recruits a vast amount of talent and distributes it across the different feeder clubs, resulting in a funnel-shaped setup. Since not every player reaches the desired level, feeder clubs often sell players to external clubs to generate a profit. Therefore, I expect more downstream movement of players than upstream transfers. This results in the following hypothesis:

H3b: Flagship clubs will show the most significant increase in MCO deals per season within the headquarters system.

The last section draws attention back to the performance of MCO arrivals during their first season at the new club. In contrast to H2, I differentiate between the different MCO systems this time. Given that I expect different characteristics between flagship and feeder clubs, the headquarters system will be broken down, leaving us with four different club styles: flagship clubs, feeder clubs, business group clubs, and portfolio diversification clubs. Given that these systems follow different strategies, I expect differences in the resulting performance of MCO arrivals.

Internal transfers rarely occur within a portfolio diversification MCO. As mentioned above, their added value to the owner comes from other sources, such as entering a new investment market or personal affiliations with the club. Any transfers that do occur are, therefore, not intended to accelerate the club's performance any further; an external transfer would do that, too. I, therefore, expect little difference in the performance of MCO arrivals compared with similar players acquired via the open market.

Business groups transfer players when they see a better fit for the player at a different club in the system. Since their interest lies more within the knowledge spillover and the financial stability of such a network (Belenzon & Berkovitz, 2010), business groups focus on something other than transferring players across their different clubs. As the theory mentions, they benefit from trust formation (Holmund & Törnroos, 1997) and reduced transaction costs due to the shared use of resources (Bugador, 2016).

The literature also presents us with risks for business groups, such as inefficiencies and moral hazards within the system (Bugador, 2016) or the destruction of shareholder value (Khanna & Yafeh, 2005b). Current literature stresses the importance of thorough conduction and revision of the internal structure to prevent these outcomes. As this takes time and effort, business groups might lose parts of their competitive edge compared to headquarters systems, where the structure is regulated.

Looking at the aforementioned headquarters systems, the benefits for flagship clubs are logically sound. They can cherry-pick talent from the feeder club and only utilise those players that bring them immediate benefits. All other players are loaned out to the feeder clubs until fully developed. This raises the question of whether those players benefit a feeder club, given that they might want to play for something other than this minor team and only care about making the next step. This concern is regularly issued within fan associations of such clubs. They fear losing their club's culture and the chance to bind players to their club.

However, a study by Gaur et al. (2019) has found a positive effect of internalisation on a subsidiary's chance of survival. This indicates that feeder clubs should profit from their affiliation with the MCO. When joining the MCO, a club's financial injection supports this, as it can create stability and help the club reach a new level.

In line with Dunning (1988), the feeder clubs would receive players from the flagship who have enough potential to play for the latter. This indicates that the players can perform consistently, even though they have not reached their full potential yet. Therefore, even though the feeder clubs lose their best players regularly, they are constantly provided with world-class talent from the flagship club, which they could not acquire otherwise. While it takes some time to integrate the new players into the system, this will take relatively less time for MCO players compared to external players (Rugman, 1980). This should be very helpful for feeder clubs, as

they often find themselves at the bottom end of the table or fighting for promotion, needing every point they can gather.

While it is difficult to predict the relative success between those four systems, I expect flagship clubs to show the largest and portfolio diversification clubs to show the smallest difference. Since flagships are the central point of interest within the MCO, they will benefit the most from the network. Simultaneously, portfolio diversification clubs refrain from engaging in internal transfer with the ambition to improve their current performance. Given that the structure within the MCO is structured for feeder clubs, I expect them to perform slightly better than business group clubs.

H4: Players arriving at flagship clubs show the most positive difference in player performance, followed by business group clubs, feeder clubs and portfolio diversification clubs.

Methodology

This study investigates the impact of multi-club ownership (MCO) on football transfers and player performance. The methodology is, therefore, divided into two primary sections: the analysis of transfer activities and the evaluation of player performance. The rationale for this dual approach is to comprehensively understand how MCO influences both clubs' strategic decisions and the subsequent outcomes for the players involved.

Analysis of Transfer Activities

The first part of the research focuses on quantifying the volume and nature of transfers within MCO networks. By examining the total number of MCO transfers per season for each club, I aim to identify changes in transfer behaviour before and during MCO control. This section also distinguishes between internal MCO deals and external transfers to provide insights into the strategic dynamics within MCO networks. The rationale for this approach is to determine whether MCO ownership alters the transfer patterns of clubs, potentially indicating a coordinated strategy among affiliated clubs.

Evaluation of Player Performance

The second part of the research evaluates the performance of players transferred within MCO networks compared to those transferred outside these networks. By assembling data from the FIFA video game series and Transfermarkt.com, I assess performance measures such as FIFA ratings, market values, and playing minutes. A propensity score matching (PSM) technique ensures a fair comparison between players in MCO and non-MCO transfers. This approach allows for isolating the effect of MCO deals on player performance, controlling for confounding variables such as age, position, and work rates. The rationale behind this method is to ascertain whether players benefit from being part of an MCO, as reflected in their performance metrics. This approach addresses the strategic dimensions of MCOs and evaluates

their impact on individual player outcomes, ensuring a holistic understanding of the phenomenon.

Research Design

This study employs a quantitative research design to investigate the intricacies of football transfers among clubs under multi-club ownership (MCO) entities. The choice of a quantitative design stems from the need to explore and interpret the transfer market's patterns, behaviours, and strategies within this context. The study adopts a correlational research approach, utilising observational data on football transfers to identify and analyse the relationships between various variables related to club acquisitions, player transfers, and overall performance.

The correlational research approach is particularly appropriate for this study as it allows for examining how controlling stakes in multiple clubs influences transfer activities and outcomes without manipulating any variables. By analysing existing data, the study seeks to uncover trends and correlations that can provide insights into the strategic decisions made by MCO entities regarding player movements. This approach facilitates a deeper understanding of the impact of multi-club ownership on the football transfer market.

Sample

The sample for this study comprises all multi-club ownership (MCO) entities with at least one controlling stake in a club within the Big 5 European leagues for the 2023/24 season and holding another controlling stake in a different club. The Big 5 European leagues include the Premier League (England), La Liga (Spain), Bundesliga (Germany), Serie A (Italy), and Ligue

1 (France). This criterion ensures that the study focuses on high-profile clubs with significant and impactful transfer activities. The study identified 63 clubs from 17 different MCO entities that meet the inclusion requirements through this criterion.

Changes in the club's name, like the change from USK Anif to FC Liefering in 2012, are accounted for in the database. Transfers will be summarised under the current name to guarantee alignment within the data set. My data shows three exemptions: Al Hilal United FC, New York City FC and Red Bull Brasil. These clubs were not acquired but were founded by an MCO company. Therefore, no data was available before the involvement of the MCO. These clubs are, therefore, excluded from any analysis, leaving me with 60 clubs. While the acquisition of Everton FC by the 777 Partners was negotiated during the work on this research, no final agreement was reached by the time I finished the research. Therefore, Everton FC is not included in the data set.

Sampling Method

As this research uses actual life occurrences, the sampling method is self-explanatory. By considering various sources, I assembled all clubs of the Big 5 leagues in 2023/24 that had an affiliation with another club if the owners held a controlling stake in two or more different clubs. While I am aware that many more MCO networks exist in lower divisions or countries apart from the big 5, the scope of my research demanded clear boundaries concerning the selection of clubs. The Big 5 are by far the best-researched leagues in the world with the most significant amount of information and data; they are a valid starting point for research on MCOs. I encourage further researchers to extend this analysis to more leagues and lower divisions.

Sample Size

Data was assembled from the website transfermarkt.com. The final sample consists of approximately 34,000 individual transfer records. This large sample size is a significant strength of the study, as it provides substantial data for analysis. The extensive dataset enhances the reliability and validity of the findings, allowing for detailed examination and robust statistical analysis of transfer patterns.

The sample size includes all arrivals and departures of the 60 MCO clubs during their respective affiliation periods and five years prior. By including a comprehensive record of incoming and outgoing transfers, the study can analyse the balance of transfer activities and the strategic decisions that MCO entities make. The large sample size also facilitates the identification of trends and correlations that may be absent in smaller datasets.

In summary, this study's methodological approach, including the research design and sampling method, is carefully structured to examine the impact of multi-club ownership on football transfers thoroughly. Using real-life data from a reputable source and a robust sample size ensures that the findings will be reliable and insightful.

Data Collection Method – Part 1

The collection of data differed between the two research topics of this thesis. For the first and third hypotheses, the transfer quantity section, I retrieved data on transfers of MCO clubs. The data collection for this study involved using web scraping techniques to gather comprehensive football transfer data from the website Transfermarkt.com. Transfermarkt.com is widely recognised for its accuracy and reliability regarding football transfers and is commonly used as a standard source in academic research involving football data. For every transaction, I

gathered information such as the player's name, age at the transfer time, the clubs involved in the transaction, and information about the kind of transfer and the transfer fee (if available).

All transfer records for the selected clubs were retrieved from Transfermarkt.com based on their club ID[1], ensuring that incoming and outgoing transfers were included. The data spans from five seasons before each club's acquisition season by an MCO entity up to and including the current 2023/24 season. I consider the first stake acquisition in the club to be the moment of affiliation with the MCO. While many MCO involvements took place in multiple rounds of stake acquisition, the initial payment connects the club to the MCO network and, therefore, exposes it to the benefits and risks of said system. This extensive period allows for analysing transfer trends over time and identifying any changes or patterns that may emerge post-acquisition.

The collected data was cross-checked for accuracy and completeness, ensuring that all relevant transfers were accounted for and correctly recorded. This comprehensive sampling method ensures that the dataset is robust and reliable, capturing the full scope of transfer activities for the selected clubs over a significant period.

Data Source and Reliability

Transfermarkt.com is one of the most accurate and reliable sources for football transfer data. Due to its detailed and up-to-date records of player transfers, the platform is extensively used in academic research, making it the ideal source for this study. The German data website is the most accurate platform publicly available and is a common standard for research on football statistics, like Warnat & Leksowski (2022) or Rohde & Breuer (2016). As Franceschi et al. (2023) explain, transfermarkt.de has been examined and validated as a helpful source and tool to work with. The crowd-sourced valuation models are a good proxy for market valuation and

[1] The complete list of club IDs is provided in the appendix in Table A3

are remarkably consistent, as well as for smaller competitions. This makes it the ideal data source for my project, as I will also consider more minor leagues in different world regions.

Data Collection

The data collection process for this study involved several vital steps to ensure a comprehensive and accurate dataset:

First, a list of all clubs under multi-club ownership (MCO) and their respective years of acquisition was compiled. This list was the foundation for identifying the relevant clubs and their transfer activities. The dataset includes all player transfers (arrivals and departures) for these selected clubs, covering a period of five seasons before the acquisition season up to the current 2023/24 season. This extensive time frame thoroughly examines transfer activities over a significant period.

Web scraping techniques[2] were employed to extract detailed transfer data from Transfermarkt.com. This automated process used scripts to retrieve data on each club's transfer activities systematically. The data collection was conducted in May 2024, ensuring that all transfers for the 2023/24 season were included.

For each transfer, several data points were collected, including the year of the transfer, type of transfer (arrival or departure), name of the player, player's age at the time of transfer, involved clubs, nature of the deal (loan or permanent), and the transfer fee (if available). To enhance the dataset, additional information was created, such as a dummy variable indicating transfers between MCO clubs. A distinction was made between deals made when both clubs were actively part of the MCO and deals made by clubs that would later be in the same MCO. This distinction allows for comparing the share of deals made between clubs that would eventually

[2] The complete code is provided in the appendix in A4

be within the same MCO before they officially became part of the same ownership, helping to avoid biased interpretations of the MCO percentage of total deals.

Data Collection Method – Part 2

The second part of this research analyses players' performance after their transfer to one of the MCO clubs. To measure such an effect, I assembled various performance measures. I retrieved information on a player's rating and respective market value from a database of players included in the popular video game FIFA by EA Sports. In order to add another dimension to this research, I also retrieved data on players' appearances for specific time frames. This allowed us to assemble data on a player's minutes per season. These sources provide extensive and detailed player information, allowing for a thorough evaluation of player performance post-transfer.

FIFA Video Game Data

Data was collected from the FIFA video game series, from FIFA 19 (covering the 2018/19 season) to EAFC 24[3] (covering the 2023/24 season). This comprehensive dataset provides a wide range of player information, including age, position, club, market value, rating, nationality, height, and other attributes. Each player is assigned a unique ID within the FIFA database, facilitating the tracking of individual players across different seasons.

Transfermarkt Performance Data

In addition to the FIFA data, performance data was gathered from Transfermarkt, covering playing minutes and market values for players from the 2018/19 season to the 2023/24 season.

[3] EA changed the name of the video game from FIFA to EAFC in 2023

Each player in this dataset is also assigned a unique ID. Transfermarkt provides multiple updates on player market values throughout the year. For the analysis, the latest market value within a specific season was used as the value for that season. This approach ensures that the most accurate and up-to-date valuation is considered for each player. Playing minutes were meticulously recorded for each match, with the total minutes played summed up for the defined season. A season was defined to run from July 15th of one year to June 15th of the following year. This definition aligns with the European football calendar, allowing for consistent and comparable performance analysis across seasons.

Cross-Referencing and Data Integration

Given that the FIFA and Transfermarkt databases use different ID systems, a cross-referencing process based on player names was necessary to match the records accurately. Due to discrepancies in player names between the FIFA and Transfermarkt databases, various name variations were used to ensure accurate matching. Special attention was given to players from countries like Portugal and Brazil, where players often have different names on official documents than those used in the FIFA game. While the FIFA series uses the name the players choose for themselves, transfermarkt.com uses the name officially stated in the legal documents of players. This meticulous approach ensured that players were correctly identified across both datasets, resulting in a conclusive database.

The study ensures a comprehensive and accurate assessment of player performance following their transfers by integrating data from these two robust sources and employing thorough cross-referencing techniques. This dual-source approach provides a solid foundation for evaluating the impact of multi-club ownership on player outcomes. In summary, this study's data collection method involved meticulous web scraping and integrating data from multiple sources to ensure a comprehensive and accurate dataset. The combination of transfer records

and player performance data provides a robust foundation for analysing the impact of multi-club ownership on football transfers and player outcomes.

Data Analysis Methods

The data analysis for this study involves two primary parts: analysing transfer activities and evaluating player performance. The aim is to understand the impact of multi-club ownership (MCO) on football transfers and player performance, using statistical techniques such as propensity score matching (PSM) and regression analysis.

Analysis of Transfers Per Season

The analysis compares the number of transfers before and during MCO control. The total number of transfers per season was calculated for every club, combining arrivals and departures into a single metric called "transfers." Each club has a distinct "acquisition year," which is the first year the MCO holds a controlling stake in the club. The club is considered part of the MCO network from the subsequent transfer period onward.

The year immediately before the acquisition year was excluded from the analysis to avoid potential biases from ongoing negotiations and pre-acquisition influences. Transfers during this period might be influenced by the future owner's interests or financial requirements; hence, excluding this year ensures a cleaner comparison. I calculated the average number of transfers per season for the remaining seasons, distinguishing between periods before and during MCO control.

Additionally, I analysed deals made exclusively between clubs within the same MCO. I distinguished between transfers occurring when both clubs were actively part of the same MCO

and transfers made before the clubs were part of the MCO. This distinction allows for a clearer understanding of internal transfer dynamics. I then calculated the percentage of internal MCO deals relative to each club's total number of transfers. To compare the periods before and during MCO control, I computed the change in the number of transactions for each club. These calculations were meticulously performed using an Excel spreadsheet to ensure accuracy and clarity.

Analysis of Player Performance

The second part of the analysis evaluates the performance impact of transfers within MCOs compared to non-MCO transfers. I focused on all arriving transfers for MCO clubs from the last five seasons (2019/20 to 2023/24), considering only the seasons when the club was part of the MCO. I excluded transfers of loaned-out players who returned and immediately left again, resulting in 4,650 transactions.

Each player from the transfer list was cross-referenced with their respective FIFA ID. Some players did not have a FIFA ID because their clubs were not included in the game (e.g., Kerala United FC or Al Hilal United FC). A similar process was done for Transfermarkt IDs (TM IDs). Transactions that could not be matched with a TM ID and a FIFA ID were excluded from the dataset to ensure data accuracy.

Propensity Score Matching

Propensity Score Matching (PSM) is a statistical technique employed to estimate the effect of a treatment, policy, or intervention while accounting for covariates that influence the likelihood of receiving the treatment. This method is particularly useful in observational studies where random assignment is not feasible. As my research is built on observational data, I cannot analyse it, assuming a randomised distribution. By mimicking the characteristics of a

randomised controlled trial, PSM aims to reduce selection bias by equating groups based on these covariates (Caliendo & Kopeining, 2008).

The first step in PSM involves estimating the propensity score, which is the probability of a unit (or player in my case) receiving the treatment given their observed characteristics. This is typically done using a logistic regression model, where the treatment indicator is regressed on the observed covariates. The propensity score for a unit with covariates is then calculated, representing the probability of that unit receiving the treatment.

Once the propensity scores are estimated, the next step is to match units in the treatment group with units in the control group that have similar propensity scores. The objective is to create a matched sample where the distribution of covariates is similar between treated and control units, thereby reducing bias (Li, 2016). For this research, I am looking for a comparison between two players with similar characteristics such as age, position and experience. I therefore looked for an assembly of covariates that would sufficiently categorise the players so that I could compare them afterwards. These matching covariates are based on player characteristics such as age, position, club, type of transfer, potential and work rates, which FIFA assigns to identify a player's workload defensively and offensively.

Variable Name	**Explanation**
Player Age	Age of the player at date of transfer
MCO Club	Receiving club
Position Category	Position of the player: Goalkeeper, Defense, Midfield, Attack
Work Rates	Player activity assigned by Fifa: offensive and defensive; ranging from low to high

Potential	Potential Fifa rating for the player, assigned by Fifa
Type of Transfer	Type of transaction: free transfer, paid transfer, end of loan

Table 3: List of covariates for propensity score matching

The dependent variable in the regression was the performance measure, while the critical, independent variable was a dummy variable indicating whether the transfer was an MCO internal deal (MCO_deal). The statistical analysis was conducted using Stata 16.1. By following these data analysis methods, the study aims to provide robust insights into the impact of multi-club ownership on football transfer activities and player performance, ensuring the results are reliable and informative.

Variable Name	**Explanation**
Fifa Rating t1	Fifa rating in the edition following a player's first season
Fifa Values t1	Fifa market value in the edition following a player's first season
TM Values	Final transfermarkt valuation in the player's first season
TM Minutes	Minutes played by the player in his first season
Weighted Performance	Weighted Average of the variables above, devided by the respective variance

Table 4: List of dependent variables

I performed multiple regressions for the various outcome variables. The matching inputs of the independent variable and the covariates remained the same over the different regression models. The outcome variables were exchanged, resulting in 5 regressions per group. I performed regressions for 5 different groups: the entire dataset, business group clubs, portfolio diversification clubs, flagship clubs and feeder clubs. This resulted in a total of 25 regression outcomes that were used for the analysis of the different hypotheses. To present an example, the regressions for the "all clubs" dataset look as follows:

```
teffects psmatch (Fifa_Rating_t1) (MCO_deal Player_Age_t0 MCO_Club Position_category_t0 Work_rates_t0 Pote
ntial_t0 Type_of_Transfer)

teffects psmatch (Fifa_Value_t1) (MCO_deal Player_Age_t0 MCO_Club Position_category_t0 Work_rates_t0 Poten
tial_t0 Type_of_Transfer)

teffects psmatch (TM_Minutes_t1) (MCO_deal Player_Age_t0 MCO_Club Position_category_t0 Work_rates_t0 Pot
ential_t0 Type_of_Transfer)

teffects psmatch (TM_Value_t1) (MCO_deal Player_Age_t0 MCO_Club Position_category_t0 Work_rates_t0 Potent
ial_t0 Type_of_Transfer)

teffects psmatch (Weighted_Performance) (MCO_deal Player_Age_t0 MCO_Club Position_category_t0 Work_rates
_t0 Potential_t0 Type_of_Transfer)
```

Figure 5: Regression commands for performance analysis

Results

The following section will discuss the results found in the data set analyses. I will follow the structure of the hypothesis section and discuss the results one by one. As the hypotheses alternate between the analysis of transfer quantity and player performance, I will discuss different aspects of both models in different segments of the results section. Therefore, I will start with the results of the entire data set, considering all clubs and transactions, ignoring their respective MCO system. In the second section, I will present the results for H2, which concerns players' performance in the first season after arrival.

The third section will account for said MCO systems and discuss the differences and results in MCO deals between those groups. In the last section, I will look at hypothesis 4. This section will discuss the performance of MCO players transferred within the different systems. Here, I will present the results for each system and highlight trends and coherences.

Outlier Detection

While the performance subset was prepared for the analysis as explained in the methodology, the dataset for transfer activity was inspected for outliers only after the calculations. I decided to keep the base dataset complete, as it would be the foundation of both my analyses. I calculated each club's respective transaction change after calculating the average transactions per season before and during the MCO involvement. A dummy variable was created for all transactions, stating whether the deal was an MCO deal or not. Given the acquisition year of the club of interests, those MCO deals were further classified into "before" and "during" the entity's control.

By estimating the difference in MCO deals before and during the entity's ownership, I calculated the effect that said acquisition had on the club's transfer policy. The share of MCO deals before the acquisition ranged from 0.0 to 2.3 deals per season. The average number of MCO deals during the entity's ownership ranged from 0.0 to 16.5 per season. Looking at the large variation within the dataset, I decided to perform an outlier test.

To account for potential outliers, I utilised the z-test method. This method, also known as the Z-score test, is a widely used statistical method for identifying outliers in a data set. This test quantifies how far a particular data point is from the data set's mean in terms of standard deviations. The process begins by calculating the mean and standard deviation of the data set. Once these parameters are determined, the Z-score for each data point is computed by dividing the difference between the data point and the average by the standard distribution. The Z-score indicates the number of standard deviations a data point is from the mean. Typical thresholds for identifying outliers are typically set at Z-scores greater than 3. Data points with Z-scores exceeding the chosen threshold are considered outliers.

The effectiveness of the Z-statistic test relies on the assumption that the data follows a normal distribution. Consequently, the interpretation of outliers should consider the context of the data and the specific research questions. Outliers identified through this method may require further investigation to determine whether they result from natural variability, measurement error, or other factors. By adhering to these principles, the Z-statistic test is a robust tool for detecting outliers in a wide range of data sets. Once identified, outliers were examined to assess their impact on the data analysis.

Following this method, I removed all outliers. For the given dataset, this excluded two clubs. Botafogo de Futebol and RWD Molenbeek (both from John Texter’s Eagle Football Holding)

were removed due to z-scores of 3.3 and 4.2, respectively. Their data points were, therefore, removed from the dataset, leaving us with 58 different clubs across 17 different MCOs.

Results regarding all clubs

The first two hypotheses concern the general trends within MCO clubs. As H1 states, I expect the number of MCO transfers per season to increase. The results in Table 6 show the three clubs with the most significant increase and decrease in transactions, respectively. The average increase in the number of MCO deals per season was 1.96 across all clubs. The change in MCO transactions ranges from -1.3 to 10.9 in the adjusted dataset. The discussion section will predict potential reasons for decreased MCO transactions after the acquisition.

The results also present seven clubs with no change in MCO transfers. To be more precise, they did not engage in MCO transactions at all. This is in line with the literature, which states that not all clubs will engage in MCO transactions (SwissRamble, 2024). Those clubs stand out from the other clubs within the MCO and do not align with any player development funnel or business group approach.

MCO Company	Club	Change in number of transactions
Red Bull GmbH	FC Liefering	+ 10.9
Red Bull GmbH	Red Bull Salzburg	+ 8.6
Pozzo Family	Watford FC	+ 7.4
…	…	…
777 Partner	Sevilla FC	– 0.6
Public Investment Fund	Al-Ittihad Club	- 1.0
Public Investment Fund	Al-Nassr FC	- 1.3

Table 6[4]: Clubs with biggest and smallest change in MCO transfers

[4] A complete version of the table can be found in the appendix in A1

There are a few more interesting findings from the first analysis. The clubs with the highest amounts of MCO deals per season are Red Bull Salzburg and FC Liefering, with 8.6 and 10.9 deals, respectively. Given that they are both part of the Red Bull MCO, this supports the findings of Harris (2024), who found Red Bull to be the most active and successful MCO in terms of transactions within the system. At the bottom end of the table are Al Nassr FC (-1.3 deals) and Al-Ittihad Club (-1.0), both owned and controlled by the Saudi Public Investment Fund. This is in line with Gabison (2024), who questioned the interest of the PIF in nurturing transfer activity for their recently acquired clubs.

Another finding that is worth mentioning is the overall increase in transactions across the different clubs. Here, I did not differ between MCO and external deals but accounted for all transactions equally. Across all clubs, I found an increase in transfer activity of 25%, showing that the clubs were more active on the transfer market after the acquisition of an MCO. This result backs the idea of Chadwick et al. (2023) or Sport Business (2023). They assumed that the financial stability and liquidity would lead to clubs being more active on the transfer market.

The second hypothesis discusses the players' performance in the first season after their arrival. I will look for outstanding trends and differences since I analyse performance by five regressions with changing dependent performance variables. As the “weighted performance” variable aims to combine all effects into one, its measured effect will be decisive for my response to the hypotheses. As the table below shows, the results for this first regression are mixed. The measured effect was positive for the Fifa Rating and the weighted performance. While insignificant, players participating in an MCO transfer had a Fifa rating of 0.324, higher than non-MCO-based transfers.

Simultaneously, the coefficients for Fifa Values, TM Minutes, and TM values were all negative, with the second one being significant at the 1% interval. This coefficient decreased

the total minutes played per season by 293 minutes, ceteris paribus. As the results differ in direction and magnitude, I will thoroughly discuss them in the discussion section. Here, potential explanations and interpretations will be mentioned.

	(1)	(2)	(3)	(4)	(5)
	Fifa_Rating_t1	Fifa_Values_t1	TM_Minutes_t1	TM_Values_t1	Weighted Performance
All Clubs					
1vs0.MCO_deal	0.324	-140343.3	-293.4**	-1220251.8	0.00497
	(0.831)	(604695.5)	(102.9)	(785672.7)	(0.0162)
N	1221	1216	1809	1988	1126

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 7: Regression results for all clubs

Results based on the MCO System

Hypotheses 3a and 3b discuss the different MCO models in the dataset. The description given in the methodology was applied to the list of clubs to create sub-categories for all MCO entities. In total, 11 out of 58 clubs were owned by four different MCOs that followed a portfolio diversification strategy. 32 clubs (8 entities) were part of a headquarters system, and the remaining 15 (5 entities) were part of a business group model. In the appendix, you can find a complete list of all clubs and their respective MCO system. In Table 8, you can see the increase in MCO per season for every system.

MCO System	Number of Clubs	Average MCO deals before acquisition	Average MCO deals after acquisition	Change in MCO deals after acquisition

Business Group System (BG)	15	0.12	2.36	+ 2.25
Headquarter System (HQ)	32	0.02	2.43	+ 2.41
Portfolio Diversification (PD)	11	0.61	0.88	+ 0.26

Table 8: Average MCO transfers per MCO system

Hypothesis 3a is interested in the MCO deals per club. It states that clubs within a headquarters system will show the highest number of MCO deals per club and season. As shown in Table 8, clubs within a headquarter system indeed show the highest number of MCO deals out of the three. With an increase in annual MCO transactions of 2.41 per season and club, they engage in more transactions than clubs from a portfolio diversification system (+0.26 MCO deals) or business group systems (+2.25 MCO deals). Although closer than expected, these results are in line with the Hypothesis.

As mentioned above, seven clubs (across four MCOs) did not engage in a single MCO transaction. Two of these MCOs are part of a Portfolio Diversification club, explaining the relatively low average. Furthermore, PIF's investment in the Saudi League aimed to profit from the growing market rather than setting up an MCO network. Since their acquisition in 2006, Arsenal FC have only engaged in a single transfer with their fellow MCO club, Colorado Rapids, with the acquisition of Auston Trusty in 2022. Four of the top five clubs with the most

MCO deals are part of a headquarter system, with Watford FC being the only club from a business group system within this list.

Hypothesis 3b predicts there to be a difference between feeder and flagship clubs within the same headquarters systems. Table 9 extends Table 8, adding the two subgroups for headquarters systems. The results show that there is indeed a difference between the two subgroups, namely that feeder clubs engage in less annual MCO on average than flagship clubs. While feeder clubs show slightly fewer transactions than the entire headquarters systems, flagship clubs show significantly more annual MCO deals, with an average of 2.84 per club and season. Potential reasons and explanations will be mentioned in the discussion section.

MCO System	Number of Clubs	Average MCO deals before acquisition	Average MCO deals after acquisition	Change in MCO deals after acquisition
Business Group System (BG)	15	0.12	2.36	+ 2.25
Portfolio Diversification (PD)	11	0.61	0.88	+ 0.26
Headquarter System (HQ)	32	0.02	2.43	+ 2.41
Feeder Clubs	23	0.11	2.51	+ 2.40
Flagship Clubs	9	0.02	2.86	+ 2.82

Table 9: Average MCO transfers per MCO system, including feeder and flagship clubs

The fourth hypothesis looks at the difference in performance of MCO players compared to non-MCO players, given their respective MCO systems. Here, the predictions are that flagship club players will show the most positive performance difference compared to non-MCO players due to their development in the respective feeder clubs. They are expected to be followed by business group players, feeder club players, and, lastly, portfolio diversification players.

The results in Table 10 show mixed effects for the different performance measures. As mentioned in the methodology, the weighted performance variable summarises the different aspects of the four other regressions. Therefore, this measure is used to rank the different systems. This results in the following order of systems, ranking from highest to lowest:

1. Flagship clubs with a weighted performance of +0.0419
2. Feeder clubs with a weighted performance of -0.00249
3. Portfolio diversification clubs with a weighted performance of -0.0792
4. Business group clubs with a weighted performance of -0.0899

To give a complete picture of the performance, I will discuss the different performance measures individually. It is essential to mention that for the weighted performance measure, only the estimates for business groups and portfolio diversification clubs are significant at the 0.1% level. The other two fail to show significant results at the 5% level.

	(1)	(2)	(3)	(4)	(5)
	Fifa_Rating_t1	Fifa_Values_t1	TM_Minutes_t1	TM_Values_t1	Weighted Performance
Business Groups					
1vs0.MCO_deal	-4.233	-1569089.7**	-300.1*	-1014903.8*	-0.0899***
	(2.429)	(518737.2)	(129.2)	(430659.4)	(0.0181)
N	390	390	578	637	364
Portfolio Diversification					
1vs0.MCO_deal	-3.259***	-1955486.5***	-710.5**	-1536201.3	-0.0792***
	(0.803)	(332816.0)	(230.7)	(10870002.2)	(0.0191)
N	185	185	287	308	178
Feeder Clubs					
1vs0.MCO_deal	0.350	-842197.0	47.85	-96320.3	-0.00249
	(0.806)	(835744.5)	(194.4)	(563277.6)	(0.00409)
N	331	330	492	569	287
Flagship Clubs					
1vs0.MCO_deal	-0.838	-959011.3**	85.96	1842442.0	0.0419
	(1.252)	(302487.3)	(241.5)	(3187726.4)	(0.0317)
N	315	311	452	474	297

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 10: PSM results for all MCO systems

Discussion and Conclusion

Results Discussion

The results from the data analyses offer several insights into the impact of multi-club ownership (MCO) on football transfers and player performance. The sequential analysis of the data has helped to understand and interpret the effects within the networks. I could locate the source of the effect and differentiate between the subgroups of MCO systems.

Hypothesis 1

The first hypothesis (H1) expected an increase in MCO transactions per season after a club joins an MCO. The data supported this hypothesis, which showed an average increase in transactions of 1.96 transactions across all clubs. This finding aligns with internalisation theory, which suggests that MCOs can leverage their networks to facilitate more frequent and efficient transfers. The significant transfer increase for some clubs, like RB Leipzig, demonstrates how an MCO's flagship clubs can become activity hubs, likely benefiting from internal player development and transfers within the network.

MCO clubs are generally motivated to engage in more transfers than previously. This effect is also due to the financial boost that a club receives when it joins an MCO network. As discussed in the literature, MCO networks offer financial stability and freedom to the club, allowing them to use a long-term approach to reach their goals instead of fighting for financial survival in the present.

Hypothesis 2

Regarding player performance, Hypothesis 2 anticipated better on-pitch performance for players transferred within an MCO network compared to those from external clubs. The results were mixed: while MCO transfers had a slightly higher FIFA rating, they showed lower values

in performance metrics like Transfermarkt minutes and values. The source of this effect remained unknown during this study. Given my methodology approach, which uses a propensity score matching method, the players should be linked to a comparable counterpart. The fact that MCO arrivals after that showed lower performance levels, therefore, was unexpected.

A potential answer might lie within the setup of the model. While it considers "hard facts" about a player's position, age and potential, it does not include softer factors such as attitude towards the transfer or ability to adapt. On the same note, I have no information on the purpose and expectations set for the player before the season. A very promising answer might be that clubs set higher expectations for external transfers than internal ones, as they were more expensive. Therefore, coaches might be biased in giving said players more playing time in the first season after the transfer, as club owners and fans demand immediate success. This would, therefore, negatively impact playing time and market value of internal transfers.

Additionally, market valuation plays a role. The negative coefficients for Transfermarkt values suggest that the market might undervalue players moving within MCOs, potentially due to perceived biases or a lack of visibility compared to high-profile external transfers. Transfer sums of recent transactions are used as an input variable to determine the new market value of a player.

Therefore, after an expensive signing of an external player, his market value is likely to increase. On the contrary, as MCOs can use their network effects and receive internal arrivals for lower transfer fees, the market values of these players are likely to remain constant or decrease slightly. This is very likely to cause a negative difference in market value. In summary, the results of this analysis were inconclusive. Therefore, I cannot support or reject H2.

Hypothesis 3a

The analysis also distinguished different MCO system models: headquarters, portfolio diversification, and business group systems. Hypothesis 3a posited that headquarters systems would show the highest increase in MCO deals per club, supported by the data. Clubs within headquarters systems increased by 2.41 transactions per season, significantly higher than those in portfolio diversification (0.26) and slightly higher than business group systems (2.25). This finding highlights the strategic focus of headquarters systems on internal talent development and transfer. The centralised control allows for a coordinated approach to player development and movement, enhancing the network's overall efficiency.

These results also show that headquarter systems rely more heavily on funnelling their talents through the different tiers of their network. Within business groups, MCO deals are made wherever they fit the current needs of all clubs. This causes them to appear less regularly, while headquarter systems are designed to move multiple players yearly. Clubs have precise functions as feeder clubs, which is why a part of their goals consists of developing new players for the flagship club. A more detailed inspection of this situation will be provided in Hypothesis 3b.

On the other hand, business groups are more selective in their transactions. They operate on a base where they help each other in case a club needs additional player material due to injuries or transfers. There are other targets of developing players for a particular team. Business group clubs use their players to focus more on individual club performance and growth. Therefore, the results of this analysis support the hypothesis that clubs within a headquarters system engage in the most MCO deals per season.

Hypothesis 3b

Hypothesis 3b distinguishes between flagship and feeder clubs within a headquarters system. The hypothesis predicts flagship clubs will increase MCO deals more than feeder clubs. The main argument here is that on one flagship club, multiple feeder clubs create the funnel system of the MCO. Therefore, the flagship club spreads its developing players across the different feeder clubs. The results support this hypothesis as flagship clubs show a larger increase (2.84) in annual MCO deals than feeder clubs (2.40).

Another explanation for this result is the transfer policy, commonly used across headquarters systems. Flagship clubs use their prominence in a top-flight competition to attract a great mass of talent. They loan or sell this talent to the feeder clubs, who can profit from the talent they would otherwise not attract and give them more playing time than the flagship could offer. This mechanism rarely occurs the other way around, where feeder clubs loan out players to the flagships. This results in more players moving downstream than upstream.

Hypothesis 4

The analysis of Hypothesis 4, which states that players transferred within flagship clubs show most positive differences to their non-MCO counterparts than those within business groups, feeder clubs and portfolio diversification systems, reveals some interesting and nuanced results. The analyses support the hypothesis, as flagship clubs show the most positive difference across three out of five performance measures and, most importantly, the weighted performance measurement.

As these results are in line with the hypothesis, the logic prevails. Flagship clubs benefit the most from an MCO system, as they can profit from the development of players within the feeder clubs. This occurs at a relatively low cost to the MCO and is working well, as the flagship clubs can cherry-pick the best players available within the network. This further allows

them to spend more money on external players and stay competitive in international competition.

The results show that flagship clubs use their MCO players more often than the other subgroups. This metric supports the idea that flagships can choose freely from all players across a headquarters system and pick only the players that fit their immediate needs. Clubs within a headquarters system show a positive difference for the playing time analysis, meaning they use MCO arrivals more than their non-MCO comparison. This aligns with the headquarters model, where they spread out players to develop them by giving them more playing time.

In comparison with the other systems, feeder clubs show the first or second most positive difference across all regressions. Thus, they are second in my ranking. This indicates that while flagship clubs benefit the most from the MCO setup, feeder clubs also experience a push by the acquisition. It is important to stress that most of their coefficients are negative, meaning that MCO arrivals perform worse than their non-MCO counterparts.

As it was costly to set up, club managers were urged to use the MCO network. This could result in an excessive use of the system, leading to the selection of players whose quality might not suffice. Another explanation for this negative difference might be the players' intrinsic motivation. While external players are highly motivated to perform at the new club, players coming from flagship clubs might feel like the move to a feeder club is a downgrade in their career, leading to a lack of motivation.

While the results are congruent for flagship and feeder clubs, they are more mixed for the following subgroups. As mentioned in the methodology, I use the weighted performance for my final ranking, but the systems have different findings within the different regression models. All regression coefficients for business groups and portfolio diversification systems were

negative, indicating that players transferred within the system performed inferiorly compared to non-MCO players.

Portfolio diversification models do not aim to use network effects or other internalisation benefits. Therefore, any club transactions are accidental, as this player happens to be the best fit. There is, therefore, no real difference between MCO arrivals and non-MCO arrivals. Given the nature of those clubs, there often exists a large gap between the level of competition within them.

For example, the PIF has tried to transfer players from one of their teams in Saudi Arabia to Newcastle United in England. This gap is often too big for the involved players. Therefore, their first-season performance is far below expectations and previous performances. Given the low number of MCO transactions occurring in PD clubs, a single failed transfer might offset the overall effect significantly.

In the Hypothesis, I expected business groups to show the second most positive difference as they should only transfer players when they see a fit with the opposing team. However, on a performance basis, this is different for the first season after the arrival. A potential bias influencing the Fifa rating and the market values is the situation of the receiving club. Business groups often help each other when a specific club struggles. They send a player who has performed well in the last period to improve the team's performance. Thus, the player moves from a well-performing team to a low-performing team.

Following this logic, external players arriving at the club might come from lower-tier divisions, as the receiving club cannot attract better players from better competitions. This results in a sporting environment where the external player surpasses his previous performances, and the internal arrival underperformed. The result is shown in a decreased Fifa rating and market value for the MCO player, which does not necessarily mean that an external solution might have been

the better choice. Such an analysis would require a more complex model and is beyond the scope of this research. Overall, I support the prediction that flagship club arrivals will show the most positive difference in performance. Simultaneously, the hypothesis does not predict the correct order of all systems, as business group layers showed a more negative performance than the other groups.

Large Number of Negative Coefficients

A surprising finding during my research was that for nearly all MCO systems, the majority of coefficients were negative. While a handful were not significant, the trend was visible. This results in the conclusion that MCO arrivals generally underperform compared to a similar transferred player. While only flagship clubs showed a positive weighted performance, setting up an MCO with only flagships is logically impossible. This raises the question of whether MCO as a system is fruitful.

While this question is difficult to answer, there are some potential reasons for the difference in performance. A prominent argument also delivered in the business group literature is the inefficiencies within the system. Managers might be urged to find an internal solution because the system's formation was costly, and the entity has employed regulations preferring MCO deals over external deals. This would create a moral hazard as the internally transferred player might not be the ideal solution for the club's needs.

On another note, players transferred within an MCO system might have had less negotiating power about their transfer decision. They are seen as transferrable assets that are moved to a subsidiary of the entire company. This might decrease the players' motivation to perform, which results in inferior performance compared to an external arrival. Headquarters systems are prone to making decisions for the players without asking for their opinion on the transfer.

Another potential explanation lies in the direction of the transfer. Suppose a player is sent from a club to a different team within the MCO that is considered less successful or prestigious. In that case, performance measures such as the market value or the Fifa rating naturally tend to decrease. Compared to that, externally transferred players often arrive from smaller clubs where they overachieved. Therefore, their performance measures are bound to increase more significantly.

While these are potential explanations for the difference in on-pitch performance, the benefit of forming an MCO reaches beyond it. The cost-saving and network effects described in the literature review also give the entity a bigger platform and financial liquidity, resulting in higher profit margins from other sources than just player transfers. As mentioned in the literature, the interests of the investing entities are manifold and reach identity branding (Red Bull GmbH) to white washing your name (Middle Eastern investments). For those reasons, on-pitch performance can be seen as an accelerator to achieve the respective objectives but not the primary objective itself.

Theoretical and Practical Implications

This research shows the applicability of internalisation theory and concepts of business group theory to realistic examples such as the footballing industry. Although the circumstances described in the theory are given within the concept of MCOs, the outcome of this study diverges from the theory's assumptions. While the transfer market and the firm structure align with the optimal circumstances for forming an MCO, the players' on-pitch performance does not reflect the predicted benefits of internalisation theory.

The results align with the downsides and dangers of business groups, as described in the respective theoretical background section. The internal market mechanisms are complicated and challenging to regulate, as most business group clubs struggle to use the network efficiently. While the literature describes this, more guidance is needed on how to overcome the issue.

By applying these theories to the football industry, my study extends the applicability of said theories beyond traditional business contexts, offering new insights into how these theoretical frameworks can be utilised to understand and optimise the operations of sports organisations. The research provides a nuanced understanding of the different MCO models (headquarters, business groups, portfolio diversification) and their respective impacts on transfer activity and player performance. This differentiation enriches the theoretical discourse on how organisational structure influences operational efficiency and outcomes in multi-entity systems.

These findings have significant practical implications for both club managers and investors. For club managers, understanding the benefits and challenges of different MCO models can inform transfer strategies and player development plans. They make use of the learning extracted from this research. The findings highlight the benefits and challenges of different Multi-Club Ownership (MCO) models, which can inform transfer strategies. Club managers can use this knowledge to optimise their player development plans and transfer policies, ensuring they effectively leverage the advantages of being part of an MCO network.

Understanding the dynamics within different MCO systems can help clubs allocate resources more efficiently. For instance, flagship clubs can strategically use their feeder clubs for player development, while business groups can focus on optimising individual club performance

within the network. Based on the performance outcomes highlighted in my study, investors can make better-informed decisions regarding which MCO systems to support. Knowing which models produce better on-pitch performance can guide investment towards more effective and profitable MCO configurations.

The research underscores the importance of strategic management and market positioning to maximise the benefits of MCOs. Clubs can enhance competitiveness by aligning their strategic objectives with market perceptions and player development goals. As there is no one-fits-all solution, club managers and executives must be aware of the opportunities and challenges of the different MCO systems.

This thesis also provides a valuable to football fans and enthusiasts. While the overall perception of MCO networks is rather negative, this study shows that they can have various advantages for the club. Apart from the financial stability and improved costs structures, several clubs showed improved on-pitch performances, which is in line with the interest of the fans.

Limitations to the Study and Further Research

The primary limitation of this study is the reliance on data from high-profile leagues and clubs, which may not fully capture the dynamics at play in lower divisions or less prominent leagues. Expanding the scope to include a more diverse range of clubs and leagues could offer a more comprehensive understanding of MCO impacts. The study's focus on short-term performance measures may only partially capture MCO systems' long-term benefits and challenges. Future research could explore longitudinal data to assess the sustained impact of MCO transfers on player careers and club performance.

A further limitation of the research lies in the selection of outcome variables. While I used a set of 5 different performance measures, there are countless other performance measurements. Examples could be the scoring performance of players or the distance covered per match. These and more variables could be combined into a larger performance model to give a complete interpretation of a player's performance. If available, “softer” variables such as a player’s mental state and motivation could be included. This would allow further research to predict a player's performance before the transfer. It would also have significant benefits to club managers and scouts.

My analysis does not include the fee for which a player is transferred. This would allow us to compare performance and price, creating a value similar to the notion of “pound-for-pound” in boxing. This value might cover the club's expectations in the layer and present research with comparable performance results.

In conclusion, this research provides us with precise results regarding transfer activity but mixed results regarding player performance. These mixed results should be the base for further research, as it will be interesting to understand the reasons behind these structures. By aligning their strategic objectives with market perceptions and player development goals, MCOs can enhance their overall effectiveness and long-term sustainability. The findings highlight the complexity of MCO systems and underscore the importance of strategic management and market positioning in realising the full potential of multi-club ownership in football.

References

A Systemic View of the Business Family. (2012). In *Family Business on the Couch* (pp. 147–164). John Wiley & Sons, Ltd. https://doi.org/10.1002/9781119209027.ch8

Aarons, E. (2023, April 4). Collective goals: Multi-club ownership is changing world football's landscape. *The Guardian*. https://www.theguardian.com/football/2023/apr/04/rise-of-multi-club-ownership-in-football-777-partners-hertha-berlin

Belenzon, S., & Berkovitz, T. (2010). Innovation in Business Groups. *Management Science*, *56*(3), 519–535. https://doi.org/10.1287/mnsc.1090.1107

Bhaumik, S. K., & Zhou, Y. (2014). *Do Business Groups Help or Hinder Technological Progress in Emerging Markets? Evidence from India* (SSRN Scholarly Paper 2381137). https://doi.org/10.2139/ssrn.2381137

Bond, A. J., Widdop, P., & Parnell, D. (2020). Topological network properties of the European football loan system. *European Sport Management Quarterly*, *20*(5), 655–678. https://doi.org/10.1080/16184742.2019.1673460

Breuer, M. (2018). Multi-club Ownerships. In M. Breuer & D. Forrest (Eds.), *The Palgrave Handbook on the Economics of Manipulation in Sport* (pp. 115–134). Springer International Publishing. https://doi.org/10.1007/978-3-319-77389-6_7

Buckley, P. J. (1995). The Role of Management in Internalization Theory. In P. J. Buckley (Ed.), *Foreign Direct Investment and Multinational Enterprises* (pp. 47–59). Palgrave Macmillan UK. https://doi.org/10.1057/9780230378513_4

Buckley, P. J. (2016). Alan Rugman and internalisation theory. *International Business Review*, *25*(3), 753–757. https://doi.org/10.1016/j.ibusrev.2016.01.016

Buckley, P. J. (2016). The contribution of internalisation theory to international business: New realities and unanswered questions. *Journal of World Business*, *51*(1), 74–82. https://doi.org/10.1016/j.jwb.2015.08.012

Buckley, P. J., & Casson, M. C. (2009). The internalisation theory of the multinational enterprise: A review of the progress of a research agenda after 30 years. *Journal of International Business Studies*, *40*(9), 1563–1580. https://doi.org/10.1057/jibs.2009.49

Buckley, P. J., Luise, C., & Voss, H. (2023). A Coasean approach to strategies of ownership and control: A commentary on Forsgren and Holm's (2021) "Controlling without owning – owning without controlling." *Journal of International Business Studies*, *54*(6), 1115–1120. https://doi.org/10.1057/s41267-022-00576-w

Bugador, R. C. (2016). The Competitiveness of Business Groups and Their Affiliates in International Operations. *Foundations of Management*, *8*(1), 251–262. https://doi.org/10.1515/fman-2016-0020

Caliendo, M., & Kopeinig, S. (2008). Some Practical Guidance for the Implementation of Propensity Score Matching. *Journal of Economic Surveys*, *22*(1), 31–72. https://doi.org/10.1111/j.1467-6419.2007.00527.x

Carvalho, J. V., Kogut, C. S., & Cordova, M. (2024). Internationalisation strategy in sport: The case of Flamengo, the largest Brazilian football club. *European Sport Management Quarterly*, *0*(0), 1–21. https://doi.org/10.1080/16184742.2023.2298423

Casson, M. (2016). Alan Rugman's methodology. *International Business Review*, *25*(3), 758–766. https://doi.org/10.1016/j.ibusrev.2016.01.015

Casson, M. C. (2012). TRANSACTION COSTS AND THE THEORY OF THE MULTINATIONAL ENTERPRISE. In *New Theories of the Multinational Enterprise (RLE et al.)*. Routledge.

Casson, M., Porter, L., & Wadeson, N. (2016). Internalization theory: An unfinished agenda. *International Business Review*, *25*(6), 1223–1234. https://doi.org/10.1016/j.ibusrev.2016.03.007

Chadwick, S., Burton, N., Widdop, P., & Bond, A. J. (2023). Networks, strategy and sport: The case of City Football Group. *Journal of Strategy and Management*. https://doi.org/10.1108/JSMA-01-2022-0015

Cheong, K. S., Choo, K., & Lee, K. (2010). Understanding the behavior of business groups: A dynamic model and empirical analysis. *Journal of Economic Behavior & Organization*, *76*(2), 141–152. https://doi.org/10.1016/j.jebo.2010.06.012

Cherpillod, I., & de Dios Crespo Pérez, J. (2012). Club Ownership. In A. Wild (Ed.), *CAS and Football: Landmark Cases* (pp. 11–36). T.M.C. Asser Press. https://doi.org/10.1007/978-90-6704-808-8_3

Christen, P. (2012). The Data Matching Process. *Springer EBooks*, 23–35. https://doi.org/10.1007/978-3-642-31164-2_2

Dau, L. A., Morck, R., & Yeung, B. Y. (2021). Business groups and the study of international business: A Coasean synthesis and extension. *Journal of International Business Studies*, *52*(2), 161–211. https://doi.org/10.1057/s41267-020-00395-x

Deloitte. (2023). *A balancing act Annual Review of Football Finance 2023 Deloitte's Sports Business Group*. https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/sports-business-group/deloitte-uk-annual-review-of-football-finance-2023.pdf

Dunning, J. H. (1988). The Eclectic Paradigm of International Production: A Restatement and Some Possible Extensions. *Journal of International Business Studies*, *19*(1), 1–31. https://doi.org/10.1057/palgrave.jibs.8490372

Feess, E., Frick, B., & Muehlheusser, G. (2004). *Legal Restrictions on Buyout Fees: Theory and Evidence from German Soccer* (SSRN Scholarly Paper 562445). https://doi.org/10.2139/ssrn.562445

Gabison, G. (2024). (Anti)Competitive Football Leagues. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.4719262

Harris, N. (2024, February 21). Multi-club ownership in football is on the rise—And it's a financial and ethical minefield [Substack newsletter]. *Sporting Intelligence*. https://sportingintelligence832.substack.com/p/multi-club-ownership-in-football?utm_medium=reader2

Holmlund, M., & Törnroos, J.-Å. (1997). What are relationships in business networks? *Management Decision*, *35*, 304–309. https://doi.org/10.1108/00251749710169693

Holt, M. (2007). The Ownership and Control of Elite Club Competition in European Football. *Soccer & Society*, *8*(1), 50–67. https://doi.org/10.1080/14660970600989491

Johanson, J., & Vahlne, J.-E. (2009). The Uppsala internationalization process model revisited: From liability of foreignness to liability of outsidership. *Journal of International Business Studies*, *40*(9), 1411–1431. https://doi.org/10.1057/jibs.2009.24

Keppler, J. H. (2010). *« Going with Coase against Coase: The Dynamic Approach to the Internalization of External Effects »* [MPRA Paper]. https://mpra.ub.uni-muenchen.de/30081/

Khanna, T., & Yafeh, Y. (2005a). Business Groups and Risk Sharing around the World. *The Journal of Business*, *78*(1), 301–340. https://doi.org/10.1086/426527

Khanna, T., & Yafeh, Y. (2005b). Business Groups in Emerging Markets: Paragons or Parasites? *Journal of Economic Literature*, *45*(2), 331–372. https://doi.org/10.1257/jel.45.2.331

Levy, J. (2019, June 6). Rocco Commisso completes Fiorentina US$180m takeover. *SportsPro*. https://www.sportspromedia.com/news/rocco-commisso-completes-fiorentina-us180m-takeover-serie-a-chiesa-cosmos/

Li, M. (2016). *Using the Propensity Score Method to Estimate Causal Effects: A Review and Practical Guide - Mingxiang Li, 2013*. Organizational Research Methods. https://journals.sagepub.com/doi/abs/10.1177/1094428112447816

Lundgren, J., Heljeberg, O., & Lindbergh, L. (n.d.). *M-C-O or M-C…No? Multi-Club Ownership in English Football and Its Drivers*. https://www.diva-portal.org/smash/get/diva2:1573014/FULLTEXT02

Moving the Ball Forward: Multi-Club Ownership and Competitive Advantages in Football - ProQuest. (n.d.). Retrieved March 17, 2024, from https://www.proquest.com/openview/b45be1e8b2271e19fb8cdf9e75ecd996/1?cbl=2026366&diss=y&pq-origsite=gscholar

One Owner, Multiple Teams: Why This Trend Is Roiling World Football. (2023, August 11). *Washington Post*. https://www.washingtonpost.com/business/2023/08/10/one-owner-multiple-teams-why-this-trend-is-roiling-world-football/4682de22-375a-11ee-ac4e-e707870e43db_story.html

Ramble, S. (2024, January 8). The Rise of Multi-Club Ownership [Substack newsletter]. *The Swiss Ramble*. https://swissramble.substack.com/p/the-rise-of-multi-club-ownership

Rapid rise of multi-club ownership posing challenges for football, report reveals. (2023, December 13). SportBusiness. https://www.sportbusiness.com/2023/12/rapid-rise-of-multi-club-ownership-posing-challenges-for-football-report-reveals/

Richardson, C. (2023). Taking on the world: The internationalisation of City Football Group. *Review of International Business and Strategy*, *ahead-of-print*(ahead-of-print). https://doi.org/10.1108/RIBS-06-2023-0047

Rohde, M., & Breuer, C. (2016). The Financial Impact of (Foreign) Private Investors on Team Investments and Profits in Professional Football: Empirical Evidence from the Premier League. *Applied Economics and Finance*, *3*. https://doi.org/10.11114/aef.v3i2.1366

Rohde, M., & Breuer, C. (2017). The market for football club investors: A review of theory and empirical evidence from professional European football. *European Sport Management Quarterly*, *17*(3), 265–289. https://doi.org/10.1080/16184742.2017.1279203

Sharmiladevi, D. J. C. (2017). Understanding Dunning's OLI Paradigm. *Indian Journal of Commerce and Management Studies*, *8*(3), Article 3.

Straw, S. (2021, May 17). Special Report: Multi-Club Ownership. *World Soccer*. https://www.worldsoccer.com/best-of-ws/special-report-multi-club-ownership-412142

The Evolving European Model of Professional Sports Finance. (n.d.). https://doi.org/10.1177/152700250000100304

Appendix

Table A1: Complete list of MCO transaction development of all clubs, in descending order

MCO System	Club Name	Change in MCO Transactions per year
Headquarter System	RWD Molenbeek	16,5
Headquarter System	Botafogo de Futebol e Regatas	13,5
Headquarter System	FC Liefering	10,9
Headquarter System	Red Bull Salzburg	8,6
Business Group System	Watford FC	7,4
Headquarter System	Lommel SK	6,3
Headquarter System	Olympique Lyon	5,5
Headquarter System	ESTAC Troyes	5,5
Business Group System	Clermont Foot 63	4,8
Headquarter System	Girona FC	4,4
Business Group System	OGC Nice	4,4
Business Group System	SC Austria Lustenau	3,8
Headquarter System	Red Bull Bragantino	3,8
Headquarter System	Manchester City	3,7
Business Group System	Udinese Calcio	3,4
Headquarter System	RB Leipzig	3,1
Portfolio Diversification	Al-Ahli SFC	3,0
Headquarter System	Esporte Clube Bahia	3,0

Headquarter System	Olympiacos Piraeus	2,9
Business Group System	Standard Liege	2,8
Business Group System	FC Lausanne-Sport	2,6
Business Group System	Genoa CFC	2,3
Headquarter System	Union Saint-Gilloise	2,2
Business Group System	Hertha BSC	2,0
Headquarter System	RC Strasbourg Alsace	2,0
Headquarter System	Nottingham Forest	2,0
Portfolio Diversification	Al-Hilal SFC	1,8
Headquarter System	Montevideo City Torque	1,7
Headquarter System	Crystal Palace	1,7
Headquarter System	New York Red Bulls	1,3
Headquarter System	Melbourne City FC	1,2
Headquarter System	Chelsea FC	1,0
Headquarter System	Palermo FC	1,0
Headquarter System	Rio Ave FC	1,0
Headquarter System	Brighton & Hove Albion	0,9
Headquarter System	Chongqing Liangjiang Athletic	0,7
Headquarter System	Granada CF	0,6
Headquarter System	Beerschot V.A.	0,6
Business Group System	Red Star FC	0,5
Headquarter System	LB Chateauroux	0,3
Portfolio Diversification	Newcastle United	0,3

Headquarter System	Yokohama F. Marinos	0,3
Headquarter System	Kerala United FC	0,3
Business Group System	Clube de Regatas Vasco da Gama	0,3
Headquarter System	Shenzhen Peng City	0,2
Headquarter System	CD Tondela	0,2
Headquarter System	Mumbai City FC	0,2
Headquarter System	Sheffield United	0,2
Portfolio Diversification	Colorado Rapids	0,1
Portfolio Diversification	CF Montreal	0,0
Portfolio Diversification	Bologna FC 1909	0,0
Business Group System	FC Toulouse	0,0
Business Group System	Melbourne Victory	0,0
Business Group System	AC Milan	0,0
Portfolio Diversification	ACF Fiorentina	0,0
Portfolio Diversification	New York Cosmos	0,0
Portfolio Diversification	Arsenal FC	-0,1
Business Group System	Sevilla FC	-0,6
Portfolio Diversification	Al-Ittihad Club	-1,0
Portfolio Diversification	Al-Nassr FC	-1,3

A2: Web Scraping Code for transfermarkt.com

```
import requests
from scrapy import Selector
from tqdm import tqdm
```

```
import pandas as pd
import csv

# Load links from a text file
links = open("links1.txt").read().split("\n")

# Open the CSV file for appending
with open("transfermarkt_data1.csv", "a", newline='', encoding='utf-8') as savefile:
    writer = csv.writer(savefile)
    headings = ['each_link', 'season_year', 'club_name', 'arrival_departure', 'Player', 'Age',
'team_left_joined', 'if_Retired', 'fee']
    writer.writerow(headings)

    headers = {
        'accept':
'text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apn
g,*/*;q=0.8,application/signed-exchange;v=b3;q=0.7',
        'accept-language': 'en-US,en;q=0.9',
        'cache-control': 'max-age=0',
        'priority': 'u=0, i',
        'sec-ch-ua': '"Chromium";v="124", "Google Chrome";v="124", "Not-
A.Brand";v="99"',
        'sec-ch-ua-mobile': '?0',
        'sec-ch-ua-platform': '"Windows"',
        'sec-fetch-dest': 'document',
        'sec-fetch-mode': 'navigate',
        'sec-fetch-site': 'none',
        'sec-fetch-user': '?1',
        'upgrade-insecure-requests': '1',
        'user-agent': 'Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36
(KHTML, like Gecko) Chrome/124.0.0.0 Safari/537.36',
    }

    # Iterate over each link in the links file
    for each_link in tqdm(links):
        link, starting_year = each_link.split("|", 1)
        starting_year = int(starting_year)

        # Iterate over each year from the starting year to 2025
        for x_year in tqdm(range(starting_year, 2025)):
            request_link = f'{link}{x_year}'
            response = requests.get(request_link, headers=headers).text
            resp = Selector(text=response)

            season_year = resp.xpath('//h2/text()').get().strip() if resp.xpath('//h2/text()') else ''
            club_name = resp.xpath('//h1/text()').get().strip() if resp.xpath('//h1/text()') else ''

            tables = resp.xpath('//h2[@name="zugaenge"]')
```

```
        # Iterate over each table to extract data
        for each_table in tqdm(tables):
            arrival_departure = each_table.xpath('.//text()').get().strip() if
each_table.xpath('.//text()') else ''
            main_xpath = each_table.xpath('.//following-sibling::div[@class="responsive-
table"]//table[@class="items"]/tbody/tr')

            # Iterate over each record in the table
            for each_record in tqdm(main_xpath):
                Player = each_record.xpath('.//td[2]//tr[1]//a/@title').get()
                Age = each_record.xpath('.//td[3]/text()').get()
                team_left_joined = each_record.xpath('.//td[5]//tr[1]/td[2]/a/@title').get()
                if_Retired = each_record.xpath('.//td[5]//tr[1]/td[2]/text()[1]').get().strip() if
each_record.xpath('.//td[5]//tr[1]/td[2]/text()[1]') else ''
                fee = each_record.xpath('.//td[6]/a/text()').get()

                data = [request_link, season_year, club_name, arrival_departure, Player, Age,
team_left_joined, if_Retired, fee]
                writer.writerow(data)
                print(data)

# Convert the CSV file to an Excel file
csv_file = pd.read_csv('transfermarkt_data1.csv')
csv_file.to_excel('transfermarkt_data1.xlsx', index=False)
```

A3: List of all club links on transfermarkt.com

```
https://www.transfermarkt.com/manchester-city/transfers/verein/281/saison_id/|2003
https://www.transfermarkt.com/new-york-city-fc/transfers/verein/40058/saison_id/|2008
https://www.transfermarkt.com/melbourne-city-fc/transfers/verein/25580/saison_id/|2010
https://www.transfermarkt.com/yokohama-f-marinos/transfers/verein/3828/saison_id/|2009
https://www.transfermarkt.com/montevideo-city-
torque/transfers/verein/37535/saison_id/|2012
https://www.transfermarkt.com/fc-girona/transfers/verein/12321/saison_id/|2012
https://www.transfermarkt.com/sichuan-jiuniu/transfers/verein/51120/saison_id/|2014
https://www.transfermarkt.com/mumbai-city-fc/transfers/verein/45274/saison_id/|2014
https://www.transfermarkt.com/lommel-sk/transfers/verein/5026/saison_id/|2015
https://www.transfermarkt.com/es-troyes-ac/transfers/verein/1095/saison_id/|2015
https://www.transfermarkt.com/palermo-fc/transfers/verein/458/saison_id/|2017
https://www.transfermarkt.com/esporte-clube-bahia/transfers/verein/10010/saison_id/|2018
https://www.transfermarkt.com/red-bull-salzburg/transfers/verein/409/saison_id/|2000
https://www.transfermarkt.com/new-york-red-bulls/transfers/verein/623/saison_id/|2001
https://www.transfermarkt.com/rasenballsport-
leipzig/transfers/verein/23826/saison_id/|2004
https://www.transfermarkt.com/red-bull-bragantino/transfers/verein/8793/saison_id/|2015
```

https://www.transfermarkt.com/red-bull-brasil-sp-/transfers/verein/22767/saison_id/|2002
https://www.transfermarkt.com/fc-liefering/transfers/verein/37024/saison_id/|2007
https://www.transfermarkt.com/ac-mailand/transfers/verein/5/saison_id/|2017
https://www.transfermarkt.com/fc-toulouse/transfers/verein/415/saison_id/|2015
https://www.transfermarkt.com/nottingham-forest/transfers/verein/703/saison_id/|2012
https://www.transfermarkt.com/olympiacos-fc/transfers/verein/105461/saison_id/|2005
https://www.transfermarkt.com/rio-ave-fc/transfers/verein/2425/saison_id/|2018
https://www.transfermarkt.com/fc-sevilla/transfers/verein/368/saison_id/|2013
https://www.transfermarkt.com/genua-cfc/transfers/verein/252/saison_id/|2016
https://www.transfermarkt.com/vasco-da-gama-rio-de-janeiro/transfers/verein/978/saison_id/|2017
https://www.transfermarkt.com/standard-luttich/transfers/verein/3057/saison_id/|2017
https://www.transfermarkt.com/red-star-fc/transfers/verein/1154/saison_id/|2017
https://www.transfermarkt.com/melbourne-victory/transfers/verein/7006/saison_id/|2017
https://www.transfermarkt.com/hertha-bsc/transfers/verein/44/saison_id/|2018
https://www.transfermarkt.com/fc-everton/transfers/verein/29/saison_id/|2018
https://www.transfermarkt.com/brighton-amp-hove-albion/transfers/verein/1237/saison_id/|2004
https://www.transfermarkt.com/royale-union-saint-gilloise/transfers/verein/3948/saison_id/|2013
https://www.transfermarkt.com/fc-chelsea/transfers/verein/631/saison_id/|2017
https://www.transfermarkt.com/rc-strassburg-alsace/transfers/verein/667/saison_id/|2018
https://www.transfermarkt.com/ogc-nizza/transfers/verein/417/saison_id/|2014
https://www.transfermarkt.com/fc-lausanne-sport/transfers/verein/527/saison_id/|2012
https://www.transfermarkt.com/newcastle-united/transfers/verein/762/saison_id/|2016
https://www.transfermarkt.com/al-nasr-riad/transfers/verein/18544/saison_id/|2018
https://www.transfermarkt.com/al-hilal-riad/transfers/verein/1114/saison_id/|2018
https://www.transfermarkt.com/al-ittihad-dschidda/transfers/verein/8023/saison_id/|2018
https://www.transfermarkt.com/al-ahli-dschidda/transfers/verein/18487/saison_id/|2018
https://www.transfermarkt.com/sheffield-united/transfers/verein/350/saison_id/|2008
https://www.transfermarkt.com/beerschot-v-a-/transfers/verein/41274/saison_id/|2013
https://www.transfermarkt.com/al-hilal-united-fc/transfers/verein/85339/saison_id/|2015
https://www.transfermarkt.com/kerala-united-fc/transfers/verein/50036/saison_id/|2015
https://www.transfermarkt.com/lb-chateauroux/transfers/verein/1175/saison_id/|2016
https://www.transfermarkt.com/crystal-palace/transfers/verein/873/saison_id/|2016
https://www.transfermarkt.com/olympique-lyon/transfers/verein/1041/saison_id/|2017
https://www.transfermarkt.com/botafogo-rio-de-janeiro/transfers/verein/537/saison_id/|2017
https://www.transfermarkt.com/rwd-molenbeek/transfers/verein/54189/saison_id/|2017
https://www.transfermarkt.com/fc-arsenal/transfers/verein/11/saison_id/|2002
https://www.transfermarkt.com/colorado-rapids/transfers/verein/1247/saison_id/|1998
https://www.transfermarkt.com/chongqing-liangjiang-athletic/transfers/verein/1326/saison_id/|2012
https://www.transfermarkt.com/fc-granada/transfers/verein/16795/saison_id/|2011
https://www.transfermarkt.com/cd-tondela/transfers/verein/7179/saison_id/|2019
https://www.transfermarkt.com/club-de-foot-montreal/transfers/verein/4078/saison_id/|1987
https://www.transfermarkt.com/fc-bologna/transfers/verein/1025/saison_id/|2009
https://www.transfermarkt.com/new-york-cosmos/transfers/verein/4835/saison_id/|2012

https://www.transfermarkt.com/ac-florenz/transfers/verein/430/saison_id/|2014
https://www.transfermarkt.com/udinese-calcio/transfers/verein/410/saison_id/|1981
https://www.transfermarkt.com/fc-watford/transfers/verein/1010/saison_id/|2007
https://www.transfermarkt.com/clermont-foot-63/transfers/verein/35245/saison_id/|2014
https://www.transfermarkt.com/sc-austria-lustenau/transfers/verein/541/saison_id/|2015

Table A4: List of all MCO clubs, companies and MCO system

Club Name	**MCO Company**	**MCO System**
Sevilla FC	777 Partner	Business Group System
Melbourne Victory	777 Partner	Business Group System
Clube de Regatas Vasco da Gama	777 Partner	Business Group System
Red Star FC	777 Partner	Business Group System
Hertha BSC	777 Partner	Business Group System
Genoa CFC	777 Partner	Business Group System
Standard Liege	777 Partner	Business Group System
Kerala United FC	Abdullah Bin Mosaad Al Saud	Headquarter System
LB Chateauroux	Abdullah Bin Mosaad Al Saud	Headquarter System
Beerschot V.A.	Abdullah Bin Mosaad Al Saud	Headquarter System
Sheffield United	Abdullah Bin Mosaad Al Saud	Headquarter System
SC Austria Lustenau	Ahmet Schaefer	Business Group System
Clermont Foot 63	Ahmet Schaefer	Business Group System
RC Strasbourg Alsace	BlueCo	Headquarter System
Chelsea FC	BlueCo	Headquarter System
Shenzhen Peng City	City Football Group	Headquarter System
Mumbai City FC	City Football Group	Headquarter System

Yokohama F. Marinos	City Football Group	Headquarter System
Palermo FC	City Football Group	Headquarter System
Melbourne City FC	City Football Group	Headquarter System
Montevideo City Torque	City Football Group	Headquarter System
Esporte Clube Bahia	City Football Group	Headquarter System
Girona FC	City Football Group	Headquarter System
ESTAC Troyes	City Football Group	Headquarter System
Lommel SK	City Football Group	Headquarter System
Manchester City	City Football Group	Headquarter System
Rio Ave FC	Evangelos Marinakis	Headquarter System
Nottingham Forest	Evangelos Marinakis	Headquarter System
Olympiacos Piraeus	Evangelos Marinakis	Headquarter System
Udinese Calcio	Giampaolo & Gino Pozzo	Business Group System
Watford FC	Giampaolo & Gino Pozzo	Business Group System
FC Lausanne-Sport	Ineos	Business Group System
OGC Nice	Ineos	Business Group System
CD Tondela	Jiang Lizhangh	Headquarter System
Chongqing Liangjiang Athletic	Jiang Lizhangh	Headquarter System
Granada CF	Jiang Lizhangh	Headquarter System
CF Montreal	Joey Saputo	Portfolio Diversification
Bologna FC 1909	Joey Saputo	Portfolio Diversification
Olympique Lyon	John Texter	Headquarter System

Crystal Palace	John Texter	Headquarter System
Arsenal FC	Kroenke Sports & Entertainment	Portfolio Diversification
Colorado Rapids	Kroenke Sports & Entertainment	Portfolio Diversification
Al-Nassr FC	Public Investment Fund	Portfolio Diversification
Al-Ittihad Club	Public Investment Fund	Portfolio Diversification
Newcastle United	Public Investment Fund	Portfolio Diversification
Al-Hilal SFC	Public Investment Fund	Portfolio Diversification
Al-Ahli SFC	Public Investment Fund	Portfolio Diversification
FC Toulouse	Red Bird Capital	Business Group System
AC Milan	Red Bird Capital	Business Group System
New York Red Bulls	Red Bull GmbH	Headquarter System
Red Bull Bragantino	Red Bull GmbH	Headquarter System
Red Bull Salzburg	Red Bull GmbH	Headquarter System
FC Liefering	Red Bull GmbH	Headquarter System
RB Leipzig	Red Bull GmbH	Headquarter System
ACF Fiorentina	Rocco B. Commisso	Portfolio Diversification
New York Cosmos	Rocco B. Commisso	Portfolio Diversification
Union Saint-Gilloise	Tony Bloom	Headquarter System
Brighton & Hove Albion	Tony Bloom	Headquarter System

AI Statement

Throughout this research, I used two different sources of artificial intelligence. They helped me throughout the analysis of the dataset. The first tool is Open AI's ChatGPT. This tool provided me with commands for Stata and explained methodological approaches, such as propensity score matching.

Example Chat GPT prompts used:

- Can you explain what the z-value test for outliers is?
- What is the best Stata package to create summary tables for academic papers?

A second tool is the program GPTExcel. It helped me with the completion of my data set, since several manual calculations were necessary to determine the number of MCO transactions and averages across the different seasons. Since every club had a different acquisition year, no one-size-fits-all formula could be used, and I had to create an extensive combination of formulas.

Example Chat GPT prompts used:

- I want to average an annual number of transactions across different football clubs. They have different exclusion years. I want to summarise the 4 years prior to the exclusion year and every season after the exclusion year until the 2023/24 season

References:

- OpenAI. (2024). ChatGPT. Retrieved from https://chatgpt.com/
- GPTExcel. (2024). Retrieved from https://gptexcel.uk/