

**How and Why do Professional Sport Clubs Succeed? The
Strategy and Performance of Premier League Football
Clubs**

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Abstract

Since 1992, the Premier League has experienced considerable growth and, in 2015/16, had transformed into an industry – albeit one comprising just 20 firms – that generated revenue of £5.3 billion (Deloitte, 2017a). The business models of the clubs has evolved so that they now generate over half of their income from broadcast revenue, compared to less than one-tenth in the inaugural Premier League season in 1992/93. Much of the growth in broadcast revenue has been from overseas markets, while, contemporaneously, owners, players, team managers and business executives have also become globalised.

The Premier League and its member clubs have been transformed into global brands. 18 of the 50 most valuable football club brands are members of the Premier League (Brand Finance, 2018), with Manchester United's brand alone valued at £1.4 billion. Clubs in England and Wales have been able to generate and appropriate considerable revenue by commercialising their resources and performance. Despite the dominance of Spanish clubs in the Champions League and Europa League, 12 of the 20 clubs that generate the most revenue are members of the Premier League (Deloitte, 2017b). For example, in 2015/16 Manchester United generated more revenue from finishing in fifth place in the Premier League than Real Madrid's earnings from winning the Champions League. Clubs in England and Wales no longer require a large stadium or a large local market to enter or maintain membership of the Premier League. Bournemouth sell as many tickets in an entire season at their 11,000-seat Vitality Stadium as Manchester United in just three matches at Old Trafford, which seats 76,000. This is further typified by a new generation of clubs with new venues, such as Brighton and Hove Albion, Huddersfield Town and Cardiff City, gaining promotion to the Premier League, while concurrently clubs with larger stadiums and larger local markets, such as Aston Villa and Newcastle United, were relegated in 2015/16. Instead, Premier League clubs are committing more capital and operating expenditure to team resources (Deloitte, 2017a), comprising transfer fees (£1.5 billion) and player wages (£2.3 billion) in 2016/17. These performance and resource trends indicate that the necessary resource and capability endowments of successful clubs are evolving, with team resources becoming more valuable than stadium resources.

The relationship between team resources, sporting performance and financial performance has been theoretically and empirically established (Szymanski, 2015): Fundamentally, the best team usually

wins, and the clubs that win usually make more money, as exemplified by Manchester United. However, clubs are not homogenous and there have been examples of over- and under-performance, most notably when Leicester City won the Premier League in 2015/16. Furthermore, much sport management research separates sporting and financial performance, and infers that club owners and business executives are either win- or profit-maximisers, with only a few models incorporating sporting and financial performance (Dobson and Goddard, 1998; Gerrard, 2005; Baroncelli and Lago, 2006; Pinnuck and Potter, 2006; Galariotis et al, 2017). Many models of professional sport club performance are static, not dynamic. They do not consider the changing competitive environment of the Premier League, such as increased commercialisation and globalisation, nor the growth of Swansea City, who attained promotion through four divisions from the Football League to the Premier League in seven years, nor the sporting and financial failure of Portsmouth, who conversely suffered relegation through all four divisions and two administration events in just four years. Sport management research generally ignores over- and under-performing clubs, emergent clubs that have experienced growth, and failed clubs that have declined. Such clubs are treated as outliers but, conceptually and empirically, are the most interesting cases.

Empirical research is therefore conducted to explain how and why some clubs generate and sustain superior sporting, business and financial performance advantage from their team, stadium and other resources. It utilises a panel that comprises a sample of 46 clubs that are or have been member of the Premier League in the 24-year observation period since its formation in 1992/93 to the end of 2016/17 season and financial year¹. Data is collected from the Premier League, Football League, UEFA, League Managers Association, the *Annual Review of Football Finance* and the *Football Yearbook*, with findings and conclusions drawn from statistical analysis using panel regression models and visual analysis of cross-case time-series data displays.

Sport management theory is extended and tested using confirmatory and exploratory research. A series of models confirm the predicted relationships between team resources, sporting performance and business performance. More complexity is introduced by exploring competitive and dynamic dimensions, encompassing the multiple relationships between sporting, business and financial

¹ The football season and financial year are concurrent for most professional football clubs and may be labelled on figures and tables by the season year end; for example, the 1992/93 season is labelled as 1993.

performance and the clubs' team and stadium resources, as well as the required capabilities that are associated with these resources. Further analysis of outliers, which represent over- and under-performing (or under- and over-resourced) clubs, is proposed as being essential for explaining performance. Club owners and business executives formulate and implement unique resource and resource management strategies that result in divergent and equifinal paths. Premier League clubs are demonstrably resilient and adaptable to change, especially in bridging the gap between and within divisions and to commercialising the growth, globalisation and commercialisation of the Premier League and Champions League.

The management of most Premier League clubs is, for most of the time, prudent. The concept of fit between resources and contingency factors is introduced to ascertain the appropriateness of a club's strategy to its competitive environment. Instances of misfit are always promptly resolved, usually by compensating for any under- or over-performance (or over- or under-resourcing), although there is limited evidence of a predictive relationship between fit and performance. The competitive environment of professional team sport is complex as the outcomes generated from club owners and business executives' decision-making are confounded by change in the league and competitive environment, and by the consequent change to the club's performance and resources. The performance of a club is therefore conditional on both internal and external contingency factors. Furthermore, strategic decision-making depends on perceptions of change by owners and business executives, and not just on the observed change to clubs, the league and competitive environment. Clubs strategies can be divergent or equifinal paths whereby similar strategies are evident for clubs with different outcomes but, conversely, do not always generate the same or similar performance outcomes.

The findings and methodologies can be applied to inform strategic decision-making by club owners and business executives in the formation, implementation and evaluation of their resource strategies. The research methodology can be adopted by executives of leagues, governing bodies and federations to monitor and control the relative and changing performance of clubs, leagues and divisions. However, the application of the methods and findings for predicting or forecasting performance is limited as professional team sport requires at least some unpredictability and uncertainty of outcome in order for it to be competitive and viable.

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1. Introduction: Professional team sport, the Premier League and professional football clubs

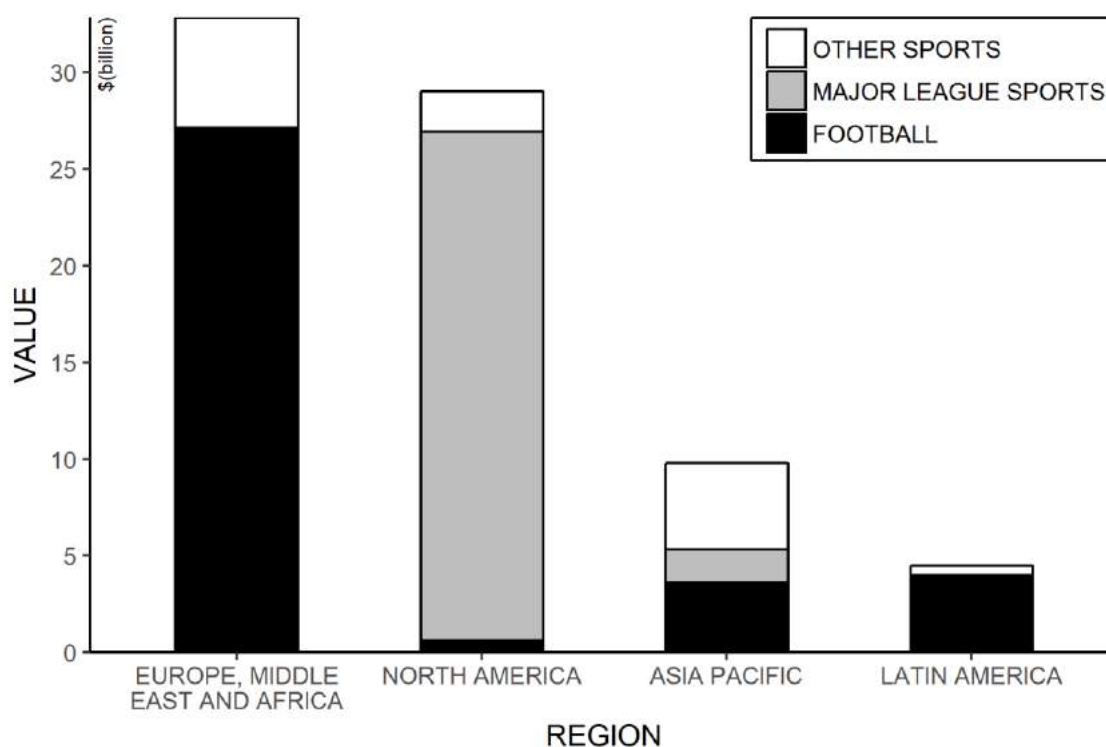
Chapter summary

- Sport is a global industry that is dominated by football, with the Premier League of England and Wales being the principal market.
- The Premier League and Champions League were formed in 1992.
- Premier League clubs possess considerable team and stadium resources which are utilised to generate sporting and business performance.
- However, only some clubs are successful or experience growth, with others suffering from failure or enduring decline.
- Sport management theory and contingency theory is developed and applied to explain how and why the resources and resource management strategy of club executives are formulated and implemented to generate sustained performance advantage.

1.1. Professional team sport

Sport is a global industry valued at \$76.1 billion per annum in 2013 (AT Kearney, 2014). Most of the value is generated in North America and Europe, Middle East and Africa (AT Kearney, 2014), as illustrated in Figure 1.1. By revenue, the global sport industry is dominated by the sport of association football (46.4%), commonly referred to as football or soccer, and the North American major league sports (36.8%), which include American football, baseball, basketball and ice hockey (AT Kearney, 2014). These sports exceed others such as Formula One, tennis and golf. The professional football leagues of Europe are the most valuable and alone represent 35.6% of the value of the global sport industry (AT Kearney, 2014). The Premier League of England and Wales is the market leader (Deloitte, 2017a, 2017b; Ernst & Young, 2015; KPMG, 2017). It generates the largest television audience of any professional football league and the second-highest stadium attendance, after Germany's Bundesliga (Curley and Roeder, 2016; Ernst & Young, 2015).

Figure 1.1: Global sport industry value, by region and sport, 2013



Source: AT Kearney (2014)

1.2. Professional football in England and Wales

Professional sport clubs are typically incorporated as companies, with the league in which they compete being analogous to an industry. The sport in each country is administered by national governing bodies, which have legislative, judicial and executive functions (Hoehn, 2006). In England and Wales, professional football is governed by the Premier League, Football League and the Football Association (FA). In Europe, the sport is administered by the Union of European Football Associations (UEFA).

Premier League

The Premier League was formed in 1992 (as the FA Premier League²) when it separated from the Football League (Premier League, 2017). It comprises 20 professional football clubs in England and Wales³. 47 clubs have been members of the Premier League and the Football League from 1992/93 to

² The FA Premier League rebranded as the FA Carling Premiership, Barclaycard Premiership, Barclays Premiership and Barclays Premier League, and is now the Premier League (see Table 2.6).

³ The Premier League was reduced from its original 22 clubs to 20 from the 1996/97 season, while the fourth division was simultaneously increased from 22 to 24 clubs. Four clubs (Crystal Palace,

the end of the 2015/16 season⁴. Bournemouth were the most recent new member during this period when they promoted to the Premier League for the first time for the start of the 2015/16 season. Only seven clubs were permanent members that were not relegated during the period, although Aston Villa subsequently failed to maintain their membership of the when they were relegated at the end of the 2015/16 season. Leicester City became the sixth club to win the Premier League when they did so in 2016, with Manchester United being the most successful club having won 13 championships.

English Football League (EFL)

The Football League was founded in 1888 (Buraimo et al, 2006), rebranding as the English Football League (EFL) in 2015 (Football League, 2015). It comprises a hierarchy of divisions, comprising the Championship, League One and League Two⁵, as shown in Table 1.1. The 72 member clubs are organised into the three divisions, with 24 clubs in each division. There is a system of promotion and relegation between the divisions, with the three or four worst-performing clubs in the higher division being replaced by the comparable number of best-performing clubs from the lower division. There is also promotion from and relegation to the National League (formerly the Football Conference) for the worst-performing clubs in League Two. All Premier League and Football League clubs enter the EFL Cup (formerly the Football League Cup to 2015/16), which is a cup competition organised by The Football League⁶.

Ipswich Town, Leicester City and Norwich City) were relegated from the Premier League and only two clubs (Bolton Wanderers and Middlesbrough) were promoted, instead of the usual *three-up, three-down* rule.

- ⁴ In 2018 and since the end of the observation period, Brighton and Hove Albion and Huddersfield Town were promoted to the Premier League for the first time. There have been 49 member clubs as of the 2018/19 season.
- ⁵ The Premier League can also be described as the *first division* of professional football in England and Wales, with the Football League Championship as the *second division*, League One as the *third division*, and League Two as the *fourth division*.
- ⁶ Now the Carabao Cup (since 2017).

Table 1.1: Professional Football in England and Wales

Level	Division	League
1	Premier League	Football Association Premier League Limited
2	Championship	The Football League Limited
3	League One	
4	League Two	

Ten former Premier League clubs have been relegated to League One via the Football League Championship. Three clubs – Bradford City, Portsmouth and Swindon Town – were then further relegated to League Two. Conversely, seven clubs have been promoted from League One to the Football League Championship and then the Premier League, and six clubs have been promoted from League Two to the Premier League. Four clubs – Leicester City, Manchester City, Norwich City and Southampton – have been relegated from the Premier League to League One and then promoted back to the Premier League during the observation period. There is therefore considerable mobility and change every season between, as well as within, the divisions.

The Football Association

The Premier League and Football League are sanctioned by the Football Association (FA), and all member clubs are affiliated to the FA via the relevant County Football Association (Football Association, 2017). The FA was formed in 1863 (Buraimo et al, 2006) and is recognised by the United Kingdom government – via Sport England (n.d.) and other sport councils – as the national governing body for association football in England. It is responsible for the governance of professional and amateur football in England (Football Association, 2017)⁷. The FA also manages the England national teams, which mostly draw on players from Premier League and Football League clubs. All Premier League and Football League clubs enter in the FA Cup, which is a cup competition organised by the FA⁸. The governance and administration of professional football is therefore shared by the Premier League, EFL and the FA.

⁷ The Premier League and Football League includes clubs from Wales, who are affiliated to the Football Association of Wales.

⁸ Now the Emirates FA Cup (since 2015).

Union of European Football Associations (UEFA)

The FA is a member of the Union of European Football Associations (UEFA)⁹. Club competitions organised by UEFA include the Champions League and Europa League (formerly the UEFA Cup to 2008/09). Entry to the Champions League is currently awarded to the Premier League champions, runners-up and third- and fourth-placed clubs. The winners of the Champions League and, since 2015/16, the Europa League, also qualify for the following season's Champions League competition (UEFA, 2013). Entry to the Europa League is currently awarded to the two next best-placed Premier League clubs and to the winners of the FA Cup and EFL Cup.

1.3. The strategy of Premier League clubs

Premier League clubs such as Manchester United, Chelsea and Arsenal possess superior team and stadium resources, from which they typically generate superior business and sporting performance. But it is not always the clubs with superior resources that are successful. Sometimes, smaller clubs compete in the Premier League, with Leicester City being the most recent example by winning the Premier League in 2015/16. Conversely, some large clubs have failed, either in terms of business or sporting performance, and sometimes both. A number of the large clubs that were founder members of the Premier League have been relegated to the Football League Championship and subsequently entered administration. Leeds United were the Football League champions in the season before the formation of the Premier League, and qualified for the Champions League in 1992/93 and 2000/01, but were then relegated to the Football League, and entered administration in 2007. Concurrently, small- and medium-size clubs such as Leicester City, Queens Park Rangers and Southampton have survived relegation and insolvency, and subsequently been promoted back to the Premier League. But sporting failure does not necessarily coincide with financial failure, as Derby County, Middlesbrough, Newcastle United, Sunderland and West Ham United have all been relegated from the Premier League but been promoted back to the division without entering administration. Occasionally, clubs with inferior resources outperform large clubs. These smaller clubs that possess inferior team and stadium resources have emerged and grown from the third and fourth divisions to become more successful than some clubs with superior resources. Blackpool, Cardiff City, Fulham, Hull City,

⁹ The FA is also a member of the Fédération Internationale de Football Association (FIFA), which is the international federation of the sport and organises the FIFA World Cup.

Swansea City and Wigan Athletic have all won promotion from the fourth division to the Premier League.

This demonstrates that professional team sport performance is not always predictable. Clubs can over- or under-perform relative to their team and stadium resources. Some of these clubs are outliers. Furthermore, success or failure can be sustained or temporary. Some clubs enjoy sustained success or have endured perennial failure, while others have experienced growth, decline or both periods of growth and decline. Clubs appears to fulfil unique paths of performance. Existing theories and models of professional team sport strategy do not adequately explain the variation in sporting and business performance of different clubs and in different eras.

1.4. Why do some clubs succeed, but others fail?

Professional sport club owners may seek to maximise winning, profits or both. However, few theoretical and empirical models of professional sport club performance incorporate both sporting *and* business performance. Furthermore, many models assume that club owners have *either* sporting *or* business objectives. Most empirical research of professional sport club performance focuses on describing and explaining the relationship between the resources and other inputs of clubs on their performance, but ignores the outliers of over-performing and under-performing clubs. It is these over- and under-performing clubs that, conceptually and empirically, are the most interesting, as evidenced by the aforementioned interest in Leicester City winning the Premier League, the failure of Arsène Wenger to sustain the success of Arsenal, the administration of Portsmouth, or the relegation of Aston Villa and Newcastle United to the Football League Championship. Empirical research of professional sport club performance is usually cross-sectional or encompasses a limited observation period that does not allow for analysis of the dynamic growth or decline of clubs, especially between divisions. There is an assumption that league or division membership is consistent, whereas there is considerable mobility via promotion and relegation between divisions. This is becoming more important as there is evidence of a growing gap between the Premier League and Football League, as well as between Champions League participants and the remaining clubs in the Premier League, and even between the Football League Championship and Leagues One and Two.

There a need for theoretical and empirical research that considers the competitive and dynamic nature of professional sport club performance. The research incorporates performance, resources and the

competitive environment. Sporting and business performance is generated from team and stadium (and other) resources. But the paths of clubs change as performance changes, especially between and within divisions, and also as the owners and objectives of owners change, and as clubs acquire and divest of their team and stadium resources to adapt, or fit, to the changing competitive environment. Therefore, the fundamental aim for the research is to explain:

How and why do Premier League football clubs utilise their resources to generate and sustain sporting and business performance?

Empirical research is conducted in the context of professional team sport. The sample is professional football clubs in England and Wales that are, or have been, members of the Premier League since its formation in 1992/93 to the end of the 2015/16 season. Conceptual models are proposed for the relationships between the resources and performance of professional sport clubs. For each of the constructs, variables are defined and a series of hypotheses and propositions are proposed to test elemental and contingent relationships. Data is collected from archive sources, including the *Annual Review of Football Finance* and the *Football Yearbook*, which is then analysed using statistical (pooled, fixed effect, time-fixed and two-way effects panel regression models) and visual methods (time-ordered cross-case displays).

1.5. Sport management theory and practice

The research indicates that the management of most Premier League clubs is, for most of the time, prudent. The predicted effects of team resources on sporting performance and of sporting performance on business performance are confirmed, and there are some distinctive patterns between some groups of clubs, especially those that enjoy success or endure failure. The resource and resource management strategies of clubs is further explored to establish how and why owners and utilise their team and stadium resources to generate and sustain superior sporting, business and financial performance. Club owners and business executives¹⁰ are usually willing and able to match resources to performance. Any instances of excessive misfit between inputs to outputs are promptly resolved, usually by compensating for the under- or over-fit. However, there is limited evidence of a

¹⁰ The term *business executives* is used to refer to business managers, such as the Chief Executive Officer, and *team managers* is used for sport managers, commonly referred to as the manager or the head coach (Szymanski, 2015).

predictive relationship between fit and performance, although some patterns were evident where clubs experienced misfit when winning promotion to the Premier League.

The research contributes to sport management theory and practice. It develops and tests theory of professional sport club performance, ranging from simple, predictive models that confirm established relationships, through to more complex models that explore the multiple relationships between different types of resources and performance outcomes. The analysis of relationships is extended with further investigation of outliers, which represent the over- and under-performing (or under- and over-resourced) clubs. The empirical models encapsulate the unique resource and resource management strategies that clubs adopt and their divergent and equifinal paths. They further evaluate and demonstrate the resilience and adaptability of clubs to change, and specifically to the gap between and within divisions and to the growth, globalisation and commercialisation of professional team sport. The findings and methodologies could be utilised by club and league decision-makers. Club owners and business executives can utilise the models to inform the formulation, implementation and evaluation of strategy. There is further potential application for the monitoring and control of clubs by league, governing body and federation executives.

1.6. The thesis

The thesis comprises theoretical and empirical research. It commences with an explanation of the context of the research by charting the evolution of the Premier League (Chapter 2) plus a review of professional team sport management theory and the concepts of change and fit as an approach to explaining the variation in professional sport club performance (Chapter 3). Then, conceptual research explores the conceptualisation and measurement of clubs' resources and performance, with resources comprising teams, stadiums and other inputs that are utilised to generate business and sporting performance outputs (Chapter 4). The relationships between performance and resources are also examined to encompass the effects of change and introduce the concept of fit. Next, the adopted empirical research methodology for confirmatory and exploratory analysis is discussed and justified (Chapter 5). Confirmatory analysis examines the effects of team resources on sporting performance (Chapter 6) and of sporting performance on business performance (Chapter 7), and exploratory analysis investigates the contingency effect of sporting performance on the relationship between team resources and business performance (Chapters 8 and 9). Together, conclusions and

recommendations are drawn from these models to facilitate professional team sport management theory and practice (Chapter 10). The content of the thesis is summarised in Figure 1.2.

Figure 1.2: Theoretical and empirical research

Part 1: Theoretical research		
2. Literature review: The evolution of the Premier League	3. Literature review: How and why do clubs compete? Professional team sport management theory and practice	
4. Conceptual research: The conceptualisation and measurement of professional team sport		
Part 2: Empirical research		
5. Research methodology: Describing and explaining professional sport club performance		
6. Empirical research: Sporting performance model	8. Empirical research: Contingency models	9. Empirical research: Sporting and business performance model
7. Empirical research: Business performance model		
10. Conclusions: The conclusions to and recommendations from the thesis		

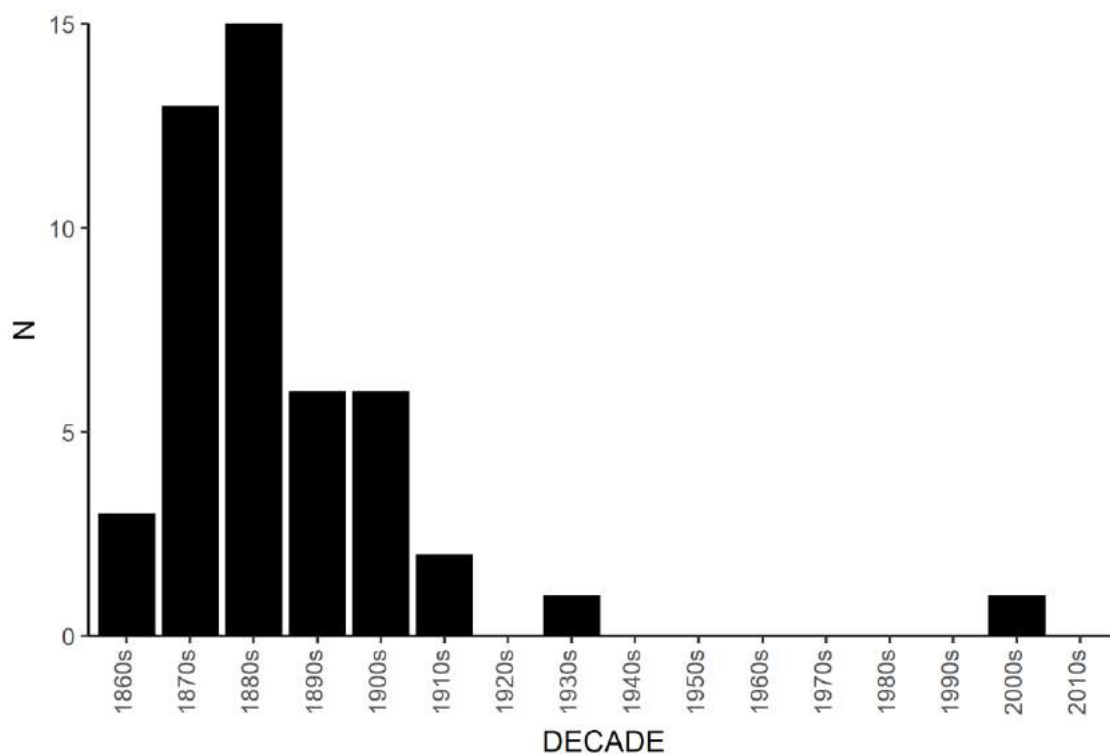
2. Literature review: The evolution of the Premier League

Chapter summary

- Prior to 1993, the structure and strategy of professional football was mostly conservative and stable, but extensive and intensive change in the sporting and competitive environment stimulated and enabled the formation of the Premier League.
- The growth of the Premier League was prompted by change in the finance and information and communication industries, and by emerging television, internet and mobile technology.
- Commercialisation of professional team sport has enabled clubs to generate incremental revenue, but many clubs have also increased team resource expenditure, and especially player wages and overseas player trading, partly as a consequence of the *Bosman* case, while contagion from the failure of broadcasters ITV Digital and Setanta Sports led to insolvency for a number of Football League clubs.
- Much of this expansion has been from overseas markets, while, contemporaneously, owners, players, team managers and business executives have also become globalised.
- New stadiums have opened, which were obligated by government inquiries and additions and amendments to legislation following a series of disasters and incidents, and enabled by the growth of the financial sector and the enhanced commercialisation of professional team sport.
- The Premier League has become established as one of the foremost professional sport leagues in the world and many of its member clubs now generate substantial revenue and profit, although sporting performance in UEFA competitions has been more erratic.
- There is some evidence that the location of member clubs is becoming concentrated in London and the North West, with a concurrent trend of larger clubs in industrial regions being replaced by smaller clubs in post-industrialised towns and cities.
- The gap between the Premier League and Football League has widened, with further divergence between the Championship to Leagues One and Two, and between the Premier League and Champions League.

The management of professional football in England and Wales has, historically, been conservative. There have been few changes to structure of club competitions since the restructure of the Football League to four divisions in 1958 (Anderson, 2016). Most of the clubs that are current or previous members of the Premier League were formed between the 1860s to the 1910s, as illustrated by Figure 2.1. The oldest clubs were founded in the 1860s: Stoke City (1863), Nottingham Forest (1865) and Sheffield Wednesday (1867). Clubs continued to be formed until the 1910s, with the formation of Swansea City in 1912 and Leeds United in 1919. Since then, only Wigan Athletic and Milton Keynes have been formed. Wigan Athletic were founded in 1932, but did not enter the Football League until 1978 and the Premier League until 2005. The formation of Milton Keynes is contentious and complicated by the club being formed from the relocation of Wimbledon in 2003 and by the consequent creation of AFC Wimbledon (see Section 5.3). Only four clubs (Accrington Stanley, Aldershot, Maidstone United and Newport County) have been dissolved and rescinded their Football League membership as a consequence of financial failure (Deloitte, 1993), and all have since re-formed.

Figure 2.1: Clubs founded per decade, Premier League clubs, 1880s to 2010s



Source: *Football Yearbook*

However, in 1992 the Premier League and Champions League were launched and their growth has coincided with a period of change and uncertainty for professional team sport, and especially to economic, technological and legal trends (Deloitte, 1994; Gerrard, 2004). In the United Kingdom and Europe, changes in the financial, insurance, information and communication industries have affected the success and failure of professional football leagues and clubs. These trends have had a substantial impact on professional team sport (Andreff and Staudohar, 2000; Frick, 2007; Késenne, 2007; Vrooman, 2007a; Vrooman, 2007b; Vrooman, 2013).

2.1. Antecedents to the Premier League

The reputation of professional football in the United Kingdom was severely damaged by a series of disasters and incidents in the 1970s and 1980s, as summarised in Table 2.1. These events had a considerable and detrimental impact on the reputation of the sport. In May 1985, there were 54 fatalities and over 250 casualties as a consequence of a fire at Bradford City's Valley Parade (Elliott et al, 1997), and on the same day one spectator was killed and 20 were injured in crowd disorder at Birmingham City's St Andrews stadium (Elliott et al, 1997). Just 18 days later, there were a further 38 fatalities and in excess of 600 casualties caused by public disorder before the 1985 UEFA European Cup Final between Liverpool and Italian club Juventus at the Heysel Stadium (now King Baudouin Stadium) in Brussels, Belgium (Elliott et al, 1997; Schwarz et al, 2010). English clubs were banned by UEFA from European competitions for five years (Boyle and Haynes, 2004). In response, the United Kingdom government commissioned the Popplewell (1985, 1986) *Committee of Inquiry into Crowd Safety and Control at Sports Grounds* and subsequently introduced legislation with the *Fire Safety and Safety of Places of Sport Act 1987*. Then, in 1989, 95 fans were killed and more than 400 injured before the FA Cup Semi-Final at Sheffield Wednesday's Hillsborough stadium. As a consequence of the Taylor (1989a, 1989b) inquiry into *The Hillsborough Stadium Disaster*, further legislation was passed, including *the Sporting Events (Control of Alcohol etc.) Act 1985*, *the Football (Offences) Act 1991* and *the Criminal Justice and Public Order Act 1994* (Crown Prosecution Service, n.d.).

Table 2.1: Stadium disasters and incidents, United Kingdom football clubs, 1970 to 1992

Venue	Year	Fatalities	Casualties
Ibrox Stadium, Glasgow	1971	66	145
Brunton Park, Carlisle	1971	0	5
Manor Ground, Oxford	1971	0	25
Victoria Ground, Stoke	1971	0	46
Molineux, Wolverhampton	1972	0	80
Highbury, London	1972	0	42
Sincil Bank, Lincoln City	1975	0	4
Brisbane Road, London	1978	0	30
Ayresome Park, Middlesbrough	1980	2	0
Hillsborough, Sheffield	1981	0	38
Fellows Park, Walsall	1984	0	20
Valley Parade, Bradford	1985	54	250+
St Andrews, Birmingham	1985	1	20
Heysel Stadium, Brussels	1985	38	600+
Easter Road, Edinburgh	1987	0	150
Hillsborough, Sheffield	1989	95	400
Ayresome Park, Middlesbrough	1989	0	19

Adapted from: Elliott et al (1997) and Schwarz et al (2010)

The *Football Spectators Act 1989* provided for the establishment of the Football Licensing Authority, which became the Sports Ground Safety Authority in 2011 (Sports Ground Safety Authority, 2013), and the *Guide to Safety at Sports Grounds*¹¹. Clubs were compelled to improve their stadiums and enhance the management of facilities, which then attracted more spectators and enabled more matchday revenue to be appropriated from ticket and hospitality sales. Future editions of the *Guide to Safety at Sports Grounds* – commonly referred to as the *Green Guide* – were published by the Department for Culture, Media and Sport (2008)¹² and the Sports Grounds Safety Authority (2018).

From the 1980s, change to national and international political and economic trends had a considerable impact on many industries, including professional team sport. In the United Kingdom, change was

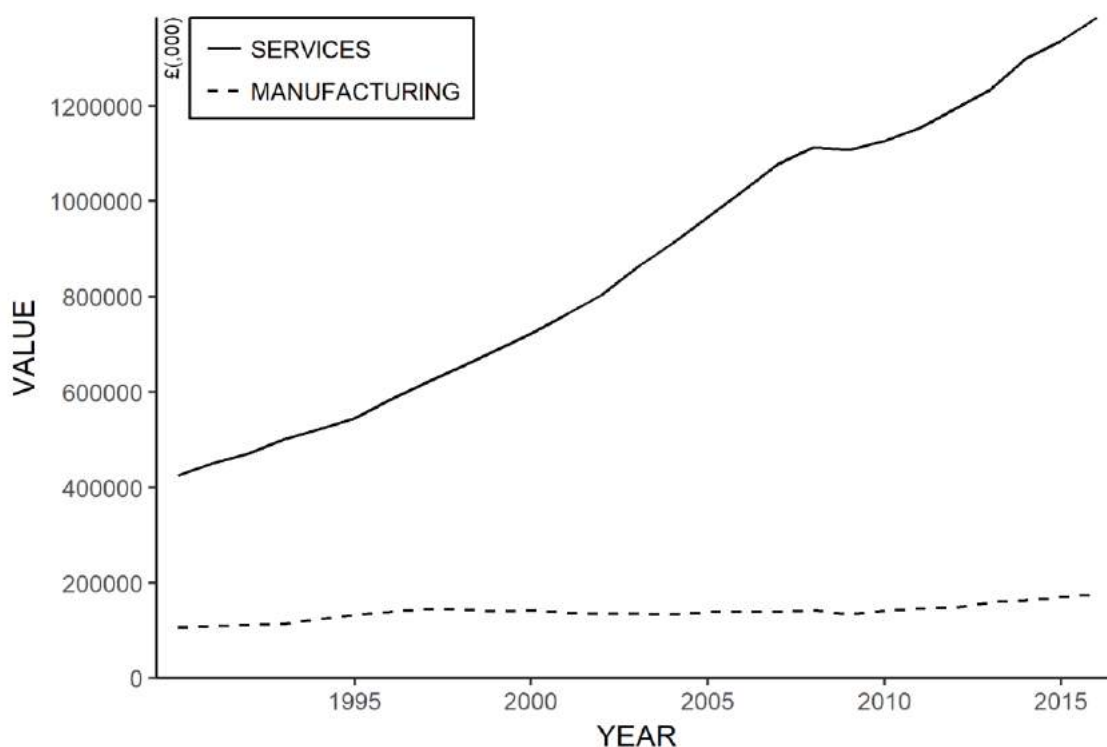
¹¹ The Green Guide was first published in 1973 as a consequence of the Wheatley (1972) Report of the Inquiry into Crowd Safety at Sports Grounds, commissioned in response to a disaster at Ibrox Stadium in Glasgow in 1971, with a revised edition in 1986 following the fire at Valley Parade, and again in 1990 after the Hillsborough disaster. The fourth edition was published in 1997, the fifth edition in 2008, and the sixth edition in 2018.

¹² Now the Department for Digital, Culture, Media & Sport (since 2017).

prompted by the election of Margaret Thatcher's Conservative Party in 1979 and, later, by the formation of the European Union in 1993, which enabled economic and monetary union from 1993 (Gardiner et al, 2012). Globalisation has influenced professional team sport since the 1980s (Bourg and Gouget, 2006) and especially European sport from the 1990s (Vrooman, 2007b) by transforming the competitive environment of sport and other industries through change to the governance and organisation of leagues and clubs.

The transformation of the United Kingdom economy from manufacturing to services continued during this period (Office for National Statistics, 2017), as illustrated by the relative growth in Gross Domestic Product (GDP) in the services and manufacturing sectors from the 1990s shown in Figure 2.2. The services economy incorporates arts, entertainment and recreation (which includes sport) and the financial, insurance, information and communication industry, which facilitated the development of resource markets (for players and stadiums) and product markets (for matchday, commercial and broadcasting products and services) in professional team sport. Concurrently, the change from manufacturing to services and the associated change in employment, types of work, earnings and working patterns (Office for National Statistics, 2017) created new markets of consumers. Leagues and clubs developed products and services for these consumers and business customers as their business models evolved to encompass the marketing *of* sport, including tickets, food services and retailing, and marketing *through* sport, such as licensing and sponsorship (Mullin et al, 2014).

Figure 2.2: Gross Domestic Product, by sector, 1990 to 2016



Source: Office for National Statistics (2017)

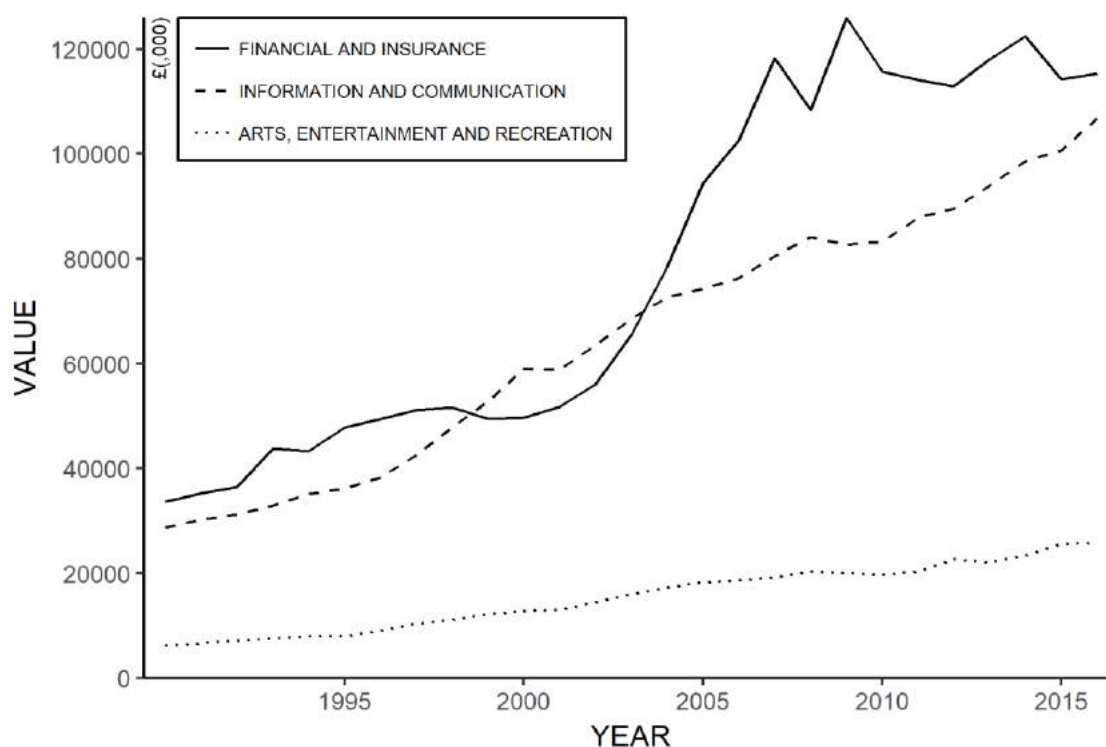
Change to the financial services industry in the United Kingdom and Europe had an immediate and lagged effect on professional team sport by supplying financial resources to broadcasters and, eventually, to professional sport clubs. The *Financial Services Act 1986* regulated and made provision of financial services and coincided with the *Big Bang* of 1986 – the digitisation of the financial services markets in the City of London, while the *Banking Act 1987* regulated and amended business and consumer financial services (Pilbeam, 2018). The *Insolvency Act 1986* consolidated legislation relating to the insolvency and winding-up of companies, which was to have a significant effect on professional football in England and Wales (Kuper and Szymanski, 2012) with clubs being able to use, and arguably abuse, insolvency proceedings to survive and gain a competitive advantage despite financial failure.

Concurrently, the broadcasting industry was transformed in the 1980s (Barnett, 1990; Boyle and Haynes, 2004; Buraimo, 2006) and 1990s (Boyle and Haynes, 2004; Buraimo, 2006). Previously, the BBC and ITV had an established duopoly for the broadcast of football in England and Wales (Boyle and Haynes, 2004; Buraimo, 2006), with the rights highlights divided between on BBC's *Match of the Day* on Saturday evening and ITV's *The Big Match* on Sunday afternoon. But, in 1988, the Football

League agreed a £44 million contract with ITV for the exclusive rights to broadcast of live matches on *The Big Match* for four years from the 1998/99 season (Boyle and Haynes, 2004; Gerrard, 2004). Meanwhile, new entrants pre-empted and reacted to change to legislation including the *Cable and Satellite Act 1984* and the *Broadcasting Act 1990* (Boyle and Haynes, 2004), while the European Union's *Television Without Frontiers Directive* (Milne, 2016) establish conditions for free movement and fair competition within a common market for the production and distribution of broadcasting services. The aforementioned evolution of the financial services industry facilitated the formation and subsequent growth of British Satellite Broadcasting (BSB) in 1990 (Barnett, 1990; Boyle and Haynes, 2004) and Sky Television in 1989 (Barnett, 1990). BSB was backed by Robert Maxwell (Gershon, 2016), the owner of Oxford United and Derby County (Boyle and Haynes, 2004), while Sky was owned by Rupert Murdoch (Barnett, 1990), who later invested in a number of Premier League clubs. In 1990, British Sky Broadcasting (BSkyB) was formed with the merger of BSB and Sky (Buraimo, 2006), with Sky effectively taking over BSB (Boyle and Haynes, 2004).

The development of the financial, information and communication industries that facilitated the formation of the Premier League is illustrated by Figure 2.3. There was considerable expansion in the financial sector after the Millennium, but stagnation since the recession of the late-2000s, while the information and communication sector has been more constant. The arts, entertainment and recreation sector is much smaller and has enjoyed lesser, but constant, expansion since the 1990s. Within this sector, there has been considerable growth in the professional football industry in England and Wales (Deloitte, 2017a), which was resistant to the recession of the late-2000s (Deloitte, 2010, 2012).

Figure 2.3: Gross Domestic Product, by industry, 1990 to 2017



Source: Office for National Statistics (2017)

The 1990s signalled the resurgence of professional football in England. England qualified for the Italy 1990 FIFA World Cup and a television audience of 26 million – approximately half of the population of Great Britain – watched England lose in a penalty shoot-out to Germany in the Semi-Final (Greenfield and Osborn, 2000). The tournament had a substantial, and mostly more positive, effect on the reputation of English football (Davies, 1990). The Premier League and UEFA Champions League were formed in 1992 to exploit intensified competition in the broadcasting industry and capture increasing demand for football products and services from consumers and business customers. BSkyB launched its *Sky Sports* service and signed a £304 million contract for the broadcast of live Premier League matches for five years from 1992/93. The BBC regained the rights to broadcast highlights of Premier League matches on its relaunched *Match of the Day* (Boyle and Haynes, 2004), which offered free-to-air television broadcasting that presented a marketing channel to the clubs' consumer and business customers, including as sponsors and licensees. The Premier League clubs further benefitted from the increased broadcast revenue by appropriating a larger proportion of the revenue than when they were members of the Football League (Dobson and Goddard, 2011).

The transformation of the financial services sector introduced new providers of financial resources to professional football clubs. Financiers were assured by the broadcast rights that were generated by the Premier League and, importantly, appropriated by the member clubs, as well as the clubs' robust matchday and commercial revenue. This was evidenced by the increasing value and duration of broadcast and commercial rights contracts, and the increasing match attendances and television audiences.

By 1996, the merger of BSB and Sky into BSkyB meant that the retention of the live Premier League broadcast rights was almost a foregone conclusion given the dominant position of BSkyB (Gerrard, 2004). The broadcaster had, however, recognised the potential emergence of new entrants to the broadcast and telecommunications industry and negotiated a four-year contract (from 1997/98 to 2000/01) for £670 million (Boyle and Haynes, 2004). The Office of Fair Trading (OFT) referred the contract to the Restrictive Practices Court (RPC), but the RPC concluded that the collective sale of broadcast rights was in the public interest (Buraimo, 2006; Gerrard, 2004). Nevertheless, the initial five-year (from 1992/93 to 1996/97) and four-year (from 1997/98 to 2000/01) contracts were subsequently replaced by three-year terms (Milne, 2016), as the growth of the broadcast industry accelerated towards the end of the Millennium (Boyle and Haynes, 2004).

2.2. The evolving business model of Premier League clubs

As professional sport leagues evolved, their member clubs required financial resources to fund the development of team and stadium resources. Some clubs issued debt and equity, meaning that the creditors and owners of the club companies changed. Consequently, the management of clubs changed as owners now had to meet interest and dividend obligations. The business models of clubs evolved as their financial resources and financial performance objectives changed. Clubs adopted divergent strategies to utilise their team, stadium and other resources.

Professional sport clubs were able to access new forms of debt (Deloitte, 1998). Debt was issued in the form of mortgage securities (for example, by securing the debt against the club's stadium), and, more commonly in the Premier League era, by asset-based securities (which were secured against future matchday, commercial and broadcast revenue). Asset-based securities were typically secured against matchday revenue, and specifically general admission and hospitality tickets, and sometimes

on matchday and commercial revenue. Table 2.2 provides a summary of the largest debt issues by Premier League clubs, all of which occurred between 1999 and 2003.

Table 2.2: Debt issued by Premier League clubs, 1999 to 2003

Club	Value (£,000)	Issue	Term (years)	Matchday	Commercial	Broadcast
Everton	30,000	2002	25	Yes	No	No
Ipswich Town	25,000	2001	25	Yes	No	No
Leeds United	60,000	2001	25	Yes	No	No
Leicester City	28,000	2001	25	No	Yes	Yes
Manchester City	44,000	2002	25 / 15	Yes	No	No
Newcastle United	55,000	1999	17	Yes	Yes	No
Norwich City	15,000	2003	15	Yes	Yes	Yes
Southampton	25,000	2000	25	Yes	No	No
Tottenham Hotspur	75,000	2002	20	Yes	No	No

Source: Deloitte (2004, 2005)

There were differences in the purpose of the financial resources raised by clubs. Only Leicester City and Southampton used their financial resources to fund new stadiums, for the Walkers Stadium (now King Power Stadium) and St Mary's Stadium respectively. However, Leicester City entered administration just a year after their issue in 2002, while Southampton went into administration in 2009, although this was nine years after the completion of their offer. Some of the clubs that used debt for other purposes also experienced financial failure. Ipswich Town raised debt in 2001 to redevelop their Portman Road stadium but entered administration just two years later, and Leeds United, who restructured debt in 2001, were put into administration in 2007 (Deloitte, 2002). Manchester City's debt issue coincided with their relocation in 2003 to the City of Manchester Stadium (now Etihad Stadium), which is owned by Manchester City Council (Garrahan, 2002a, 2002b). Many of the clubs that raised debt had previously listed, indicating that these club companies were able to access a mix of financial resources and that lenders were more willing to lend to publicly-owned clubs.

Equity was raised by professional football club companies through the initial public offering (IPO), or floatation (Deloitte, 1996). Shares were then traded on the London Stock Exchange (LSE), Alternative Investments Market (AIM) and OFEX¹³. Table 2.3 provides a list of the former and current Premier League clubs that are currently, or were previously, owned by a public limited company (PLC). With

¹³ OFEX was rebranded as Plus Markets and then to Nex Exchange.

the exception of Tottenham Hotspur (1997), Arsenal and Manchester United (1991) and Watford (2001), all of the IPOs were completed between 1995 and 1997.

Table 2.3: Equity raised by Premier League clubs, 1983 to 2001

Club	Company	Listed	Market
Arsenal	Arsenal Holdings PLC	1991	OFEX
Aston Villa	Aston Villa PLC	1997	London Stock Exchange
Birmingham City	Birmingham City PLC	1997	AIM
Bolton Wanderers	Burnden Leisure PLC	1997	London Stock Exchange
Charlton Athletic	Charlton Athletic PLC	1997	AIM
Chelsea	Chelsea Village PLC	1996	AIM
Leeds United	Caspian PLC	1996	London Stock Exchange
Leicester City	Leicester City PLC	1997	London Stock Exchange
Manchester City	Manchester City PLC	1995	OFEX
Manchester United	Manchester United PLC	1991	London Stock Exchange
Newcastle United	Newcastle United PLC	1997	London Stock Exchange
Nottingham Forest	Nottingham Forest PLC	1997	AIM
Queens Park Rangers	Loftus Road PLC	1996	AIM
Sheffield United	Sheffield United PLC	1997	London Stock Exchange
Southampton	Southampton Leisure Holdings PLC	1997	London Stock Exchange
Sunderland	Sunderland PLC	1996	London Stock Exchange
Swansea City	Silver Shield Group PLC	1997	London Stock Exchange
Tottenham Hotspur	Tottenham Hotspur PLC	1983	London Stock Exchange
Watford	Watford Leisure PLC	2001	AIM
West Bromwich Albion	West Bromwich Albion PLC	1997	AIM

Sources: Amir and Livine, 2005; Deloitte, 2007; Kuper, 1997a, 1997b; Morrow, 1999; Owen, 2001; Szymanski, 2015

However, there were immediate concerns about the public football club companies, both in terms of their financial performance (Deloitte, 1996) and sporting performance (Deloitte, 1999, 2000). Equity was raised by permanent Premier League members, including Arsenal, Chelsea, Manchester United and Tottenham Hotspur. However, floatation did not always lead to success. Queens Park Rangers and Swansea City both entered administration in 2001, five years and four years respectively after floatation. Leeds United, Leicester City and Southampton issued debt during the same era but subsequently entered administration; however, it is difficult to establish causality because of the lag between events. Leeds United went into administration in 2007 (nine years after floatation), Leicester City (five years later, in 2002) and Southampton (12 years later, in 2009). These three clubs issued

both debt and equity during the era, although this not necessarily explain their subsequent financial failure as Newcastle United and Tottenham Hotspur did likewise but remained solvent.

The floatation of clubs as public companies enabled strategic alliances to be formed between professional football clubs and broadcasters. Clubs and broadcasters had identified the complementarity of emerging technology and live sport, and, to secure this relationship, a number of broadcasters acquired equity in Premier League clubs. Table 2.4 shows that BSkyB, Granada and NTL adopted such a strategy by investing in eleven clubs in 1999 to 2000.

Table 2.4: Acquisitions of Premier League clubs by broadcasters, 1999 to 2000

Club	Value (£,000)	Acquisition	Equity	Broadcaster
Arsenal	77,000	2000	10.0%	Granada
Aston Villa	26,000	2000	10.0%	NTL
Chelsea	40,000	2000	9.9%	BSkyB
Leeds United	14,000	1999	9.1%	BSkyB
Leicester City	13,000	2000	10.0%	NTL
Liverpool	22,000	1999	10.0%	Granada
Manchester City	11,000	1999	9.9%	BSkyB
Manchester United	67,000	1998	9.9%	BSkyB
Middlesbrough	15,000	2000	5.6%	NTL
Newcastle United	41,000	1999	9.9%	NTL
Sunderland	7,000	1999	5.0%	BSkyB

Source: Deloitte, 2000; Garrahan and O'Connor, 2002

Broadcasters did not retain their equity in professional football clubs (Deloitte, 2002), and most shares – including those in the permanent Premier League members – were divested between 2003 and 2007. In 2003, Aston Villa PLC, the then owner of Aston Villa, acquired the shares that had transferred from NTL to Premium TV (Aston Villa, 2003), while JP McManus and John Magnier increased their ownership stake in Manchester United by buying shares from BSkyB (Garrahan, 2003). Granada's shares in Arsenal and Liverpool had transferred to ITV PLC and these were also subsequently divested. In 2007, Stan Kroenke acquired ITV's equity in Arsenal (Edgecliffe-Johnson, 2007) and Kop Football (owned by George Gillett and Tom Hicks) purchased ITV's stake in Liverpool (Blitz and Wilson, 2007). The exception was Chelsea, with shares in Chelsea Football Club Limited, a subsidiary of the Chelsea FC PLC, only being divested by BSkyB to Chelsea FC PLC in 2013 (Blitz, 2013).

The business model of the Premier League was changing and clubs therefore needed to generate revenue and profit, from which interest and dividend payments could be made. Most revenue was generated from matchday, commercial and broadcast sources. To appropriate this revenue, clubs needed to maintain Premier League membership and formulate and implement customer acquisition and retention programmes.

Premier League clubs developed new and existing products and services for the changing markets that were watching football. These include ticketing, retailing and food services, mostly to consumers, and licensing and sponsorship, to business customers. Traditionally, products and services were delivered in-stadium, including matchdays and non-matchdays, but clubs were now diversifying into out-of-stadium channels (Deloitte, 1999). For example, Manchester United opened hotels (Manchester United, 1997) and the *Red Cinema* (Manchester United, 2003) near to its Old Trafford stadium, while developing local, national and international channels through its retail and *Red Café* brands (Manchester United, 1999) and a joint venture (Manchester United Merchandising) with Nike for its merchandise and retail operation (Manchester United, 2001).

Owners appointed business managers as well as team managers (Deloitte, 1999), who in turn developed sponsorship and licensing partnerships with some of the providers from the financial, information and communication sectors that had enabled the launch and growth of the Premier League and Champions League. Companies and brands in these sectors were induced by the value and volume of national and international markets and the strong brand loyalty of the clubs' customers and fans. For example, Manchester United launched a package of financial products and services using the *MU Finance* brand, including a credit card with Mastercard and a personal bank account with the Britannia Building Society (Manchester United, 1999). The club utilised its existing relationship with BSkyB, the Premier League broadcaster that owned 9.9% of the club, to launch *MUTV* (Manchester United, 1998) and the *ManUMobile* service with the club sponsor Vodafone (Manchester United, 2000). This emerging technology enabled revenue to be generated and integrated with the marketing and delivery of other products and services (Deloitte, 1999).

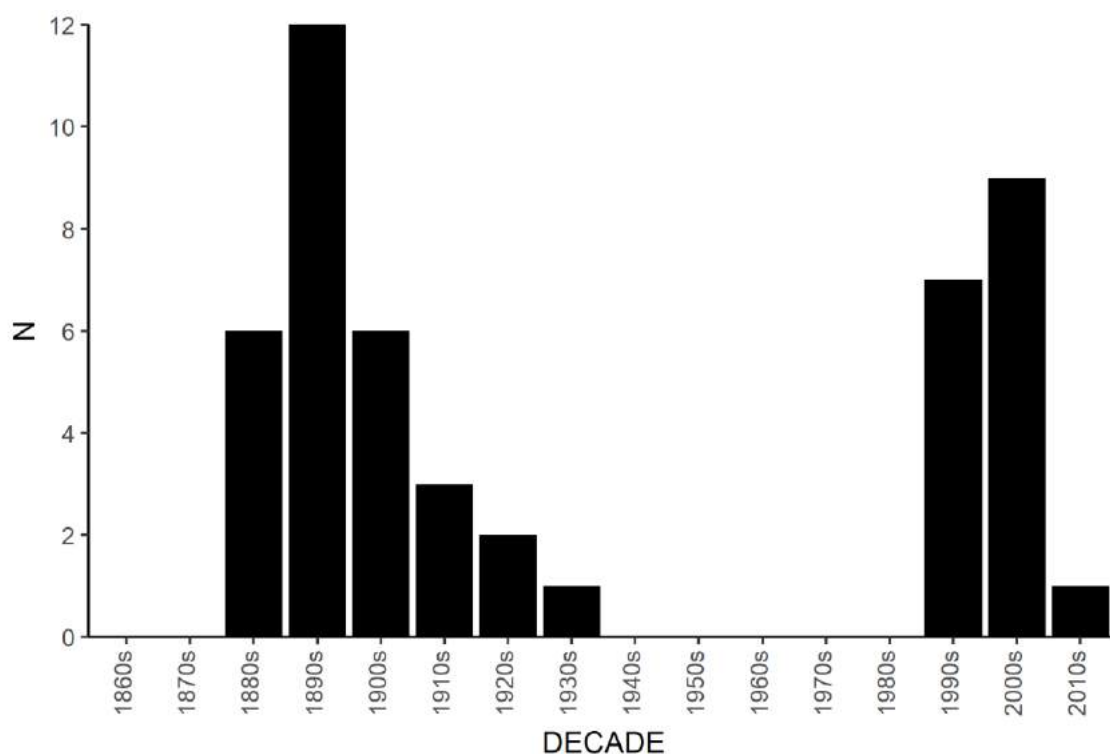
The Premier League and its member clubs became more protective and defensive of their brands and the associated revenue that could be generated. Manchester United were an early adopter of internet technology and registered the *manutd.com* domain name in 1996 (ICANN, 2018). A dispute between Arsenal and a stallholder who sold licensed and unlicensed merchandise near the club's Highbury

stadium (*Arsenal Football Club v Reed 2002*) reached the Court of Justice of the European Union and the Court of Appeal. The consequence of the case was that many clubs, including Arsenal, redesigned and trademarked their crests, badges and symbols (James, 2017). Everton and Tottenham Hotspur attempted to prevent other parties from using their clubs' name and nickname respectively (James, 2017). Conversely, stakeholders have prevented club owners from making changes to a club's brand. The FA ruled against the proposal by the owners of Hull City to change the name of the club to Hull Tigers, with the matter being heard by an Arbitration Panel (*Hull City Tigers Limited v Football Association Limited 2015*). The club continued to trade as Hull City, but removed the name and nickname from the club logo (James, 2017) and replaced it with *1904*, the year the club was founded (Anderson, 2016). Meanwhile, clubs and their stakeholders were attempting to restrict the bargaining power of new entrants. The Office of Fair Trading investigated the merchandising and retailing services of Manchester United and a number of suppliers and retailers (James, 2017). The club and three retailers were found guilty of price fixing (*JJB Sports PLC v OFT; Allsports Limited v OFT [2004]; JJB Sports PLC v OFT; Allsports Limited v OFT; Umbro Holdings Limited v OFT; Manchester United plc v OFT [2005]; and JJB Sports PLC v OFT [2006]*), with unprecedented fines imposed on JJB Sports (£6.7 million), Umbro Holdings Limited (£5.3 million), Manchester United (£1.5 million) and Allsports Limited (£1.4 million).

2.3. First generation stadiums

Enhanced sport facilities were compelled as a consequence of a series of disasters and incidents at British football stadiums in the 1970s and 1980s. The evolving business model of professional football further stimulated and enabled a new generation of venues. The first of this new generation of football stadiums in the United Kingdom was St Johnstone's McDiarmid Park in Perth, which opened in 1989 (Anderson, 2016) and was cited as an example of good practice by the Taylor (1989b) inquiry. But it was not until 1993 that the next new stadium was opened in England and Wales, when Millwall relocated to a new facility that was also named The Den (Anderson, 2016). Figure 2.4 shows that 17 of the 47 clubs who are or have been a member of the Premier League up to 2015/16 have relocated to a new stadium since 1992 (Anderson, 2016).

Figure 2.4: Stadiums opened per decade, Premier League clubs, 1880s to 2010s



Source: *Football Yearbook*

Most professional football clubs in England and Wales have utilised the same stadium since, or soon after, they were formed, with historic venues dating back to the 1880s. The number of new venues peaked in the 1890s but then declined with the advent of the First World War until, in 1935, Norwich City became the most recent current or former Premier League club to open a new stadium until the 1990s. Even in the Football League, the only clubs to relocate between the Second World War and 1990 were Leyton Orient (1937), Port Vale (1950), Southend United (1955), Accrington Stanley (1970), Stevenage (1980) and Scunthorpe United (1988).

Most of the stadium projects opened since the 1990s have been completed by Football League clubs or by clubs that were unable to maintain their membership of the Premier League. The relocation of Middlesbrough, Bolton Wanderers, Derby County, Sunderland, Leicester City and Manchester City all coincided with promotion to or relegation from the Premier League. It was not until Southampton moved to St Mary's Stadium in 2001 that an established Premier League club opened a new facility, and even they were relegated just four seasons later. Arsenal became the first permanent member of

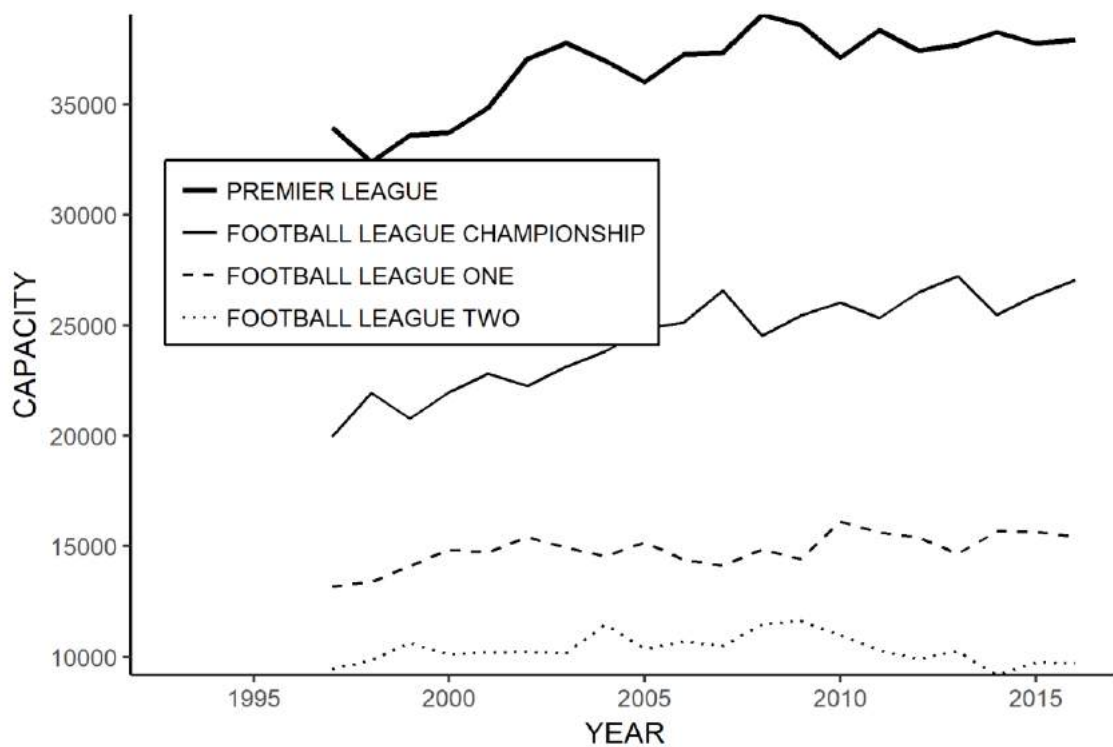
the Premier League to relocate when they moved to the Emirates Stadium in 2006¹⁴ and, more recently, West Ham United had been a Premier League member for four seasons when they relocated to the London Stadium in 2016. Huddersfield Town, Stoke City, Reading, Wigan Athletic, Hull City, Swansea City and Brighton and Hove Albion opened their new venues many seasons before promotion to the Premier League, while Coventry City moved to the Ricoh Arena in 2005, having been relegated from the Premier League in 2000/01.

The evolving business models meant clubs could now improve their stadium resources. Many of these first generation of contemporary stadiums were on a "sensible scale" (Deloitte, 1999, p. 17), as clubs responded to the Popplewell (1985, 1986) and Taylor (1989a, 1989b) inquiries, while new and existing products and services could be delivered to the clubs' emerging new markets. Professional football clubs also had access to the financial resources to develop venues. The stadiums were functional in terms of revenue generation – focusing mostly on ticketing, food services and retailing – and incurred modest capital and operating expenditure.

There was an increase in both the supply and demand for tickets to watch professional football in England and Wales. Growth occurred in all divisions, with most recorded in the Premier League and Football League Championship. The average capacity of stadiums increased, especially at the start of the Premier League era, as shown in Figure 2.5. Average attendance followed a similar trend, as illustrated in Figure 2.6. Clubs subsequently consolidated their general admission ticketing revenue and developed hospitality facilities (see Section 2.6). Fluctuations in supply and demand are mostly due to change in the membership of each division, but also to the redevelopment of existing facilities and relocation to new venues.

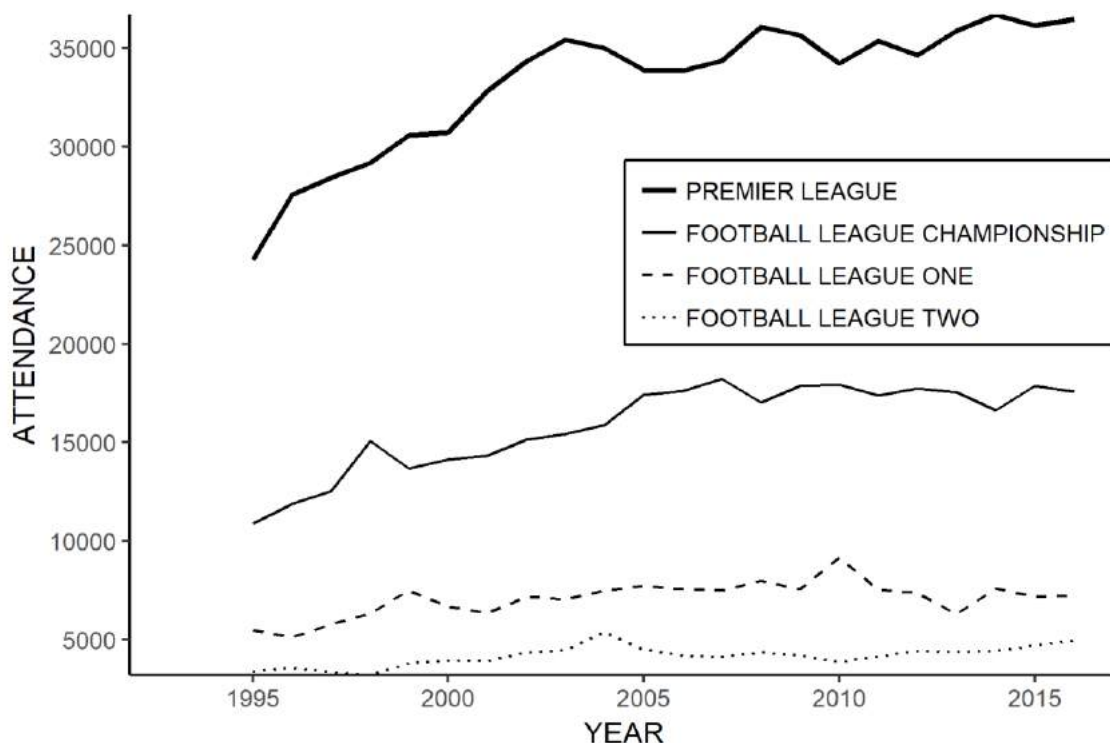
¹⁴ Tottenham Hotspur are building a new stadium that is scheduled to open in 2019.

Figure 2.5: Average stadium capacity per year, by division, Premier League and Football League, 1996/97 to 2015/16



Source: Annual Review of Football Finance

Figure 2.6: Average club matchday attendance per year, by division, Premier League and Football League, 1994/95 to 2015/16



Source: *Annual Review of Football Finance*

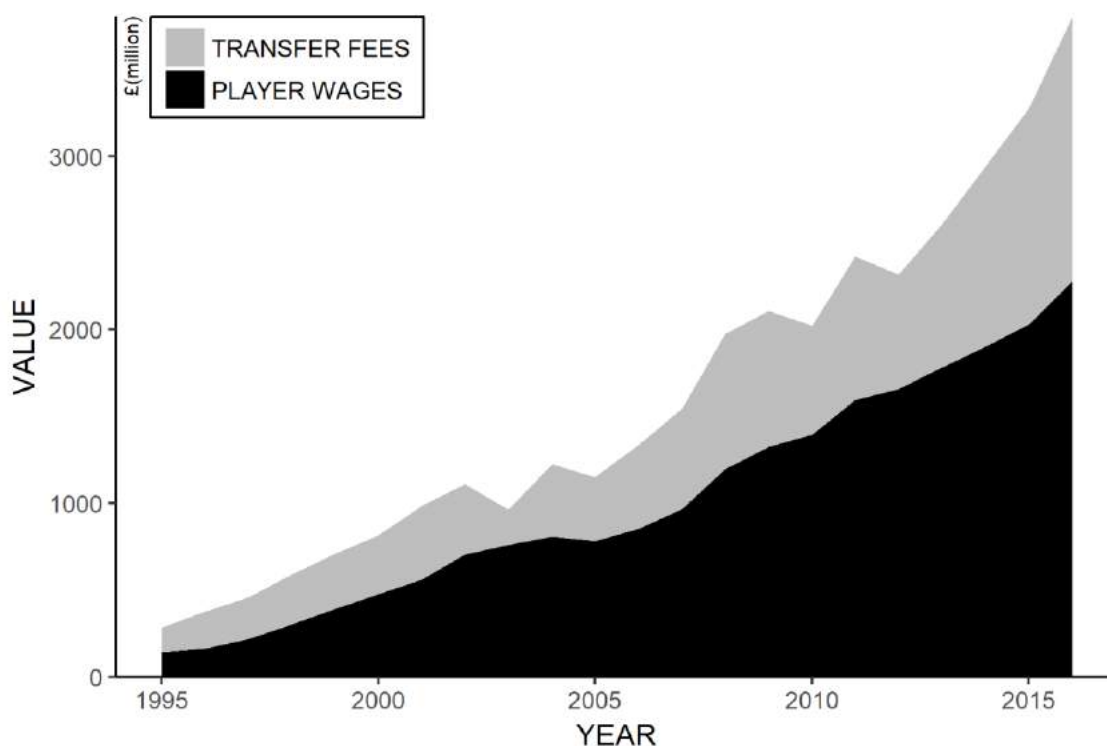
2.4. The expansion and contagion of professional football in England and Wales

Most of the revenue generated by the Premier League and Champions League is appropriated by clubs. But, to capture this revenue, clubs have to be members of the Premier League or qualify for the Champions League. This is accomplished and sustained by winning matches and championships. But winning matches usually requires superior team resources, and players are now appropriating more of the increased revenue that is being generated by the leagues and clubs.

Players have been able to do this as they have been afforded greater bargaining power as a consequence of change to the regulations of professional football in the United Kingdom, Europe and worldwide. The *Bosman case* (*Union Royale Belge des Sociétés de Football Association ASBL v Bosman [1995]*) was a "turning point in football's history" (Deloitte, 1999, p. 33). The outcome of the case was immediately known to league and club executives, but its consequences were uncertain for each club (Deloitte, 1995) and division (Deloitte, 1999). The extent and immediacy of the Court of Justice of the European Union's decision had both short-term and long-term consequences, with

players holding more bargaining power and the development of a global market for the trading of players (Deloitte, 1999). The *Bosman* case changed the rights of a club (the employer) when a contract of employment with a player (the employee) had terminated. Clubs were no longer permitted to restrict the mobility of an out-of-contract player by demanding a transfer fee. Players therefore assumed more bargaining power, either by renegotiating their contract towards the end of the term of the contract or by allowing the contract to expire, and appropriating some or all of the value from the buying club that was previously received by the selling club as a transfer fee. This had positive and negative consequences for clubs and players (Késenne, 2006a). Clubs were now able to sign out-of-contract players without incurring the payment of a transfer fee to the player's previous employer. However, they were now unable to solicit a transfer fees if a player's contract was allowed to expire. Players now had freedom when their contract had expired, but clubs responded by reducing the duration of player contracts. This led to an increase in the proportion of team resource expenditure that was appropriated by players as wages compared to the expenditure appropriated by selling clubs through transfer fee receipts, as illustrated in Figure 2.7.

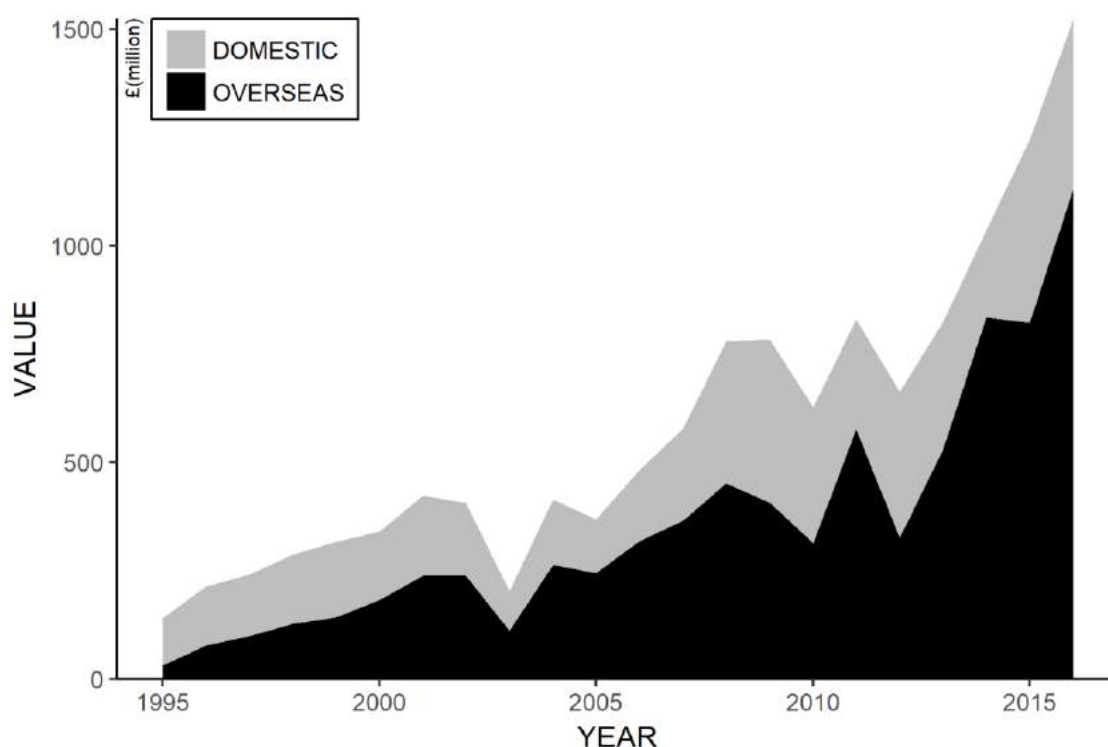
Figure 2.7: Total club player wages and transfer fees, Premier League and Football League, 1994/95 to 2015/16



Source: *Annual Review of Football Finance*

The freedom of movement of persons, services and capital that was enshrined by the European Union in 1992 was further enforced in professional team sport by the *Bosman* case (Vrooman, 2007a). Coincidentally, in 1992, UEFA introduced quotas for professional football clubs on the number of players in a team who were not eligible to play for the national team of the nation in which the club was affiliated (James, 2017). For example, Premier League clubs were restricted by the number of players who were not eligible to play for England. These quotas were also abolished by the Court of Justice of the European Union. The case therefore opened the European and global market for players, which are governed by UEFA and FIFA respectively (James, 2017), and enhanced players' mobility (Késenne, 2006a). Figure 2.8 shows how this has had an effect on the relative value players signed by Premier League clubs from other clubs in England and Wales and from overseas clubs.

Figure 2.8: Total club transfer fees, by market, Premier League and Football League, 1994/95 to 2015/16



Source: *Annual Review of Football Finance*

At the start of the Millennium, new entrants emerged to bid for the rights to broadcast football and other sports. In the United Kingdom, BSkyB's dominant position in subscription and pay-per-view television was gradually being eroded (Gerrard, 2004). Broadcasters recognised the potential of live sport rights as (Buraimo, 2006) as the "killer content" (Deloitte, 2001, p. 15). But the broadcasters

were not always successful in generating audiences and revenue (Buraimo, 2006), and this failure coincided with the decline in advertising revenue for broadcasters in 2000s (Deloitte, 2001). This led to the insolvency of key broadcasters and, consequently, a number of clubs.

ONdigital was a digital terrestrial television (DTT) service formed in 1998 (Boyle and Haynes, 2004) as a joint venture between Carlton and Granada (Boyle and Haynes, 2004; Szymanski, 2015). In 2001, the company was renamed to ITV Digital Holdings¹⁵ and rebranded as ITV Digital (Boyle and Haynes, 2004), and then invested £315 million on the live broadcast rights for the Football League for three seasons from 2001/02 (Buraimo, 2006; Emery and Weed, 2006). However, the service was a commercial failure (Gerrard, 2004) as the company over-estimated the level of consumer demand and revenue (Emery and Weed, 2006). The company consequently entered administration in 2002 (Deloitte, 2003), having broadcast live Football League matches for just one season (Buraimo, 2006)¹⁶. The contagion from the failure of ITV Digital led to "years of adjustment" by professional football clubs in England and Wales (Deloitte, 2004) and by some of the broadcasters¹⁷.

In 1998, BSkyB announced its intention to acquire Manchester United (Deloitte, 1999). The United Kingdom government referred the proposed takeover to the Monopoly and Mergers Commission (MMC), with the MMC ruling against the acquisition in 1999 (Deloitte, 2000), with the decision endorsed by the Secretary of State for Trade and Industry (Gerrard, 2004). In response, UEFA introduced regulations in 1998 that prevented multiple majority ownership of clubs by individuals or organisations, and only permitted a shareholder to hold 10% or more of the equity in multiple clubs (Deloitte, 2000). Concurrently, UEFA's rule that restricted the participation of clubs in its competitions where there was common ownership was challenged by ENIC PLC, which owned clubs in Czech Republic, Greece, Italy, Scotland and Switzerland, and subsequently acquired Tottenham Hotspur in 2001 (ENIC, 2001). The challenge was rejected by the Court of Arbitration for Sport (1999) and on appeal by the European Commission (2002). This essentially restricted investors, including broadcasters, from acquiring 10% or more of the equity in more than one club (Deloitte, 2000).

¹⁵ The joint venture's company name British Digital Broadcasting was changed to ONdigital Holdings and then to ITV Digital Holdings.

¹⁶ ITV Digital was subsequently relaunched as Freeview, but did not retain nor acquire any Premier League broadcast rights.

¹⁷ For example, NTL merged with Telewest to form Virgin Media in 2006.

BSkyB then implemented an alternative strategy of acquiring a minority shareholding in Manchester United plus similar investments in Chelsea, Leeds United, Manchester City and Sunderland (Gerrard, 2004; Gerrard, 2006). Meanwhile, BSkyB's competitors responded by adopting a similar strategy to prevent BSkyB from exerting bargaining power on the distribution of Premier League broadcasting rights (Gerrard, 2004; Gerrard, 2006). NTL withdrew their proposed takeover of Newcastle United, and instead acquired part of the equity in Aston Villa, Leicester City, Middlesbrough and Newcastle United, while ITV made similar investments in Arsenal and Liverpool (Gerrard, 2006).

Setanta, a broadcaster based in the Republic of Ireland, entered the United Kingdom broadcast market by investing £392 million on the rights to broadcast live Premier League matches (Downward, 2014) for four seasons from 2007/08. Similar to ONdigital, the company were unable to generate sufficient subscribers to its *Setanta Sports* service (Downward, 2014) and, as a consequence, defaulted on a payment of £10 million to the Premier League (Wilson, 2011). The company entered administration in 2009 (Downward, 2014) and the rights defaulted by Setanta were acquired from the Premier League by ESPN for £90 million (Downward, 2014)¹⁸.

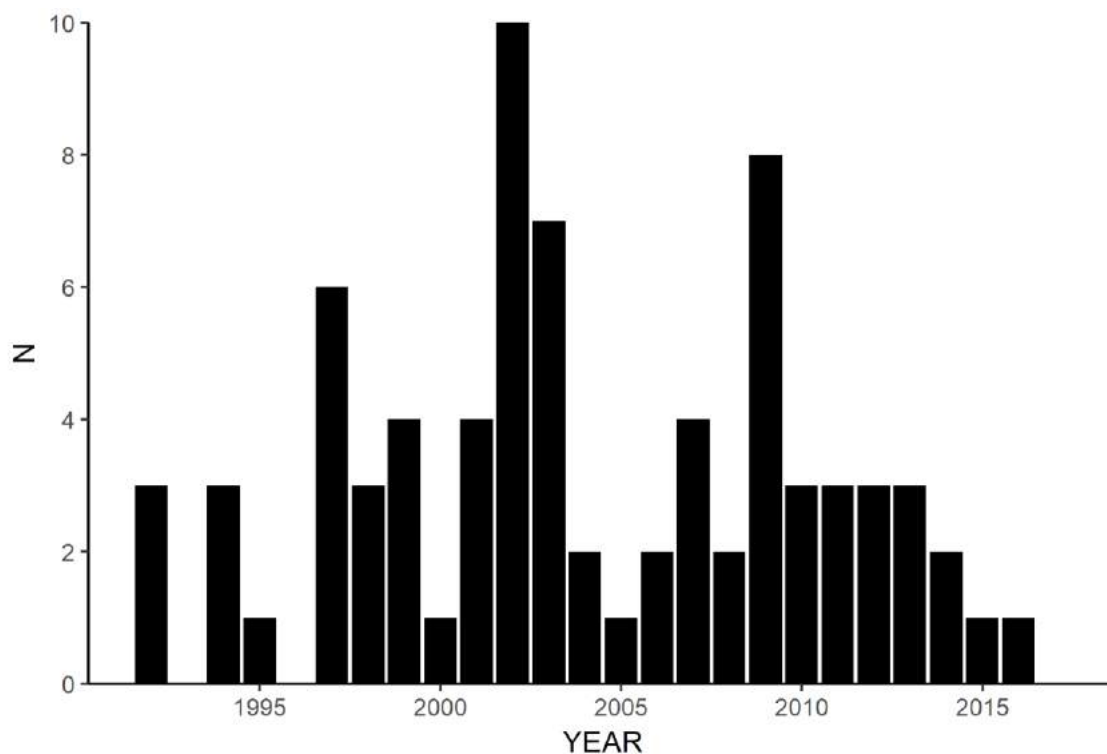
The failure of ITV Digital in 2002 and Setanta in 2009 had severe consequences for professional football clubs. It stimulated contagion, both in and out of the football industry. A number of clubs, all from the Football League, followed the broadcasters into administration. Professional sport clubs are mutually interdependent and are therefore exposed to the risk of contagion (BBC, 2015; Szymanski, 2015). In the short-term, the failure of a club to complete the season would reduce revenue of other clubs as clubs yet to host the failed club would have fewer home matches. Other clubs, in the same or other divisions or leagues, may be creditors if, for example, there were due payment for transfer fees. In the long-term, the withdrawal of a club would diminish the reputation of the league and the other clubs as perceived by broadcasters, sponsors and licensees. The failure of one club could have consequences for the league and, furthermore, the failure of one professional football league could activate the "systemic failure" of other leagues (AT Kearney, 2010, p. 4).

The failure of the broadcasters meant that Football League clubs would receive considerably less broadcast revenue. But some had committed to substantial and continuing contracts for team and

¹⁸ The Premier League broadcast rights defaulted by Setanta were acquired by ESPN, and were then acquired by BT.

stadium expenditure. This had a detrimental effect on professional football clubs and their stakeholders, with increases in the number of insolvency events, as shown in Figure 2.9.

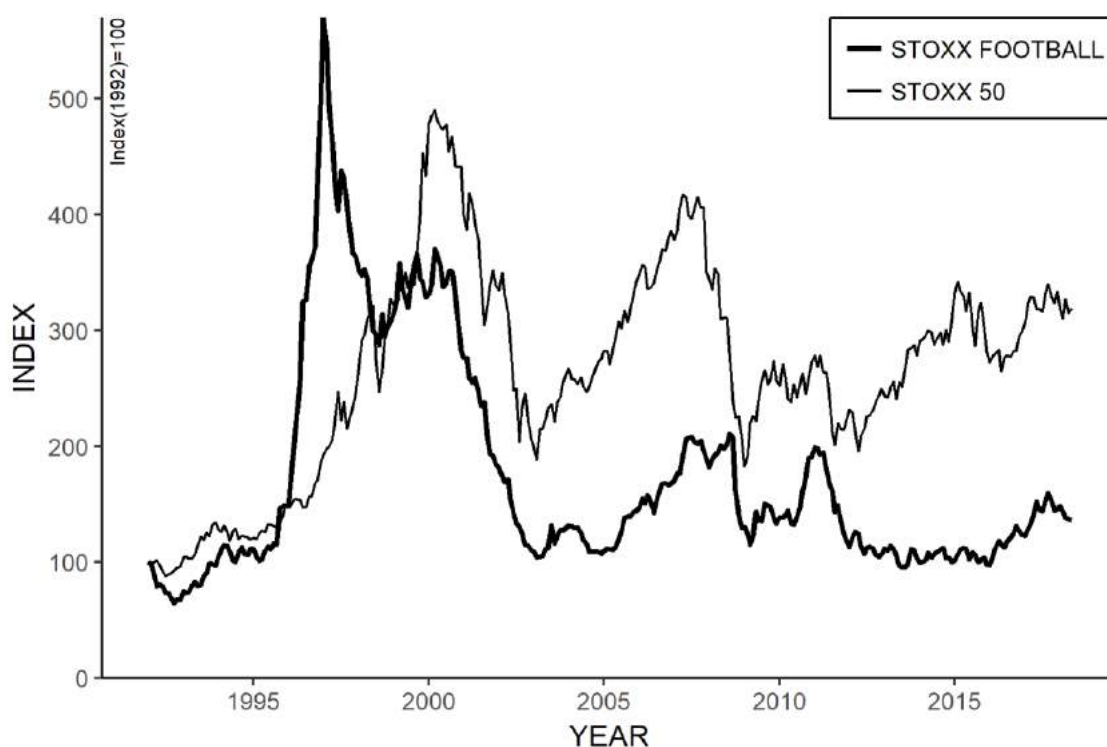
Figure 2.9: Club insolvency events per year, Premier League clubs, 1993 to 2016



Source: Deloitte (2017a)

Financiers became risk-averse towards professional football clubs. Simultaneously, debt and equity investors questioned or altogether abandoned the industry (Deloitte, 2004). Some of the clubs that entered administration had defaulted on secured debt and, consequently, other clubs could no longer raise capital using securitisation. Most public football club companies de-listed as the value of shares declined, as shown in Figure 2.10. Only two of the permanent members of the Premier League were owned by public companies at the end of the observation period: Arsenal Holdings PLC which transferred to the NEX Exchange in 2007, and Manchester United re-listed on the New York Stock Exchange (NYSE) in 2012 (Cotterill and Mackenzie, 2012). All other clubs have returned to private ownership. Chelsea FC PLC (formerly Chelsea Village PLC) and Aston Villa PLC were de-listed when they were taken into private ownership by Roman Abramovich in 2003 and Randy Lerner in 2006 (Deloitte, 2007) respectively, while Tottenham Hotspur PLC delisted in 2012 (Tottenham Hotspur, 2012).

Figure 2.10: Football club company share price, 1992 to 2017



Source: STOXX (n.d. a, n.d. b)

The failure of club companies had adverse consequences for a number of construction companies, who were creditors of the distressed clubs. Leicester City were relegated at the end of the season in 2001/02 and immediately entered administration. The club, by then owned by a different company, won promotion back to the Premier League at the first attempt, which was described as "the equivalent of a snake shedding its skin" (Deloitte, 2003, p. 3) and financial "doping" (Deloitte 2009, p. 3). Meanwhile, Birse Construction had to write-off £7.5 million from their contract to build Leicester City's £27 million Walkers Stadium (now King Power Stadium) in 2002 (Kipphoff and Owen, 2002). The construction company subsequently withdrew from an agreement to build Coventry City's Ricoh Arena, citing losses incurred from building Leicester City's new stadium (BBC, 2003).

In England and Wales, the Premier League and Football League responded to the increasing number of administration events and, specifically, the aforementioned strategy adopted by the likes of Leicester City (Deloitte, 2003), by introducing sporting sanctions in 2003 (Deloitte, 2010; Kuper and Szymanski, 2012), a fit-and-proper persons test in 2004, and club ownership regulations in 2009 (Deloitte, 2010). The Football Association's (2017) Rule 13 on *Insolvency provisions* introduced the deduction of points for clubs that entered administration. This resulted in relegation for some clubs,

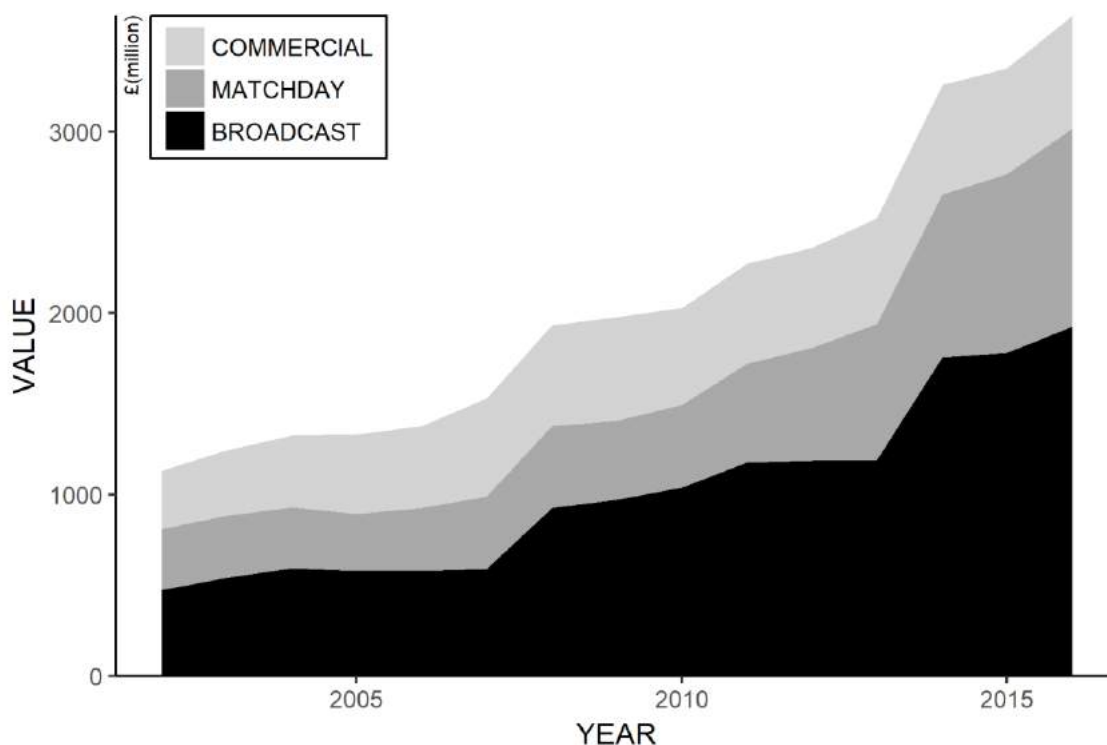
meaning that business performance failure could cause sporting performance failure. Luton Town were deducted 30 points in 2009/10 and as a consequence were relegated from the Football League to the Football Conference (now the National League). For European competitions, UEFA introduced its *Club Licensing* system in 2004 (Deloitte, 2006) and the *Financial Fair Play* regulations from the 2013/14 season (Deloitte, 2014). These imposed sporting and the financial sanctions, which professional football leagues were are permitted to supplement. The regulations aimed to incentivise and reward clubs for generating matchday and commercial revenue, while providing dispensation for expenditure on stadiums and on training and Academy facilities.

2.5. The globalisation of the Premier League

There has been substantial growth in the revenue generated by professional sport leagues and clubs for broadcast rights (Andreff, 2006) and from non-traditional sources of revenue such as food services and retailing (Noll and Zimbalist, 1997). Clubs developed existing and new products and services to emerging global markets (Deloitte, 2005). According to Andreff (2006), the established Spectators–Subsidies–Sponsors–Local (SSSL) model (p. 690) has been replaced by the contemporary Media–Corporations–Merchandising–Markets (MCMMG) model (p. 693). The business model of professional team sport has changed from one based on tickets to one based on television.

When the Premier League formed in 1992, many of the inaugural member clubs had large stadiums and accommodated large attendances, from which they generated most of their revenue (Deloitte, 2013). By 2017, it was more commonplace for Premier League clubs to have small- and medium-size stadiums and limited attendances, but by then clubs were generating most of their revenue from broadcast rights. Figure 2.11 shows that matchday revenue has increased during the Premier League era, but most growth has been from broadcast rights, and while commercial revenue has generally remained constant, it represents a smaller share.

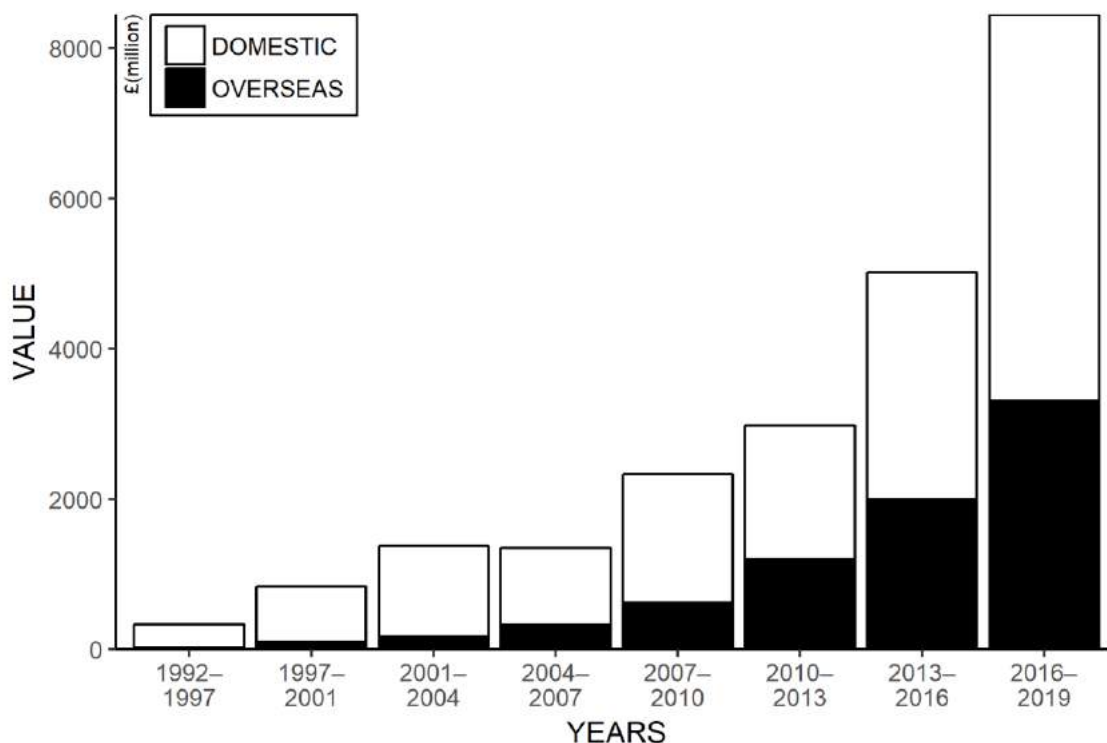
Figure 2.11: Total club revenue per year, by source, Premier League, 2001/02 to 2015/16



Source: *Annual Review of Football Finance*

Much of the growth in broadcast revenue has been extracted from overseas markets, as shown in Figure 2.12. The domestic market has reached saturation due to the limited population of the United Kingdom. Nevertheless, this source of revenue is still substantial, especially compared to other professional football leagues in Europe (Deloitte, 2017a).

Figure 2.12: Total league broadcast revenue per period, by market, Premier League, 1992/93 to 2018/19



Source: Deloitte (2015, 2017); Milne (2016)

Concurrently, professional sport leagues and clubs have monetised emerging information and communication technology for the distribution of broadcast rights (Emery and Weed, 2006). Initially, growth was derived via television and internet (Deloitte, 2000) and, subsequently, by internet and mobile technology (Deloitte, 2006). This has been caused, in part, by the disruption from new entrants to the information and communication sectors and from emerging technology (Deloitte, 2016). The consumption of professional team sport products and services has evolved from the stadium experience (first generation) to the television experience (second generation), then to the internet experience (third generation) and, most recently, to the digital experience (fourth generation), which encompasses interactive and participatory internet and mobile services, such as social media (Helleu, 2017). This has enabled clubs to target international as well as national and local geographical markets. There has also been some internationalisation of matchday attendances, particularly for the Premier League's most successful clubs and clubs located in Greater London (Visit Britain, 2015). Many large clubs, such as Manchester United (Deloitte, 1999), operate museums and tours on

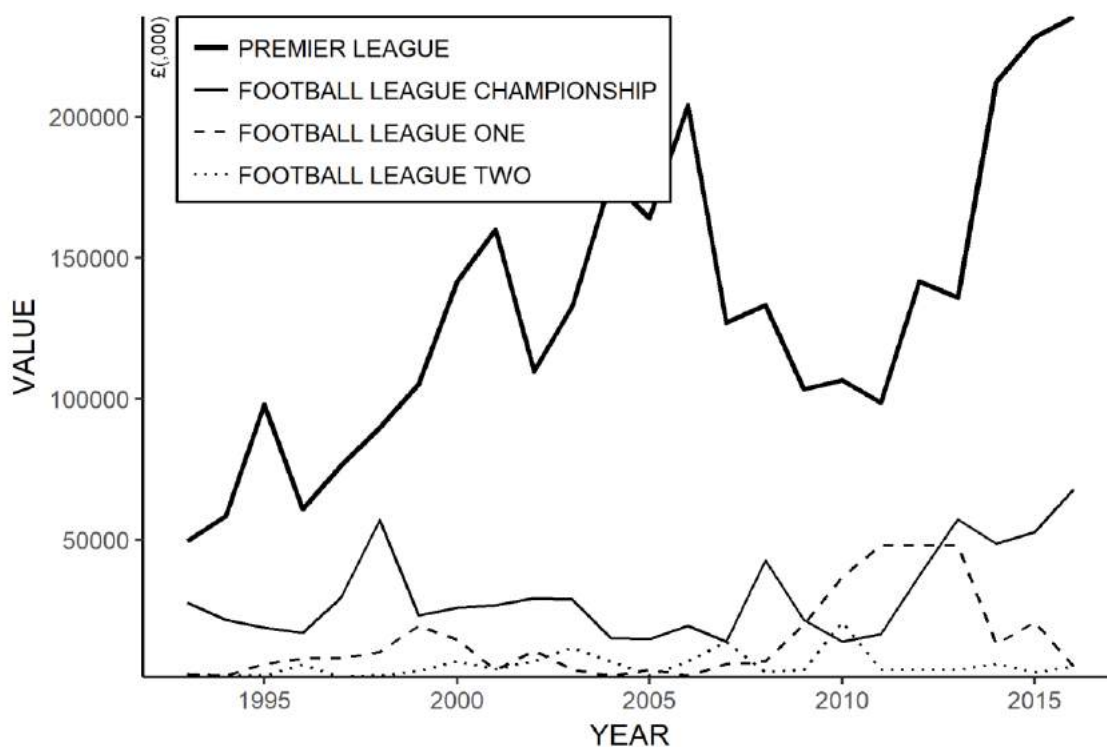
matchdays and non-matchdays. The Premier League has become globalised in terms of owners, investors and lenders, players and team managers, and business and consumer customers.

Overseas investors were enticed by the revenue and profit generated by the Premier League and its clubs, especially from overseas broadcast rights. It was anticipated that these new owners would change the management and financial performance of clubs (Deloitte, 2007). Six of the seven clubs that were permanent members of the Premier League until the end of the 2015/16 season were acquired by overseas owners. The first such acquisition was of Chelsea in 2003 by the Russian investor, Roman Abramovich (Deloitte, 2007). Most of the new generation of owners were American, with Manchester United being acquired by Malcom Glazer in 2005, Aston Villa by Randy Lerner in 2006, Liverpool by Kop Football (owned by George Gillett and Tom Hicks) in 2007 (Deloitte, 2007) and then by New England Sports Ventures in 2010 (Deloitte, 2011), and Arsenal by Stan Kroenke, whose initial minority stake in 2007 (Edgecliffe-Johnson, 2007) was increased to majority ownership in 2011 (Blitz, 2011). Ownership became more geographically diverse towards the end of the Premier League era, with the acquisition of Everton by the Iranian investor Farhad Moshiri in 2016 (Everton, 2016), Manchester City by Thaksin Shinawatra of Thailand in 2007 (Deloitte, 2008) and then Sheikh Mansour Bin Zayed Al Nahyan of the United Arab Emirates in 2009 (Deloitte, 2014) and, in 2010, Leicester City by Asia Football Investments Pte Limited (Deloitte, 2012), a company incorporated in Singapore (Leicester City, 2010). By now, it was apparent that the new owners were putting more emphasis on the business objectives of clubs (Deloitte, 2015).

2.6. Second generation stadiums

The first generation of new stadiums that opened from 1990 were commissioned in response to the Popplewell (1985, 1986) and Taylor (1989a, 1989b) inquiries and were enabled by transformation of the business models of professional football clubs in England and Wales (see Section 2.3). Stadium expenditure was further stimulated by England hosting the 1996 UEFA European Championship (Deloitte, 1997) and by the strategy of many Premier League and Football League Championship clubs to increase the capacity of their stadiums, as shown in Figure 2.13. In contrast, the second generation of stadiums from the 2000s has encompassed experiential venues for large clubs and flexible, compact venues for small- and medium-size clubs, which have been supplemented by enhanced training and Academy facilities.

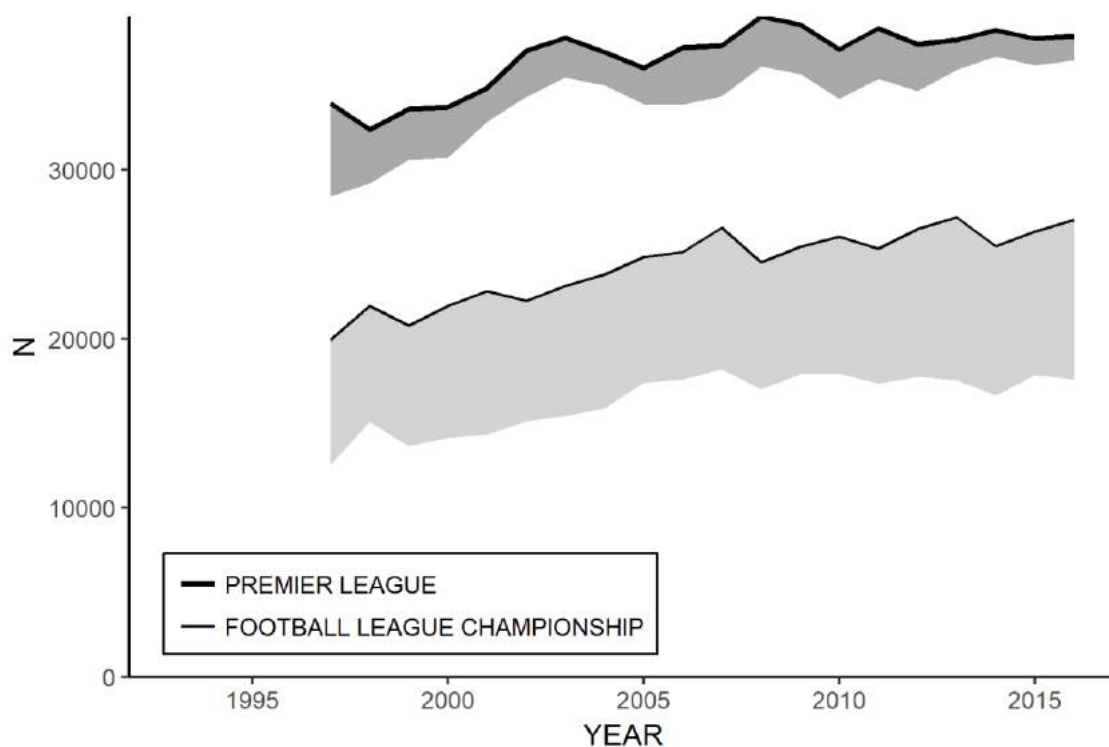
Figure 2.13: Total stadium expenditure per year, by division, Premier League and Football League, 1992/93 to 2015/16



Source: *Annual Review of Football Finance*

Five of the permanent six members of the Premier League (Chelsea, Everton, Liverpool, Manchester United and Tottenham Hotspur) have redeveloped their stadiums. Arsenal are the only permanent member to have relocated, when they moved to the Emirates Stadium in 2006, which is adjacent to their former Highbury stadium. Tottenham Hotspur are building a new stadium adjacent footprint to their previous venue, while Chelsea and Everton have stated their intention to rebuild or relocate (Deloitte, 2018). Figure 2.14 plots the stadium capacity and average attendance of Premier League and Football League Championship clubs to demonstrate stadium utilisation, with the grey areas indicating slack capacity.

Figure 2.14: Average stadium capacity and average club matchday attendance, by division, Premier League and Football League, 1996/97 to 2015/16



Source: *Annual Review of Football Finance*

The expansion of stadiums in the first half of the observation period is evident in the Premier League and Football League Championship, and can be attributed to the implementation of the Taylor Report and, specifically, to the realisation of all-seater facilities. Clubs relocated or developed their stadium resources to create additional supply in response to, and to enable, increased demand for tickets. There is evidence of divergence in the second half of the Premier League era. Premier League clubs have maintained utilisation rates of 90 to 96% since 1997/98, and have recorded in excess of 95% since 2012/13. In contrast, the Football League has remained between 60% and 70% since 1996/97. The year-to-year fluctuation in each division is attributable to the mobility of clubs via promotion and relegation.

In response, a number of clubs have opened flexible, compact venues that have a capacity that is sufficient for the Premier League but not excessive for the Football League Championship. For example, Brighton and Hove Albion opened their American Express Community Stadium in 2010 with an initial capacity of 22,000, which was subsequently expanded to 30,000 in anticipation of promotion to the Premier League in 2017.

Despite matchday revenue representing a declining share of total revenue, clubs continued to build new stadiums or redevelop existing venues. Matchday revenue was decreasing as a share of Premier League club revenue, especially compared to broadcast rights, but was still growing and remained an important source of revenue. Strategically, matchday and commercial revenue is mostly managed by clubs (Deloitte, 2000), whereas broadcast rights are generated by the Premier League and redistributed to the clubs. The stadium contributes to the commercial and matchday revenue as it hosts the club's home matches, and can enhance the club's brand (Brand Finance, 2017), as well as providing home advantage and therefore contributing to superior sporting performance (Courneya and Carron, 1992).

Unlike other industries, clubs do not expand to new markets nor relocate to new markets, with the relocation of Wimbledon to Milton Keynes in 2003 (Anderson, 2016) being the exception in the Premier League era. The domestic market for Premier League clubs, including the successful, global brands, is mostly localised or regionalised (The Telegraph, 2017). However, the local market has become less important to clubs as most revenue is generated from broadcast rights, meaning that clubs do not require a large market or a large stadium to compete. More financial resources may then be dedicated to team resources, with the aim of attaining or retain Premier League status and success.

Most recently, there have been fewer new stadiums opened by current and former Premier League clubs (Anderson, 2016). Since Arsenal opened the Emirates Stadium in 2006, the only new venues have been the Cardiff City Stadium, opened by Cardiff City in 2009, with West Ham United relocating to the Olympic Stadium in 2016. Instead, some of the investment that has been recognised as stadium expenditure in the *Annual Review of Football Finance* has been allocated to training and Academy facilities (Deloitte, 2017a). Such investment has been encouraged by the Football League's Centres of Excellence programme and the Premier League's Academy programme (Deloitte, 1999). The increase in facility expenditure is despite the opening of a global market for players and the decline in transfer fees generated from the divestment of in-contract players by clubs. This may indicate that the purpose of the facilities is more for the coaching and training of the club's Premier League squad than for the development of players. There is evidence of clubs adopting divergent strategies for player development and trading, such as Huddersfield Town's closure of their Academy (Threlfall-Sykes, 2017).

2.7. The contemporary Premier League

All of the regions of England and Wales (as defined by the Office for National Statistics (n.d.) have been represented in the Premier League. Figure 2.15 maps the distribution of clubs, which are located in large and small markets. Clubs tend to be clustered in conurbations and cities, with concentrations of permanent members of the Premier League in Greater London and the North West. In contrast, there are, or have been relatively few clubs in the East and South West regions.

Figure 2.15: Geographical location of Premier League clubs, 1992/93 to 2015/16



Source: *Football Yearbook*

Historically, the most successful football clubs in England and Wales were founded and established due to industrialisation (Szymanski, 2008). Many of these clubs were still in the first and second

divisions of the Football League when the Premier League was founded in 1992. Since then, however, there has been some evidence of clubs from smaller cities and towns replacing the established industrial clubs, as shown in Figures 2.16 and 2.17. This may be a symptom of the post-industrialisation of the United Kingdom economy (see Section 2.1), although there are still a number of successful clubs located in traditionally industrial local markets. Nevertheless, the new business model of the Premier League means that clubs no longer require a large market or a large stadium to gain entry and retain a place in the most lucrative professional sport league. However, any conclusions drawn from the patterns in the mobility of clubs have to consider that the sample is limited and mobility is restricted by promotion and relegation.

Clubs in the North West and London have maintained and strengthened their dominance in the Premier League. In the North West there has been consolidation, with the market now dominated by Manchester United, Manchester City, Liverpool and Everton. Even Blackburn Rovers, who won the Premier League in 2005, were relegated in 1999 and 2012. In contrast, a diversity of clubs has been maintained in London and the South East, despite the growth of Arsenal, Chelsea and Tottenham Hotspur, who are permanent members of the Premier League. Many of the remaining clubs have smaller, local markets and small- or medium-size stadiums, including Brighton and Hove Albion, who were promoted after the observation period in 2017.

Some regions have only enjoyed temporary or occasional success. In the East region, Ipswich Town were relegated from the Premier League in 1995 and 2002, while Norwich City have survived only five seasons and have not been in the Premier League member since their third relegation in 1995. There have only been eight seasons during the observation period when three clubs from the North East – Middlesbrough, Newcastle United and Sunderland – were members of the Premier League. The South West region has only hosted two Premier League clubs. Swindon Town survived just one season, and are actually further North and to the East of some of the clubs in the South East region, while Bournemouth have survived their first three seasons to the end of 2017/18, but are much closer to Southampton (in the South region). There is a similar pattern in Wales, where Cardiff City survived only one season until their subsequent promotion in 2018, while Swansea City were members for seven seasons until their relegation in 2018.

There has been considerable turbulence in the entry and exit of clubs from the East Midlands, West Midlands and Yorkshire. At present, Leicester City are the only club from the East Midlands in the

Premier League. There has been a comparable decline in the West Midlands. Aston Villa were permanent members until 2016 and, after the end of the observation period, Stoke City and West Bromwich Albion were replaced by Wolverhampton Wanderers in 2018. Yorkshire has previously been represented by Barnsley, Bradford City, Hull City, Leeds United, Sheffield United and Sheffield Wednesday, but Huddersfield Town are now the sole representative, having replaced Hull City in 2017. This may indicate that there is a regional ecology in the Premier League, where at least one club from each region survives or is replaced by another.

Despite the increase in broadcast revenue relative to matchday revenue, it appears that local network effects are still important. Spectator demand is higher for the so-called *derby* matches between local rivals, such as Manchester City versus Manchester United (Forrest and Simmons, 2006). However, the location of some of these matches has changed. Since 2015, the New Forest derby between Bournemouth and Southampton has become a more common occurrence in the Premier League than the Tyne and Wear derby between Newcastle United and Sunderland.

Figure 2.16: Map of Premier League clubs, 1992/93



Source: *Football Yearbook*

Figure 2.17: Map of Premier League clubs, 2016/17



Source: *Football Yearbook*

The Premier League has been dominated by a small number of large clubs, with occasional success by smaller clubs. Table 2.5 lists the winners of the Premier League since it was formed in 1992.

Table 2.5: Premier League winners, 1992/93 to 2015/16

Season	Club
1992/93	Manchester United
1993/94	Manchester United
1994/95	Blackburn Rovers
1995/96	Manchester United
1996/97	Manchester United
1997/98	Arsenal
1998/99	Manchester United
1999/00	Manchester United
2000/01	Manchester United
2001/02	Arsenal
2002/03	Manchester United
2003/04	Arsenal
2004/05	Chelsea
2005/06	Chelsea
2006/07	Manchester United
2007/08	Manchester United
2008/09	Manchester United
2009/10	Chelsea
2010/11	Manchester United
2011/12	Manchester City
2012/13	Manchester United
2013/14	Manchester City
2014/15	Chelsea
2015/16	Leicester City

Source: Premier League (n.d. a)

Six clubs were champions from 1992/93 to 2015/16. Manchester United were the most successful club with 13 championships, with the other winners being Chelsea (four championships), Arsenal (three), Manchester City (two) and Blackburn Rovers and Leicester City (one).

At the outset of the Premier League in 1992/93, clubs generated just 8.8% of revenue from broadcast rights, with most being derived from commercial rights (48.2%) and ticketing services (42.9%), but by 2015/16, clubs were generating more than half (53.0%) of their revenue from broadcasting and almost

a third (30.0%) from ticketing, with the remainder (17.1%) from commercial sources (Deloitte, 2017a). The reliance on broadcast revenue is forecast to continue for the foreseeable future because of the enhanced contract for the Premier League rights from 2016/17 to 2018/19 (Deloitte, 2017a) and for the three seasons from 2019/20 (Murad, 2018).

In contrast to ticketing and broadcasting rights, the commercial revenue generated by the Premier League and its members has been relatively modest. The name and title sponsor of the competition has changed on numerous occasions, as documented in Table 2.6. Previously, the competition was sponsored by Carling from 1993 to 2001, Barclaycard from 2001 to 2004, and Barclays from 2004 to 2016. Since 2016/17, however, there has been no title sponsor and the Premier League is now aligned with the major sport leagues of North America (MLB, NBA, NFL and NHL) by not having a title sponsor. This may indicate that the Premier League has been unable to generate sufficient revenue from title sponsors and that its member clubs, who are the shareholders of the Premier League, can generate more commercial revenue with no title sponsor. The previous title sponsors (Carling, Barclaycard and Barclays) have been predominately domestic brands and, as the Premier League's global market develops, it may be able to exploit territorial rights from sponsors in different geographical markets.

Table 2.6: Premier League title sponsors, 1992/93 to 2015/16

Term	Years	Sponsor	Title
1992/93	1	None	FA Premier League
1993/94–2000/01	8	Carling	FA Carling Premiership
2001/02–2003/04	3	Barclaycard	Barclaycard Premiership
2004/05–2006/07	3	Barclays	Barclays Premiership
2007/08–2015/16	9	Barclays	Barclays Premier League

Source: Premier League (n.d. a)

The growth in broadcast and commercial revenue has enabled the Premier League to become the foremost professional football league in Europe, at least in terms of business performance. European clubs, and Premier League clubs in particular, have dominated Deloitte's *Football Money League* (Deloitte, 2017b), which is determined by revenue. Manchester United have headed the *Football Money League* with Real Madrid and FC Barcelona (Spain) and Bayern Munich (Germany). Chelsea, Arsenal and Liverpool are typically ranked in the top ten, while Tottenham Hotspur, previously Leeds United and, more recently Manchester City have been present in the top 20. There is a similar pattern

in Brand Finance's (2017) *Football 50*, which values the brands of professional football clubs. The brands of Manchester United, Real Madrid and Barcelona have been valued at over £1 billion (Brand Finance, 2017). Most Premier League clubs are in top 50, including newly-promoted clubs. This implies that considerable brand value may be derived from membership of the Premier League.

In contrast, sporting performance of Premier League clubs in the same period has been more modest when compared to other European professional football leagues. Premier League clubs have only enjoyed occasional success in UEFA's Champions League and Europa League, with most of the success being condensed within a period from 2004/05 to 2011/12. Table 2.7 lists the winners of the Champions League and the Europa League since 1992.

Table 2.7: UEFA Champions League and Europa League winners, 1992/93 to 2015/16

Season	Champions League	Europa League
1992/93	Marseille	Juventus
1993/94	Milan	Internazionale
1994/95	Ajax	Parma
1995/96	Juventus	Bayern
1996/97	Dortmund	Schalke
1997/98	Real Madrid	Internazionale
1998/99	Manchester United	Parma
1999/00	Real Madrid	Galatasaray
2000/01	Bayern	Liverpool
2001/02	Real Madrid	Feyenoord
2002/03	Milan	Porto
2003/04	Porto	Valencia
2004/05	Liverpool	CSKA Moskva
2005/06	Barcelona	Sevilla
2006/07	Milan	Sevilla
2007/08	Manchester United	Zenit
2008/09	Barcelona	Shakhtar Donetsk
2009/10	Internazionale	Atlético
2010/11	Barcelona	Porto
2011/12	Chelsea	Atlético
2012/13	Bayern	Chelsea
2013/14	Real Madrid	Sevilla
2014/15	Barcelona	Sevilla
2015/16	Real Madrid	Sevilla

Source: UEFA (n.d.)

Premier League clubs have been champions of both the Champions League and Europa League, with most of the success being achieved by the permanent members. Three Premier League clubs have won the Champions League. Manchester United have twice been winners (1998/99 and 2007/08), while Liverpool (2004/05) and Chelsea (2011/12) have each won it once. Arsenal, Liverpool, Chelsea and Manchester United were runners-up in consecutive seasons from 2005/06 to 2008/09, including a Final between two Premier League clubs in 2007/08, with Manchester United again being runners-up in 2010/11. In contrast, the only winners of the Europa League during the period are Liverpool (2000/01) and Chelsea (2012/13). Liverpool were also runners-up in 2015/16, as were Arsenal in

1999/2000. Some of the non-permanent members of the Premier League have also been runners-up, although Middlesbrough (2005/06) and Fulham (2009/10) were both relegated from the Premier League within four seasons (2008/09 and 2013/14 respectively). At the end of the 2015/16 season, Manchester United qualified for and subsequently (and after the observation period) won the Europa League in 2016/17. Achieving concurrent success in domestic and European competitions is evidently difficult to sustain. Premier League clubs have won the Champions League only four times in the 24 seasons from 1992/93 to 2015/16. In contrast, Spanish La Liga clubs have been champions in nine of the seasons, and Italian Serie A clubs in five seasons. However, the Premier League has provided more unique winners. The business and sporting performance of these clubs is an indicator of the emergence of an "international gap" between professional football leagues in England, France, Germany, Italy and Spain and the rest of Europe (Deloitte, 1999, p. 61).

2.8. The gap

The performance and resources of professional sport clubs in England and Wales differs by division. The difference is most evident between the Premier League and Football League, but also within the Football League, between the Championship, League One and League Two. Figure 2.18 plots the average revenue per club since the formation of the Premier League, with the average operating profit for the comparable period shown in Figure 2.19.

Figure 2.18: Average club revenue per year, by division, Premier League and Football League, 1992/93 to 2015/16

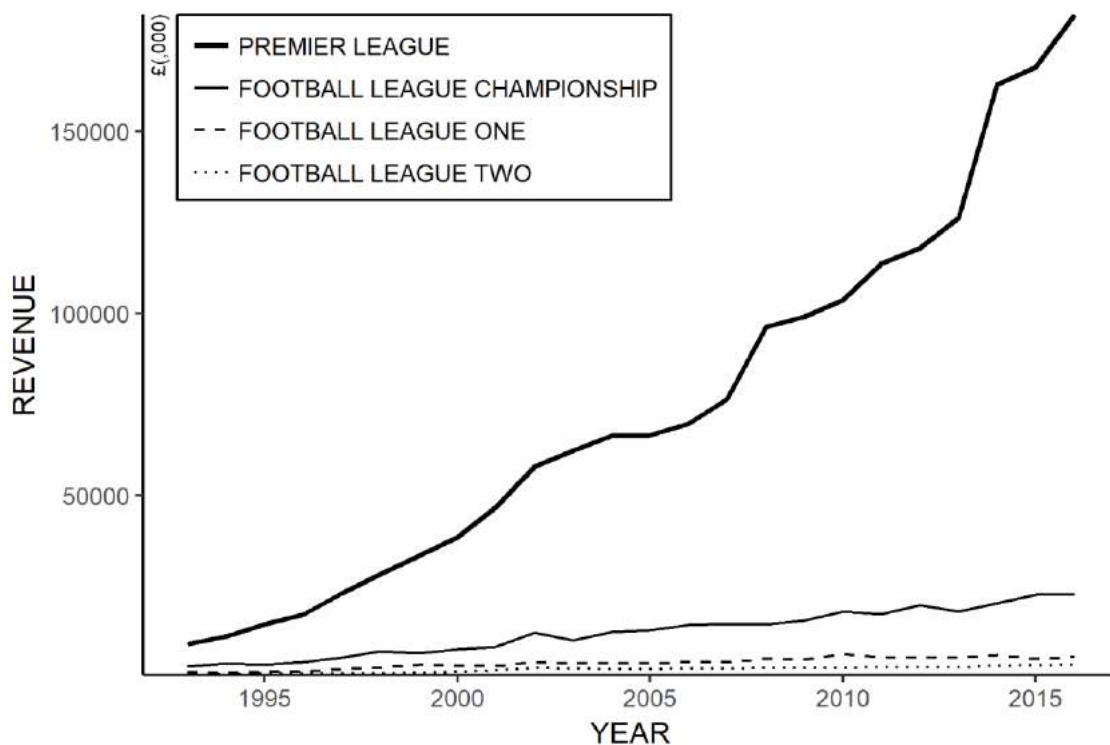
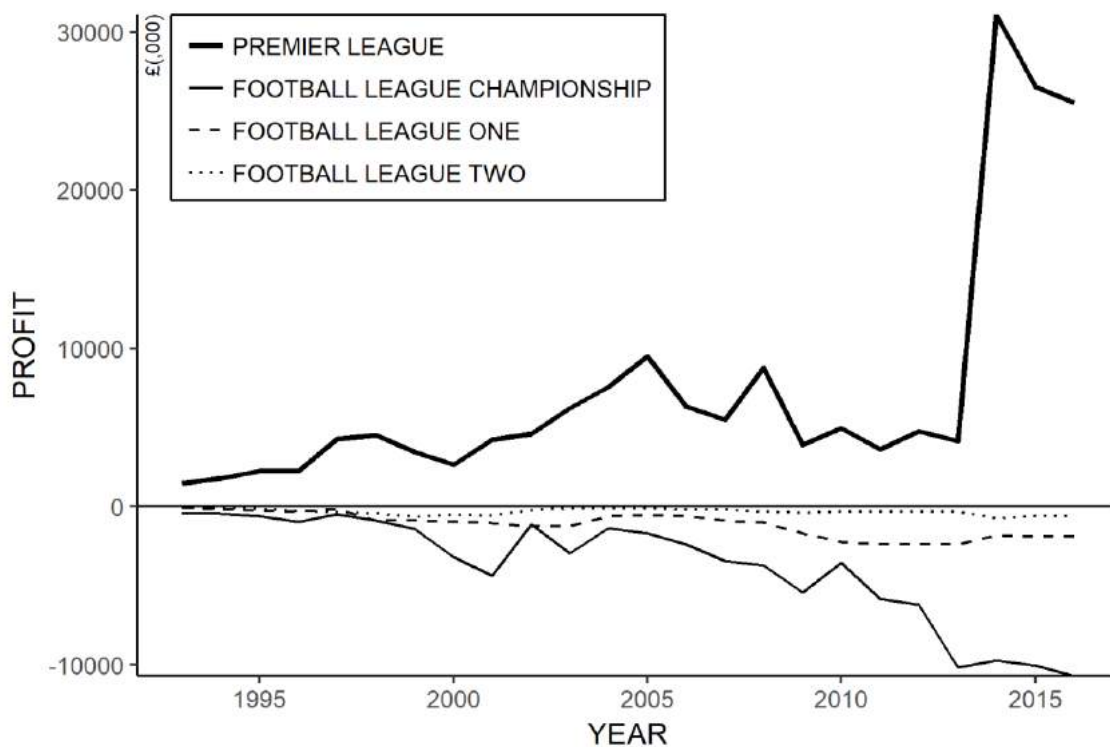


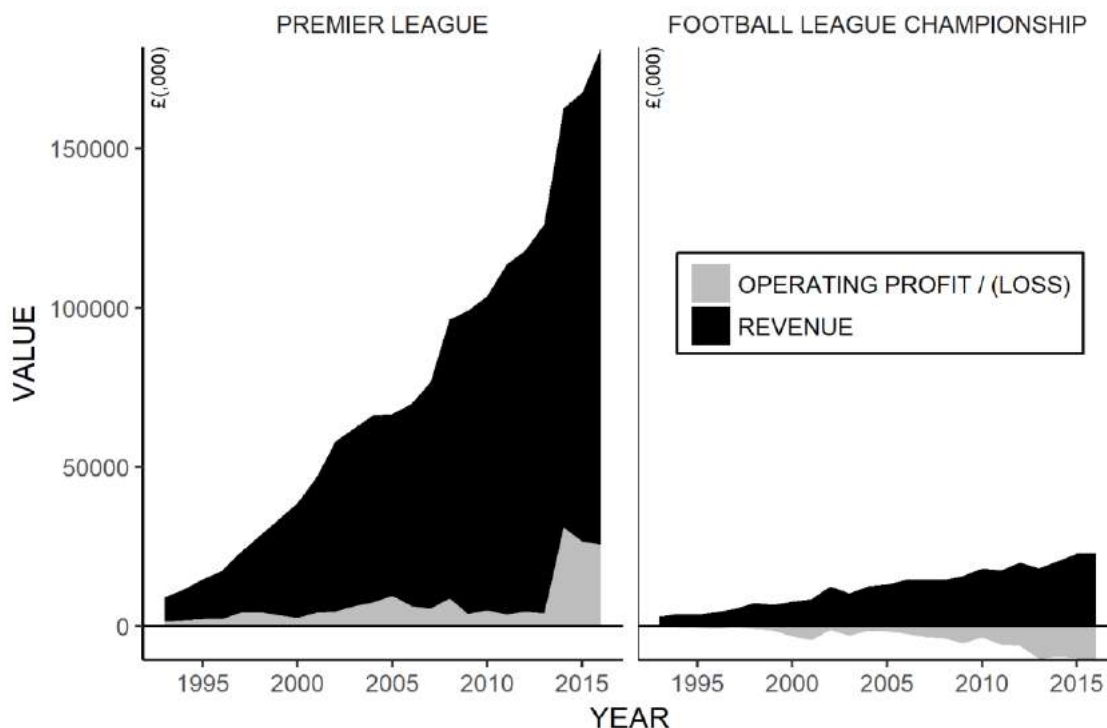
Figure 2.19: Average club operating profit per year, by division, Premier League and Football League, 1992/93 to 2015/16



Source: Annual Review of Football Finance

During the Premier League era, its member clubs have generated considerable growth in revenue compared to the Football League Championship, which in turn has exceeded that of Leagues One and Two. Similarly, Premier League clubs have maintained profitability, with a shock in the financial year ending 2014 when operating profit margin increased from relatively modest 3.3% in 2012/13 to 11.9% in 2013/14. In contrast, Football League clubs, and Championship clubs in particular, have returned deteriorating losses. This may indicate that Championship clubs are accepting more risk in an attempt to gain the rewards that can be appropriated by promotion to the Premier League. The divergence between divisions is further emphasised by Figure 2.20, which compares the revenue and operating profit of the Premier League and Football League Championship clubs.

Figure 2.20: Average club revenue and operating profit per year, by division, Premier League and Football League Championship, 1992/93 to 2015/16



Source: *Annual Review of Football Finance*

The growth in Premier League club revenue has accelerated since 1992 due to the appropriation of Premier League and Champions League broadcast rights, especially since 2014 (Deloitte, 2018). This increase has, until recently, not been matched by a corresponding improvement in operating profit, although clubs have maintained profitability. However, the recent acceleration in broadcast revenue has coincided with a precipitous increase in operating profit. This shock may also be attributable to

new owners, who have been attracted by the increased broadcast rights, the revised objectives of existing owners, and UEFA's *Club Licensing* and *Financial Fair Play*.

The divergence between the Premier League and Football League is exasperated by the more gradual growth in revenue of Championship clubs, which is mirrored by deteriorating operating losses. This divergence has, over time, been described as a "gap" (Deloitte, 1998, p. 41), an "abyss" (Deloitte, 1999, p. 58), a "chasm" (Deloitte, 2001, p.8) and a "gulf" (Deloitte, 2005, p. 30). There is a further, and expanding, gap between the Football League Championship and Leagues One and Two (Deloitte, 2001) and evidence of a further gap within the Premier League (Deloitte, 1999), between those clubs aiming and qualifying for UEFA competitions, and particularly the Champions League, and the rest of the member clubs. Club owners and business executives therefore have to not only manage the growth of professional football's national and international markets, but the increasing divergence and competition within divisions (Szymanski, 2015).

2.9. Conclusions: The evolution of the Premier League

The evolution of the Premier League has been affected by change that is internal and external to the clubs, the leagues, divisions and the professional team sport industry. In particular, clubs owners and business executives have had to formulate and implement strategies that have been apposite to positive and negative change in the finance and information and communication industries, and by the emergence of television, internet and mobile technology. Furthermore, decision-makers have had to consider, and sometimes compromise, their sporting, business and financial performance outcomes. The commercialisation and globalisation of the Premier League and Champions has meant that successful clubs have generated more revenue, but not necessarily profit, as team and stadium expenditure has also increased. There can be financial repercussions as a consequence of relegation from, or the failure to win promotion to, the Premier League. The gap between the Premier League and Football League and, more recently, between the Premier League and Champions League has widened, meaning that the acquisition, development and divestment of resources has become even more important.

3. Literature review: How and why do clubs compete? Professional team sport management theory and practice

Chapter summary

- Professional sport club owners and business executives may have congruent or conflicting sporting and business performance objectives, where they aim to win matches and championships (win-maximisation), generate revenue and profit (profit-maximisation), or a combination of both (utility-maximisation).
- The fundamental relationships of sport management are that the clubs with the best teams usually win, and clubs with winning teams usually generate more revenue.
- However, some clubs over-perform, while others under-perform, and success or failure can be sustained or temporary.
- Professional team sport is more complex and, in practice, incorporates sporting, business and financial performance, and a bundle of team, stadium and other resources.
- Sport management theory should have comparative and dynamic dimensions if it is to explain how and why clubs have generated success and growth, or suffered failure and decline.

Professional sport clubs are like other types of firm that need to generate profit or surplus, or at least break-even, to survive and grow. However, an important difference is that they also aim to win matches and championships. Professional team sport management theory aims to explain how clubs compete and why clubs succeed and fail. The first part of the literature review explores *what* professional sport clubs do, and specifically the objectives of club owners. Fundamentally, they aim to make a profit, or win matches and championships, or both. This is dependent on whether the assumption is that professional sport club owners have similar aims to firms with business-orientated objectives, such as generating profit, or whether they are different because their aim is to win sporting championships. The second part reviews research that explains *how* clubs generate and sustain

superior business and sporting performance, while other clubs experience performance disadvantage or only gain temporary performance advantage. Clubs utilise team resources, including players and team managers, to win matches and championships, and stadium and other resources to generate revenue and, ultimately, profit.

3.1. What do professional sport clubs do?

Professional sport clubs have business and sporting objectives. Some clubs succeed at generating and sustaining both business and sporting performance. For example, Manchester United have won more Premier League championships (Premier League, n.d. a) than any other club and generate the most revenue (Deloitte, 2017a). But clubs can also have success in one objective, but failure in the other. Chelsea have won the Premier League and Champions League, but concurrently have accumulated net debt of over £1 billion (Deloitte, 2015). Conversely, Newcastle United were relegated in 2015/16 despite attracting 52,386 fans per match, which was the third-largest attendance in the Premier League that season. Sometimes, a club can suffer both business and sporting failure; most notably when in 2010 Portsmouth became the first Premier League team to enter administration, in the same year that they were relegated. Therefore, objectives may be *congruent* or *conflict* (Grant, 1996).

Profit or prizes?

Theories of professional team sport performance are founded on the assumption of whether clubs are similar or different to other types of firms. For some theorists, the assumption holds that club owners are profit-maximisers (Rottenberg, 1956). However, professional sport clubs also compete to win sport matches and championships (Neale, 1964), and clubs may be a unique type of firm, where owners aim to maximise winning (Sloane, 1969). Club owners may prioritise or hold single objectives, or have multiple mutual objectives, and be utility-maximisers (Sloane, 1969). Furthermore, owners and other stakeholders, such as league executives, may aim to optimise, rather than maximise, performance. The varied objectives of club owners can produce different outcomes (Késenne, 2006a), as these objectives may be realised or unrealised (Mintzberg, 1978).

Profit-maximisation

Professional sport clubs are similar to other types of firms that have business performance objectives, such as the maximisation of profit. Rottenberg (1956, p. 252) asserts that Major League Baseball club owners would not accept financial risk "for the pure joy of association with the game", while Noll (1974,

p. 154) observes that professional sport club owners "do not appear to be motivated by any goal other than profits". Quirk and Fort (1999) concede that the concept of owners who do not aim to maximise profits is attractive, but are sceptical and conclude that winning may be important, but that financial performance has precedence. The profit-maximisation hypothesis is supported by Fort and Quirk (1995) and Vrooman (1995) for North American professional sport leagues, and by researchers who examine specific competitions, such as Major League Baseball (MLB) by Alexander (2001), Quirk and Fort (1992, p 273) and Zimbalist (1992), and the National Hockey League (NHL) by Ferguson et al (1991). However, the assumption may not apply to professional football leagues. Kuper and Szymanski (2012) claim that it is almost impossible for owners to run a professional football club as a profit-making business because there will always be rival owners who are win-maximisers and who are able and willing to commit team resource expenditure regardless of whether they return a loss.

Win-maximisation

Alternatively, professional sport clubs differ from other firms as they aim to win matches and championships. Milton Friedman's (1962) assertions on the financial objectives of firms is popularly interpreted as the "business of business is business" (Hart, 2005, p. 69). Kuper and Szymanski (2012, p. 79) adapt this to emphasise the unique objectives and outcomes of professional football clubs by declaring that: "The business of football is football". Even Deloitte (1999, p. 56), who repeatedly advise caution on the financial management of clubs in the *Annual Review of Football Finance*, argue that owners and business executives also need to consider objectives other than profit: "What is sometimes overlooked is that football is, at the end of the day, about winning!" Dabscheck (1975) argue that club owners are win-maximisers as there would be no incentive to win matches or championships if they were profit-maximisers. For win-maximisers, the welfare to the owner is in the form consumption benefits rather than the financial benefits of profit-maximisers (Madden, 2012a). Here, the ownership of a professional sport club is a consumption good (Quirk and Fort, 1992). Alternatively, a club may be a positional good where ownership becomes a unique means to influence the owner's social status (Szymanski, 2015). These *benefactor owners* inject funds into a club, and are differentiated from *profit takers*, who take funds out of a club (Madden, 2012b).

Maximising profit or winning

Professional sport club owners may aim to maximise either profit or winning (Borland, 2006b). This assumption means that owners have a single objective only, and the objectives of profit and winning therefore have specific implications (Késenne, 2006a). Such an assumption aids the development of theoretical and empirical models, but may not be practicable.

The assumption of profit or win-maximisation can be dependent on the context. The context adopted by most researchers is either the professional sports leagues of North America (commonly referred to as major league sports) or the professional football leagues of Europe. There are notable differences between the markets (Andreff and Staudohar, 2000; Neale, 1964; Hoehn, 2006; Hoehn and Szymanski, 1999; Noll, 1974; Sloane, 2006). These differences encompass objectives, structure, size, geographical markets, international competition, player drafts, player trading, roster or squad size, revenue sharing, salary caps and company type (Sloane, 2006) and the league system, league functions, competition between clubs and between leagues, player market, revenue sharing and competition policy (Hoehn and Szymanski, 1999). Different assumptions may apply to certain leagues and markets; for example, Vrooman (2000, 2007b) adopts the utility-maximisation assumption for the major leagues sports of North America and win-maximisation for the European football leagues. It is more common for researchers to contend that profit-maximisation is more appropriate in North American major league sports and win-maximisation in European football leagues (Dietl and Lang, 2008; Hoehn and Szymanski, 1999; Késenne, 1996, 2005, 2007; Madden (2012b; Madden and Robinson, 2012; Sloane, 2006), although the assumption that North American club owners are profit-maximisers has been questioned by Davenport (1969) and El-Hodiri and Quirk (1971).

Sloane (1969, 1971) argues that the difference between football and other sports is that professional football clubs are not profitable and their owners aim to maximise winning. But some clubs have since become more profitable (Késenne, 2006b). The objectives of clubs may have changed because they revised their motives or because they have new owners (Zimbalist, 2003). Change in the Premier League may be a consequence of existing owners revising their objectives as clubs became profitable, or because the clubs have been acquired by new owners with profit-making objectives, or both. The business model of professional team sport has evolved (Andreff, 2006) and therefore even recent theoretical models may be less practicable or even obsolete. Most empirical research that adopts the profit-maximisation assumption focuses only on matchday revenue and excludes broadcast

revenue (Madden, 2012b), whereas Premier League clubs now generate more revenue from broadcast rights than from matchday and commercial sources. Concurrently, the cost of professional sport club ownership has increased, which necessitates increased profits to provide any required return on owners' investment (Zimbalist, 1992).

Maximising profit *and* winning

Professional sport club owners may have mutual profit *and* winning objectives, and are therefore utility maximisers (Sloane, 1969). This means that they have multiple objectives. The objectives of profit and winning are complementary (Davenport, 1969) as win-maximisation does not exclude profit-making (Scully, 1995; Késenne, 2006b, 2007). Alternatively, clubs may aim to maximise winning but with a specified constraint, such as profit (Scully, 1995) or break-even (Késenne, 2007; Szymanski, 2015). The assumption of multiple objectives may be more applicable to sport management practice, but means that models are more complex.

Utility-maximisers are owners who have objectives that are not limited to profit-maximisation (Sloane, 1969, 1971, 2006). It is sometimes interpreted as being the same as win-maximisation (Dabscheck, 1975; Dietl and Lang, 2008), but is more appropriately modelled as a utility function of multiple objectives. These objectives usually encompass profit and winning (Késenne, 1996; Rascher, 1997), but can be other performance outcomes such as competitive balance (Madden, 2012b; Madden and Robinson, 2012). These *sportsman owners* (Vrooman, 2015) have business and sporting performance objectives (Vrooman, 1995, 1997), compared to the *pure profit-maximisers* (Vrooman, 1997) who prioritise business performance. The utility-maximisation assumption is more appropriate for European professional football clubs (Frick, 2007), and empirical research supports the assumption that club owners maximise business and sporting performance in European professional football leagues (Garcia-del-Barrio and Szymanski, 2009), but also applies to the National Football League (Atkinson et al, 1988).

Optimising profit and winning

The business and sporting performance of professional team sport is generated by both clubs and leagues (Vrooman, 1995), but club owners and club and league executives may have distinct objectives (Dietl and Lang, 2008). For business performance, clubs and leagues generate and appropriate revenue from diverse sources. For example, the Premier League generates its revenue

from broadcast and commercial rights, most of which is then redistributed to the member clubs. Its member clubs generate the remainder of their revenue from matchday sources and from the club's commercial rights. For sporting performance, it is often assumed that clubs – and specifically players and team managers – aim to maximise winning. But, in professional team sport, remuneration depends on the generation and appropriation of revenue. League executives and some club owners may aim to *optimise*, rather than *maximise*, business and sporting performance.

League executives and decision-makers may have a preference for the optimisation of business performance generated by the league and clubs, rather than for each club to aim to have profit-maximisation objectives. The objective then becomes the competitive balance of sporting and business performance. Unlike club executives, the league executives do not have any win-maximisation objectives, but may prioritise the optimisation of winning, or competitive balance, in its competitions. The uncertainty of outcome is a distinctive characteristic of sport. Sport comprises competitive contests between teams, be it the two teams competing in a match or all teams competing in a championship. Therefore an element of uncertainty of outcome is required, or otherwise the winner is known before the contest commences and the sport ceases to be competitive. Conversely, there is mixed evidence of whether fans prefer competitively-balanced matches and championships. Competitive balance is a virtue of professional sport leagues (Rottenberg, 1956). However, competitive balance can adversely affect attendance because most fans in the stadium are supporting the home team and want them to win and because larger clubs have more fans than small ones, and so more fans are satisfied if larger clubs win (Kuper and Szymanski, 2012). Sport fans are "surprisingly good at losing" and dominant teams create "special interest" (Kuper and Szymanski, 2012, p. 208).

Competitive balance can be accomplished via mechanisms such as the Premier League's redistribution of broadcast rights and UEFA's *Club Licensing* system and *Financial Fair Play* regulations. These are intended to ensure the sustainability of all clubs in the competition. However, league executives and some club owners may prefer to have at least some dominant clubs as this will enable those dominant clubs to acquire and develop superior team and stadium resources. These resources will enable such clubs to compete in the Champions League and other international competitions. The brand of the league and of all member clubs is then improved. For example, Manchester United's membership of the Premier League enhances the brand of the Premier League

and, by association, the brands of the other member clubs. Superior sporting performance in the Premier League and Champions League derived from these resources will enhance the brands of all clubs to global consumers and business customers. These superior resources and performance outcomes of the dominant clubs enable the league to maximise revenue from broadcast and commercial rights. This may be preferable to having only average clubs in the competition. The Premier League has more clubs in the Deloitte (2017b) *Football Money League* and Brand Finance (2018) *Football 50* and also generates more broadcast revenue than Germany's Bundesliga, despite the latter being more competitively-balance (Kringstad et al, 2018). League and club executives may have congruent win-maximisation objectives when member clubs qualify for the Champions League and Europa League Koenigstorfer et (2010). This can enhance the reputation of the league and its member clubs and enables participating clubs to generate and appropriate further revenue.

Professional sport clubs' objectives and outcomes

Professional sport clubs have multiple and complex business and sporting performance objectives. They formulate and implement strategy to win matches and championships as they are sport clubs, and aim to generate profit or break-even as they are professional sport clubs. There are evident inter-club differences in objectives *between* clubs in a league (Dietl et al, 2009) and intra-club differences for the owners and other stakeholders *within* a club (Scully, 1995). Some club owners will prioritise a single objective, while others will have mutual, multiple objectives. The objectives of a club are dynamic and may change because owners change their objectives or because of change in ownership. The objectives of professional sport clubs are much more complex than the dichotomy of making a profit or winning matches and championships. Therefore, no assumption of profit-maximisation or win-maximisation is made to enable both business and sporting performance to be considered.

3.2. How do professional sport clubs compete?

Professional sport clubs compete to generate and sustain sporting performance advantage over other clubs, and a sustained business advantage over other clubs and firms. Clubs compete in multiple environments: They compete in a sporting environment to win matches and championships, and in a business competitive environment for matchday, commercial and broadcast revenue. This is accomplished by the possession and utilisation of bundles of team, stadium and other resources to

generate sporting and business performance. Sporting success or failure is dependent on players and the management of players by team managers. Business performance, and specifically matchday and commercial revenue, is generated from stadiums and other resources that are managed by the club, as well as from its team resources and sporting performance. In contrast, broadcast revenue is strongly related to, and dependent on, sporting performance.

How do clubs win matches and championships?

Professional sport clubs aim to win matches and, by doing so, win championships such as the Premier League and Champions League. They do this with teams of players, who are managed by the team managers. Together, players and team managers represent the key human resources utilised by clubs to generate sporting performance.

Professional team sport is a unique industry in that human resources are traded – acquired and divested – between clubs. They can also be developed by a club, and then subsequently traded. Players are sometimes traded for a transfer fee, which is paid by the buying club for the transfer of the player's contract from the selling club. The market for players is commonly referred to as the *transfer market*, and is a form of resource market (Dabscheck, 1975). Team resource expenditure of most clubs comprises player remuneration (wages or salaries) and transfer fees (Frick, 2007). Player wages are often the most substantial source of expenditure for professional sport clubs (Scully, 1989). Importantly, the sporting performance of a club is not only determined by its team resources, but by its resources relative to its opponents (Borland, 2006b), including the opposition team in each match and the other clubs competing for the championship.

Player trading and development is a resource management capability of the club's team managers (Frick, 2013; Flint et al, 2014; Szymanski, 2015). Some clubs separate the trading and development functions, with player trading being managed by a club director and player development by the team manager. This is similar to the separation of the general manager and head coach in many major league sport clubs in North America (Szymanski, 2015). Fundamentally, team management capabilities aim to change and improve players (Hughes et al, 2010), which can occur during a match or during the season (Dobson and Goddard, 2011).

The relative team resources of professional football clubs explain much of the variation in sporting performance advantage (Szymanski, 2013). Player wages expenditure explains performance

(Szymanski, 2013), although the causal relationship and presence of reverse causality between player wages and sporting performance is questioned (Hall et al, 2002; Szymanski, 2013). In contrast, there is no compelling explanation of the relationship between transfer fees and performance (Szymanski, 2013). Evidence of team resource management capabilities is mixed, with only some team managers have a significant effect on a club's sporting performance (Bell et al, 2013; Szymanski, 2015). Team resources expenditure is as an indicator of team resources and, more specifically, the value of team resources as perceived by club owners and decision-makers.

How do clubs generate matchday, commercial and broadcast revenue?

The business performance objective of professional team sport is to generate revenue and to return a profit from its revenue. This performance is generated from the club's stadium and other resources that are owned, managed or controlled by the club. Business performance is typically segmented by matchday, commercial and broadcast sources. Matchday revenue is generated from the attendance watching matches at the venue. Commercial revenue is generated from sponsorship, licensing, merchandising and retailing. Broadcast revenue is generated from the audience watching on television or other media.

Clubs generate matchday and most commercial revenue directly from consumer and business customers. In contrast, broadcast revenue is generated indirectly, with revenue being generated by the league from broadcasters and redistributed to member clubs. Broadcast revenue is dependent on clubs' sporting performance. It is appropriated by a club being a member of the Premier League, by retaining membership or attaining promotion and from its league position. Similarly, qualification for, and progression in, the Champions League and, to a lesser extent, the Europa League, is incentivised and rewarded by the redistribution of broadcast revenue by UEFA.

The business performance of a club can be affected by the specification and location of its stadium, and by its team resources and sporting performance. The specification of a stadium is determined by the quality and quantity of facilities. The quality of the stadium has a positive relationship on attendance (Noll, 1974). This is often associated with the age of the stadium, including historic venues (Quirk and Fort, 1992) and new venues (Clapp and Hakes, 2005; Quinn et al, 2003). New venues may be subject to the so-called honeymoon effect (Evoy et al, 2005), where the incremental business performance generated from such stadiums is temporary. Quantitatively, the capacity of stadium can

be too small or, alternatively, too large (Szymanski, 2015). Price can further affect attendance (Noll, 1974) and interacts with the volume of tickets sold to determine matchday revenue. The attendance and matchday revenue generated by a club is further influenced by the location of its stadium (Ahlfeldt and Kavestos, 2013) and, importantly for professional football in England and Wales, the location of the club's opponents. Team resources can influence attendance, including the players and team managers of both the home club (Ferguson et al, 1991) and the away club (Hart et al, 1975), as well as the opponents in each match and the other clubs in the league. Attendance and matchday revenue is also affected by the current, historic and expected sporting performance of the home and away clubs (Forrest and Simmons, 2006).

The broadcast of matches is both a source of revenue for leagues and clubs, but may also affect attendance and matchday revenue. Televised matches, and especially the live broadcast of matches, can have a positive or negative effect on attendance. They can act as a complementary good or as a substitute good (Andreff and Szymanski, 2006; Buraimo, 2006). There is mixed evidence on the effects of broadcast rights, but there is more support for it being a complement than a substitute (Buraimo, 2006) and there may be more substitution effects in some international markets (Kringstad et al, 2018).

Professional sport clubs' strategy

The sporting and business performance of Premier League clubs is determined by unique bundles of resources and resource management capabilities. The variation in sporting performance is mostly explained by team resources, and specifically the players and the capability of the team manager to manage the players. Business performance is explained by stadium and other resources, and the previous, current and future team resources and sporting performance of the club and its opponents. However, a fundamental limitation of many models of professional sport club performance is that they separate the sporting and business performance outcomes, whereas the *Literature Review* (Section 3.1) highlighted that club owners may have multiple and mutual sporting and business performance objectives.

3.3. How do professional sport clubs win *and* make money?

Premier League club owners may have contrasting objectives. Some prioritise winning and some profit, while others have mutual objectives. Furthermore, objectives and outcomes can change, either

because an owner's priorities change or because a club is acquired by new owners. Models that aim explain professional sport club performance should therefore incorporate business and sporting performance. The models summarised in Table 3.1 all incorporate business and sporting performance, but do so in different ways.

Table 3.1: Sporting and business performance empirical research

Author, year of publication	Szymanski, 2015	Dobson and Goddard, 1998	Gerrard, 2005	Baroncelli and Lago, 2006	Pinnuck and Potter, 2006	Galariotis et al, 2017
<i>Book or Journal</i>	<i>Money and Soccer: A Socceronomics Guide</i>	<i>Applied Economics</i>	<i>Journal of Sport Management</i>	<i>Journal of Sports Economics</i>	<i>Accounting and Finance</i>	<i>Annals of Operations Research</i>
Context						
League	Premier League and Football League	Premier League and Football League	Premier League	Serie A and Serie B	Australian Football League (AFL)	Ligue 1
Geographical market	England and Wales	England and Wales	England and Wales	Italy	Australia	France
Sample						
Clubs	100	77	20	–	–	12
Years	1958–2013	1946/47–1993/94	1997/98–2001/02		1993–2002	2010/11–2012/13
Observation period	56 years	48 years	5 years	–	10 years	3 years
Cases	>4000	–	97	–	2196	–
Constructs and variables						
Team resources	Player wages (<i>WAGES</i>)	–	Player wages (<i>WAGES</i>); Player experience	Player wages (<i>WAGES</i>); Player value (<i>VALUE</i>)	–	–
Stadium resources	–	–	–	–	Stadium capacity	–
Other resources	–	–	–	–	Marketing resources	–
Sporting performance	League rank (<i>RANK</i>)	League rank (<i>RANK</i>)	League rank (<i>RANK</i>); Promotion (<i>PROMOTION</i>); League points; Matches won	League rank (<i>RANK</i>), Promotion (<i>PROMOTION</i>); Matches won	League rank (<i>RANK</i>); Matches won, Championships won (<i>PREMIER</i>); Play-offs qualification	League rank (<i>RANK</i>)

Author, year of publication	Szymanski, 2015	Dobson and Goddard, 1998	Gerrard, 2005	Baroncelli and Lago, 2006	Pinnuck and Potter, 2006	Galariotis et al, 2017
Business performance	Revenue (<i>REVENUE</i>)	Matchday revenue (<i>MATCHDAY</i>)	Attendance (<i>ATTENDANCE</i>); Revenue (<i>REVENUE</i>)	Broadcast revenue (<i>BROADCAST</i>); Commercial revenue (<i>COMMERCIAL</i>); Matchday revenue (<i>MATCHDAY</i>)	Matchday revenue (<i>MATCHDAY</i>); Matchday attendance; Membership revenue; Members; Commercial revenue (<i>COMMERCIAL</i>)	Revenue (<i>REVENUE</i>); Commercial revenue (<i>COMMERCIAL</i>); Attendance
Financial performance	–	–	Operating profit (<i>PROFIT</i>)	Operating profit (<i>PROFIT</i>)	–	Operating profit (<i>PROFIT</i>)
Financial resources	–	–	–	Debt; Extraordinary costs	–	Debt; Equity
Conceptual model	Team resources has a positive effect on sporting performance and sporting performance has a positive effect on business performance	Sporting performance has a reciprocal effect with business performance	Team resources has a positive effect on sporting performance, which has a positive effect on business performance and financial performance	There is a positive virtuous effect from team resources to sporting performance, to business performance, to financial performance, and to team resources	Sporting performance has a positive effect on business performance and stadium resources have a positive effect on business performance	Financial performance has a negative effect on sporting performance, which has reciprocal effect with business performance
Data collection	<i>Deloitte Annual Review of Football Finance</i> and <i>UEFA Club Licensing Benchmark Report</i>	<i>Football Yearbook, Digest of Football Statistics</i> , Football League	<i>Deloitte Annual Review of Football Finance</i> and <i>Football Yearbook</i>	League (Supervisory Commission on the Companies of Professional Football (Commissione di Vigilanza sulle Società di Calcio Professionistiche (CoViSoC)) and Newspaper (<i>La Repubblica</i>)	Australian Football League	Professional Football League (Ligue de Football Professionnel (LFP)) and National Directorate of Management Control (NDMC (Direction Nationale du Contrôle de Gestion (DNCG))
Data analysis	Correlation analysis	Causality tests	Ratio analysis and regression analysis	–	Regression analysis	Structural equation models

The model proposed by Szymanski (2015) in *Money and Soccer: A Soccernomics Guide* has its origins in *Winners and Losers* by Szymanski and Kuypers (1999). It identifies the fundamental relationships in professional team sport (see Figure 3.1). Relative to its competitors, a club's team resources explain its sporting performance: The best team usually wins (Deloitte, 1994). In turn, sporting performance explains business performance: A winning team usually makes more money (Deloitte, 1999). Sporting performance is incorporated into both parts of the model, but the relationships are detached. This means that there is no connection made between the business performance of clubs and their team resources.

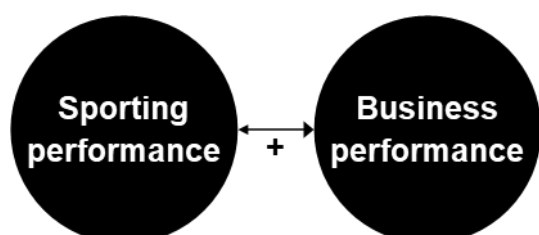
Figure 3.1: Szymanski's (2015) Soccernomics model



Adapted from: Szymanski (2015)

The relationship between sporting performance and business performance is further examined by Dobson and Goddard (1998). Szymanski (2015) models the relationship as uni-directional, but bi-directional causality is identified by Dobson and Goddard (1998), as shown in Figure 3.2. The causal relationship of business performance on sporting performance is stronger than sporting performance to business performance. This is especially so for smaller clubs, as larger clubs can sustain attendance and matchday revenue if there is a decline in sporting performance. Dobson and Goddard (1998) caution that there are differentiated relationships for clubs according to their geographical location and market, although the model does not incorporate resources, such as teams or stadiums, as a predictor of performance.

Figure 3.2: Dobson and Goddard (1998) performance model



Adapted from: Dobson and Goddard (1998)

Further consideration of the positive effect of sporting performance on business performance is provided by Pinnuck and Potter (2006). Their performance model (see Figure 3.3) introduces stadium resources, which, along with other resources such as marketing, and sporting performance, has a positive effect on business performance. Business performance is conceptualised and measured as attendance and revenue. Pinnuck and Potter (2006) also incorporate a temporal dimension, with the business and sporting performance that is generated during the previous season being adopted as predictors of performance for the current season. They further identify a dynamic relationship between sporting and business performance, with clubs acquiring more fans when sporting performance improves, but there is not a comparable level of attrition when sporting performance declines.

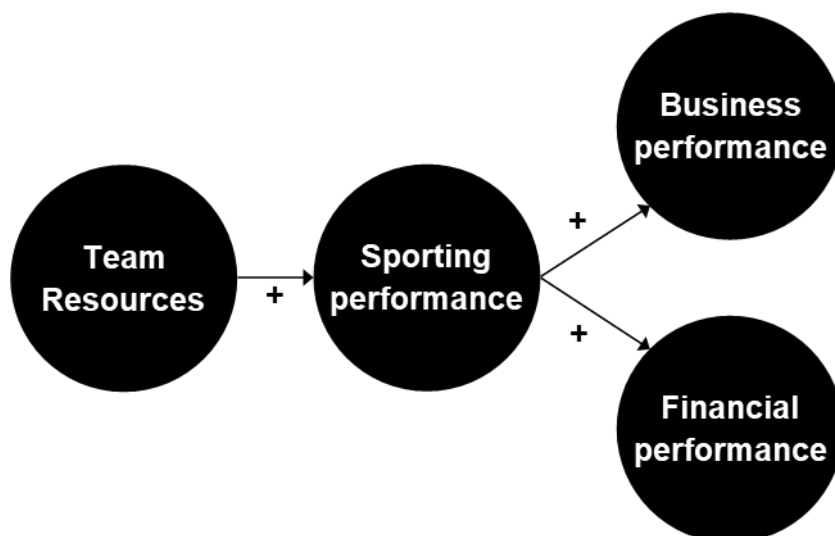
Figure 3.3: Pinnuck and Potter's (2006) performance model



Adapted from: Pinnuck and Potter (2006)

The resource utilisation model proposed and empirically-tested by Gerrard (2005) incorporates the positive effects of team resources on sporting performance with the positive relationship between sporting performance on business performance (see Figure 3.4). Gerrard (2005) introduces the separation of business and financial performance, and the effects of sporting performance are extended to explain both business performance (revenue) and financial performance (profit). The model further examines the relationship of external factors (local market) and internal factors (company type) on team resources, as well as the link between internal factors and the business and financial performance of clubs.

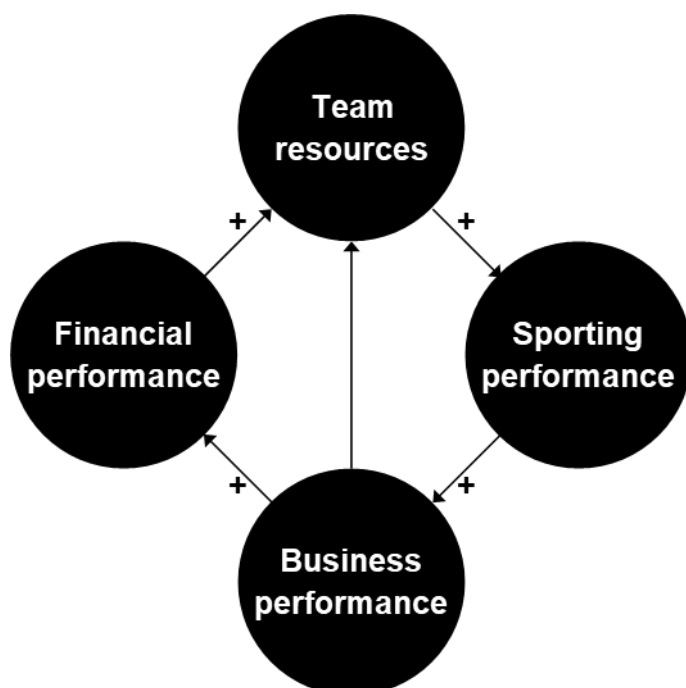
Figure 3.4: Gerrard's (2005) resource utilisation model



Adapted from: Gerrard (2005)

Most professional sport leagues have small and large clubs as members. Baroncelli and Lago (2006) therefore develop separate models for each size of club, which are incorporated in Figure 3.5. Both models further confirm the positive relationship of team resources on sporting performance, and of sporting performance on business performance. A virtuous relationship between team resources, sporting performance, business performance and financial resources is introduced. The best teams win more matches and championships, and winning teams generate more revenue and profit, and consequently have more financial resources to invest in team resources. For larger clubs, player wages are separated from team resources, both of which predict sporting performance. This is presumably because player wages expenditure is much higher for larger clubs. Baroncelli and Lago (2006) further highlight capital gains from transfer fees, which, with business performance (revenue), contribute to financial resources. This is assumed to only be applicable to smaller clubs, but may also be relevant to some larger clubs, especially since the introduction of UEFA's *Club Licensing* and *Financial Fair Play*, as highlighted in Section 2.4. Furthermore, the model does not consider that the sale of players will diminish team resources, but instead assumes that the depleted team resources will be replaced by further player trading or development. Baroncelli and Lago (2006) model business performance (revenue) as a predictor of financial performance (operating profit).

Figure 3.5: Baroncelli and Lago's (2006) virtuous circle



Adapted from: Baroncelli and Lago (2006)

Galariotis et al's (2017) model, which is summarised in Figure 3.6, is inspired by Lago et al (2006) and offers a contradictory perspective to the preceding models. They propose that financial performance has a negative, uni-directional relationship on sporting performance. Sporting performance, in turn, has a bi-directional relationship with business performance. Fundamentally, winning teams generate higher revenue, and clubs with higher revenue are more likely to win, but they are not necessarily able to return a profit from this superior sporting and business performance. However, Galariotis et al (2017) exclude resources from their model, and instead propose that financial performance have an effect on sporting performance, whereas financial performance may in practice be related to team resources, which then affects sporting performance.

Figure 3.6: Galariotis et al's (2017) dynamic model



Adapted from: Galariotis et al (2017)

3.4. Conclusions: Profits and prizes

Theoretical models that incorporate sporting and business performance provide a more pragmatic model of professional sport management theory and introduce unique perspectives. They are, however, more complex than models that predict only sporting or business performance. The most important contribution of these models is that business and sporting performance are connected (Dobson and Goddard, 2011). The effect of team resources on sporting performance are emphasised, and the possibility of a reciprocal relationship (where increased player wages and transfer fees may be a consequence of sporting success) is addressed. A successful club, for example, may have to increase player wages in the form of bonus payments to current players or from contracts that are either renegotiated with current players or negotiated with new players. Similarly, the club may incur incremental transfer fee payments to other clubs, as the selling clubs attempt to appropriate the incremental revenue that was generated by the buying club from their sporting success. Further examination of the effects of sporting performance on business performance is provided. But, here, there is no reverse causality, as business performance does not have an immediate effect on sporting performance, other than for sporting sanctions from mechanisms such as the Football Association's (2017) Rule 13 (*Insolvency provisions*) for clubs entering administration and UEFA's *Club Licensing and Financial Fair Play*. Other resources, most notably the club's stadium, have an effect on business performance. There may be a further reciprocal relationship; for example, if demand for tickets exceeds supply (stadium capacity), then clubs may formulate and implement a strategy to develop their stadium resources.

These models contribute to professional sport team management theory by explaining sporting *and* business performance. However, there are some evident limitations. The models separate the relationship between team resources and sporting performance from that of sporting performance and business performance. Some models (Szymanski, 2015) do not incorporate business and sporting outcomes, while others, such as Dobson and Goddard (1998), Pinnuck and Potter (2006) and Galariotis et al (2017), exclude team resources. There is no consideration of the management of resources. Most models are static, not dynamic, with causality often implied and reciprocal feedback not always examined. Only Dobson and Goddard (1998) and Baroncelli and Lago (2006) account for the differences between clubs, but otherwise theoretical and empirical sport management research assumes that clubs are homogenous.

4. Conceptual research: The conceptualisation and measurement of professional team sport

Chapter summary

- Professional sport clubs generate sporting, business and financial performance from bundles of resources.
- Sporting performance is conceptualised and measured by winning matches and championships, and is realised by trading and developing teams of players.
- Business and financial performance is generated by clubs and leagues from matchday, commercial and broadcast revenue, and is appropriated by the ownership, management and control of team, stadium and other resources.
- Professional sport club strategy has competitive and dynamic dimensions, with clubs aiming to generate and sustain performance advantage over competitors, utilising an analogous accumulated resource advantage.
- The performance outcomes generated from a club's strategy is contingent on the degree of observed or objective change in the internal and external competitive environment and, importantly, the decision-makers' perceptions of change.
- The concept of fit is adopted to incorporate the complex, competitive and dynamic relationships between clubs' resources, the competitive environment and performance, with fit modelled as mediation, moderation and deviation.

The performance of professional sport clubs is the output that is generated from the formulation and implementation of their strategy. Their business and sporting performance is generated from inputs including team and stadium resources. However, the *Literature Review* (Section 3.3), highlights that models of professional sport club performance are more complex than simple *input–output* relationships. Each club generates distinct performance outcomes, and the resources they utilise can change by financial year and season. Therefore, professional team sport theory needs to further consider *how* clubs change as the competitive environment in which clubs compete changes, and *why* some clubs are able to succeed or grow, but others fail or decline.

4.1. What is professional team sport performance and how is it evaluated?

Professional sport clubs can be conceptualised as a type of firm, and they share many of the performance outcomes of firms in other industries. However, they have some unique characteristics in their business and sporting performance outcomes. Clubs compete with other clubs and firms, and sometimes also cooperate with their competitors (Neale, 1964). The business performance of clubs (matchday, commercial and broadcast revenue) is generated and appropriated from multiple sources. They aim to win championships and to generate profits, but not just in the current season or financial year. Relative and dynamic performance is essential to the conceptualisation and measurement of professional sport club performance.

The performance of professional sport clubs

Performance is the measurement of the objectives and outputs of firms. It is the outcome or dependent variable of strategy (Barney and Clark, 2007). Firms aim to gain a performance advantage over their competitors and to sustain any performance advantage. The performance of a firm is a measure of comparative and dynamic competitiveness, and of success or failure, survival, or growth or decline. Performance outcomes are how firms "keep score" (Thompson, 1967, p. 83). For most firms, the score is measured in financial metrics, such as revenue and profit. In professional sport, the "score" more typically refers to sporting outcomes, such as the goals scored and points won by a club in a match, and the points or position achieved by club in the championship. Professional sport clubs also generate business performance and sporting performance (Vrooman, 2007a) or, alternatively, financial and sporting performance (dell'Osso and Szymanski, 1991) or commercial and sporting performance (Szymanski and Kuypers, 1999). Clubs can experience success and failure in their sport and business outcomes (Scully, 1992; Scully, 1995), and these outcomes may be congruent or conflict. Professional sport clubs generate business performance that is similar to firms in other industries, but sporting performance is unique to the sport industry.

The sporting performance of professional sport clubs

Professional team sport is structured by matches and seasons (Neale, 1964). Clubs aim to win matches, which determine the champions of league and cup competitions (Buraimo et al, 2015), as described in Section 1.2. These championships are organised as a series of matches, which are

dyadic contests between clubs (Sirmon et al, 2008). A series of matches are played during a season, and the cumulative performance from these matches during a season determines which club wins the championship. For matches in the Premier League, Football League and other league competitions, each club is awarded 3 points for a win and 1 point for a draw, but no points for a defeat. In leagues, points are accumulated during the season to determine the club's position in a division, with the position determining the winner of the league or division. In contrast, the FA Cup, EFL Cup and other cup competitions comprises a series of rounds, where the winner of each match progresses to the next round, with the loser being eliminated. The rounds of matches continue to the Quarter-Final, Semi-Final and, ultimately, the Final, which is the match that determines the winner. The Champions League and Europa League are hybrid competitions that are structured with a group stage in league format followed by a series of rounds to determine the champion.

The business performance of professional sport clubs

The revenue of professional football clubs is typically segmented as matchday, commercial and broadcast performance (Zimbalist, 1992), as presented in the *Annual Review of Football Finance* (Deloitte, 2017a) and *Football Money League* (Deloitte, 2017b). There is a correlation between the segmented sources of revenue (Késenne, 2014; Szymanski, 2015). Some sources of revenue are generated and appropriated by the league, and some by both the league and its member clubs.

Matchday revenue is generated from general admission and hospitality ticketing, which may be marketed as luxury suites or boxes and as club or loge seats (Noll and Zimbalist, 1997). It includes primary and secondary revenue streams: Ticketing represents a club's primary matchday revenue, with secondary matchday revenue generated from sources such as concessions, parking and retailing (Zimbalist, 1992). Secondary revenue is related to, and dependent on, attendance. The attendance generated by a club, with price, determines matchday revenue, and can also be an indicator of a club's marketing resources, and specifically its brand and fan loyalty resources. Furthermore, attendance can have an effect on sporting performance, by creating a home advantage (Dobson and Goddard, 2011).

The key sources of commercial revenue include sponsorship and merchandising (Szymanski, 2015) and licensing and retailing (Noll and Zimbalist, 1997). Sponsorship and licensing is concerned with the association of the club's brand to other products and services, whereas merchandising and retailing is

the production and sale of club-branded products and services. Commercial revenue is generated both by the league and by its member clubs. For example, both the Premier League and member clubs generate revenue from sponsorship and licensing, while clubs have their own merchandising and retailing agreements. Sponsorship and licensing represent the contractual exchange of rights to utilise brands. Sponsorship rights are granted where a sponsor pays a fee to the sponsee (the club) to have their brand associated with the club's brand and its products and services, while licensing rights are granted where the licensor's products and services are enhanced by the association with the club's brand. There are also more complex relationships, where the club's and sponsor's brands are applied to co-branded products and services. Commercial contracts that include licensing rights can be extended to the production and sale of licensed products. Merchandising is the production of licensed goods, and these products and services can be club-branded or co-branded, where the club and the sponsor's brands are incorporated. Retailing is the sale of these goods to customers, which can be at the club's stadium to the club's local market or to national and international markets. There are also combined merchandising and retailing contracts where the licensor both supplies and sells the goods, such as the Manchester United Merchandising joint venture between Nike and Manchester United (2001).

The broadcast revenue appropriated by Premier League clubs is generated and redistributed by the Premier League to current and recent member clubs and to (members of) the Football League. Some clubs also appropriate substantial revenue from the Champions League and Europa League, with further receipts from other competitions such as the FA Cup and EFL Cup. The distribution of Premier League broadcast revenue at present comprises a Basic Award, Facility Fee, and Merit Award (Premier League, 2017). The Basic Award, which represents 50% of broadcast revenue, is distributed evenly between all member clubs. The Facility Fee (25%) is based on the number of matches in which the club is televised live in the United Kingdom. The Merit Award (25%) is derived from league position, and is therefore a correlate of sporting performance.

The business performance of a firm is sometimes conceptualised and measured as profit (Wernerfelt, 1984). Firms that generate superior revenue to their competitors are not necessarily profitable, and may return a loss. This is a common occurrence in professional team sport, where, as explained in Section 3.1, club owners may be win-maximisers rather than profit-maximisers. This suggests that profit (revenue less expenditure) may be a more appropriate measurement of performance (Dierickx

and Cool, 1989). However, this means that resources are used to estimate inputs and part of the estimate of outputs. Resource expenditure then becomes both the predictor and, when deducted from revenue, part of the outcome of a firm's strategy.

Cash can be used to assess the inputs and outputs of firm strategy (Barney, 1986b). Specifically, it can be considered as financial performance, but also a financial resource that is used to acquire and accumulate other resources. A firm's positive net cash inflows at the end of the financial year are carried forward as financial resources at the start of the next financial year. Then, as financial resources, they can then be used as cash outflows to fund the acquisition or accumulation of other resources. Conversely, negative net cash flow can diminish the financial resources of a firm. Net cash flow is an important measure of financial resources and performance of professional sport clubs (Szymanski, 2015). Furthermore, net cash is an indicator of financial success or failure. This may be evident if a firm enters administration due to insolvency, where it has insufficient cash or, conversely, firms can have excess cash, which is considered as inefficient use of shareholders' funds.

Administration events are more common in professional football in England and Wales than in other industries (Szymanski, 2015) and cash may be a useful indicator of the success, or at least the avoidance of financial failure.

Sustained performance advantage

Performance can conceptually be similar to, or distinct from, competitive advantage. Firms utilise resources to gain competitive advantage (Barney, 1991) and therefore competitive advantage is the outcome (Barney, 1986b). Here, relative performance is the "empirical correlate" of competitive advantage (Sirmon et al, 2010, p. 1387). Alternatively, competitive advantage can be a predictor of performance. Competitive advantage is attributed to certain resources that enable a firm to generate superior performance (Collis and Montgomery, 1995). Competitive advantage is then the successful realisation of the firm's strategy (Collis and Montgomery, 1995). It can be conceptualised as an input, which is something a firm *utilises* (a resource advantage) or as an output, which is something a firm *generates* (a performance advantage).

Superior performance is fundamental to strategy (Barney and Arikan, 2001) and relative, rather than absolute, measurement of performance is advocated for the evaluation of a firm's strategy (Arend, 2003; Powell, 2003). Relative performance is particularly important for professional team sport as

clubs share a competitive environment through their membership of a league (Holcomb et al, 2009). This applies to both business performance but particularly to sporting performance. For business performance, clubs do not only compete with other clubs in their league, but may compete with clubs in other divisions and leagues, as well as with other sports and industries such as arts, entertainment and recreation. It is an open competitive environment that is not distinct from other sectors. All clubs can be successful (by, for example, being profitable), but all could fail (by returning a loss). In contrast, sport is a zero-sum game (Moliterno and Wiersema, 2007; Vrooman, 1995). There are identical performance outcomes for all clubs in sporting competitive environments, with the nature of competition set in the laws of the sport and the rules and regulations of the championship in which clubs compete. The sporting competitive environment is closed or discrete, where sporting performance advantage is relative to – and only to – other clubs competing in the same competition. Here, there is one winner (the champion) or a predetermined number of winners (for example, the clubs that win promotion to another division or qualification to another competition), and a set number of losers (such as the clubs that are relegated). In contrast to business performance, not all clubs can be successful, but nor can they all fail. As discussed in Section 3.1, clubs do not want absolute success to the extent that their opponents fail and cease to compete, as sport depends on competitors for matches and championships (Neale, 1964; Szymanski's, 2015). Professional sport clubs compete and cooperate with other clubs to win matches and championships (Neale, 1964), and to generate and sustain revenue and profit. The application of absolute and relative measures of professional sport club performance is recommended for the evaluation of sporting performance (Scully, 1989; Moliterno and Wiersema, 2007).

Professional sport clubs owners and managers are similar to their counterparts in other firms in that they do not just want to be successful in the short-term, but instead aim for long-term performance advantage. For business performance, firms aim to generate and sustain performance (Barney and Arian, 2001; Peteraf and Bergen, 2003). Ideally, this performance advantage becomes permanent, rather than just a temporary, advantage (Barney, 1986a; Barney, 1997; Peteraf and Bergen, 2003). Similarly, clubs aim to sustain sporting performance for more than one season. They compete in league and cup competitions each season, and will aim to maintain their membership of a league, while the winners aim to retain their championship the following season. Success or failure in the preceding season can affect performance in the current season; for example, by being promoted or

relegated between divisions or qualifying for the Champions League or Europa League. Business performance failure in the form of administration can be penalised by the deduction of points in the next season by the Premier League (and Football League), while sporting sanctions from UEFA's *Club Licensing* system and *Financial Fair Play* regulations may adversely affect the club's team resources that can be utilised during the next season. The shock of relegation can, but not always, leads to insolvency (Szymanski, 2015). Sporting success or failure can have an effect on the club's business performance in the current and subsequent seasons.

The performance of professional sport clubs has both competitive and dynamic dimensions. Clubs aim to generate a performance advantage over competing clubs in the championship and firms from other sectors. They also aim to generate and sustain sporting performance over multiple seasons and business performance over multiple financial years. Therefore, the output of professional sport club strategy is conceptualised and measured as sustained performance advantage.

The generation and appropriation of performance

The success or failure of a firm's strategy depends not only on the generation of performance, but on its appropriation (Coff, 1999). In particular, financial performance can be appropriated by a firm's shareholders, managers and employees (Coff, 1999). For professional sport clubs, shareholders may receive capital gains and dividends (Sloane, 1971), while managers (team managers and business executives) and employees (including players) typically appropriate remuneration. The proportion of appropriation depends on the bargaining power of the respective stakeholders.

As with other firms, the business performance of a professional sport club can be appropriated by internal and external stakeholders. However, the appropriation of business performance, and specifically financial performance, by managers and other employees differs from other industries (Hoye et al, 2018). Premier League club owners (the shareholders) do not always appropriate financial performance in the form of dividends, but more commonly appropriate capital gains when the club is divested (Scully, 1995). Uniquely, the players of professional sport clubs, who are the employee's in Coff's (1999) model, often appropriate higher earnings than the clubs' shareholders and managers. Similarly, the team managers of professional sport clubs, who are essentially "department heads" (Moore, 2013), may receive higher remuneration than business executives such as the Chief Executive Officer or Managing Director.

Clubs appropriate financial performance from the league and sometimes from other clubs by being a member of a league. This appropriation can be direct and indirect. Directly, broadcast and commercial revenue is generated by the league, with most being redistributed to, and appropriated by, member clubs. Furthermore, each club monetises their home matches against the opposition or away team (Neale, 1964). Indirectly, a club's brand is enhanced by being a member of a league. For example, the Premier League is the most valuable professional football league in the world because its members includes clubs such as Manchester United, which are valuable brands (Brand Finance, 2017). Smaller clubs appropriate value from larger clubs as the distribution of broadcast and commercial revenue is only partially correlated to sporting performance (Premier League, 2017).

In contrast, the appropriation of sporting performance is constrained to the clubs that compete in each competition. Sport is a zero-sum game and hence all sporting performance advantage is generated by clubs. Superior sporting performance is appropriated by the winning team in a match or by both teams if the match is drawn, and by the champion of each league and cup competition per season.

4.2. What are professional sport club resources and how are they managed?

Professional sport clubs possess their team and stadium resources to generate and sustain sporting and business performance. The success or failure of clubs is further determined by the management of these resources. Unique bundles of resources are utilised by different clubs, and the acquisition, divestment and accumulation of such assets can be short-term or long-term. Therefore, the conceptualisation and measurement of competitive and dynamic resources is essential to the analysis of professional sport club performance.

The resources of professional sport clubs

Resources are utilised by firms to formulate and implement strategy and, ultimately, to generate performance. They are the inputs and performance is the output of strategy. Firms can even be conceptualised as a bundle of resources (Wernerfelt, 1984). As with other types of firms, clubs utilise various types of resources, such as financial resources, physical resources, human resources, technological resources, reputation and organisational resources (Grant, 1991).

The key resources of professional sport clubs are its team and stadium (Borland, 2006a), which are types of human and physical resources (Dabscheck, 1975; Neale, 1964; Quirk and Fort, 1992;

Szymanski, 2015). Team resource expenditure typically comprises player wages and transfer fees. Clubs utilise teams of players, which are managed by the team manager, to win matches and championships. The key physical resource for professional sport clubs is its stadium (Szymanski and Kuypers, 1999; dell'Ossi and Szymanski, 1991; Szymanski, 2015). The facility is utilised to host a club's home matches, from which matchday, commercial and broadcast revenue is generated. Decisions to make changes to the stadium are some of the most important for clubs (Quirk and Fort, 1992).

Firm resources and capabilities

Capabilities or competencies are how a firm utilises its resources to formulate and implement strategy (Amit and Schoemaker, 1993). The differences between resources, capabilities and competence can be "subtle" (Barney, 1997, p. 144) and definitions of resources and capabilities are often interchanged (Barney and Clark, 2007). The management of resources can be simply conceptualised as another resource (Barney, 1989) or, more specifically, the ownership, control and management of resources can be considered as an organisational resource (Grant, 1991). Alternatively, there is a conceptual distinction between resources and capabilities (Barney and Arkan, 2001). Superior performance depends not only on the resources that a firm utilises, but on the management those resources (Sirmon and Hitt, 2003; Hansen et al, 2004; Holcomb et al, 2009; Ndofor et al, 2011). Capabilities can be modelled as the management of resources (Augier and Teece, 2009). Regardless of their similarity to, or differentiation from, resources, the management of resources and capabilities are often ignored in strategy research (Augier and Teece, 2009; Ndofor et at, 2011; Sirmon et al, 2007).

Professional sport clubs own, manage or control bundles of team and stadium resources. Club owners, business executives and other decision-makers require team resource management and stadium resource management capabilities if they are to optimise their resources to generate and sustain performance advantage. These capabilities encompass planning, organising, leading and controlling (Lussier and Kimball, 2014).

Team management capabilities encompass player trading and player development (Zimbalist, 1992). Player trading is the acquisition and divestment of players to and from the club (Lewis, 2003; Hakes and Sauer, 2006). Player development encompasses the improvement of individual players (Berri and Brook, 2010) and of the team (Berri et al, 2009). The management of the team may change, both as

players are traded and developed, and as performance objectives are realised or unrealised. Any such change may be made during the season or between seasons, especially when a team wins a championship or is promoted or relegated.

Stadium management comprises supply-based and demand-based capabilities. Supply-based capabilities include capital and operations management. Capital projects encompass the acquisition, divestment and accumulation of land, building and equipment, whereas operations management is the ongoing management of the venue, including the delivery of matchday and non-matchday products and services. Demand-based capabilities include the club's brand management (Irwin et al, 1999), fan loyalty management (Wakefield and Sloan, 1995; Funk and James, 2006), and price management (Ferguson et al, 1991). By incorporating supply and demand management capabilities, it is assumed that a club will change the supply of facilities, such as the capacity of the stadium, and change the operation of the venue to meet and create demand.

Resource management must further consider the management of the club as a firm or company. A unique characteristic of professional team sport is the influence and autonomy of the team manager. The business executives of professional sport clubs typically determine the management of stadium and marketing resources. But they usually do not exert explicit influence on the management of team resources, even though sporting performance can affect business performance (Irwin et al, 1999).

Accumulated resource advantage

Competitive advantage can be separated into performance advantage and resource advantage (See Sections 4.1 and 4.2). Firms aim to generate superior performance over their competitors, which can be realised by having a resource advantage (Coff, 2010; Hunt, 1997; Hunt and Morgan, 1996, 1997; Lippman and Rumelt, 2003) and a capability advantage (Makadok, 2001). The performance of a firm is further determined by its strategy relative to its competitors (Ndofor et al, 2011), and relative firm resources and capabilities are often more important to competitive outcomes than absolute resource endowments (Sirmon et al, 2008). For professional sport clubs, the conceptualisation and measurement of resource advantage is recommended because clubs possess similar resources and share a common resource market (Holcomb et al, 2009).

Professional sport clubs do not just aim to generate superior performance in the current season or financial year, and, correspondingly, they do not acquire, divest and accumulate all resources and

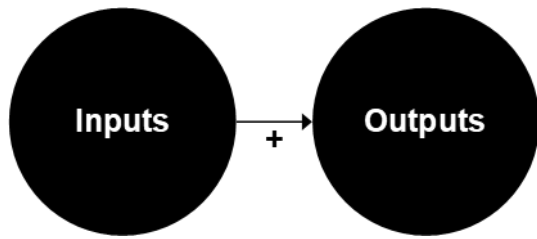
capabilities simultaneously. The current performance of a firm is derived from its current and historical resource (Henderson and Mitchell, 1997). Clubs accumulate resources and capabilities. For professional sport clubs, the accumulation of resources differs for team and stadium resources. Clubs typically develop their team resources over multiple financial years and seasons. For example, transfer fees are usually depreciated over three to four years (Forker, 2005; Frick, 2007; Buraimo et al, 2015; Amir and Livine, 2005) and the average duration of a professional footballer's contract is three years (Szymanski, 2015), while the average tenure of a Premier League team manager is just two years, and less than two years in the Football League (Kuper and Szymanski, 2012). In contrast, stadiums can take years and sometimes decades to plan, design and construct. No club that has opened a new stadium during the Premier League era has since relocated (Anderson, 2016).

Like performance, resources have competitive and dynamic dimensions. A club can have a team or stadium resource advantage over other clubs, while, each season and financial year, the club will acquire, divest and otherwise accumulate these resources. Therefore, the inputs that enable professional sport clubs to formulate and implement strategy are conceptualised and measured as accumulated resource advantage.

4.3. The concept of change in professional team sport

The Premier League was formed in 1992 and, as established in Chapter 2, has changed considerably since its inaugural season. During this time, a number of clubs have experienced success, whether winning championships or attaining membership of the Premier League, while others have experienced failure, be it relegation or administration. Club owners and business executives have utilised their resources to generate this sporting and business performance. They trade and develop players, and build new stadiums or rebuild or redevelop existing facilities. The basic *input-output* model, illustrated in Figure 4.1, where clubs with the superior teams and stadiums (resource advantage) generate and sustain superior sporting and business performance (performance advantage) is inadequate. It does not explain how and why some clubs succeed while other clubs fail, or why performance is sometimes sustained but often temporary.

Figure 4.1: The input–output model



Resources may not always be a reliable predictor of performance. The Premier League has grown since its formation, while its membership has changed as clubs are relegated and promoted. Each club has acquired, accumulated and divested resources, and have experienced unique types and levels of success and failure. The owners and business executives make distinct decisions at specific times, the outcomes from which are subject to change in the competitive environment and specifically to change in the Premier League and competitor clubs. Change has a dynamic and a competitive dimension and so it is necessary to define change, the implications of change for Premier League clubs, and specifically the degree of change and the differences between perceived and objective change. The approaches to the management of change by club decision-makers are explored, and a model for identifying how club owners and business executives formulate and implement strategy in a changing competitive environment is proposed.

4.4. What is change?

Decision-makers formulate and implement strategy to effect change in the resources and capabilities of the firm. Such change is intended to enhance performance outcomes, but can be detrimental, creating a performance disadvantage. A further complication is that change in performance can have an effect on resources; for example, the growth or decline in financial performance (such as generating a profit or returning a loss) can enhance or diminish financial resources (for example, retained earnings and net cash). Performance outcomes generated from resources may also vary because of change in the competitive environment, such as the strategic behaviour of competitors. Together, these internal and external changes are contingency factors that a firm's decision-makers do not necessarily make, but can affect the outcomes that are realised from its decisions. Change can affect a firm's resources, its performance, and the relationship between resources and performance.

Change represents risk. Risk can have consequences for the owners and business executives of a firm (Anderson and Tushman, 2001; Thompson, 1967), and for a firm's resources and performance (Anderson and Tushman, 2001; Duncan, 1972; Milliken, 1987). Risk can have a positive effect on a firm's strategy as well as the more common interpretation of risk as negative. It is the *benefit* of being right versus *cost* of being wrong. Risk is inherent in professional team sport. Clubs take a short-term risk in player trading, and a long-term risk with player development. The rebuilding of, or relocation to, a new stadium is usually the most substantial risk taken by club owners and business executives, due to the capital and operating expenditure that is committed and the economic useful life of the asset. The consequence of risk is that a club may under-perform or, alternatively, be over-resourced. Ultimately, professional team sport is "risky" (Szymanski, 2015, p. 210).

Firms formulate and implement strategy in the present. However, the outcomes of a firm's strategy, whether realised or unrealised (Mintzberg, 1978), will occur in the future. The future is not known with certainty and may be subject to change (Rumelt, 1984), and this change can be internal or external. Internally, the resources and capabilities of the firm may change (Thompson, 1967) or may need to change in the future (Paine and Anderson, 1977). In sport, clubs need to consider their endowments of team and stadium resources, and the required resource management capabilities. From an external perspective, the managers of a firm can never know with certainty what its competitors and other stakeholders will do in the future (Thompson, 1967, p. 88). For example, a professional sport club may enhance its player trading and development, but rival clubs may acquire or accumulate superior players. Similarly, a club can develop its stadium or relocate to a new stadium, only for a competitor in the local market to develop or open a superior facility. Strategy models should incorporate internal and external factors (Anderson and Paine, 1975; Paine and Anderson, 1977).

The degree of change

Firms may initiate "incremental" or "radical" change relative to the evolving competitive environment, or may be in a period of "flux" (Johnson, 1992, p. 34). The degree of change in a competitive environment is a function of dynamism and complexity (Anderson and Paine, 1975; Bourgeois, 1985; Child, 1977; Lawrence and Lorsch, 1967). Change has a static–dynamic and a simple–complex dimension (Duncan, 1972). The static–dynamic dimension is more important than the simple–complex dimension (Duncan, 1972). Change can be modelled as cross-sectional complexity (*how many*

contingency factors affect a firm's strategy?) and time-series dynamism (*when* do contingency factors affect the firm's strategy?).

Professional sport clubs can experience dynamic change to performance and resources. This change can be considerable, such as effects of promotion and relegation, especially between the Premier League and Football League Championship (see Section 2.8). Furthermore, clubs may need to immediately respond to change – especially if they have been promoted, relegated or qualified for European competition – as they typically have from just a couple of months (Deloitte, 2005) to ten weeks (Deloitte, 1999) to formulate and implement a revised strategy. The change experienced by promoted clubs has been described as being analogous to the transition from a convenience store (Deloitte, 1999) or corner shop (Deloitte, 2005) to a supermarket (Deloitte, 1999, 2005) and, for relegated clubs, changing back again (Deloitte, 1999). Furthermore, promotion and relegation can occur in consecutive seasons, meaning that growth, decline, or fluctuation between growth and decline, can occur within just a few seasons. There is then limited time for clubs to make any required adjustment to their team and stadium resources.

Premier League clubs are relatively simple firms. Sporting performance is governed by the league through laws and rules, which are identical for all clubs, and is derived from a set number of players in the team and squad, as set in the laws of the sport and the rules for each competition. They generate business performance from a limited number of products and services, conducting most of their trading from one facility. Nevertheless, the competitive strategy of clubs is complex. As with other industries, performance still derives from multiple resources and capabilities (Teece et al, 1997; Sirmon et al, 2007), with most products (and services) requiring several resources, and most resources being utilised for several products (Wernerfelt, 1984). Players and team managers contribute to sporting performance (by winning matches and championships) and business performance (including matchday, commercial and broadcast revenue), while the stadium is essential for sporting performance (to host home matches) and business performance (to generate matchday and commercial revenue). Further complexity is added when the strategy of competitors is considered, as the performance of any firm or club is the result of multiple competitive contests (Sirmon et al, 2008). Performance is a multidimensional construct (Combs and Ketchen, 1999) and can be evaluated using multiple criteria (Sirmon et al, 2008). The use of combined, multiple performance measures is recommended (Coff, 1999; Combs and Ketchen, 1999; Holcomb et al, 2009).

Objective and perceived change

It is not change *per se*, but the certainty or predictability of change that affects the outcome of strategic decision making (Anderson and Paine, 1975; Milliken, 1987). The capability to predict change is not the same as observed change (Anderson and Tushman, 2001). There is a difference between objective change and perceptions of change as part of strategic decision-making (Anderson and Paine, 1975; Aragón-Correa and Sharma, 2003; Bourgeois, 1985; Milliken, 1987). Objective change can be stable or volatile, whereas perception of change range from predictable to uncertain.

Managers may have uncertain perceptions of change in the competitive environment in which their firm competes, but also uncertainty about the need for the firm to change and, specifically, to change its strategy (Anderson and Paine, 1975). Perceptions of change differ in industries and firms. There are inter-firm differences *between* firms in an industry and intra-firm differences *within* firms (Milliken, 1987). Different firms have unique perceptions of uncertainty (Child, 1977) and, within firms, there may be differing perceptions of change as perceived by managers (Anderson and Paine, 1975; Paine and Anderson, 1977) or decision decision-makers (Anderson and Tushman, 2001; Bourgeois, 1985; Galbraith, 1973).

The degree of objective change in professional team sport is highlighted in Chapter 2. Much of this change is observed as stable, rather than volatile, growth. However, there is mixed evidence of the perceptions of change as comprehended by Premier League club decision-makers. Much of the change in the Premier league appears to have been predictable, as evidenced by forecasts in Deloitte's *Annual Review of Football Finance*. Deloitte (2017a) are consultants to a number of Premier League clubs, and the published data and information is in the public domain and is used in media and academic research. However, this does not necessarily mean that all decision-makers at all clubs shared the same interpretation of this evidence, and club decision-makers are likely to have drawn on other evidence when forming their perceptions of change. Many trends were predicted, but it is difficult to predict success and failure of individual clubs or by division (Deloitte, 1999). There is also an important distinction between the prediction of future change and the ambition or aspiration of owners and business executives to realise change, especially in sporting and business performance. Peter Risdale, the then Chairman of Leeds United, described the club's growth as "living the dream" (Wilson, 2006), but "chasing the dream can mean living a financial nightmare" (Deloitte, 1999, p. 60).

Furthermore, there is a paradox if decision-makers aim to formulate and implement strategy that is both flexible and predictable (Thompson, 1967). In the long-term, decision-makers aim to optimise the flexibility (or *freedom from commitment*) of their resources because the firm's competitive environment in the future is uncertain (Thompson, 1967). However, in the short-term, decision-makers have a preference for predictability by reducing or eliminating uncertainty (or *technical rationality*), as they aim to optimise the effective and efficient utilisation of the firm's resources to generate performance advantage (Thompson, 1967). This is further complicated as decisions are made at institutional (or executive), managerial and technical level (Thompson, 1967). At institutional level, strategic decision-makers aim to optimise resource flexibility, whereas at the technical level, technical rationality is optimised by reducing or eliminating uncertainty. The interim managerial level is the *translator* between resource flexibility and technical implementation. In professional team sport, there is separation in strategic decision-making for specific resources. With the growth of team resource expenditure in the Premier League, it is becoming more common for the trading and development of players to be managed by a director, while the management of players during each season and match is usually performed by the team manager with the support of technical staff such as coaches. For stadium resources, the decision to rebuild or relocate to a new stadium may be taken at institutional or executive level, with the management of the facility by the stadium manager, and specific functions such as ticketing, hospitality, food services and retail management being managed at technical level.

4.5. How do professional sport clubs manage change?

There has been considerable growth in the revenue generated by Premier League clubs and in the expenditure allocated to team and stadium resources. Concurrently, there has been divergence in revenue and expenditure between divisions, and especially between the Premier League and Football League Championship, and, more recently, between the Premier League and Champions League (see Section 2.8). The Premier League has expanded since 1992, but only a few clubs have sustained success during the era. Most clubs have, at least at some stage, enjoyed or suffered varying degrees of success, failure, growth or decline. These outcomes have been short-term for some clubs and long-term for others. It is evident that clubs have formulated and implemented unique strategic paths. This is despite much of the objective or observed change in the competitive environment being the same for all clubs. It is assumed that the unique decisions made by club owners and business executives

must, at least in part, be due to contrasting perceptions of change, be it change in the competitive environment or to the individual club.

The combination of objective and perceived change may provide unique insight and explanation of the decision-making of club owners and business executives. Importantly, this enables research to consider not just *what* clubs do, but *why* they do it. The dimensions of perceived and objective change are presented as a matrix (as used by Daase and Kessler (2007) and Luft (1984)) in Figure 4.2. Perception of change can be predictable or uncertain, and objective change is stable or volatile.

Figure 4.2: The perceived–objective change matrix

		Objective change	
		Stability	Volatility
Perceived change	Predictable	1. Predictable stability	2. Predictable volatility
	Uncertain	3. Uncertain stability	4. Uncertain volatility

Each cell represents a specific approach for decision-makers based on their perceptions of the change (the vertical dimension) and for each type of objective change (the horizontal dimension). Cell 1 is *predictable stability*, where managers correctly forecast that the competitive environment would be stable. For example, the growth in Premier League broadcast rights has been predictable and stable. Cell 2 is *predictable volatility*, where decision-makers correctly expected that the competitive environment would be volatile. Although the environment changes, the firm makes appropriate change to maintain competitiveness. Clubs that have experienced promotion and relegation have had to revise their strategy according to which division they will compete in the following season. Cell 3 is *uncertain stability*, where the decision-makers did not anticipate stability; they thought the competitive environment would be volatile. Additions and amendments to law, such as the *Arsenal Football Club v Reed 2002* case highlighted in Section 2.2, were expected to have considerable impact on professional sport clubs, but their consequences were limited. Cell 4 is *uncertain volatility*, where managers did not predict volatility. This is the most chaotic competitive environment. Contagion caused by the administration of ITV Digital and Setanta Sports was the most intense example of unpredictable volatility.

For professional sport clubs, perceptions of change are not dichotomous, *either-or*, decisions. Clubs make decisions about a bundle of resources to effect specific types of performance outcomes. Furthermore, many strategic decisions are constrained. Managers may be willing to make a specific decision, but are unable to formulate or implement their preferred strategy as their strategic choices are constrained by their frequency, certainty, reversibility, functionality and occurrence (Rumelt, 1984). For example, the trading of players to and from Premier League clubs is frequent, but irregular. Each season, a number of clubs are promoted and relegated, or have new owners, business executives or team managers. Most players have short-term contracts, and player trading decisions can be reversed by trading on the *transfer market*, subject to the player's contract and market liquidity. Player development is longer-term, and related strategic decision-making is less frequent and more difficult to reverse than for player trading, and irregular. Conversely, the acquisition or accumulation of stadium resources is much longer-term than for team resources (Szymanski, 2015). Strategic decisions on the development or relocation of a club's stadium can take many years and sometimes decades to formulate and implement, and require considerable financial resources, and are infrequent, irregular and, essentially, irreversible. The decision-making of club owners and business executives will vary according to what is being changed or is changing, and how change is realised or unrealised.

4.6. The concept of fit in professional team sport

There has been extensive and intensive change in the Premier League since its formation. Decision-makers have to perceive and then respond to, or pre-empt, such change. Strategy, therefore, is not static, and is more like "shooting at a moving target" (Thompson, 1967, p. 148). Professional sport club decision-makers may have to change their team and stadium resources due to change in performance and the competitive environment. The concept of fit (Rumelt, 1987) aims to explain the realised and unrealised outcomes of firm strategies. It can be applied to explain how Premier League clubs maintain fit, go into misfit, and then refit, and why this has an effect on sporting and business performance.

Firms that are in fit (Donaldson, 2001) or balance (Naman and Slevin, 1993) are expected to generate superior performance to those in misfit (Donaldson, 2001). Fit is a dynamic and changing concept, as firms that are in misfit can attain or regain fit (Donaldson, 2001). Firms can have an under-measure or over-measure of fit (Naman and Slevin, 1993) or, alternatively, under-fit or over-fit. Under-fit may be more problematic than over-fit as it may represent critical factors, whereas under-fit may be "merely"

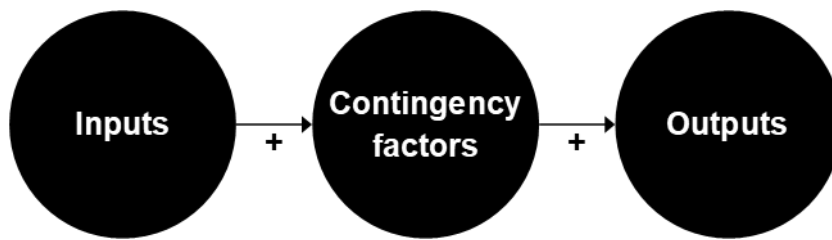
slack resources (Naman and Slevin, 1993, p. 146). Furthermore, the degree of fit or misfit may be expected to affect performance (Drazin and Van de Ven, 1985; Donaldson, 2001). Firms that have excessive misfit are predicted to have inferior performance to those that are in fit or have moderate misfit. The duration of fit or misfit may further affect performance, with firms that experience long-term misfit returning performance that is inferior to firms that have short-term misfit before regaining fit or achieving refit.

There are different conceptions of fit, with typologies proposed by Drazin and Van de Ven (1985) and Venkatraman (1989). Drazin and Van de Ven (1985) identify selection, interaction and systems as types of fit. The selection approach is the relationship between resources and contingency factors, but does not aim to explain performance. Interaction explores how the deviation or residuals between resources and contingency factors explain performance. Systems fit is a holistic or gestalt approach, by which performance is explained by the consistency between resources and contingency factors. Venkatraman (1989) models fit as mediation, moderation, matching, gestalts, deviation and covariation. Models that predict performance are functionalist theories (Donaldson, 2001). For predictive models, the conceptualisation of fit as moderation, mediation and deviation are relevant as they are "anchored" to an outcome variable (Venkatraman, 1989, p. 425). Fit as mediation and moderation are complementary perspectives, but the mediation model offers less precision than moderation (Venkatraman, 1989). Therefore, fit as mediation (Venkatraman, 1989), fit as moderation (Venkatraman, 1989) or interaction (Drazin and Van de Ven, 1985), and fit as deviation (Venkatraman, 1989) are applicable to the explanation of professional sport club performance.

Fit as mediation

The conceptual model in Figure 4.3 shows how contingency factors mediate, or intervene on, the relationship between inputs and outputs. Inputs are expected to have a positive effect on outputs, and outputs will be further enhanced if mediated by positive contingency factors.

Figure 4.3: Contingent resource-based conceptual model, fit as mediation

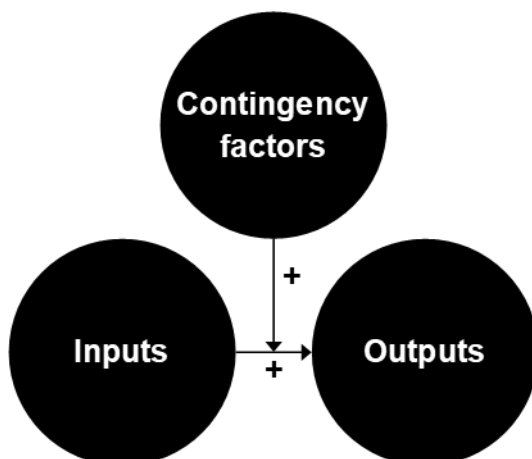


The team resources of professional sport clubs may be related to business performance, but the relationship is not immediate as players and team managers do not generate revenue and profit. Clubs have to generate sporting performance from their team resources, and winning matches and championships then enables the generation of matchday, broadcast and commercial revenue. Sporting performance can be modelled a contingency factor that mediates the relationship between team resources and business performance.

Fit as moderation

Figure 4.4 illustrates how contingency factors moderate the relationship between inputs and outputs. As with the mediation model, inputs are expected to have a positive effect on outputs, but instead the contingency factor moderates the effect of resources on performance.

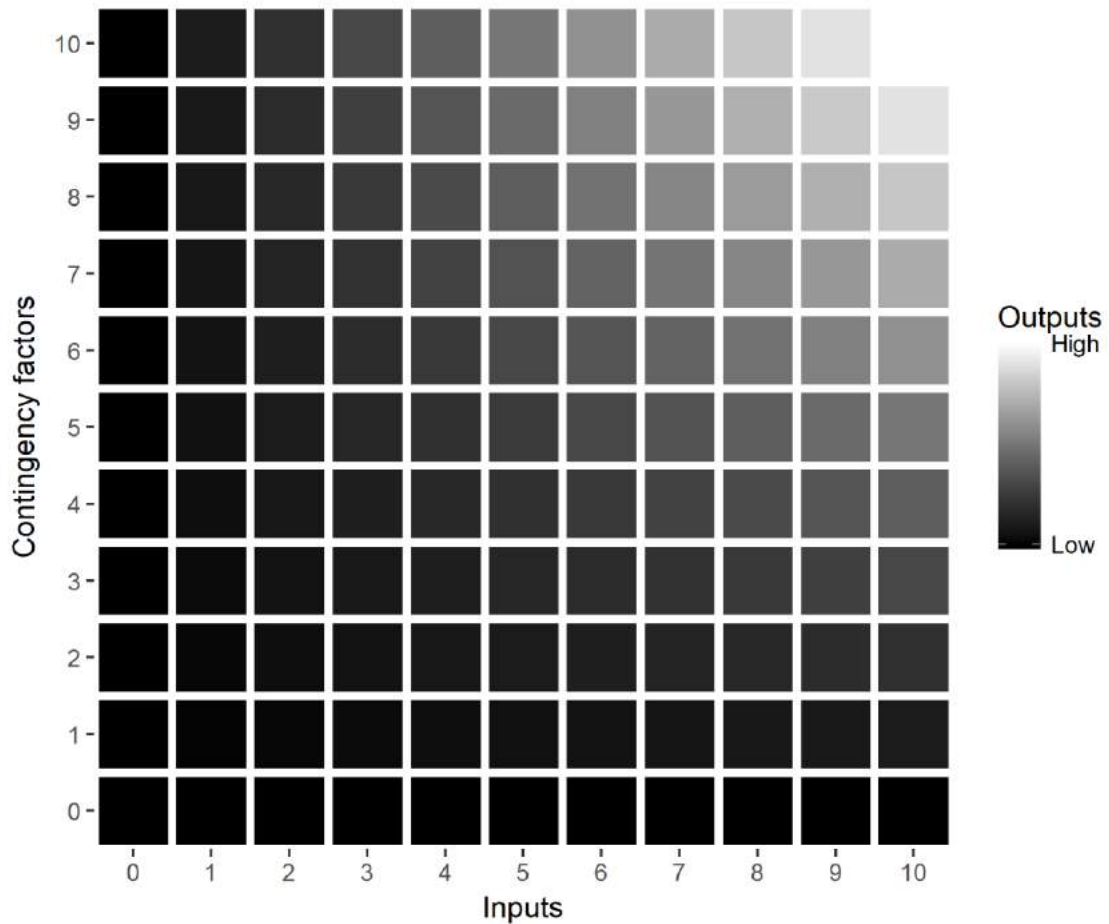
Figure 4.4: Contingent resource-based conceptual model, fit as moderation



This tripartite relationship is further illustrated in Figure 4.5. Firms that utilise low inputs with low contingency factors are expected to generate the lowest output (the white zone). However, as the firm

enhance its inputs, or the contingency factor increases, their output will improve. Ultimately, firms with the highest inputs *and* highest contingency factors will generate the highest outputs (the black zone).

Figure 4.5: Fit as moderation

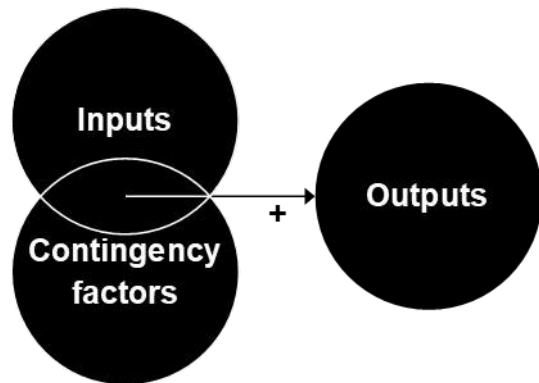


Team resources are not purposely utilised to generate business performance but, where fit is modelled as moderation, it is the interaction of team resources and sporting performance that explains the variation in business performance. Clubs with low endowments of team resources and inferior sporting performance will have inferior business performance. Superior business performance is generated by clubs with high endowments of team resources and superior sporting performance. Sporting performance then becomes a contingency factor that moderates the relationship between team resources and business performance. However, Donaldson (2001) counters that the interaction model does not reflect the concept of fit.

Fit as deviation

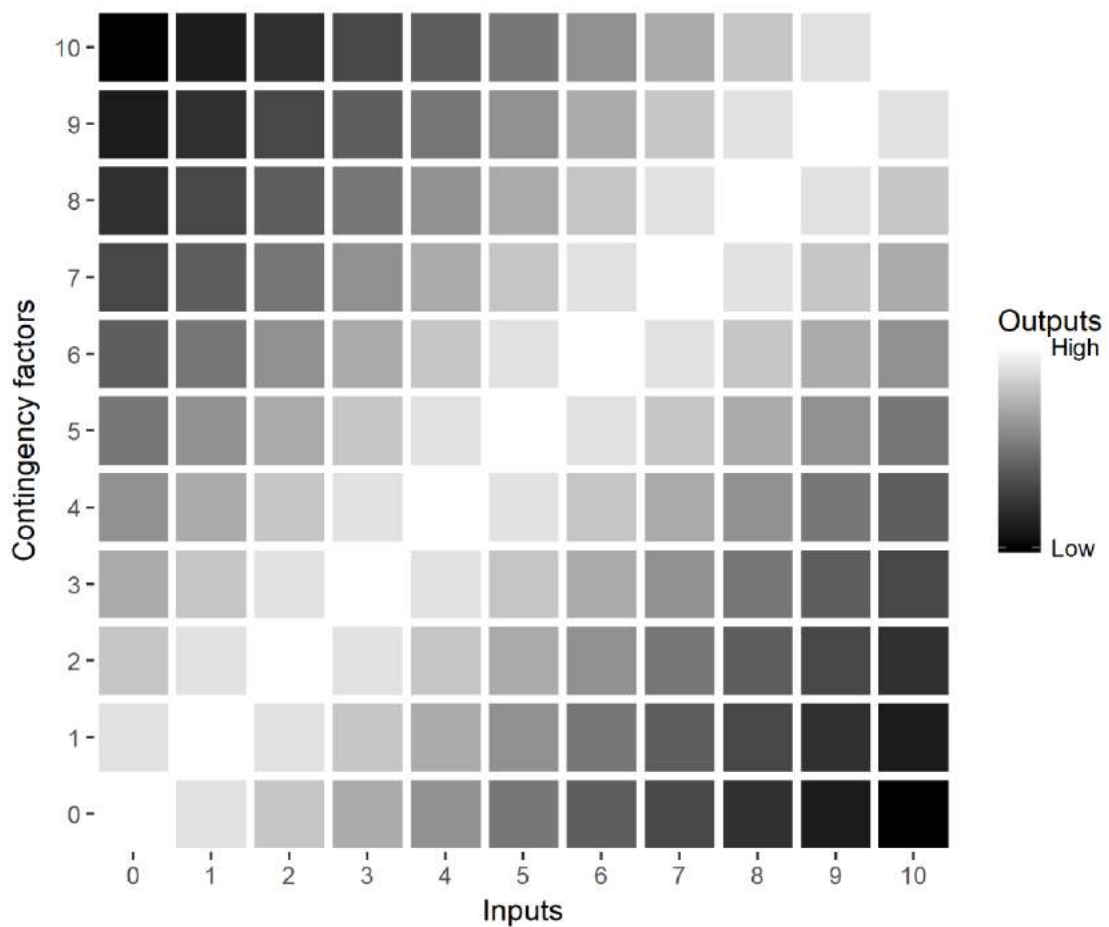
Figure 4.6 shows how outputs are affected when the fit between inputs and contingency factors is modelled as deviation. Here, the fit between inputs and contingency factors is expected to have a positive effect on outputs. Conversely, deviation from fit, or to misfit, will have a negative effect on outputs.

Figure 4.6: Contingent resource-based conceptual model, fit as deviation



Fit as deviation can be modelled as iso-performance or hetero-performance (Donaldson, 2006). Iso-performance is illustrated in Figure 4.7. Firms that fit or balance their inputs to the contingency factor will generate superior outputs (represented by the white zone). But clubs that misfit their inputs to the contingency factor will generate inferior outputs (represented by the black zone).

Figure 4.7: Fit as deviation (iso-performance)

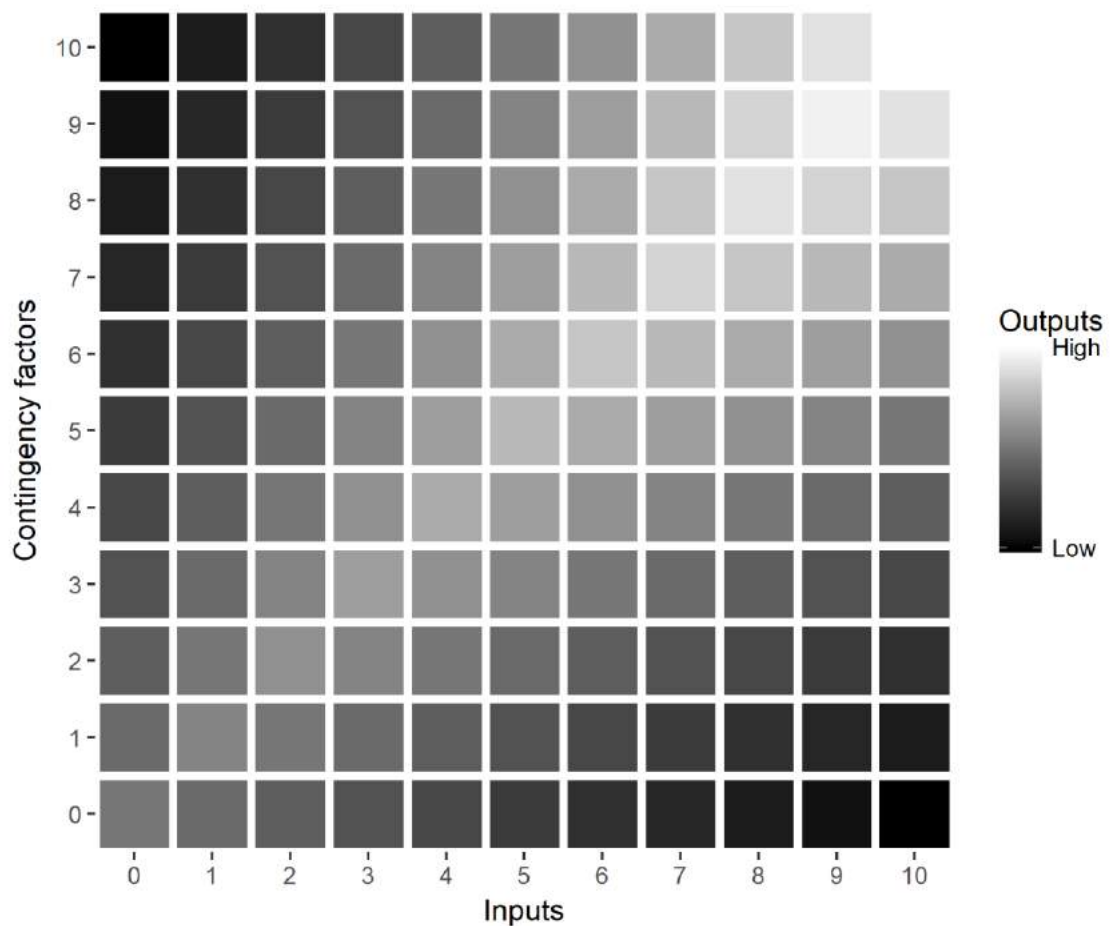


Clubs that have an over-fit of team resources to sporting performance are under-performing or, alternatively, are over-resourced, where they have excessive or slack resources. Conversely, clubs in under-fit are over-performing or under-resourced. The limitation of the iso-performance model is that the outcome (business performance) is assumed to be constant for all inputs (such as endowments of team resources) and for all outputs (such as sporting performance). Therefore, a club with low team resource endowments and low sporting performance is predicted to generate the same business performance as a club with high team resources and high performance. This does not adequately model how successful clubs enhance both their resources and their sporting performance as they are promoted from the Football League to the Premier League, and nor the reverse effects on the business performance of clubs that are relegated from the Premier League to the Football League.

The hetero-performance model illustrated in Figure 4.8 is similar to the iso-performance model in that firms that have a misfit between inputs to the contingency factor will generate inferior outputs (the

black zone). Firms that match or balance their inputs to the contingency factor will generate outputs that are superior to the clubs in misfit, but the difference is that firms that fit or balance low inputs to low contingency factors will generate moderate outputs (the grey zone), and firms with high inputs and high contingency factors will generate superior outputs (the white zone).

Figure 4.8: Fit as deviation (hetero-performance)



Hetero-performance represents a better depiction of how professional football clubs grow and decline. It emphasises the difficulty of sustaining success (remaining in the white zone in the top right corner) and how some clubs are able to experience promotion or relegation without experiencing business performance failure, such as an administration event. These clubs will move up and down the diagonal spine of the grid. Clubs that move into misfit and are unable to regain fit will return inferior business performance, and possibly administration. This is depicted as transitioning from the spine of the grid to the black tips in the top left or bottom right corners.

4.7. Conclusions: Conceptualisation and measurement of performance

The competitive and dynamic conceptualisation of professional team sport performance, and of the requisite resources, is essential in a competitive environment that is subject to considerable change. A club can enhance its inputs in order to improve its outputs, but, if its competitors enhance their performance to a superior degree, then the club's relative performance will decline. There are important differences between sporting and business performance. The sporting competitive environment is closed and discrete, and is a zero-sum game where there is only one winner or a set number of clubs that qualify for another competition or win promotion (or suffer relegation) to another division. In contrast, the business performance of professional sport clubs is more open and can comprises inter- and intra-industry competition. Performance can be conceptualised and measured as absolute or relative outcomes, as all or most clubs can contemporaneously be successful or, in contrast, endure failure.

5. Research methodology: Describing and explaining professional sport club performance

Chapter summary

- Empirical research is conducted to explain how and why professional sport clubs generate and sustain superior performance.
- The context of research is the Premier League of England and Wales, with a sample of 47 current and former members and a 24-year observation period from 1992/93 to 2015/16.
- Conceptual models and variables are proposed, with propositions to confirm the relationship between the constructs of the team resources and sporting performance and from sporting performance to business performance, and to explore the relationship between team resources and sporting performance on business and financial performance.
- Archival data is collected from sources such as Deloitte's *Annual Review of Football Finance* and the *Football Yearbook*, plus the Premier League, Football League and League Managers Association.
- Statistical and visual analysis is utilised with panel regression models and cross-case time-series data displays.

The research methodology describes the empirical tests that are adopted to explain the variation in the performance of professional sport clubs. The aim of the research is to explain how and why Premier League clubs utilise their team and stadium resources to generate and sustain sporting, business and financial performance. The context of the study is the Premier League of England and Wales, with the sample and observation period being the 47 clubs that are or have been members of the Premier League for the 24 years since its formation in 1992 to the end of the 2015/16 season. This represents a potential panel of 1128 club years. Conceptual models are proposed to establish the key relationships between the clubs' resources and their performance outcomes. Variables are selected to operationalise these constructs, with a set of hypotheses stated to test the relationships between constructs. Data is collected from archive sources, including the *Annual Review of Football Finance* and the *Football Yearbook*. This is analysed using panel regression models and cross-case time-

ordered displays. Together, the research methodology describes the constructs, the relationships between constructs, and the context in which the empirical research is conducted (Whetten, 1989).

5.1. Aim and research questions

Empirical research is conducted to explain the strategy of Premier League football clubs, and specifically how and why clubs utilise resources to generate and sustain superior performance, and whether success or failure is conditional on the contingency factors. This is accomplished first by confirmatory analysis to establish that team resources explain the relative sporting performance of clubs, and, subsequently, that this sporting performance is related to business performance. Second, exploratory research is introduced to establish whether the performance generated from resources is conditional on change in the fit between resources and contingency factors.

Fundamentally, the clubs with the best teams usually win, and winning clubs usually make more money than losing clubs. It is therefore necessary to confirm the established relationships that are evident in professional team sport, as highlighted in Section 3.3, and the first two research questions are:

Do the team resources of Premier League football clubs explain superior sporting performance?

Is the sporting performance of Premier League clubs related to business performance?

However, professional team sport is more complex, and clubs utilise multiple resources and have contrasting objectives and outcomes. They own, manage or control team and stadium resources and aim to generate and sustain sporting and business performance. Therefore, the third research question is:

How and why do Premier League football clubs utilise team and stadium resources to generate and sustain superior sporting, business and financial performance?

5.2. Context

Sport is institutionalised, competitive, physical activity (Coakley, 1978) that can be amateur (including participation, recreation and development) or professional (Andreff and Staudohar, 2000), where professional players are remunerated. Most participation sport is amateur, while spectator sport is mostly, but not exclusively, professional. Professional sport depends on the generation and

appropriation of revenue to cover players' remuneration and other resource expenditure. Sport can be played by individuals, such as golf and tennis, or by teams, such as football and baseball (Szymanski, 2003). The context of the research is professional team sport and specifically the sport of football.

Sport provides an interesting context for research, as Vrooman (2007a, p. 309) observes: "The world's games are ready-made laboratories." Professional team sport has been used for strategy research, including Major League Baseball (Moliterno and Wiersema, 2007; Sirmon et al, 2008) and the National Football League (Holcomb et al, 2009). Professional sport leagues represent a "natural experiment" (Moliterno and Wiersema, 2007, p. 1071) or "natural laboratory" (Berri et al, 2009, p. 76) for strategy research, and are "empirically interesting" (Moliterno and Wiersema, 2007, p. 1074). Professional sport clubs are appropriate for strategy research as they have comparable resources and a common competitive environment (Holcomb et al, 2009), with similar objectives and strategies (Jane et al, 2009). Unlike many industries, the firms that compete in the professional football leagues of England and Wales are consistent. They are rarely subject to merger or liquidation, although the companies that own the club may change when the club is acquired. Clubs have greater longevity and consistency than other industries (Szymanski, 2015), which enables comparative and dynamic empirical research. However, Holcomb et al (2009) concede that generalisability of findings from the professional team sport to other industries may be limited.

Most empirical sport management research focuses on sporting performance (for example, Moliterno and Wiersema, 2007; Sirmon et al, 2008; Holcomb et al, 2009), but ignores the business and financial performance of clubs. Researchers have documented the difficulty of collecting financial data for professional sport leagues and clubs (Davenport, 1969; Noll, 1974). For example, Moliterno and Wiersema (2007) concede that financial performance data would be desirable for their empirical research of Major League Baseball clubs, while the availability of data is limited for many European football leagues (Deloitte, 1997). Such data is, however, available for Premier League clubs and empirical sport management research can be extended by incorporating team resources with sporting, business and financial performance. Furthermore, the Premier League provides a unique setting for collecting and analysing data on human resources (Amir and Livine, 2005). Data is available on player wages and the payments of *transfer fees* where players are traded between clubs (on the *transfer market*). Professional sport leagues are a "unique laboratory" that overcomes the limitations of other

contexts (Jane et al, 2009, p. 139) and represent a "unique opportunity" for human resource management research (Frick, 2007, p. 424).

5.3. Sample

The sample includes clubs that have won and been permanent members of the Premier League, as well as clubs that been promoted and relegated since its formation in 1992. It also include clubs that have entered administration. This means that the sample includes clubs that have experienced success and failure, be it in sporting, business or financial performance. This is necessary for empirical research that is intended to explain the variation in performance of professional sport clubs and their sustained or temporary success and failure.

Wimbledon have been omitted from the sample. They were founder members of the Premier League but were relegated in 2000. The club relocated to Milton Keynes in 2003, subsequently rebranding as Milton Keynes Dons in 2004 (Anderson, 2016). In anticipation of the relocation, a new club, AFC Wimbledon, was formed in 2002 and were promoted to the Football League in 2012 (Anderson, 2016), but have yet to be promoted to the Premier League. The resource and performance data for Wimbledon and Milton Keynes Dons is not continuous during the observation period. There are 46 clubs in the revised sample.

The sample of current and former member clubs enables analysis of the pre-entry paths (promotion from the Football League to the Premier League) and the post-exit paths (relegation from the Premier League to the Football League) of clubs. It does not, however, include clubs that have never been members of the Premier League. The sample could be extended to include all current and former members of the Football League, rather than just the Premier League. However, this would then require the collection of additional data for resources and performance for when clubs were members of League One and Two of the Football League or of the National League (formerly the Football Conference to 2014/15), for which there is considerable missing data. The additional insight generated from including more clubs would be limited as there would be analytical limitations due to this missing data.

Observation period

As documented in Section 2.1, the Premier League and Champions League were formed in 1992. This represented a pivotal change in the structure of professional football in England and Wales, and

in the resources and performance objectives of professional football clubs. Concurrently, more data has been collected on business and financial performance, such as Deloitte's *Annual Review of Football Finance*, since the 1992/93 season. The specified observation period is from 1992/93 to 2015/16, representing 24 years. For most clubs, the financial year is concurrent to the sporting season.

The observation period covers a period of intense growth for the Premier League, but does not encompass the transition from the Football League. It could be extended to prior to the formation of the Premier League, when professional football clubs in England and Wales competed in the four divisions of the Football League. This would provide insight into the effects of the formation Premier League and Champions League. However, resource and performance data before published before 1992 is incomplete (Szymanski and Kuypers, 1999).

Panel

Data for the sample of clubs and observation period constitutes panel data. Panel data has cross-sectional and time-series dimensions (Brooks, 2008, p. 5). For the cross-sectional dimension, the sample is 46 clubs with the omission of Wimbledon. For the time-series dimension, the observation period, from 1992/93 to 2015/16, is 24 years. This provides a potential panel of 1,128 club years, each of which represents a financial year or sporting season. The panel specified for the analyses varies for each model according to the variables used (see Section 5.5).

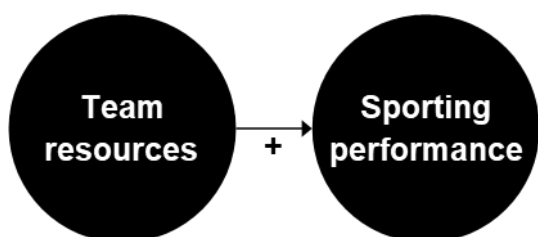
5.4. Conceptual models

Theoretical frameworks need to be sufficiently comprehensive so that they represent the phenomena that are being modelled and parsimonious to enable empirical testing (Whetten, 1989). Rumelt (1984) recommends that models be specialised and simple, and have the fewest necessary constructs. The conceptual models in Figures 5.1 and 5.2 exhibit the fundamental relationships in professional team sport. Each model depicts the key constructs and the theorised direction and sign of the relationships between the constructs. The direction can be uni-directional (one-way) or bi-directional (two-way), while the sign indicates whether each relationship is expected to be positive, negative, or either positive or negative.

Sporting performance model

The fundamental relationship in professional team sport is that the clubs with the best teams usually win more matches and championships. Figure 5.1 shows that team resources, including players and team managers, are expected to have a positive effect on sporting performance. The relationship is incorporated in many of the conceptual models, highlighted in the *Literature Review* (Section 3.3), that aim to explain both sporting and business performance (Baroncelli and Lago, 2006; Gerrard, 2005; Szymanski, 2015).

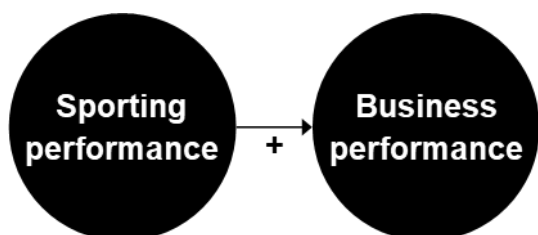
Figure 5.1: Team resources to sporting performance conceptual model



Business performance model

Clubs that win more matches and championships tend to make more money from matchday, commercial and broadcast revenue. More formally, there is expected to be a positive effect from clubs' sporting performance to their business performance. Figure 5.2 shows the key relationship for explaining business performance, which can be supplemented with other predictors, such as stadium and marketing resources. This relationship between performance outcomes is incorporated in most of conceptual models that incorporate both sporting and business performance (Baroncelli and Lago, 2006; Dobson and Goddard, 1998; Galariotis et al, 2017; Gerrard, 2005; Pinnuck and Potter, 2006; Szymanski, 2015).

Figure 5.2: Sporting performance to business performance conceptual model



Sporting, business and financial performance models

Professional team sport theories that separate the prediction of sporting performance from that of business performance imply that club owners are *either* win-maximisers *or* profit-maximisers (see Section 3.1). Furthermore, they ignore the relationship *between* sporting performance, business and financial performance. Professional sport clubs need to generate business performance (such as revenue) to cover team resource expenditure. These enhanced team resources then enhance the club's aim to win matches and championships, from which can generate further revenue. Team resources are anticipated to be positively related to business performance as Premier League clubs are expected to generate more revenue than Football League clubs, and Champions League clubs more than other Premier League clubs. Of course, the reverse may apply to clubs with inferior team resources, which lose matches and championships and therefore do not generate as much revenue as the winners. Clubs' stakeholders may appropriate business performance, with the remainder being recognised as financial performance, such as profit or net cash. This also represents the clubs' financial resources that can then be invested in team and stadium resources. Section 4.6 proposes that the concept of fit can be applied to explain the performance variation of professional sport clubs. Here, the fit between team resources and sporting performance is expected to have an effect on financial performance, with fit being conceptualised and measured as mediation, moderation and deviation.

Fit as mediation

The relationship between team resources and financial performance is not immediate. Clubs that win more matches and championships usually generate more revenue or make more money, but this relationship is not explicit. Only some revenue is linked to sporting performance, such as the performance-based share of broadcast revenue (see Section 4.1). Instead, professional sport clubs have to commercialise their success or, alternatively, compensate for sporting failure. Here, a club's sporting performance mediates the relationship between team resources and financial performance. This relationship is conceptualised in Figure 5.3, where fit is modelled as mediation.

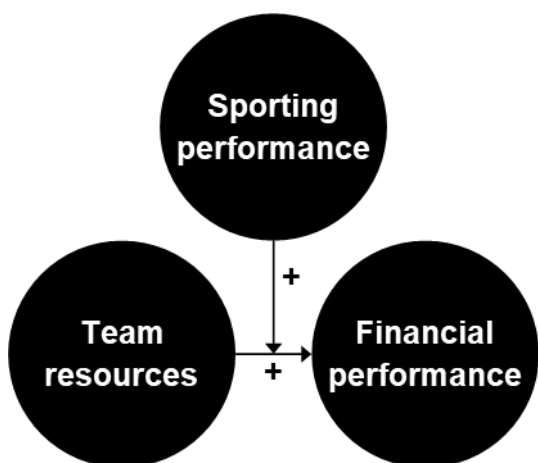
Figure 5.3: Sporting and financial performance conceptual model, fit as mediation



Fit as moderation

Clubs that gain a sporting performance advantage from superior team resources should be able to commercialise this success, which is realised as superior financial performance. Such clubs are able to maximise profits from their superior sporting performance or minimise losses if and when they have inferior sporting performance. Those clubs with either inferior team resources *or* inferior sporting performance may not be able to generate as much matchday, commercial and broadcast revenue, while clubs with both inferior team resources *and* inferior sporting performance are expected to return the least financial performance. The relationship between team resources and financial performance is moderated by a club's sporting performance. This is conceptualised in Figure 5.4, with fit being modelled as moderation.

Figure 5.4: Sporting and financial performance conceptual model, fit as moderation

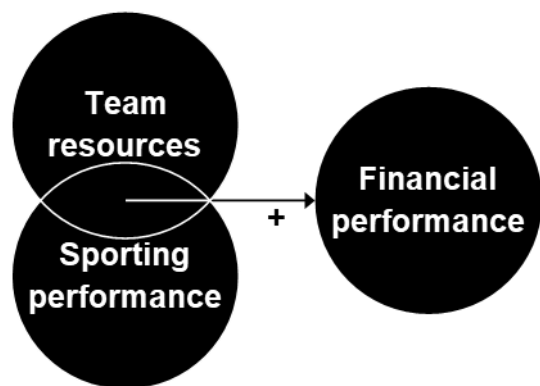


Fit as deviation

Professional sport club decision-makers have to manage bundles of resources to realise multiple performance outcomes. The fit or match of team resources to sporting performance is hypothesised to

be an indicator of resource management capability, and clubs with such capability are expected to return superior financial performance. Conversely, it is anticipated that clubs whose team resources are in misfit to their sporting performance will return inferior financial performance. The deviation of team resources from sporting performance is expected to have a negative effect on financial performance. There may be unique consequences of under-fit and over-fit. Clubs that under-perform or, alternatively, have excessive resources, may be unsustainable due to losses incurred from inferior sporting performance (such as failure to qualify for the Champions League or relegation from the Premier League) or from excessive expenditure on players or stadium resources. This is especially so if the under-performance or over-resourcing is excessive or persistent. Over-performance could be assumed to be beneficial, but may be indicative of under-resourcing. This would be critical if the over-performance or under-resourcing were acute, while clubs that are over-performing in the short-run may have insufficient team resources, which are then unsustainable in the long-run. The conceptualisation of fit as deviation enables the measurement of fit, over-fit and under-fit, and this relationship is shown in Figure 5.5.

Figure 5.5: Sporting and financial performance conceptual model, fit as deviation

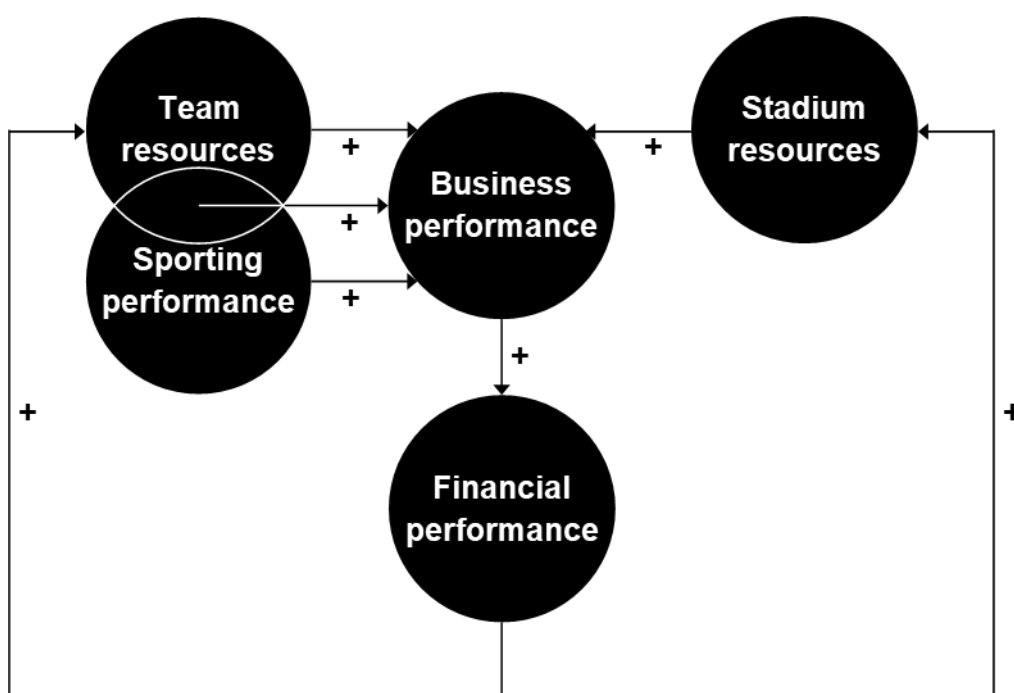


The professional team sport resource and performance model

The aforementioned models are constrained by the tripartite relationship between team resources, sporting performance and financial performance. A more comprehensive model is proposed to incorporate other resources, such as a clubs' stadium, and to further consider the relationships between business performance to financial performance and the virtuous effect from financial resource to team and stadium resources. Therefore, Figure 5.6 is presented as a more comprehensive model of contemporary professional sport club performance. Team resources,

sporting performance and the deviation of fit between team resources and sporting performance are included as separate predictors of business performance, which is also predicted by stadium resources. Business performance in turn is related to financial performance, where, for example, positive revenue flows will increase profit and net cash, but negative revenue will decrease profit or return a loss and decrease net cash. Positive financial performance is either appropriated by stakeholders or is reinvested in the acquisition or accumulation of team and stadium resources. Conversely, negative financial performance may require the divestment of team and stadium resources.

Figure 5.6: Resource and performance model



5.5. Variables

Variables are selected for the constructs for each of the conceptual models. Table 5.1 lists the variables that are adopted in the statistical and visual analysis. The variables used in the statistical analysis are highlighted by an asterix (*) and for the visual analysis by the dagger symbol (†), with the variable names shown in the results presented in italics and parenthesis. For each variable, the type of data is listed with the range of values that can be applied to each club and for each season and

financial year¹⁹. The observation period (to 2015/16) and the sources for each variable are listed, and are discussed in Section 5.7.

¹⁹ The football season and financial year are concurrent for most professional football clubs and may be labelled on figures and tables by the season year end; for example, the 1992/93 season is labelled as 1993.

Table 5.1: Constructs and variables

Construct	Variable	Type	Values	Observation period	Source
Sporting performance	League rank (<i>RANK</i>)*†	Ordinal	1–92	1992/93–	Premier League, Football League
	Promotion to Premier League (<i>PROMOTION</i>)†	Discrete	0=No; 1=Yes	1992/93–	Football League
	Relegation from Premier League (<i>RELEGATION</i>)†	Discrete	0=No; 1=Yes	1992/93–	Premier League
	Premier League winners (<i>PREMIER</i>)†	Discrete	0=No; 1=Yes	1992/93–	Premier League
	Champions League winners (<i>CHAMPIONS</i>)†	Discrete	0=No; 1=Yes	1992/93–	UEFA
	Europa League winners (<i>EUROPA</i>)†	Discrete	0=No; 1=Yes	1992/93–	UEFA
	FA Cup winners (<i>FA.CUP</i>)†	Discrete	0=No; 1=Yes	1992/93–	FA
	EFL Cup winners (<i>EFL.CUP</i>)†	Discrete	0=No; 1=Yes	1992/93–	Football League
Business performance	Revenue (<i>REVENUE</i>)†	Continuous	£(,000)	1992/93–	<i>Annual Review of Football Finance</i>
	Trading revenue (<i>TRADING</i>)*†	Continuous	£(,000)	1999/2000–	<i>Annual Review of Football Finance</i>
	Broadcast revenue (<i>BROADCAST</i>)	Continuous	£(,000)	1999/2000–	<i>Annual Review of Football Finance</i>
Financial performance	Operating profit (<i>PROFIT</i>)*†	Continuous	£(,000)	1992/93–	<i>Annual Review of Football Finance</i>
	Net cash (<i>CASH</i>)†	Continuous	£(,000)	1992/93–	<i>Annual Review of Football Finance</i>
	Administration (<i>ADMINISTRATION</i>)†	Discrete	0=No; 1=Yes	1992/93–	<i>Annual Review of Football Finance</i>
Team resources	Player wages (<i>WAGES</i>)*	Continuous	£(,000)	1993/94–	<i>Annual Review of Football Finance</i>
	Player net book value (<i>VALUE</i>)*	Continuous	£(,000)	1998/99–	<i>Annual Review of Football Finance</i>
	Team manager (<i>MANAGER</i>)†	Continuous	£(,000)	1992/93–	<i>Football Yearbook</i> ; League Managers Association
Stadium resources	Stadium expenditure (<i>EXPENDITURE</i>)	Continuous	£(,000)	1992/93–	<i>Annual Review of Football Finance</i>
	New stadium (<i>NEW</i>)†	Discrete	0=No; 1=Yes	1992/93–	<i>Football Yearbook</i>

Notes: *Variable used in Propositions 1 to 5. †Variable used in Proposition 6.

The sporting performance of professional football clubs in England and Wales can be measured by the division in which they compete each season and by position in that division at the end of the season. The combination of these scales provides a league rank (*RANK*), which ranges from 1 (best-performing club) to 92 (worst-performing club)²⁰. The strategy of clubs will be affected, positively or negatively, by promotion or relegation between divisions, and most notably by promotion (*PROMOTION*) to the Premier League or relegation (*RELEGATION*) from the Premier League. Clubs aim to win, and not just compete in, championships, and sporting success is an essential performance outcome, such as being Premier League (*PREMIER*) winners. Similarly, clubs aim to win European cup competitions, specifically the Champions League (*CHAMPIONS*) and Europa League (*EUROPA*), and domestic cup competitions, with the most important being the FA Cup (*FA.CUP*) and EFL Cup (*EFL.CUP*), which offer qualification to the aforementioned UEFA competitions.

Professional sport clubs generate and appropriate multiple types of business performance. The most fundamental form of business performance is revenue (*REVENUE*), which comprises matchday, commercial and broadcast sources. Matchday and commercial revenue are difficult to separate and segmented data is only provided for revenue and broadcast revenue in Deloitte's *Annual Review of Football Finance*. Therefore, the clubs' business performance is measured by trading revenue (*TRADING*), which comprises matchday and commercial revenue. Matchday and commercial revenue is preferred to matchday attendance as matchday revenue is a composite variable of attendance (quantity) and the price of tickets and other matchday products and services. Clubs also appropriate broadcast revenue (*BROADCAST*) that is generated by the Premier League, Champions League and other competitions, which is determined by sporting performance, by membership of, and success in,

²⁰ The league rank of 1 to 92 has limitations as the degree of success or failure is not consistent throughout the scale. There is a substantial difference between being ranked first (champions) and second (runner's-up), and it ignores qualification for the Champions League or winning the Champions League and other cup competitions. Clubs that are ranked from 1 to 20 are members of the Premier League, and 21 to 92 are in the Football League. Therefore, the difference between rank 20 and 21 is more significant than, for example, between rank 10 and 11. Furthermore, clubs that are ranked 18, 19 and 20 are relegated from the Premier League (sporting failure), but clubs ranked 21 and 22, plus one club ranked between 23 to 26 (via the play-offs) are promoted to the Premier League (sporting success). The scale has been retained as from 1 to 92 as adopted by Pinnuck and Potter (2006) rather than the reverse scale (Hall et al, 2002; Szymanski, 2015). The reverse scale means that a positive coefficient between team resources and sporting performance is generated, but then assigns a larger value (92) for last place than the smallest value (1) for last place. It does not affect the interpretation of the coefficients.

the Premier League and Champions League. Trading revenue is therefore considered to be a better indicator of business performance generated from a club's stadium and other resources.

Financial performance is conceptually distinct from business performance as it incorporates measures of inflows and outflows. Operating profit (*PROFIT*) is revenue less operating expenditure for the financial year. Clubs return an operating loss when operating expenditure exceeds revenue, which is an indicator of business performance failure. However, a profitable club can still fail if it is insolvent and enters administration. Solvency is measured by net cash (*CASH*) at the year end. Insufficient net cash can cause insolvency, and financial performance failure is measured by the year that a club enters administration (*ADMINISTRATION*).

The team resources of Premier League clubs include their players and the team manager. Team resource expenditure is used as an indicator of decision-makers' perceptions of the value of these resources and includes players' remuneration (salaries or wages) and transfer fees (Deloitte, 1999), which are measured by player wages (*WAGES*) and the net book value of players (*VALUE*) respectively. Player wages comprises signing-on and bonus fees to a club's players and team managers (Deloitte, 2017a), compensation payments to other clubs for players and team managers, and termination payment to the club's players and team managers (Deloitte, 2011)²¹. The net book value of players is the transfer fee paid for a player that is adjusted for amortisation over the initial term of the players' contract (Deloitte, 2017a). The accounting standard for intangible assets were revised by the Accounting Standard Board's (ASB) *Financial Reporting Standard (FRS) 10: Goodwill and Intangible Assets* in 1998 and the International Accounting Standards Board's (IASB) *International Accounting Standard (IAS) 38: Intangible Assets* in 1999 (Amir and Livine, 2005). These were adopted by clubs for the valuation of players from the 1998/99 financial year, with the comparative data for 1997/98 restated by Deloitte (2000). Team resource management capability is captured by the tenure of the team manager (*MANAGER*) for complete seasons.

Stadium resources are an important asset for professional sport clubs. Stadium expenditure (*STADIUM*) includes capital and operating expenditure (Okner, 1974; Quirk and Fort, 1992). As

²¹ For example, Arsenal's player wages expenditure includes the salary of their team manager, Arsène Wenger, which was £8 million per annum from the 2015/16 season (Cross, 2006, p. 395) and their Chief Executive Officer, Ivan Gazidis, who earned £2,299 million in the 2015/16 financial year (Arsenal Holdings, 2016). Nevertheless, this represents a small proportion (approximately 4% and 1% respectively) of team resource expenditure, which for Arsenal was £195 million in 2015/16.

explained in Section 2.6, stadium expenditure may also include training and Academy facilities (Deloitte, 2017a), but most is allocated to the stadium. The development of a new stadium is a critical decision for club owners and business executives, and the year a club relocates to a new stadium (*NEW*) is recorded.

Missing data

Missing data is anticipated as it is present in previous research; for example, Kuper and Szymanski (2012) found that 15% of clubs had filed financial statements that did not reveal player wages expenditure. Missing cases are removed to the recommend 5% threshold as recommended by Tabachnick and Fidell (2007). However, missing data is not always random (Hair et al, 2010; Tabachnick and Fidell, 2007). In professional sport leagues, missing data may be related, or coincidental, to inferior financial performance, such as administration events, with many clubs entering administration in the same season as, or season subsequent to, relegation. Similarly, there is less data available for clubs relegated to the third and division clubs, which represents inferior sporting performance. There is potential bias as the results exclude some clubs that have suffered failure or inferior business and sporting performance, but this is accepted as one of the limitations of including clubs that have experienced success and failure rather than focusing only on successful or surviving Premier League clubs. Each of the propositions requires a unique set of variables, and therefore there are differences in the missing data for each model. Cases are removed by the amending the sample of clubs and the start of the observation period, according to the number of missing observations per club and by the availability of data per season and financial year. The data for each of the propositions is summarised in Table 5.2.

Table 5.2: Variables, sample and observation period

Proposition	Variables	Sample	Observation period
1	RANK, WAGES, VALUE	Swindon Town, Bradford City, Oldham Athletic, Bournemouth, Barnsley	2000–2016
2	TRADING, RANK	Swindon Town, Bradford City, Oldham Athletic, Bournemouth, Barnsley, Crystal Palace, Swansea City, Blackpool, Coventry City, Portsmouth	2000–2016
3-5	PROFIT, WAGES, VALUE, RANK	Swindon Town, Bradford City, Oldham Athletic, Bournemouth, Barnsley	2000–2016
6	RANK, WINNERS, PROMOTED, RELEGATED, CHAMPIONS, EUROPA, FA.CUP, EFL.CUP, REVENUE, PROFIT, CASH, ADMINISTRATION	Swindon Town, Bradford City	1994–2016

5.6. Propositions

The propositions examine unique insights into how and why the resources of professional sport clubs explain the variation in performance outcomes. The first two propositions are intended to confirm the existence of fundamental relationships that are identified in Section 3.3 of the *Literature review*. The remaining four propositions explore the more complex and contingent relationships between team resources, sporting performance and business performance.

It is anticipated that team resources explain variation in the sporting performance of professional sport clubs. Premier League clubs with superior team resources should gain and sustain a sporting performance advantage:

Proposition 1: The player wages and player value of Premier League football clubs have a positive effect on their league rank.

The sporting performance of a club will affect its business performance. Therefore, Premier League clubs with superior sporting performance are expected to generate and sustain superior business performance relative to their competitors:

Proposition 2: The league rank of Premier League football clubs has a positive effect on their trading revenue.

Premier League clubs with superior team resources are expected to generate and sustain financial performance advantage. However, this is not an immediate relationship, as clubs generate sporting performance from their team resources. This sporting performance is then commercialised, by stadium and other resources, to generate business performance. Here, the relationship between team resources and business performance is mediated by sporting performance:

Proposition 3: The effect of Premier League football clubs' player wages and player value on operating profit is mediated by league rank.

As previously, clubs with superior team resources are expected to generate and sustain financial performance advantage. But clubs with enhanced endowments of team resources and superior sporting performance are expected to generate a business performance advantage over other clubs. In contrast, clubs with subordinate team resources and inferior sporting performance are expected to record the worse business performance of the clubs in the sample. It is proposed that this relationship is moderated by sporting performance:

Proposition 4: The effect of Premier League football clubs' player wages and player value on operating profit is moderated by league rank.

Premier League clubs that maintain the fit between team resources and sporting performance are expected to generate and sustain financial performance advantage. In contrast, deviation or misfit between clubs' team resources and sporting performance is expected to have a negative effect on financial performance. The fit between the predictor and contingency factors is modelled as deviation:

Proposition 5: The deviation of fit between Premier League football clubs' player wages and player value and their league rank has a negative effect on operating profit.

Team resources, sporting performance and the fit between team resources and sporting performance may have unique effects on business performance, along with stadium resources. In turn, it is

anticipated that business performance is related to financial performance, which then has a virtuous effect on team and stadium resources.

Proposition 6: The deviation of fit between a Premier League football clubs' player wages and league rank has a negative effect on trading revenue. Clubs' player wages (contingent on the team manager effect) and league rank – plus the effects of promotion, relegation and winning the Premier League, Champions League, Europa League, FA Cup and EFL Cup – have a positive effect on trading revenue. Stadium expenditure (contingent on new stadium effects) also has a positive effect on trading revenue. Trading revenue will then have a positive effect on operating profit and net cash, which in turn has a positive virtuous effect on player wages and stadium expenditure. The effects may differ between and within groups of club and eras.

5.7. Data collection

Data is collected from appropriate sources for each variable. Team and stadium resource and sporting performance data is sources from the Premier League (n.d. b), Football League (n.d. a, n.d. b, n.d. c), the League Managers Association (2018) and the *Football Yearbook* from 1992 to 2017, with further team and stadium resource data and business and financial performance data from Deloitte's *Annual Review of Football Finance* from 1994 to 2017. The *Football Yearbook* was first published in 1970 and the first edition of the *Annual Review of Football Finance* in 1993. They provide a comparable and consistent set of data for all clubs and for all seasons.

Data collection is constrained by the requirement for panel data for all clubs in the sample and for the duration of the observation period. Comparable and consistent data for each variable is required for all, or at least most, clubs and seasons. Sport provides sufficient data to this specification, as noted by Sloane (2015, p. 1): "The abundance of statistics makes sport an ideal laboratory in which to test various economic theories." The sources of data are similar to or exceed previous empirical research set in the context of professional sport leagues. For example, Holcomb et al (2009) use official and unofficial sources for the resources and performance of National Football League (NFL) clubs, while Moliterno and Wiersema (2007) and Sirmon et al (2008) employ unspecified sources for Major League Baseball (MLB) clubs. Empirical research of professional football leagues in England and Wales has

used data from the *Annual Review of Football Finance* (for example, Gerrard, 2005; Szymanski, 2015) and the *Football Yearbook* (for example, Dobson and Goddard, 1998; Gerrard, 2005).

5.8. Data analysis

The empirical research encompasses confirmatory and exploratory analysis of professional sport club performance. Confirmatory analysis is conducted to test the expected predictive relationships between team resources and sporting performance and from sporting performance to business performance. Then, exploratory analysis is conducted of more complex relationships between team and stadium resources go clubs and their sporting, business and financial performance. Statistical and visual methods are adopted for the empirical research. All statistics, tables and figures are generated using the *R* programming language.

Panel data is deployed for all of the empirical tests, but the method of data analysis differs between propositions. Statistical analysis is applied in Propositions 1 to 5 and visual analysis for Proposition 6. More specifically, Propositions 1, 2 and 5 employ panel regression models, but for different purposes: Propositions 1 and 2 are predictive regression models which aim to describe and evaluate relationships between constructs, whereas Proposition 5 is a contingency model that tests for the effects of deviation from the regression model. Propositions 3 and 4 are also contingency models that utilise panel data, and are tested using mediation and moderation analysis.

Statistical analysis: Regression and contingency models

Propositions 1 and 2 are tested with panel regression models (Brooks, 2008; Gujarati, 2003), which enable the analysis of time-series cross-sectional data. The aim of regression analysis is to describe and evaluate the relationship between changes in variables (Brooks, 2008). Tests are completed for pooled, fixed effects, time-fixed and two-way effects panel regression models. The pooled model assumes that all entities and all time periods are homogeneous, and therefore excludes cross-sectional and time-series effects. In this model, professional sport clubs are assumed to grow and decline over time on the same path. For fixed effects models, the intercept differs by cross-sectional entity but not by time. Slope coefficients are fixed cross-sectionally for all entities at each point of time. The fixed effects model assumes that clubs grow and decline on individual, but parallel paths. For time-fixed effects models, the intercept differs by time, but not by entity. The slope coefficients are fixed cross-sectionally for all entities at each time period. The time-fixed effects model assumes that

clubs share a common path each year, but the path may change over time, remaining parallel with preceding and subsequent years. The two-ways effects model allows for fixed and time-fixed effects to be incorporated in the same model. Further explanation of the pre-test statistics (including the assumptions of the regression models) and post-test statistics is provided in Appendix 5.1.

Panel data is further deployed for the contingency models that are empirically tested by Propositions 3 and 4. These use regression analysis to explore mediating and moderating effects. Proposition 3 use a three-step procedure, as described by Tabachnick and Fidell (2007). Hair et al's (2010) two-step procedure model is employed for Proposition 4.

Proposition 5 also uses a regression model, but for a different purpose to the predictive models of Propositions 1 and 2. Regression models comprise a deterministic component, which is represented by coefficients or parameters, and a random component that is indicated by the error term (Gujarati, 2011). The coefficients are specified so that the collective fit between the observations and the regression model is optimised (Brooks, 2008). However, a perfect fit is not realistic for financial models and a random disturbance term is added. Furthermore, dummy variables and other methods can be used to remove outliers (Brooks, 2008) or reduce influential observations (Hair et al, 2010; Tabachnick and Fidell, 2007) to enhance the predictive capability of the model. For contingency models, where fit is modelled as deviation, residuals are adopted as a predictor.

There are limitations to the analysis of panel data. The conclusions drawn from such analysis may be limited if the panel data does not capture change between observation periods (Glick et al, 1990). In professional team sport, most strategic decisions made by clubs owners and business executives are not short-term decisions that recur within a financial year or season, with the notable exception of the appointments and termination of team manager, which can occur more than once during a season. Most decisions, including those about stadiums and marketing resources, are long-term and are formulated and implemented for periods of multiple years, and are captured by the annual resource and performance data collected at the year end for each season or financial year. Panel regression models require more data than cross-sectional or time-series model because of their comparative and dynamic dimensions. The fixed, time-fixed and two-way effects models are more difficult to interpret than pooled models, which may limit the practical application of the method and findings.

Visual analysis: Cross-case time-series data displays

Proposition 6 is explored using cross-case time-series data displays, which are adapted from Ehrenberg (1982) and Miles and Huberman (1994). This enables more complex analysis of performance and resources by season and financial year, and of the variation in performance and resource advantage between clubs. The data reduction and display procedure is adopted (Ehrenberg, 1982; Miles and Huberman, 1994). Data is reduced to a panel of data for key variables (as highlighted Section 5.5) and displayed using a series of charts (Miles and Huberman, 1994). Findings and conclusions are drawn by comparing and contrasting groups of clubs and eras (Miles and Huberman, 1994) and by matching patterns over time and between cases (Miles and Huberman, 1994; Yin, 2009).

Visual analysis can be too complex (Ehrenberg, 1982). This complexity is exasperated by the use of panel data that has time-series and cross-sectional dimensions, and by there being a mix of continuous, ordinal and discrete data for the measurement of performance outcomes and resources (see Section 5.5). Therefore, the data and the data displays are simplified. First, a common horizontal axis (representing the season and financial year) is applied for all variables in all charts. Second, data is presented in three panels, each with a unique vertical axes to represent different types of data (league rank; business performance and financial resources; and standardised fit scores). The vertical axes are uniform between clubs, with the exception of the scale on the middle panel for those clubs that are permanent members of the Premier League plus Manchester City, which have been adjusted to aid legibility as the maximum and minimum values of the clubs' financial performance and resources are more extreme. Similarly, for clarity, team and stadium resource expenditure is not shown separately and instead data is limited to revenue and operating profit (revenue less operating costs). Third, a combination of lines, areas, rectangles and symbols are used to indicate change in events and states. Vertical lines indicate significant events (winning the Premier League or promotion to or relegation from the Premier League), with symbols used to highlight the winning of cup competitions and of administration events. Change in key resources – team managers in the top panel and new stadiums in the middle panel – are highlighted by grey rectangles. For the middle panel, revenue is indicated by the grey area, operating profit by a solid line and net cash by a dashed line. For the bottom panel, the points with black circles and white fill represent standardised values of fit, with points with black fill representing excessive misfit, and the grey rectangular area representing the

range of fit values within approximately two standard deviations above and below the mean value of fit. Fourth, the 41 clubs in the sample are clustered by groups to aid comparisons and contrasts. There are five groups, which are described as *permanent*, *growth*, *decline*, *yo-yo* and *volatile* clubs: The permanent members of the Premier League, clubs that have experience periods of growth or decline, the so-called *yo-yo* clubs (Deloitte, 1999) that have been members of the Premier League and the Football League Championship since 1992, and current and former clubs that have experienced volatility with both promotion *and* relegation between the Premier League and the third or fourth division (the volatile clubs). Further description of the groups is provided in Appendix 5.2

Appendix 5.1: Panel regression models

Pre-test diagnostic statistics

Pre- and post-test diagnostic statistics are conducted to inform and assess the specification of the predictive models for Propositions 1 and 2. The pre-test diagnostics test the assumptions of the classic linear regression model (Brooks, 2008). These address the assumptions of functional form, of multicollinearity, that average value of errors is zero, of homoscedasticity, that the covariance of errors is zero, of non-stochastic regressors, and that disturbances are normally distributed. The requirements for the contingency models (Propositions 3 to 6) are different to the predictive models (Propositions 1 and 2) as the contingency models each utilise a two- or three-step procedure. Furthermore, the principal purpose of the regression models for Propositions 5 and 6 is to identify outliers of under- and over- performing clubs, and not just to describe and evaluate the relationship between resources and performance. The models are specified to enable the description and evaluation of outliers rather than optimising the goodness of fit. Sport is also characterised, and depends on, unpredictability (see Section 3.1), and perfect fit is neither realistic nor anticipated.

Assumption of functional form

The assumption of linear regression models is that the functional form is linear. If the relationship between explanatory variables and the outcome variable is non-linear then the linear equation will over- or under-estimate predicted values for the different values of the explanatory variable. The assumption is tested with plots of each explanatory variable to the outcome variable, with the dashed line indicating the linear regression line for each bivariate relationship. Many of the relationships in professional team sport are not expected to be linear, as there are diminishing returns on investment as club sporting performance improves from the Football League to the Premier League and, moreover, to the Champions League (Deloitte, 2005).

Where applicable, additional plots are presented for the explanatory variables that have been transformed using a logarithm scale²². Logarithm values aid interpretation as they represent a percentage change in value. The data could be further transformed to produce a log-log model. However, a percentage change in league rank is not easy to interpret given that it is an ordinal scale

²² Other transformations, such as a quadratic model, do not improve the linear model and are not as interpretable as the logarithm model.

of 1 to 92. Specifying the sporting performance of clubs as a percentage of league rank is not as useful as presenting the clubs' league rank.

Assumption of multicollinearity

For multiple regression models, the explanatory variables should not be correlated with each other. The inclusion of multicollinear variables will reduce the contribution of each variable to the model, and will adversely affect the sensitivity to change in the specification and predictive effectiveness of the model. Variables that are highly-correlated and may indicate that one of the variables is redundant (Tabachnick and Fidell, 2007). For models of professional sport club performance, there is expected to be some correlation between the explanatory variables as the clubs with superior endowments of resources tend to generate superior performance. Similarly, clubs with the best teams tend to have superior stadiums, and clubs that win more matches and championships tend to generate the most revenue and profit.

Assumption that average value of errors is zero

The average mean of the error terms of the regression model is assumed to be zero. Here, the errors are not correlated with previous value for time-series, or ordered cases. This assumption is never violated if a constant term is included in the regression equation. For the regression models of professional sport team performance, there is no evident justification for omitting a constant term. This would assume that the line of best fit includes the origin, where the explanatory variable and outcome variable both equals zero.

Assumption of homoscedasticity

The assumption of homoscedasticity is that the variance of errors from the regression model is constant. Otherwise, the errors are heteroscedastic, where change to the variance of errors is related to change in ordered cross-sectional or time-series explanatory variables. If heteroscedastic data is used, the standard errors of the regression model may be under- or over-estimated. If errors terms increase by ordered or time-series variable, then the standard errors for the model will be too low, and if errors decrease then the standard errors will be too high. However, heteroscedasticity weakens, but does not invalidate, regression models (Tabachnick and Fidell, 2007). Homoscedasticity is tested using plots of residual to fitted values and the Goldfeld-Quandt and Breusch-Pagan tests. The residual values from the diagnostic panel linear regression model are plotted by the fitted values (Tabachnick

and Fidell, 2007) with plots of the residuals for each of the explanatory variables (Brooks, 2008). The Goldfeld-Quandt test assumes heteroscedasticity is a linear function of explanatory variables. If the Goldfeld-Quandt test statistic is statistically significant then the null hypothesis of homoscedasticity is rejected and the model is assumed to be heteroscedastic. However, the Goldfeld-Quandt test assumes heteroscedasticity is a linear function of explanatory variables. Similarly, if the Breusch-Pagan test statistic is significant then the null hypothesis of homoscedasticity is rejected and the model is assumed to be heteroscedastic. The Breusch-Pagan test statistic is preferred for models where data has been transformed.

For professional sport clubs, there is expected to be some heteroscedasticity because of the nature of competition. In the Premier League, there can only be one winner and only a limited number of clubs qualify for the Champions League. Similarly, the Premier League is restricted to just 20 clubs, with mobility limited to the three clubs promoted and three clubs relegated each season. The successful clubs appropriate all of the sporting performance, and most of the business performance that is generated by the league and clubs. There are a few successful clubs that win championships and generate revenue and profit, and lots of unsuccessful clubs that either occasionally or never win championships and return operating losses. Heteroscedasticity may also be present due to the growth of the Premier League. The sporting and business resources and the business performance of Premier League have increased since its formation in 1992 and, as revealed in Section 2.8, the difference between the Football league, Premier League and Champions League has become more pronounced. The rich are getting richer and not only are some clubs making larger profits, but others are incurring larger losses.

Assumption that covariance of errors is zero

The covariance of errors in the model should be zero, so that the errors from the regression model are not correlated with previous values of errors. This can apply to ordered cross-sectional data (serial correlation) and to or time-series cases (autocorrelation). Where the covariance of errors is not zero, the standard errors of the regression model may be under- or over-estimated and the R^2 of the model is likely to be inflated. If there is positive autocorrelation, the standard errors are likely to be under-estimated, or over-estimated if negatively autocorrelated. Serial correlation or autocorrelation is tested by the autocorrelation function plot and the Durbin-Watson and Breusch-Godfrey tests. The autocorrelation function (ACF) shows the lagged autocorrelation for each season and financial year of

the observation period. The null hypothesis for the Durbin-Watson test is that there is no autocorrelation or serial correlation. However, the Durbin-Watson test only tests for one lag and will not detect autocorrelation for two or more lags. For the Breusch-Godfrey test, the null hypothesis is also that there is no autocorrelation or serial correlation. Positive autocorrelation is expected as professional sport clubs have "cycles of momentum" (Scully, 1995, p. 84), encompassing *within-game* and *across- or between-game* momentum (Parsons and Rohde, 2015). Clubs tend to experience eras of success and failure, rather than performance that alternates from season-to-season. This is, in part, a consequence of the regulated mobility between divisions that is derived from promotion and relegation. Furthermore, and as addressed in Section 4.2, clubs acquire, divest and accumulate their team and stadium resources over many years.

Assumption of non-stochastic regressors

The linear regression model assumes that the regressors or predictor variables are non-stochastic or non-random. Whereas the explanatory variable is assumed to be random or stochastic in that it has a probability distribution, the predictor variables are assumed to have fixed, non-random, non-stochastic values in repeated samples (Brooks, 2008, p. 28)²³. Furthermore, the outcome variable should be endogenous in that it is conditional on the values of the predictors and not vice versa (Brooks, 2008, p. 266). In the sporting performance model, there may be some reverse causality as league rank may directly affect player wages and value (see Section 5.4). However, most of the effects in this and the business performance model will be indirect, where enhanced performance enables a club to improve business and financial performance, which is then reinvested in team resources (see Figure 5.6).

Assumption that disturbances are normally distributed

The disturbance of residuals in the model should be symmetric about the mean. The normal distribution is one that is not skewed, and that is mesokurtic rather than leptokurtic or platykurtic. The use of data with non-normal residuals will generate coefficient estimates that may be wrong. To test the assumption of normality, the residuals from the model are presented as a histogram, with statistics

²³ Estimators will be consistent and unbiased even if the regressors are stochastic provided the regressors are not correlated with the error term (Brooks, 2008, p. 160). If the error term is high, then the outcome variable is also likely to be high and, if the error is correlated with any of the explanatory variables, then the regression model incorrectly attributes the high value of the outcome variable to the explanatory variable, rather than to the error term. It is therefore biased and inconsistent (Brooks, 2008, p. 161).

for skewness (where a skewness score of zero represents a normal distribution) and kurtosis (where a kurtosis score of three represents a normal distribution). The Jarque-Bera test is applied to assess the assumption of normality by mean, variance, skewness and kurtosis. The null hypothesis is that the residuals of the model have a normal distribution. If the Jarque-Bera panel test statistic is statistically significant then the null hypothesis of normality is rejected and it is concluded that the distribution of residuals non-normal. For models of professional team sport performance, there is expected a non-normal skew of residuals as there are typically fewer successful clubs with superior endowments of resources, but more clubs with moderate and inferior performance and resources. Outliers may further contribute to the non-normality of residuals, but in this context they also represent under- and over-performance by clubs, which are cases of interest and are therefore retained.

Post-test diagnostic statistics

Post-test diagnostic statistics are conducted to ascertain the most appropriate panel regression model. The *F*-test is used to establish whether the fixed effects and time-fixed effects models are more efficient than the pooled model.

Standardised scores of fit

Clubs have unique endowments of resources and contrasting performance outcomes, which change by season and financial year. To aid the cross-sectional and time-series comparability of data, the values of fit are standardised to z-scores (*Z.FIT*). Fit scores can take positive or negative values. For the contingency model, the z-score represents a standardised measure of under- and over-performance or, alternatively, over- and under-resourcing. A positive z-score indicates under-performance or, alternatively, over-resourcing for the team resources that were utilised for the actual sporting performance generated. Conversely, a negative z-score suggests under-resourcing or over-performance.

Assuming a normal distribution, 95% of values are captured within approximately two standard deviations above or below the mean of the distribution (Brooks, 2008). Excessive values are denoted by the 5% of outliers, where standardised z-scores are greater than 1.960 or less than -1.960, where $1.960 < z < -1.960$ (Tabachnick and Fidell, 2007, p. 73). Hence, a positive z-score greater than 1.960 indicates excessive under-performance or over-resourcing and a negative z-score of less than -1.960

suggests excessive under-resourcing or over-performance. The 95% confidence interval (where $-1.960 < z < 1.960$) can then be interpreted as a zone of fit.

Appendix 5.2: The groups

Clubs are grouped by sporting performance to aid the identification of patterns in the formation and implementation of strategy. Specifically, the groups are generated from the membership of clubs by division (Premier League, Football League Championship, League One and League Two) since the 1992/93 season is used to specify the permanent, growth, decline, yo-yo and volatile groups. Clubs that have remained in the Premier League are permanent members. Those clubs that have gained promotion from the third or fourth division to the Premier League are growth clubs, while clubs that have been relegated from the Premier League to the third or fourth division are identified as decline clubs. The yo-yo clubs have been members of the Premier League and Football League Championship, but not the third or fourth division, during the observation period. Some clubs have experienced both growth and decline between the Premier League and the third or fourth division, and are thus designated as volatile clubs.

Permanent clubs

Seven clubs have maintained their membership of the Premier League since its formation in 1992 through to the 2015/16 season, which is the end of the observation period. The permanent members are Arsenal, Aston Villa, Chelsea, Everton, Liverpool, Manchester United and Tottenham Hotspur. Aston Villa were relegated at end of the 2015/16 season. This group represents the Premier League's most successful clubs.

Growth clubs

A unique characteristic of professional football leagues in England and Wales is promotion and relegation. This has enabled some clubs to gain promotion from the third and fourth divisions of the Football League to the Premier League. 13 clubs have experienced growth during the observation period. Eight of these clubs (Birmingham City, Bolton Wanderers, Burnley, Cardiff City, Reading, Stoke City, Watford and West Bromwich Albion) have been promoted from the third division to the Premier League, and six clubs (Bournemouth, Cardiff City, Fulham, Hull City, Swansea City and Wigan Athletic) from the fourth division. Clubs that are members of this group have experienced the most growth.

Decline clubs

For each club that wins promotion, another is relegated. For clubs in England and Wales, this represents the most acute form of sporting failure. Premier League clubs can be relegated to the Football League Championship, and then to League One (the third division) and League Two (fourth division). 11 clubs have experienced relegation from the Premier League to League One or League Two. Nine of these have been relegated to the third division (Barnsley, Charlton Athletic, Coventry City, Leeds United, Nottingham Forest, Oldham Athletic, Sheffield United, Sheffield Wednesday and Wolverhampton Wanderers). Two clubs (Portsmouth and Swindon Town) were subsequently relegated to the fourth division. These clubs have suffered the most decline, although many have also enjoyed success either before or after their failure.

Yo-yo clubs

Relegation is a risk for most members of the Premier League and other divisions. There is, however, mobility between divisions, and clubs can regain their membership of a division via promotion. A number of clubs have experienced relegation and promotion between the Premier League and Football League Championship, sometimes on multiple occasions. There are eight clubs that have been members of the Premier League and Football League, but have not been relegated to Leagues One or Two: Blackburn Rovers, Crystal Palace, Derby County, Ipswich Town, Middlesbrough, Newcastle United, Sunderland and West Ham United. These are the so-called *yo-yo* clubs, and have all endured at least some turbulence during the observation period.

Volatile clubs

Some clubs have experienced both success and suffered from failure during the observation period by transitioning between the four divisions of the Premier League and Football League. Blackpool and Bradford City experienced promotion from the third division to the Premier League, but then declined from the Premier League. By the end of the observation period, Blackpool had been relegated to the third division and Bradford City to the fourth division. Five clubs (Leicester City, Norwich City, Manchester City, Queens Park Rangers and Southampton) were relegated from the Premier League to the third division, but then regained their membership of the Premier League. These are the clubs that have endured, but survived, the most volatility.

6. Empirical research: Sporting performance model

Chapter summary

- The relationship between team resources and sporting performance is confirmed, with player wages and player value (which are represented by operating and capital expenditure) having a significant effect on league rank.
- Team resources explain most (68.8%) of the variation in league rank during the Premier League era, with a 13.9% increase in player wages and a 34.3% increase in player value required to improve sporting performance by one position.
- There is evidence of a transition from over-performance to under-performance for clubs following periods of growth or concurrent to periods of decline.
- The permanent members, and especially Arsenal, Chelsea, Liverpool and Manchester United, have unique paths to sustaining success.

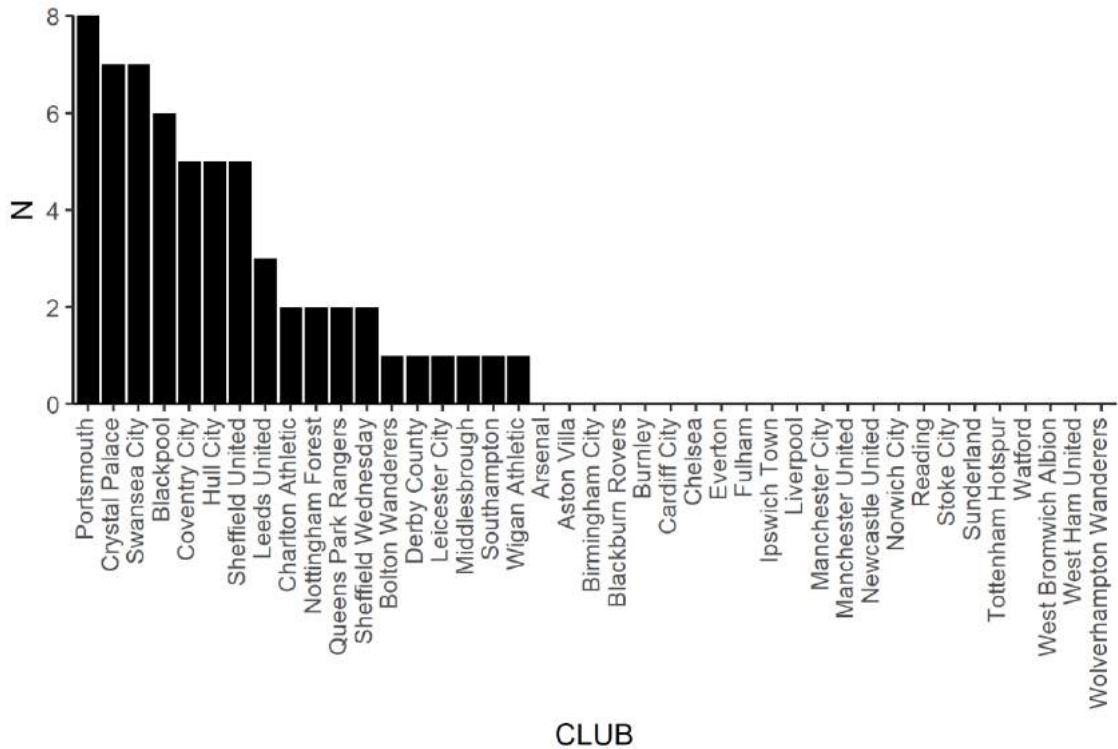
A predictive model is adopted to confirm the relationship between team resources and sporting performance and to further test whether this holds for competitive and dynamic effects. Post-test diagnostics are conducted to explore the heterogeneity of the Premier League clubs and the dynamic effects of change in the internal and external competitive environment. The chapter commences with a summary of the panel data, followed by descriptive statistics of the dependent and independent variables. Then, the pre-test diagnostic statistics are examined to ensure that the assumptions of the linear regression model are met before testing.

6.1. Data

The observation period is adjusted to run from 2000 to 2016 because, as highlighted in Section 5.5, there is no data for player wages (*WAGES*) in 1993 or for player value (*VALUE*) from 1993 to 1998. This data has 226 missing values from the 2346 values, which represents 11% of data. Therefore, five clubs (Swindon Town, Bradford City, Oldham Athletic, Bournemouth and Barnsley) are removed from the sample to reduce the proportion of missing data. For the revised sample, there are 97 missing

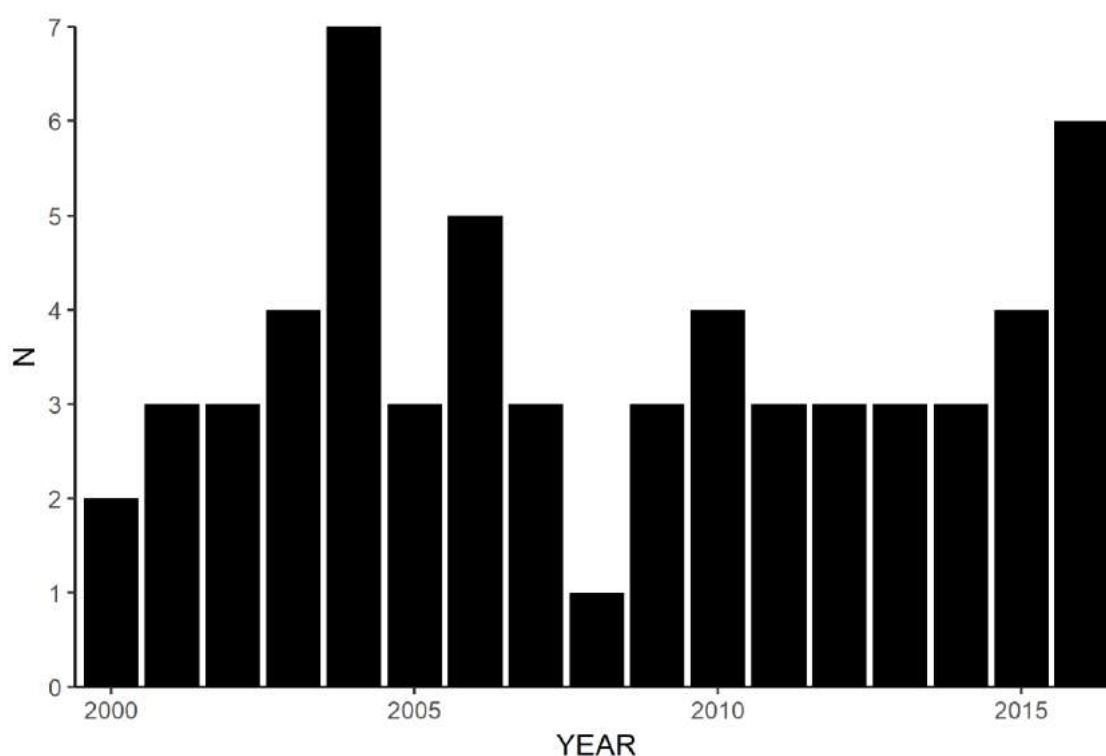
values from the 2091 observations, which represent 5% of data. The number of missing cases for each club in the remaining sample of 41 clubs is presented in Figure 6.1.

Figure 6.1: Missing cases for sporting performance model per club



There are no missing values for the seven clubs that have been permanent members of the Premier League. In contrast, many of the clubs who have been members of Football League for much of the observation period have the fewest complete cases. This indicates that there may be a relationship between missing data and club performance, and missing cases may be positively related to sporting and business performance. Figure 6.2 plots the number of missing cases for each of the 17 years of observation period from 2000 to 2016.

Figure 6.2: Missing cases for sporting performance models per year



The number of missing cases is mostly constant with three or four cases in all but a few years. There is a peak of missing data in 2004, which is due to an increase in clubs entering administration. Many of these insolvency events were a consequence of the failure of ITV Digital, as documented in Section 2.4. There is also an increase in missing data at the end of the observation period, which can be attributed to missing data that, in previous season, is updated in subsequent editions of the *Annual Review of Football Finance*.

6.2. Descriptive statistics

The variables used to measure sporting and performance team resources are league rank (*RANK*), player wages (*WAGES*) and player value (*VALUE*). Table 6.1 shows descriptive statistics for the panel that is revised for missing data. The panel comprises individual clubs ($i=41$) for the observation period ($t=17$) from 2000 to 2016.

Table 6.1: Descriptive statistics for league rank, player wages and player value

	<i>RANK</i>	<i>WAGES</i>	<i>VALUE</i>
Mean	23.789	39019.885	27406.975
Median	21.000	25126.000	10803.500
Minimum	1	2128	0
Maximum	89	240684	268414
Variance	274.520	1729742291.096	1915054438.169
Standard deviation	16.569	41590.171	43761.335
Skewness	0.987	2.356	2.855
Kurtosis	4.154	9.132	11.785
Total	16581	25714104	17485650
Observations	697	697	697

The data for central tendency and dispersion for all three variables is as expected. There is evidence that the explanatory variables do not have a normal distribution, which is a consequence of the presence of a small number of large clubs with much higher player wages and player value. This is further tested by pre-test diagnostic statistics. There is substantial variance in player wages and player value, which is due to the diverse resource endowments of clubs and the growth in player wages and value since the formation of the Premier League. Chapter 2 reveals that many performance and resource indicators have grown during the Premier League era. The mean values for player wages and player value are shown in Figures 6.3 to 6.4 for the clubs in the revised sample.

Figure 6.3: Mean of player wages per year

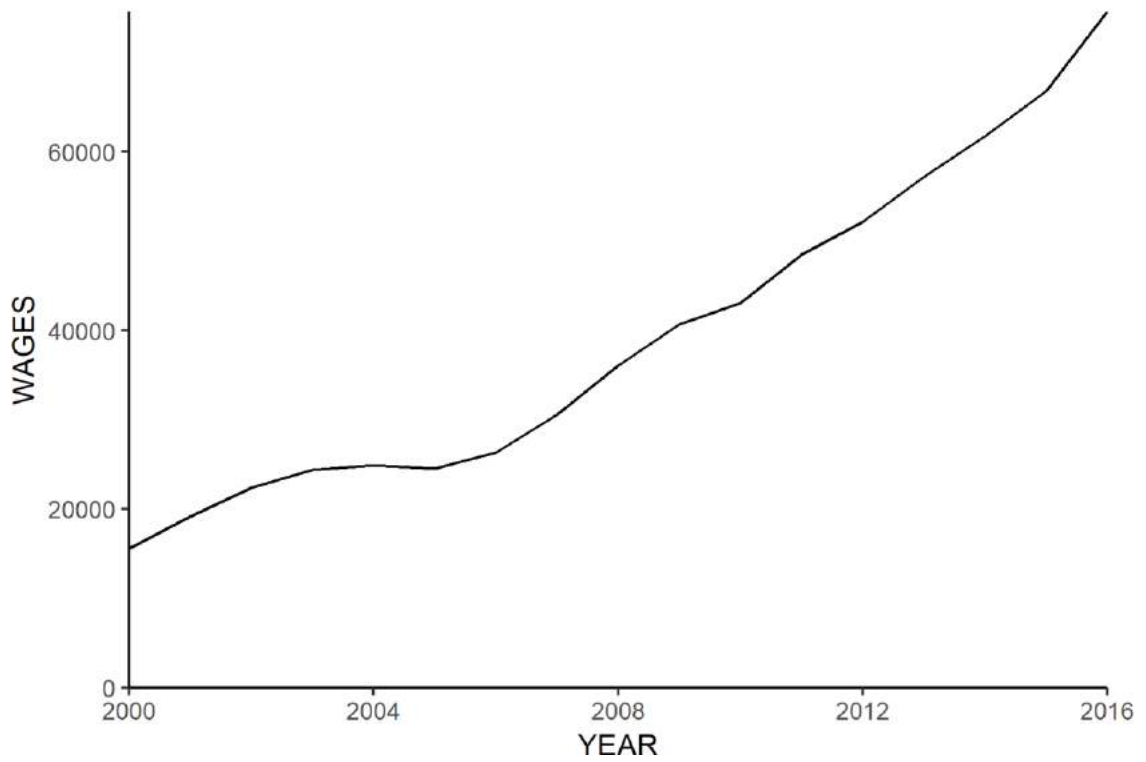
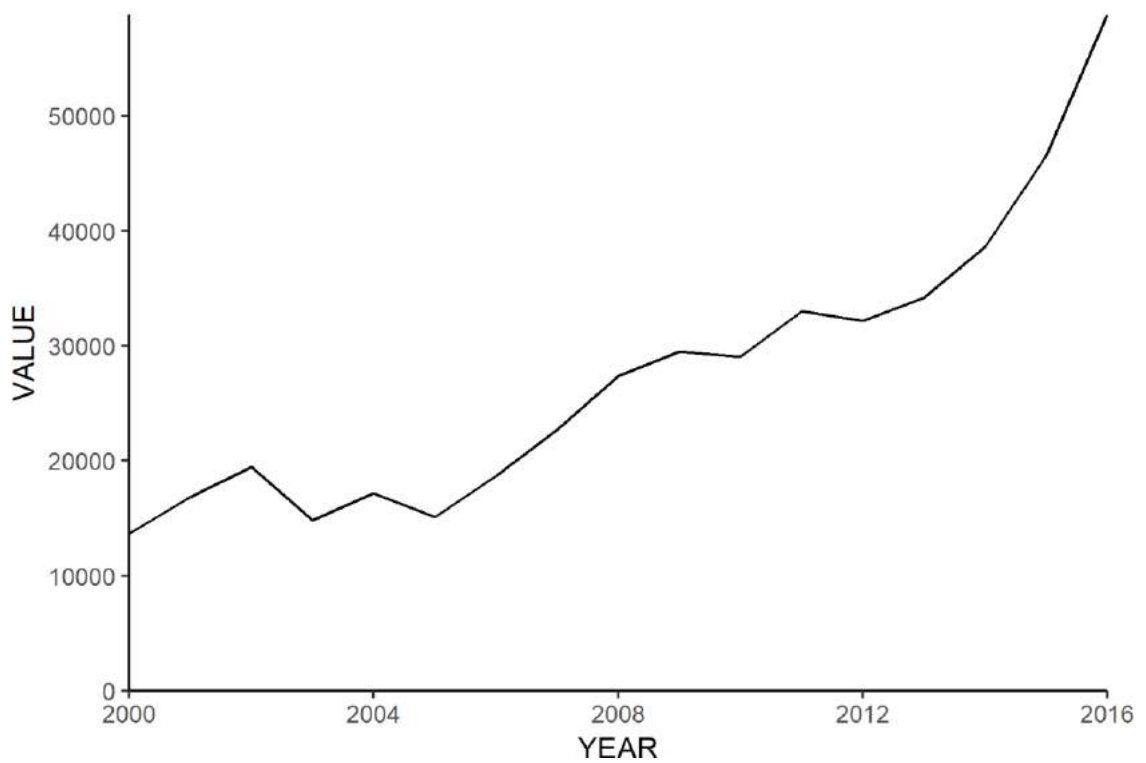


Figure 6.4: Mean of player value per year



The increase in player wages and value for the sample of clubs is confirmed. The growth in wages has been mostly consistent, but there has been more turbulence in player value, due to the acquisition or divestment of a small number of high-value players by Premier League clubs. Player wages have increased much more than player value. There has been an emergence of a number of large clubs that have the resources and capabilities to compete in the Premier League and Champions League, while the Premier League era has also seen the growth and survival of smaller clubs. The distribution of player wages and player value are presented as boxplots in Figures 6.5 and 6.6.

Figure 6.5: Distribution of player wages per year

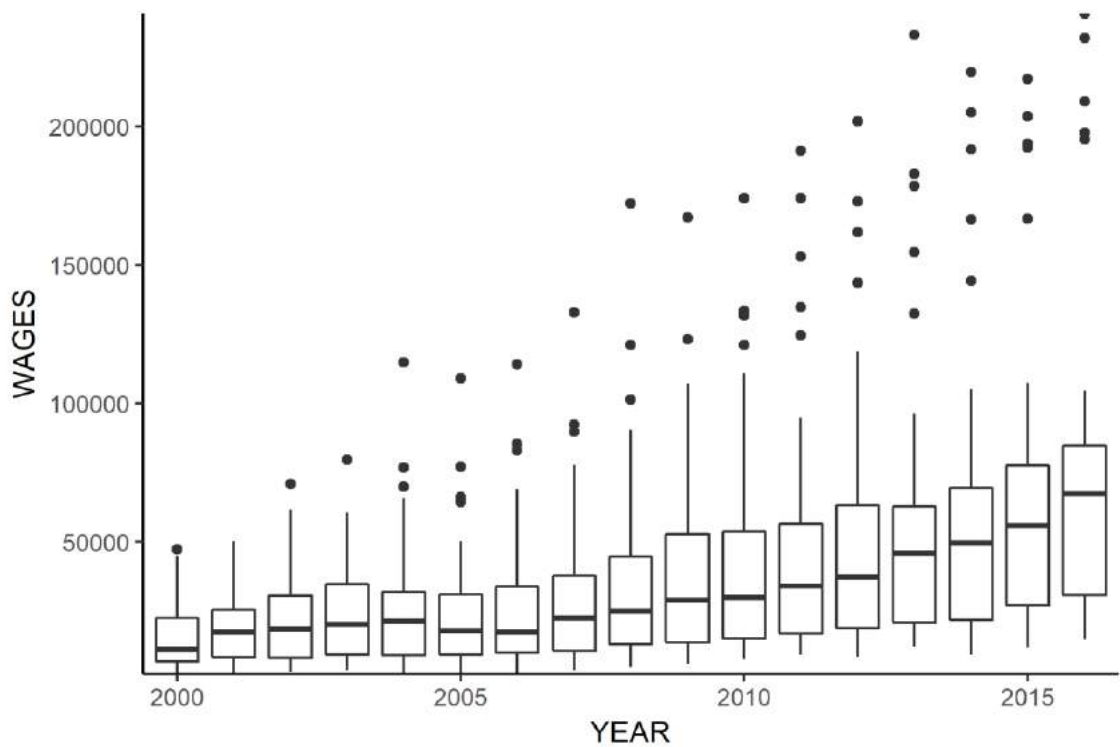
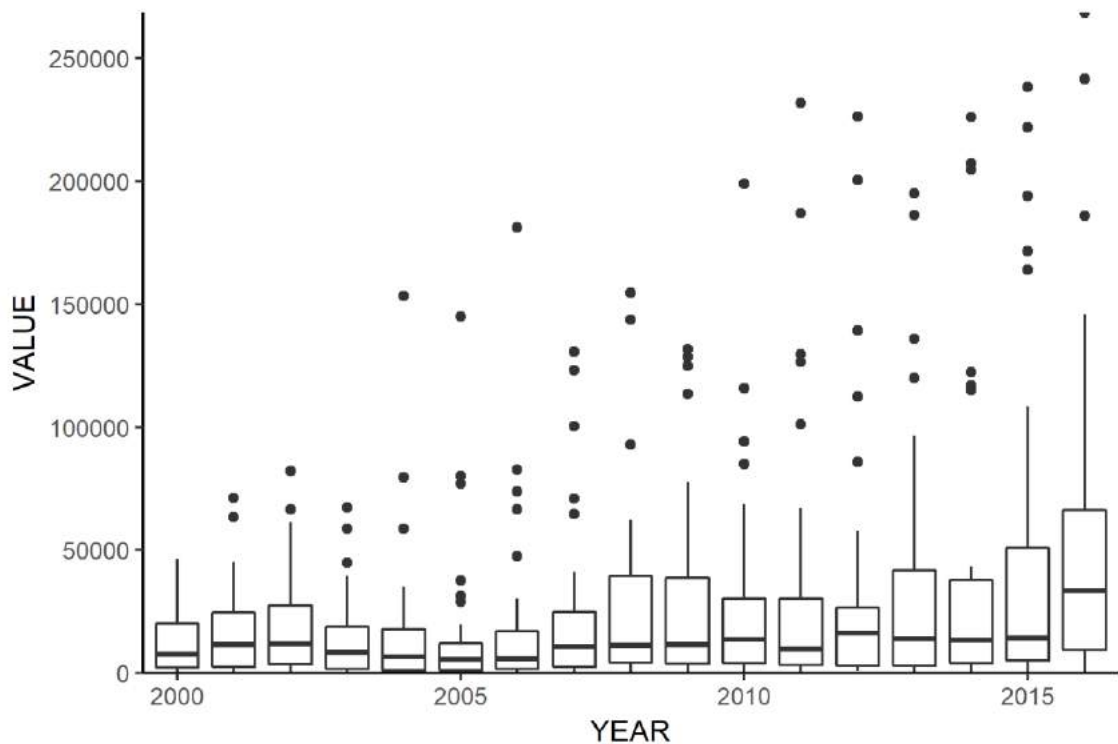


Figure 6.6: Distribution of player value per year



The growth in average player wages and value has coincided with an increase in the number and magnitude of outliers, with the data being positively skewed. These outlying values suggest that there may be a competitive imbalance for those clubs aiming to win the Premier League and qualify for the Champions League, but that competition for the rest of the Premier League and the Football league is more balanced. Therefore, the paths of clubs that grow or decline between divisions may not be mirrored. The boxplots may also indicate heteroscedasticity, which is tested in the pre-test diagnostic statistics.

The average and the variance of both player wages and player value have increased during the Premier League era. However, professional sport leagues are competitive environments where different clubs experience success and failure at different times, with outcomes being temporary or sustained. The paths for each current and former member of the Premier League in the sample are plotted in Figures 6.7 to 6.9 to establish trends in sporting performance (league rank) and team resources (player wages and value).

Figure 6.7: League rank per year, by club

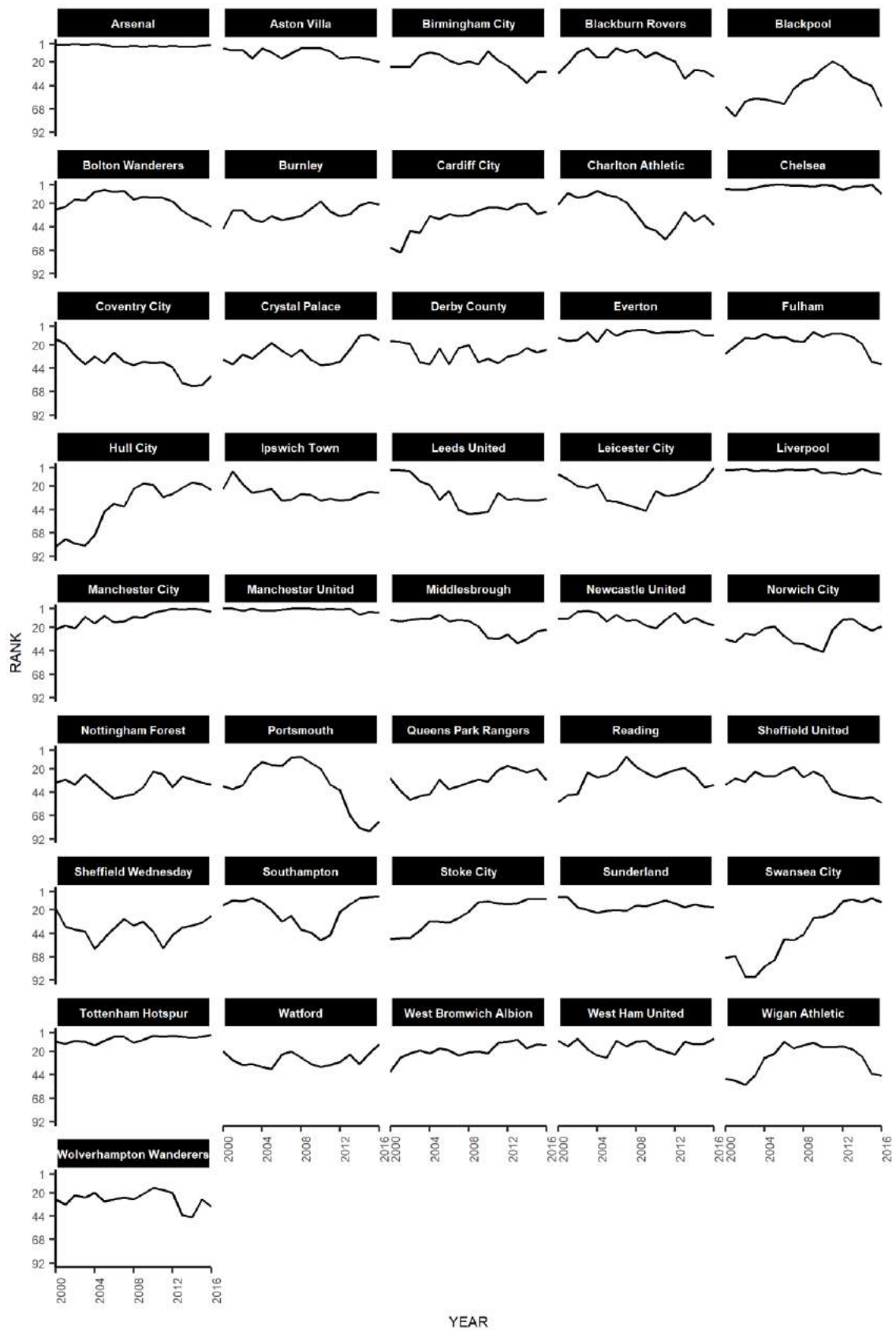


Figure 6.8: Player wages per year, by club

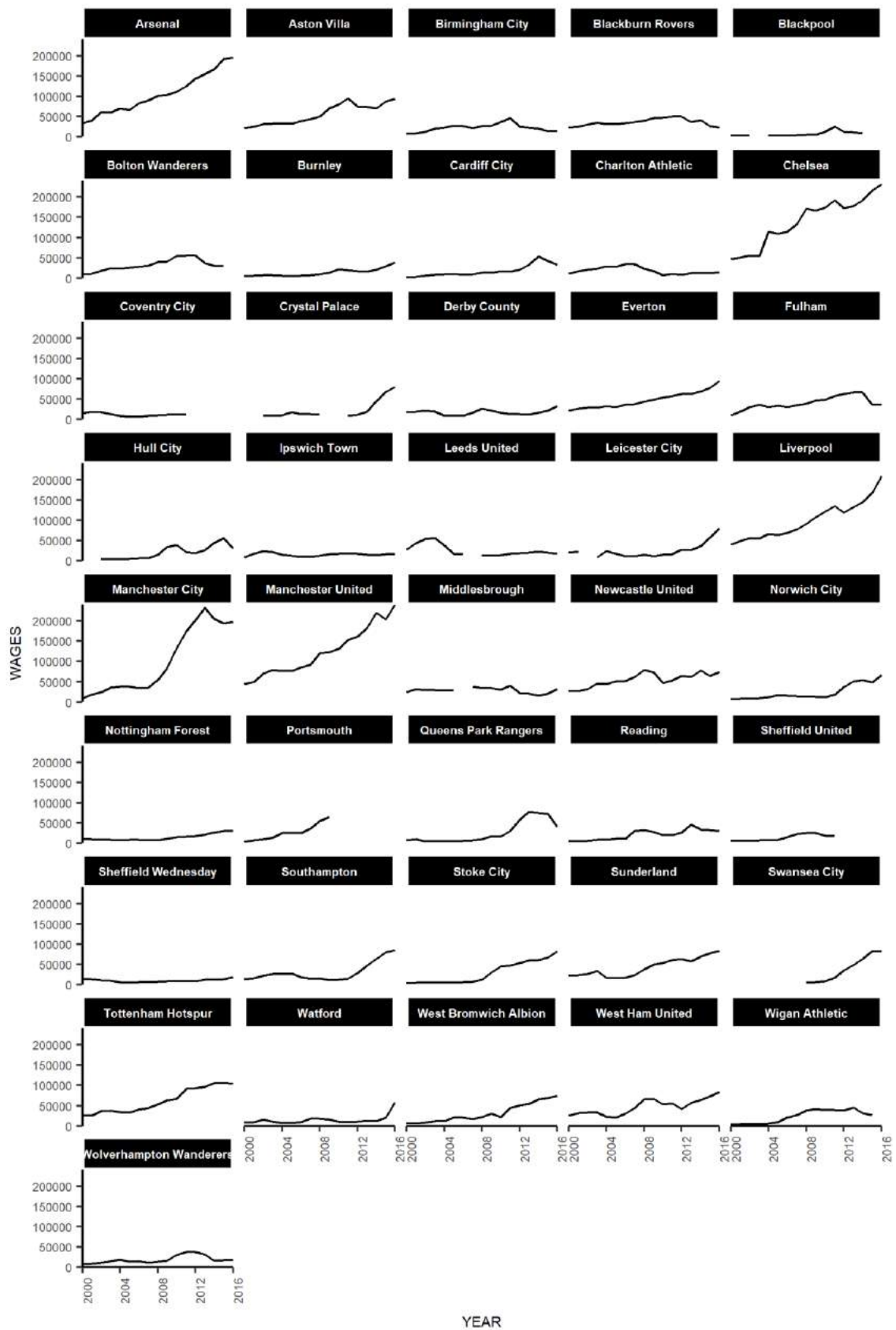
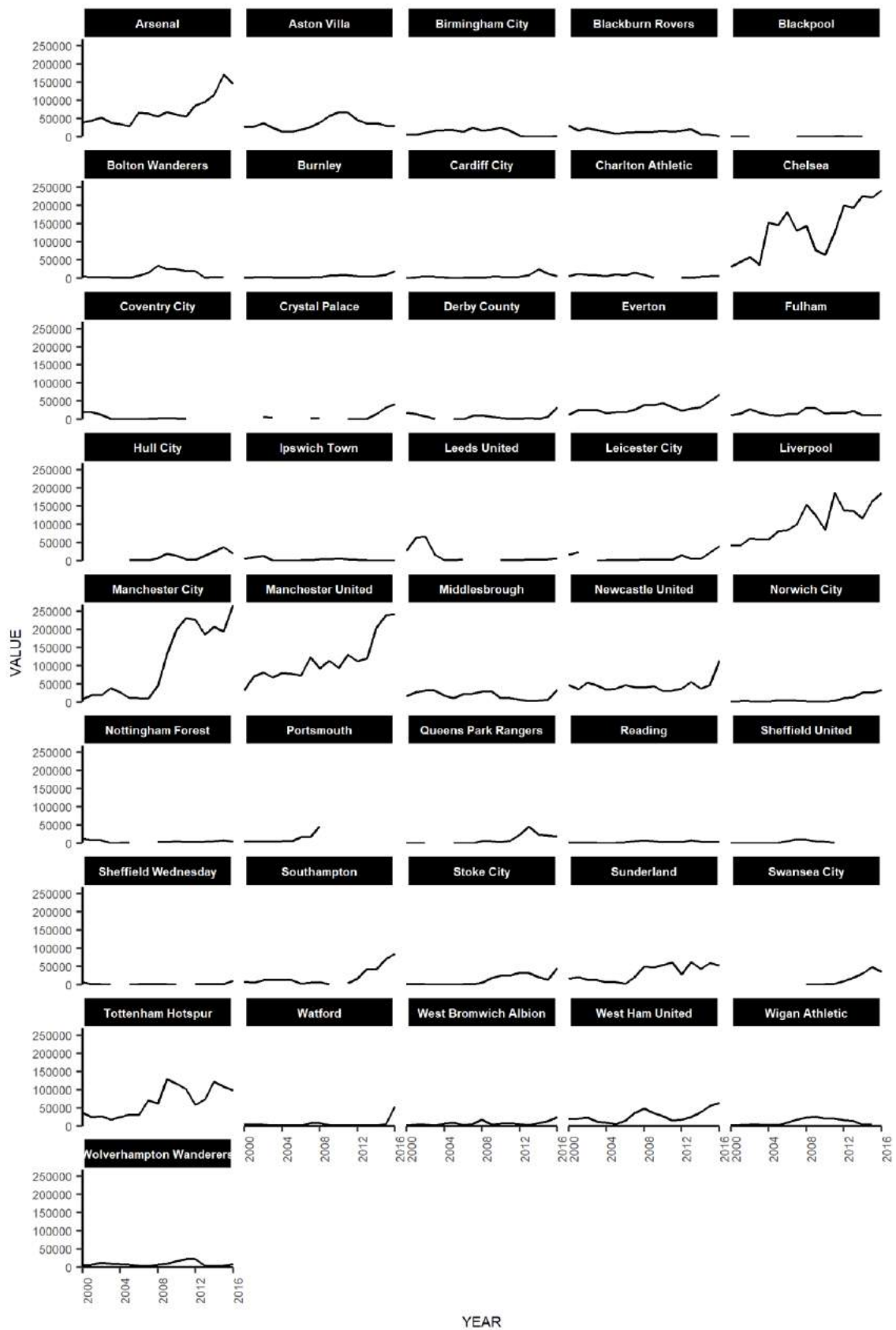


Figure 6.9: Player value per year, by club



Evidently, clubs follow unique paths, both in the accumulation of resources and in the success and failure that they generate from these resources. The league rank values confirm the sustained success of the permanent members of the Premier League, but also indicate that some clubs have experienced considerable growth and decline. The overall increase in player wages is not apparent for all clubs; it is mostly the permanent Premier League members where this growth is constant, while for other clubs there is evidence of brief periods of deflation. Player value is more turbulent, with large increases and decreases for many clubs, which can be attributed to the acquisition and divestment of players. Taken together, these key variables highlight considerable differences in the performance outcomes and resources of individual clubs, and considerable change during the Premier League era.

6.3. Pre-test diagnostic statistics

Pre-test diagnostic statistics are conducted for the assumptions of functional form, of multicollinearity, that average value of errors is zero, of homoscedasticity, that covariance of errors is zero,; of non-stochastic regressors, and that disturbances are normally distributed.

Assumption of functional form

The relationship between player wages and player value and league rank is non-linear. Figures 6.10 and 6.11 reveal that the distribution of player wages and player value of clubs is divergent, and especially those for those club competing to win the Premier League and qualify for the Champions League (shown towards the top right corner of each panel). In contrast, the player wages and player value for clubs competing for Premier League survival, or to gain entry to the Premier League (towards the centre of the cluster) are comparable to some clubs in the third and fourth divisions of the Football League (bottom left corner of panels).

Figure 6.10: League rank to player wages

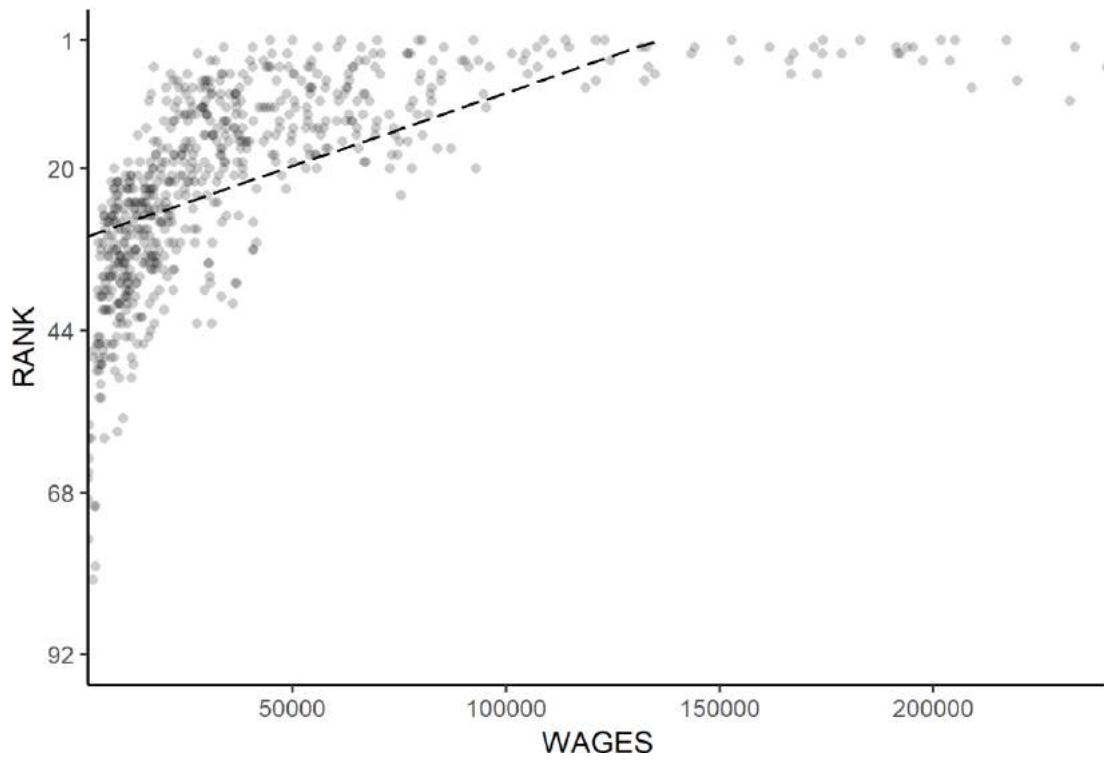
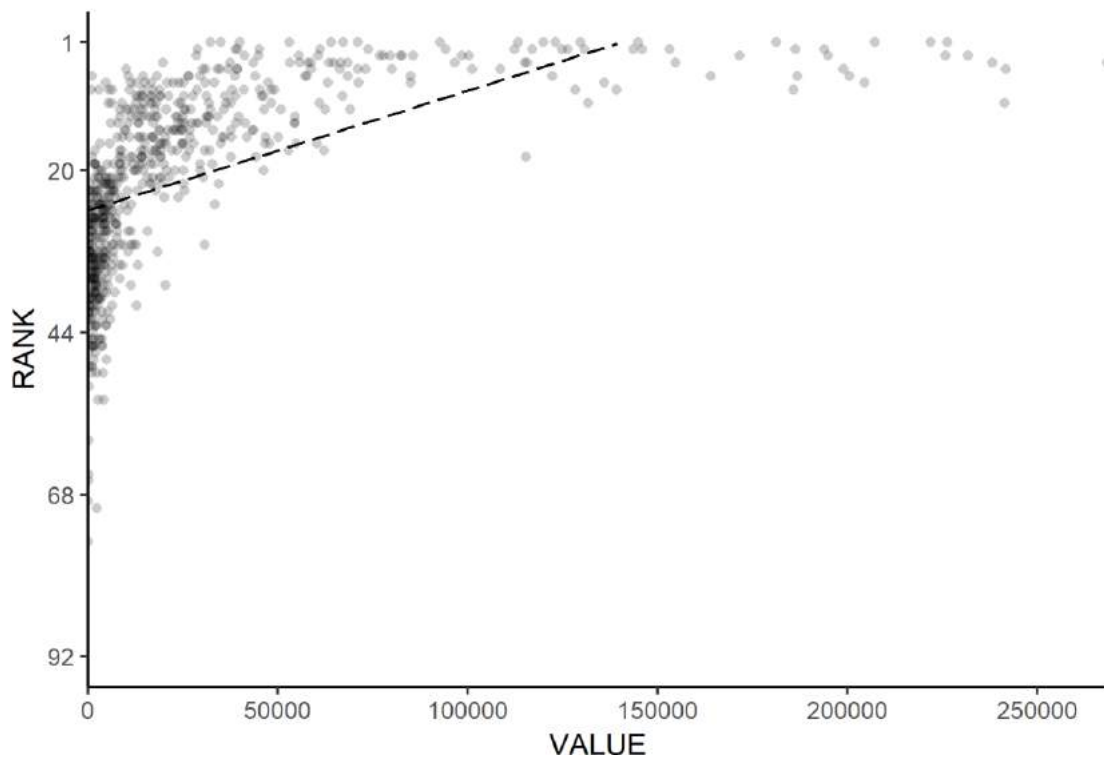


Figure 6.11: League rank to player value



The data is therefore transformed to establish a linear relationship between the explanatory and outcome variables. Transformation by natural logarithm of the explanatory variables is applied, with player wages (*WAGES*) and player value (*VALUE*) transformed and coded as *LOG.WAGES* and *LOG.VALUE* respectively. The linear-log model offers the most appropriate fit of the data, especially for player wages (Figure 6.12), although there is some evidence of clustering and decreasing dispersion for higher player value (Figure 6.13).

Figure 6.12: League rank to logarithm of player wages

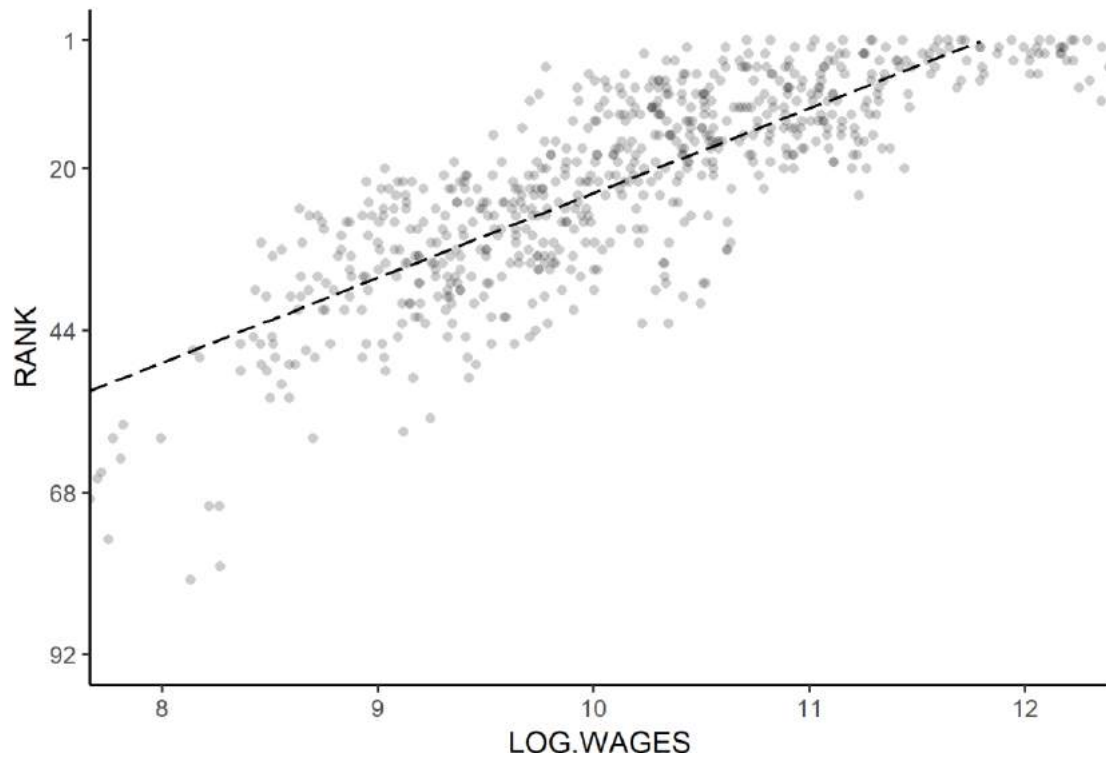
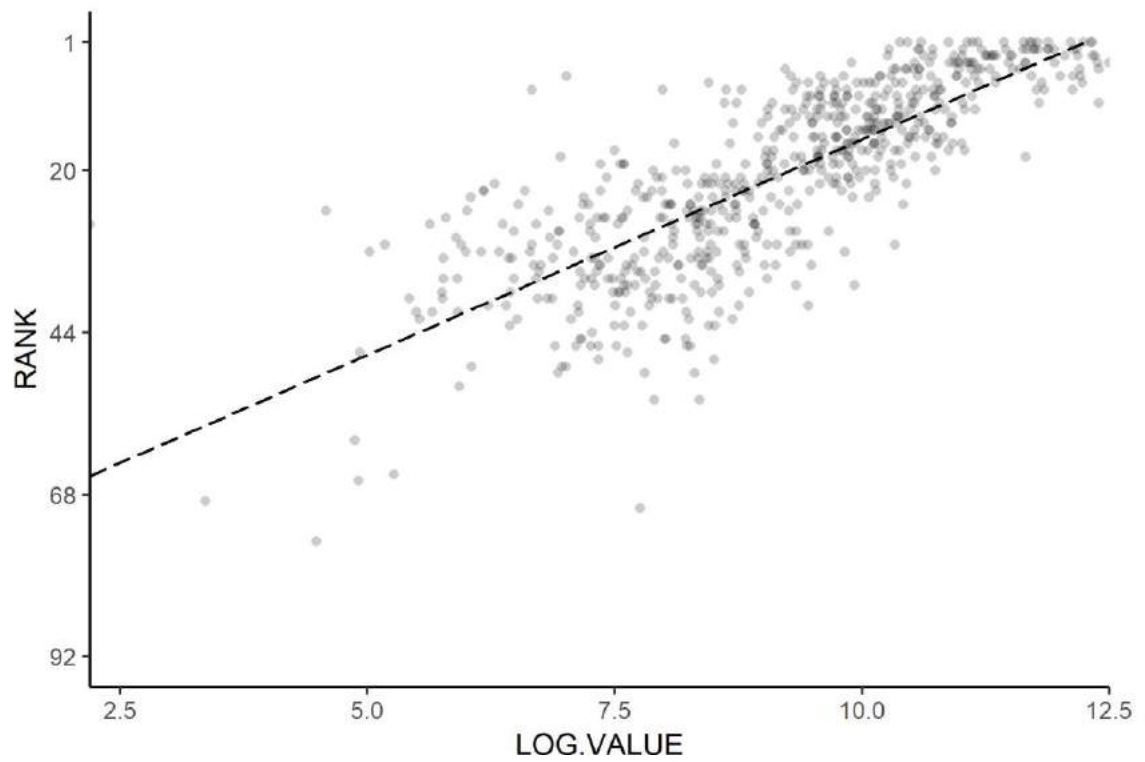


Figure 6.13: League rank to logarithm of player value



Assumption of multicollinearity

There is evidence of multicollinearity between player wages and player value. Figure 6.14 plots the relationship between the transformed explanatory variables (*LOG.WAGES* and *LOG.VALUE*). This potential for multicollinearity is confirmed by a Pearson correlation statistic of 0.868.

Figure 6.14: Logarithm of player value to logarithm of player wages



It is expected that the value of player wages and player value of professional footballers is related as higher value players (based on *transfer fees*) are likely to receive higher remuneration. However, there are important exceptions and the correlation will not be perfect. The value of a club's player only includes players that are acquired and not those that are signed on a free transfer or that are developed by the club's Centre of Excellence or Academy. Both player wages and value are retained as they measure different types of resource endowment and represent decision-making for the allocation of capital (player value) and operating (player wages) expenditure. The unique contribution of the explanatory variables is reviewed for each regression model in Section 6.4.

Assumption that average value of errors is zero

The mean value of errors is zero to 15 decimal places (0.0000000000000004), which is approximately zero. The assumption that the average value of errors is zero holds and there is no evident justification for restricting the regression through the origin.

Assumption of homoscedasticity

There is mixed evidence on the presence of a homoscedastic relationship between the explanatory variables and the model's residuals. There is no evident pattern in the model's fitted and residual values (Figure 6.15) and nor between the explanatory variables and the residual values in Figures 6.2 and 6.2. The Goldfeld-Quandt test statistic is 0.911 ($p=0.797$) and the null hypothesis of homoscedasticity is accepted and assumed to be homoscedastic. However, the Breusch-Pagan is preferred as the data has been transformed and returns a test statistic is 36.340 ($p=0.000$). Therefore, the null hypothesis of homoscedasticity is rejected and the model can be assumed to be heteroscedastic.

Figure 6.15: Fitted values to residual values for sporting performance model

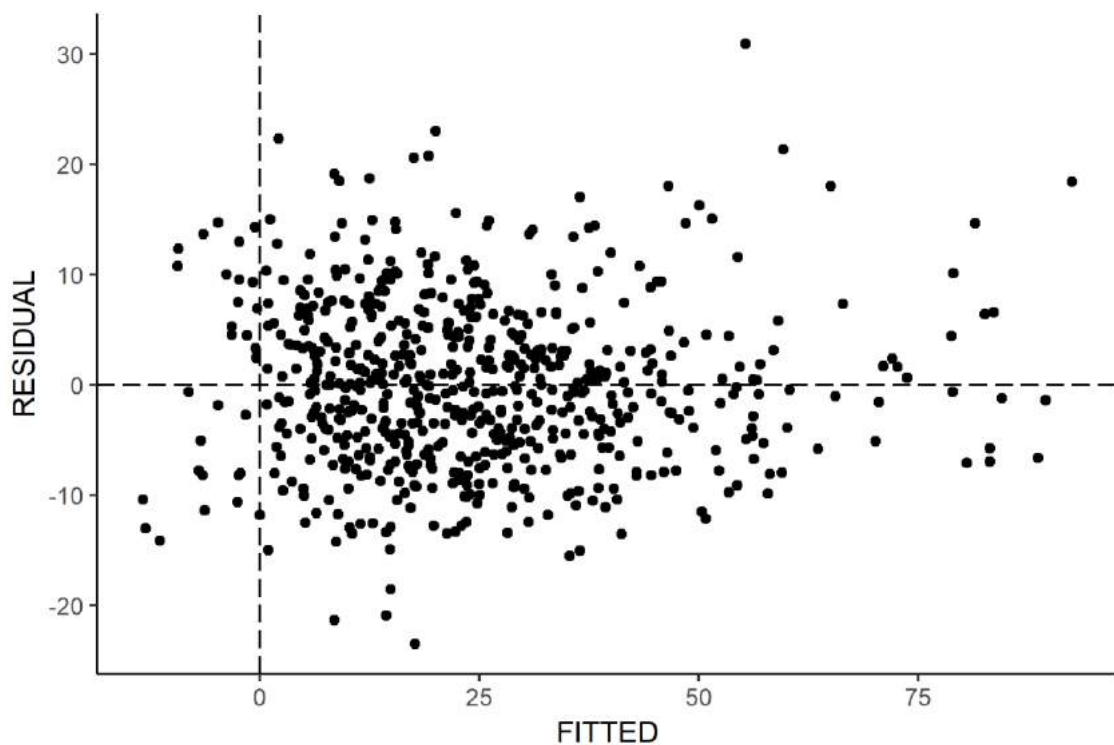


Figure 6.16: Residual values to logarithm of player wages

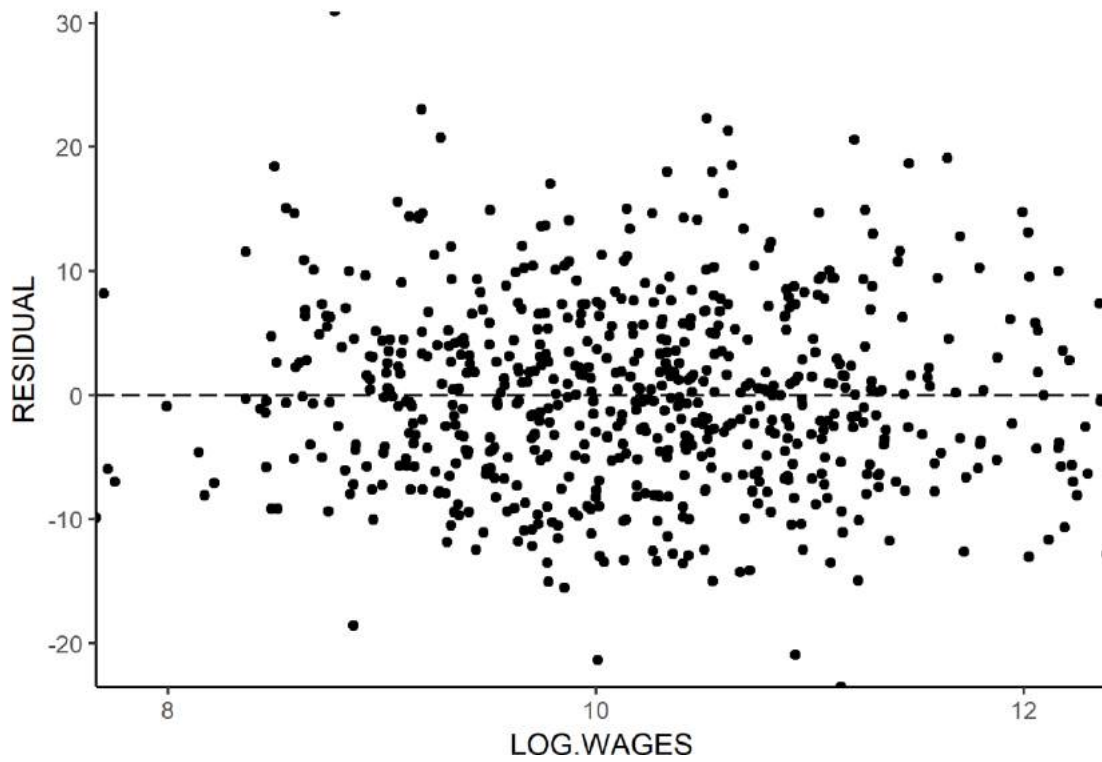
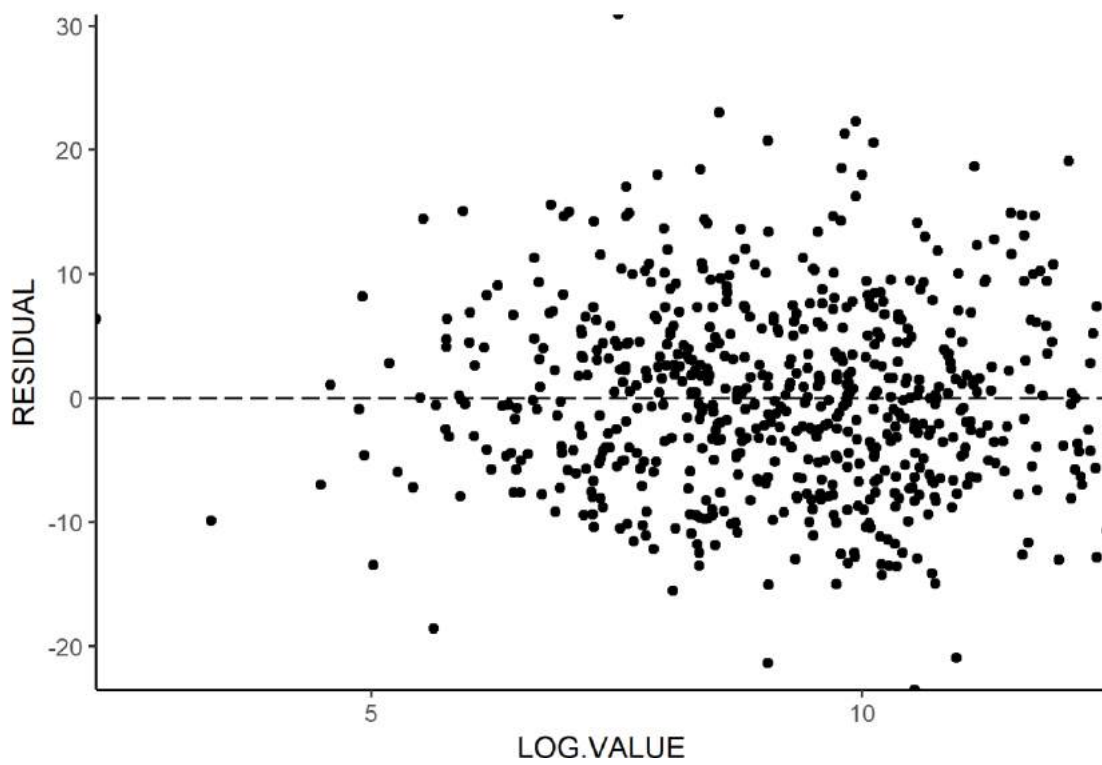


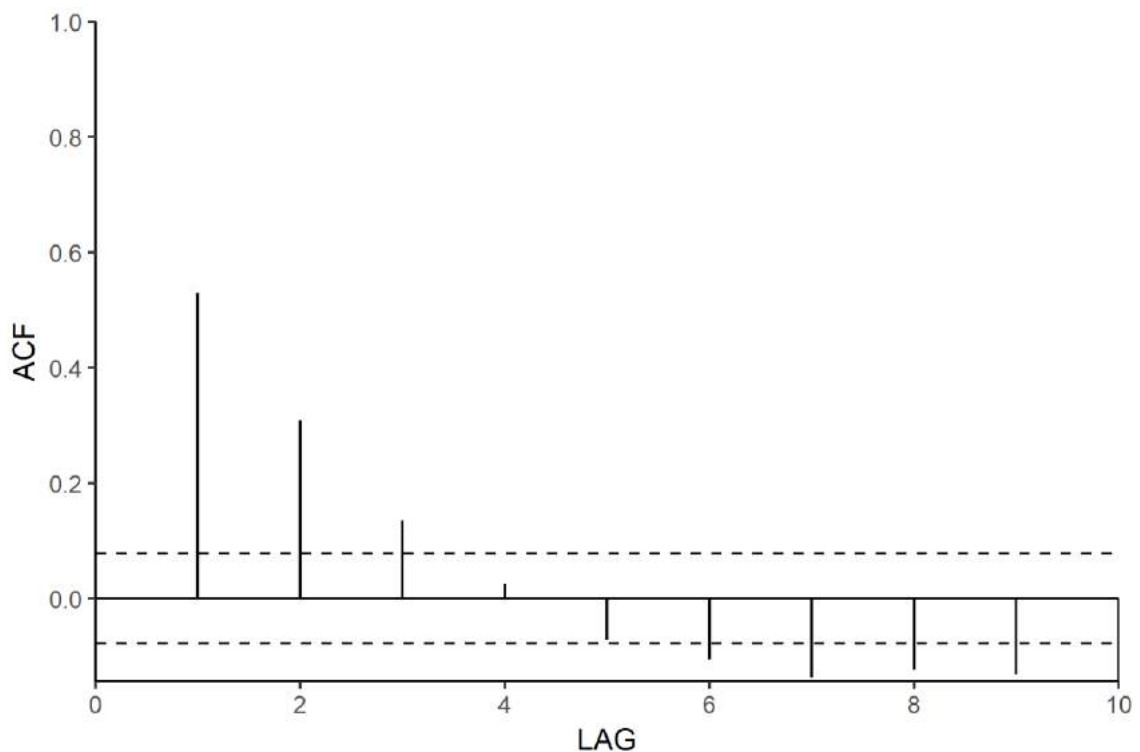
Figure 6.17: Residual values to logarithm of player value



Assumption that covariance of errors is zero

There is limited evidence of autocorrelation, or serial correlation, in the panel data. The autocorrelation function (Figure 6.18) indicates that lagged values of the explanatory variables may be correlated with the predictor variable for up to three years, which is expected in professional team sport where accumulated team resources explain sporting performance (see Section 4.2). However, the Durbin-Watson panel test statistic is 0.933 ($p=0.000$) and the Breusch-Godfrey panel test statistic is 190.764 ($p=0.000$). The null hypothesis is rejected and it is concluded that there is no evidence of autocorrelation.

Figure 6.18: Autocorrelation function for sporting performance model



Assumption of non-stochastic regressors

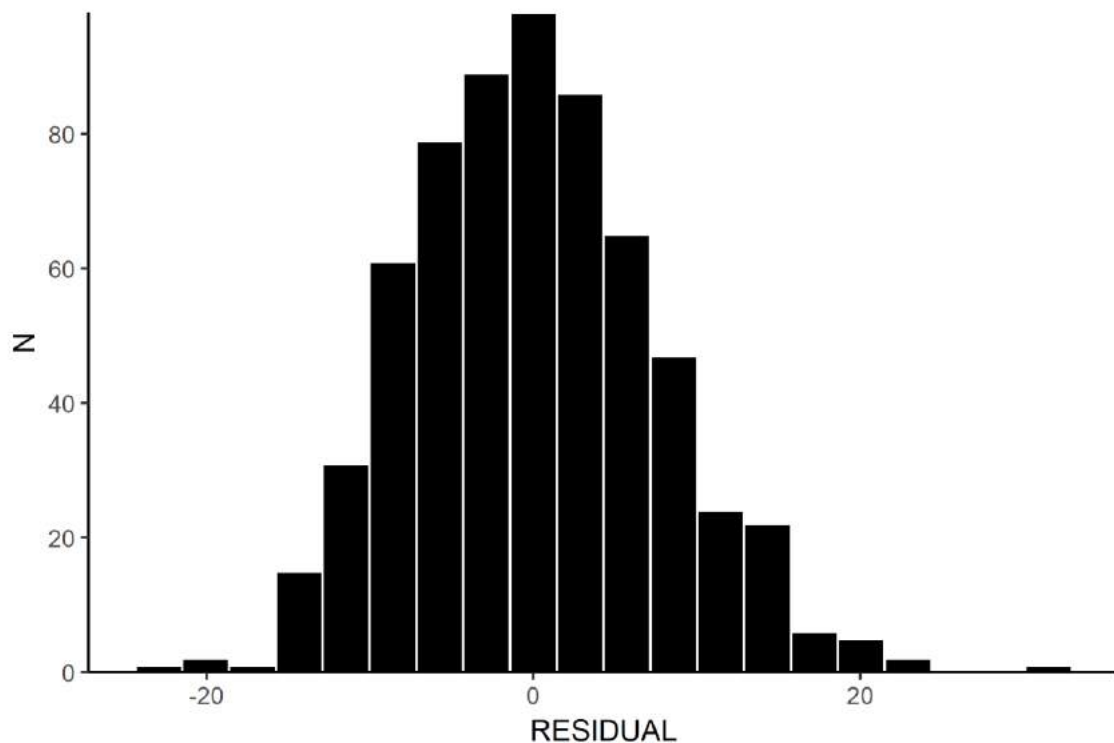
For the sporting performance model, team resources are considered as an endogenous variable as they are determined by the decision-making of club owners, business executives or team managers. However, there may be some exogeneity in the relationship between team resources and sporting performance. Some component of player wages may be determined by sporting performance if players appropriate remuneration in the form of signing-on and bonus fees as a consequence of

enhanced personal or team sporting performance. Similarly, the value of a player may increase if they are a member of a winning team; however, this would not be reflected in the net book value of the player (which is determined by the transfer fee expenditure that is incurred and amortisation that is apportioned) until the player is traded. Nevertheless, it is anticipated that most of the relationship between sporting performance (league rank) and team resources (player wages and value) is realised by the increase revenue appropriated as a consequence of winning matches and championships (especially in the Premier League and Champions League), with an associated increase in profits and retained earnings, which is then reinvested in team resources.

Assumption that disturbances are normally distributed

There is some evidence of outliers in the residuals generated by the model. The distribution of residuals is presented in Figure 6.19 and provides some evidence of skewness. The skewness of the residuals is 0.325 and kurtosis is 3.355, which indicates that there is some positive skew to the residuals. The Jarque-Bera panel test statistic is 14.515 ($p=0.001$) and the null hypothesis of normality is rejected, and it is concluded that the distribution of residuals may be non-normal.

Figure 6.19: Residual values for sporting performance model



6.4. Test statistics

The expectation of Proposition 1 is that the team resources of Premier League football clubs have a positive effect on sporting performance. Panel regression models are adopted to test for cross-sectional and time-series effects. The outcome variable is league rank (*RANK*) and the explanatory variables are the logarithm of player wages (*LOG.WAGES*) and the logarithm of player value (*LOG.VALUE*). Results for panel regression models tests for pooled, fixed effects, time-fixed effects and two-way effects are presented in Table 6.2.

Table 6.2: Panel regression models for sporting performance

	Pooled	Fixed effects	Time-fixed effects	Two-way effects
	<i>RANK</i>	<i>RANK</i>	<i>RANK</i>	<i>RANK</i>
	(1)	(2)	(3)	(4)
<i>LOG.WAGES</i>	-7.210***	-5.849***	-12.680***	-13.906***
	(0.652)	(0.698)	(0.738)	(0.911)
	<i>t</i> =-11.062	<i>t</i> =-8.378	<i>t</i> =-17.175	<i>t</i> =-15.266
	<i>p</i> =0.000	<i>p</i> =0.000	<i>p</i> =0.000	<i>p</i> =0.000
<i>LOG.VALUE</i>	-2.917***	-2.699***	-0.946**	-1.058**
	(0.362)	(0.406)	(0.373)	(0.417)
	<i>t</i> =-8.069	<i>t</i> =-6.653	<i>t</i> =-2.532	<i>t</i> =-2.538
	<i>p</i> =0.000	<i>p</i> =0.000	<i>p</i> =0.012	<i>p</i> =0.012
Constant	120.972***			
	(4.119)			
	<i>t</i> =29.371			
	<i>p</i> =0.000			
Observations	635	635	635	635
<i>R</i> ²	0.688	0.424	0.774	0.582
Adjusted <i>R</i> ²	0.687	0.383	0.767	0.540
<i>F</i>	695.704*** (<i>df</i> =2; 632) (<i>p</i> =0.000)	217.515*** (<i>df</i> =2; 592) (<i>p</i> =0.000)	1,055.063*** (<i>df</i> =2; 616) (<i>p</i> =0.000)	400.549*** (<i>df</i> =2; 576) (<i>p</i> =0.000)

Note: **p*<0.1; ***p*<0.05; ****p*<0.01

Pooled model

The pooled panel regression model is:

$$RANK_{it} = \alpha + \beta_1 WAGES_{it} + \beta_2 VALUE_{it} + \mu_{it}$$

The F -statistic of 695.704 ($p=0.000$) is significant and indicates that the overall fit of the pooled model is good. The R^2 (0.688) indicates strong correlation and that the team resources of clubs explain 68.8% of the variance of sporting performance. Player wages has a significant effect on league rank ($t=-8.378$, $p=0.000$) and, as expected, the relationship is negative in that higher wages explains higher league rank, with the value for first place (1) being lower than last place (92). For the logarithm models, an increase in player wages of 1% is expected to improve league rank by 0.072 places. A more practical interpretation of the model is that a 13.9% increase in player wages is required to increase sporting performance by one position. Player value also has a significant effect on league rank ($t=-6.653$, $p=0.000$) and the relationship is expectedly negative. For the logarithm model, an increase in player value by 1% is expected to change league rank by 0.029 positions. More practically, a 34.3% increase in player value is required to increase sporting performance by one place. There are evident diminishing returns from team resource expenditure for clubs that generate superior sporting performance. Further tests were conducted with inclusion of lagged values for team resources and, although the lagged model was significant, the coefficients indicate that lagged values of player wages and value may have opposite effects, and are therefore not retained in the model. The combined effect of player wages and player value is stronger than the individual effects of either predictor. The pooled regression models are presented in Table 6.3 to enable comparison of the individual effects of player wages (Model 1) and player value (Model 2) with the combined effect (Model 3), which is repeated from the pooled panel regression model in Table 6.2.

Table 6.3: Pooled panel regression models for sporting performance

	RANK	RANK	RANK
	(1)	(2)	(3)
LOG.WAGES	-12.549***		-7.210***
	(0.346)		(0.652)
	$t=-36.272$		$t=-11.062$
	$p=0.000$		$p=0.000$
LOG.VALUE		-6.391***	-2.917***
		(0.196)	(0.362)
		$t=-32.668$	$t=-8.069$
		$p=0.000$	$p=0.000$
Constant	149.127***	79.298***	120.972***
	(3.520)	(1.815)	(4.119)
	$t=42.371$	$t=43.701$	$t=29.371$
	$p=0.000$	$p=0.000$	$p=0.000$
Observations	659	636	635
R^2	0.667	0.627	0.688
Adjusted R^2	0.666	0.627	0.687
F	1,315.630*** ($df=1; 657$) ($p=0.000$)	1,067.216*** ($df=1; 634$) ($p=0.000$)	695.704*** ($df=2; 632$) ($p=0.000$)

Note: * $p<0.1$; ** $p<0.05$; *** $p<0.01$

The univariate models (Models 1 and 2) and the multivariate model (Model 3) are similar. Player wages have a stronger univariate relationship with sporting performance than player value. However, the multivariate model is superior to either univariate model and is preferred as it captures capital and operating resource expenditure.

Fixed effects model

The fixed effects panel regression model is:

$$RANK_{it} = \alpha + \beta_1 WAGES_{it} + \beta_2 VALUE_{it} + \mu_i + v_{it}$$

The F -statistic (217.515, $p=0.000$) is significant and indicates that the overall fit of the fixed effects model is good. However, the R^2 (0.424) signifies that there is moderate correlation and that team resources explain only 42.4% of the variance of sporting performance. For the logarithm model, player wages has a significant and negative effect on league rank ($t=-8.378$, $p=0.000$). If player wages increase by 1%, league rank is predicted to increase by 0.058 places. Alternatively, a 17% increase

(decrease) in player wages is required to increase (decrease) sporting performance by one place. Player value also has a significant, negative effect on league rank ($t=-2.699$, $p=0.000$). For the logarithm model, an increase in player value of 1% is expected to increase league rank by 0.027 positions. More practically, a 37% increase (decrease) in player value is required to increase (decrease) sporting performance by one place. The fixed effects coefficients from the model are presented in Table 6.4.

Table 6.4: Fixed effects coefficients for sporting performance

<i>CLUB</i>	Estimate	Standard error	<i>t</i>	<i>p</i>
Arsenal	99.677	5.838	17.073	0.000
Aston Villa	102.585	5.556	18.464	0.000
Birmingham City	103.527	5.242	19.749	0.000
Blackburn Rovers	104.737	5.449	19.221	0.000
Blackpool	109.715	5.147	21.318	0.000
Bolton Wanderers	101.058	5.466	18.487	0.000
Burnley	106.434	4.960	21.459	0.000
Cardiff City	111.878	5.078	22.031	0.000
Charlton Athletic	104.984	5.225	20.091	0.000
Chelsea	103.392	5.938	17.411	0.000
Coventry City	108.683	5.139	21.147	0.000
Crystal Palace	106.676	5.438	19.616	0.000
Derby County	107.863	5.169	20.866	0.000
Everton	99.427	5.498	18.085	0.000
Fulham	104.745	5.457	19.195	0.000
Hull City	108.799	5.300	20.530	0.000
Ipswich Town	103.855	5.214	19.918	0.000
Leeds United	107.323	5.403	19.865	0.000
Leicester City	106.049	5.292	20.041	0.000
Liverpool	102.350	5.776	17.721	0.000
Manchester City	103.870	5.660	18.352	0.000
Manchester United	101.366	5.884	17.228	0.000
Middlesbrough	105.482	5.336	19.768	0.000
Newcastle United	103.891	5.553	18.711	0.000
Norwich City	106.623	5.219	20.430	0.000
Nottingham Forest	112.211	5.091	22.041	0.000
Portsmouth	103.833	5.365	19.352	0.000

<i>CLUB</i>	Estimate	Standard error	<i>t</i>	<i>p</i>
Queens Park Rangers	110.653	5.287	20.928	0.000
Reading	107.836	5.227	20.630	0.000
Sheffield United	104.345	5.198	20.073	0.000
Sheffield Wednesday	109.598	5.043	21.731	0.000
Southampton	104.831	5.312	19.734	0.000
Stoke City	104.600	5.148	20.318	0.000
Sunderland	104.508	5.418	19.288	0.000
Swansea City	102.223	5.635	18.141	0.000
Tottenham Hotspur	100.677	5.557	18.116	0.000
Watford	104.129	5.119	20.340	0.000
West Bromwich Albion	101.188	5.323	19.011	0.000
West Ham United	103.839	5.512	18.839	0.000
Wigan Athletic	107.909	5.125	21.055	0.000
Wolverhampton Wanderers	108.126	5.103	21.187	0.000

The fixed coefficients are significant ($p < 0.000$) for all clubs in the sample. The permanent members of the Premier League have relatively low coefficients but higher standard errors, which indicate a wide confidence interval for these cases. However, some of the clubs that have been less successful or experienced failure have comparable coefficients and standard errors, and it is not possible to draw any pattern from the fixed coefficients.

Time-fixed effects model

The time-fixed effects panel regression model is:

$$RANK_{it} = \alpha + \beta_1 WAGES_{it} + \beta_2 VALUE_{it} + \lambda_t + v_{it}$$

The F -statistic of 1055.063 ($p = 0.000$) is significant and there is a good overall fit for the time-fixed effects model. The R^2 (0.774) indicates that there is strong correlation in that team resources explain 77.4% of the variance in sporting performance. Player wages has a significant and negative effect on league rank ($t = -17.175$, $p = 0.000$). For logarithm models, if player wages increase by 1% then league rank is expected to change by -0.127 positions. Another interpretation of the model is that an 8% increase in player wages is required to increase sporting performance by one place. Player value has a negative, but insignificant, effect on league rank ($t = -2.532$, $p = 0.011$). For the logarithm model, an increase of player value by 1% is predicted to effect league rank by -0.009 places. Practicably, a

106% increase in player value is required to increase sporting performance by one place. The time-fixed effects coefficients from this model are presented in Table 6.5.

Table 6.5: Time-fixed effects coefficients for sporting performance

YEAR	Estimate	Standard error	<i>t</i>	<i>p</i>
2000	152.019	4.314	35.241	0.000
2001	153.852	4.407	34.915	0.000
2002	155.357	4.485	34.637	0.000
2003	154.257	4.698	32.834	0.000
2004	152.339	4.764	31.980	0.000
2005	153.529	4.740	32.392	0.000
2006	154.104	4.717	32.670	0.000
2007	155.917	4.677	33.335	0.000
2008	159.086	4.691	33.914	0.000
2009	160.254	4.816	33.272	0.000
2010	160.654	4.865	33.024	0.000
2011	161.873	4.935	32.799	0.000
2012	162.194	4.951	32.760	0.000
2013	163.383	5.040	32.416	0.000
2014	164.690	5.060	32.547	0.000
2015	165.914	5.048	32.866	0.000
2016	167.518	5.021	33.363	0.000

The time-fixed effects coefficients are significant for all clubs in the sample. The coefficients and the standard errors increase for much of the observation period, which is expected as there has been inflation in player wages and value during the Premier League era.

Two-way effects model

The two-way effects panel regression model is:

$$RANK_{it} = \alpha + \beta_1 WAGES_{it} + \beta_2 VALUE_{it} + \mu_i + \lambda_t + v_{it}$$

The *F*-statistic of 400.549 (*p*=0.000) is significant and indicates that there is a good overall fit for the two-ways effects model. However, there is only moderate correlation with the *R*² (0.582) showing that team resources explain 58.2% of the variance in sporting performance. The two-way effects model is, therefore, inferior to both the pooled and time-fixed effects models.

Post-test diagnostic statistics

Post-test diagnostics are conducted to establish which of the models is the most robust. The F -test is used to ascertain whether the fixed effects and time-fixed effects models are superior to the pooled model. The F -test statistic for pooled and fixed effects models is 2.195 ($p=0.000$), and the null hypothesis that there is no difference between the fixed effects and pooled models is rejected and it is concluded that the pooled model can be used. For pooled and time-fixed effects models, the F -test statistic is 5.570 and has a p -value of 0.000, and the null hypothesis (that there is no difference between the time-fixed effects and pooled models) is also rejected and it is further concluded that use of the pooled model is appropriate. The lack of evidence for fixed effects in the sporting performance panel regression models is illustrated by the relationships between player wages to league rank (Figure 6.20) and player value to league rank (Figure 6.21) for each club in the sample.

Figure 6.20: League rank by logarithm of player wages, by club

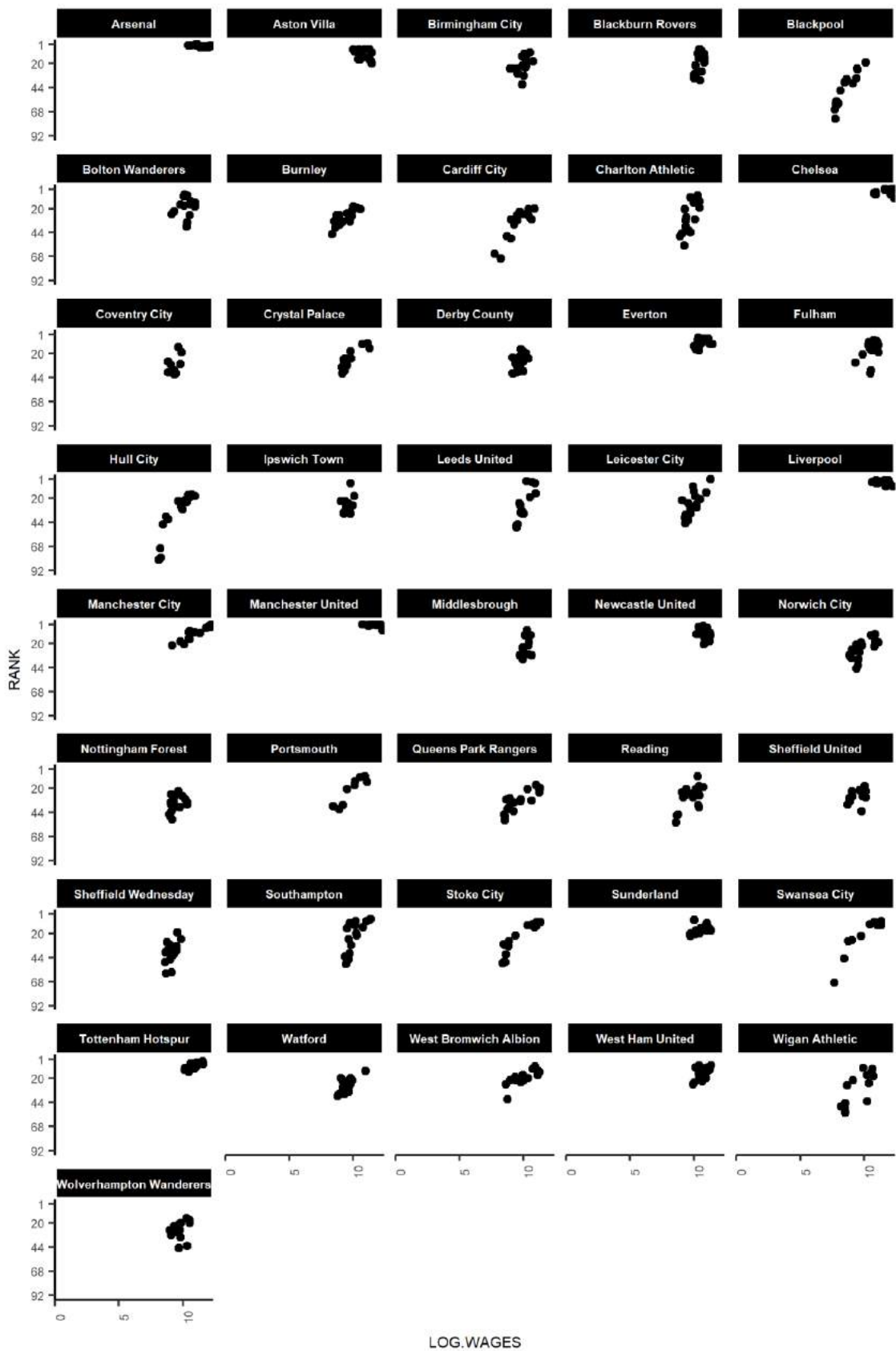
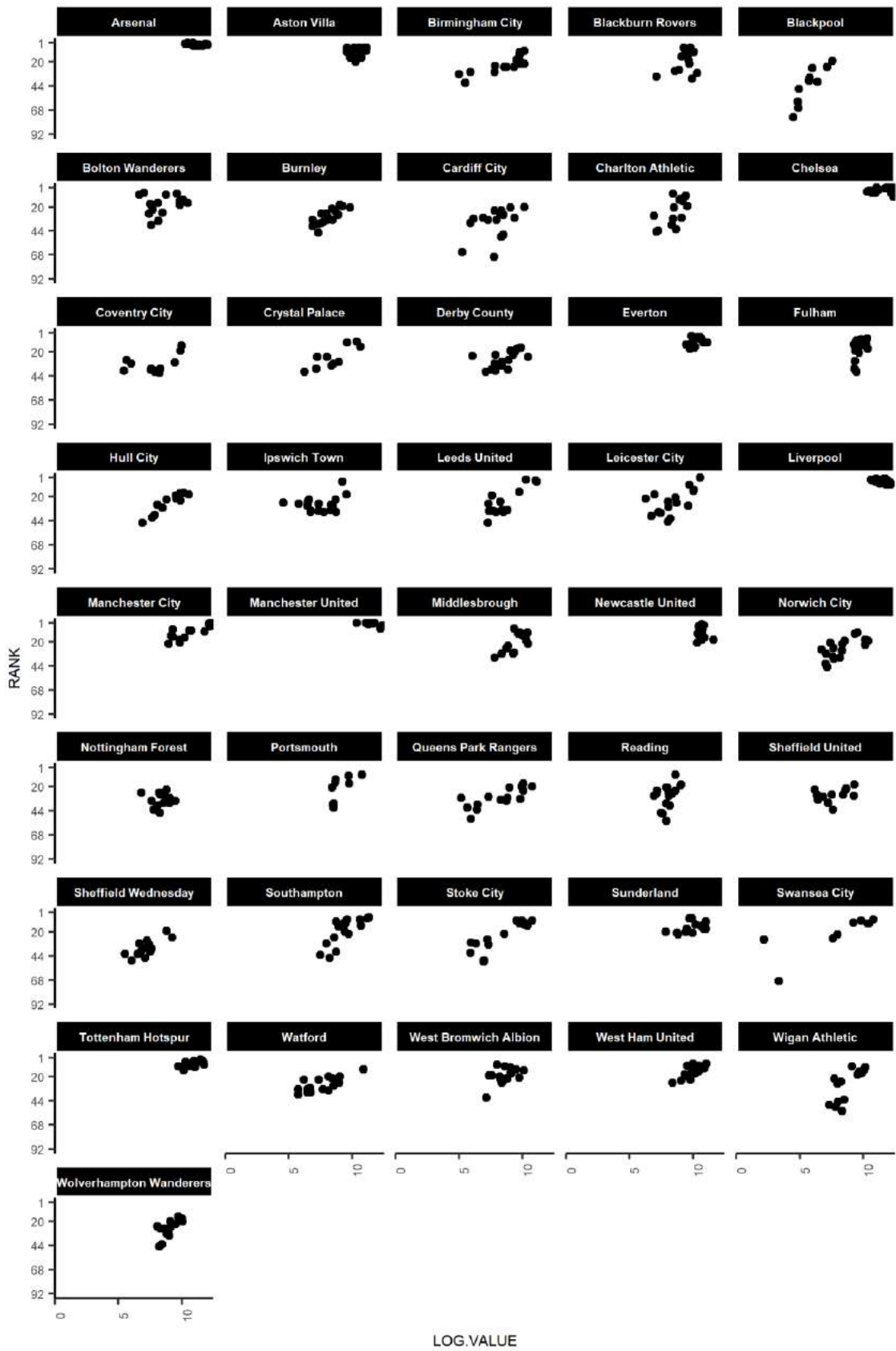


Figure 6.21: League rank by logarithm of player value, by club



For the fixed effects model, there are some evident patterns between the samples of clubs. The values for the permanent Premier League members tend to be clustered in the top right corner of the

respective panels for both player wages and player value, and this separation is especially notable for Arsenal, Chelsea, Liverpool and Manchester United. Conversely, the same values for clubs that have transitioned between the Premier League and the third and fourth divisions tend to extend from the bottom left corner towards the top right corner. However, there is no consistency in the player wages and value for these clubs, which may indicate that clubs have adopted specific strategies that led to growth or decline. These differences are explored further in the contingency models (see Chapters 8 and 9). The presence of time-fixed effects is confirmed by the relationships between player wages to league rank (Figure 6.22) and player value to league rank (Figure 6.23) for each season and financial year.

Figure 6.22: League rank by logarithm of player wages, by year

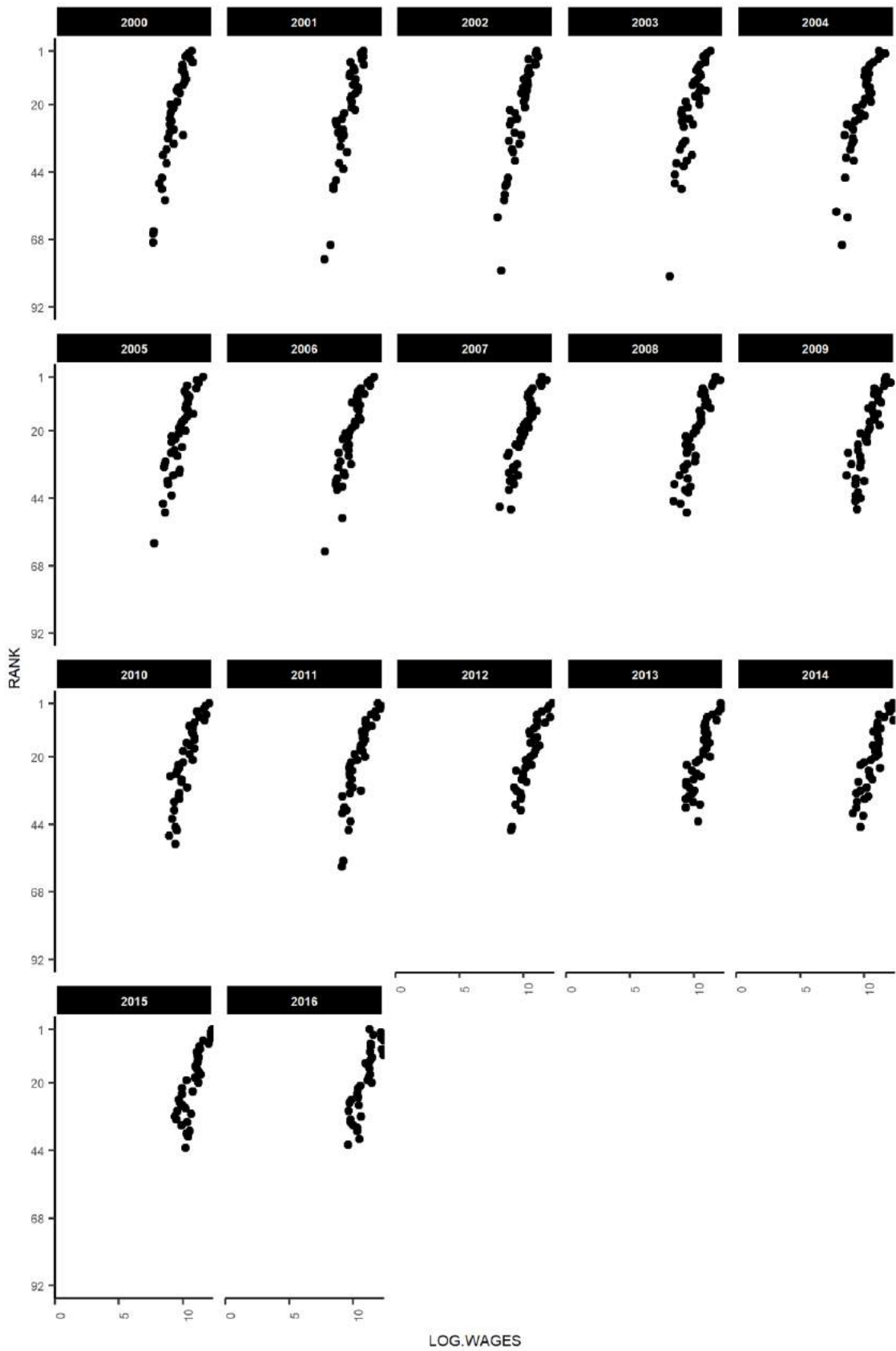
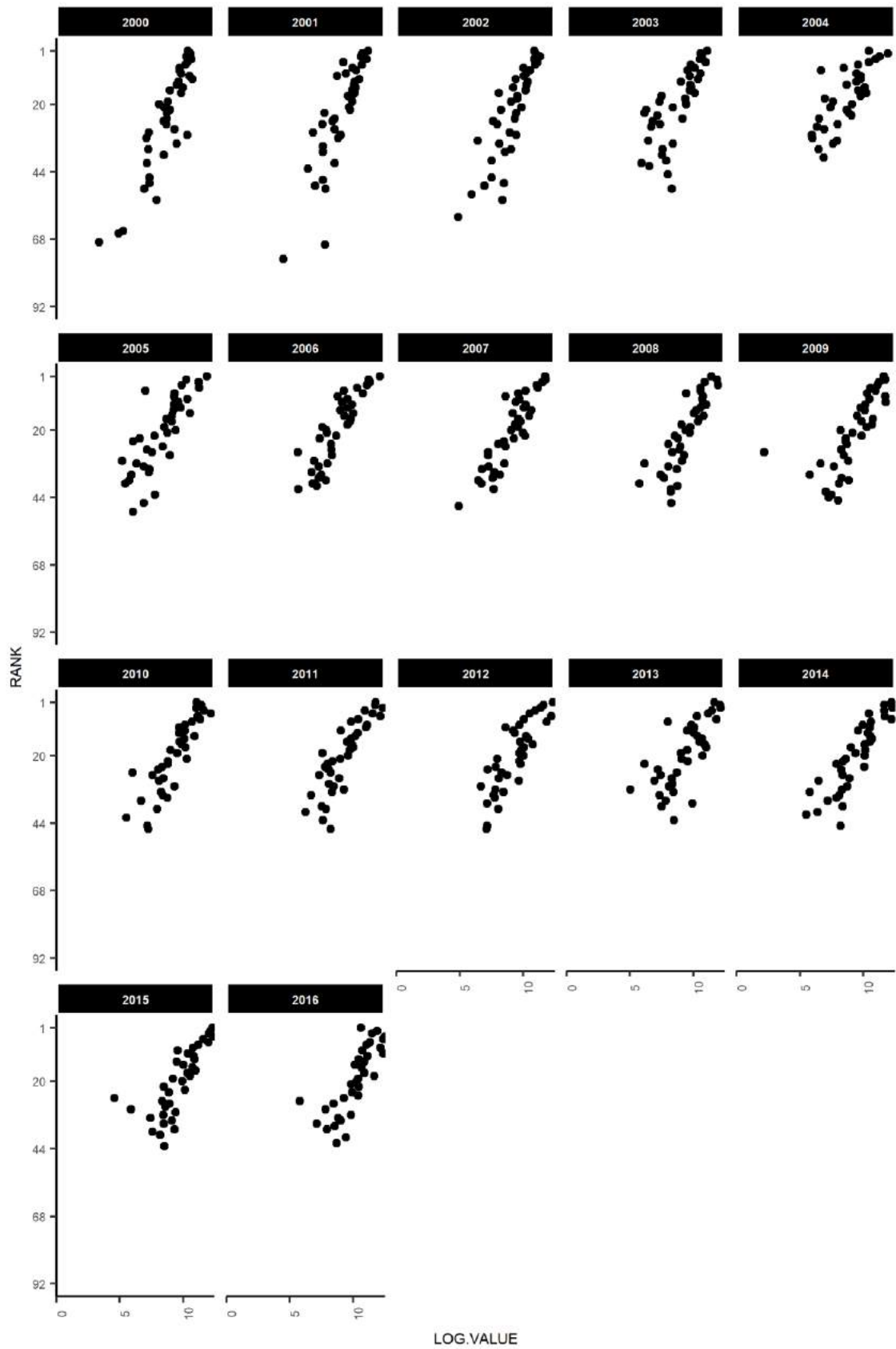


Figure 6.23: League rank by logarithm of player value, by year



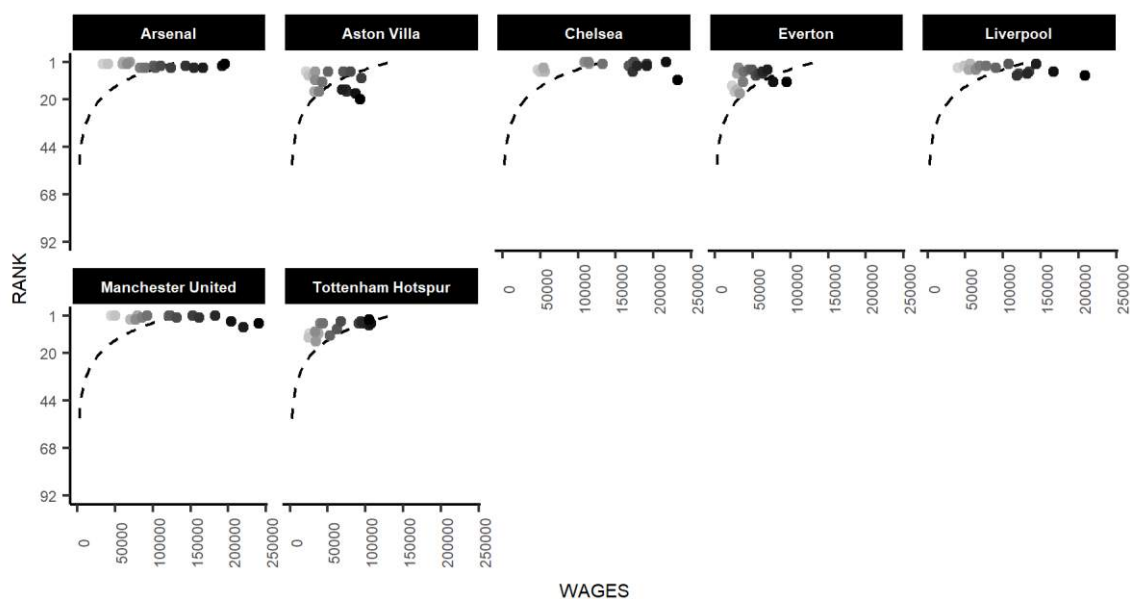
In contrast to the fixed effects model, a pattern of time-fixed effects is evident when data is presented by year. During the Premier League era, there is an apparent trend of both player wages and player

value increasing, and that the relationship between team resources and sporting performance (league rank) retains its form. This is represented by the parallel movement of the distribution of values from left to right on each consecutive panel.

Groups

The paths of clubs are plotted in Figures 6.24 to 6.28 for the permanent, growth, decline, yo-yo and volatile groups. Each club's path is indicated by lighter, grey points from the 1999/2000 season and financial year, through to darker, black points for 2015/16. Over-performance, or under-resourcing, is indicated by those points above and to the left of the non-linear (curved) regression line²⁴. Here, a club's league rank that is better than that predicted by the pooled regression model. Alternatively, under-performance or over-resourcing is shown by points to the right and below the line. For these clubs league rank is worse than expected according to its player wages.

Figure 6.24: League rank to player wages, permanent clubs

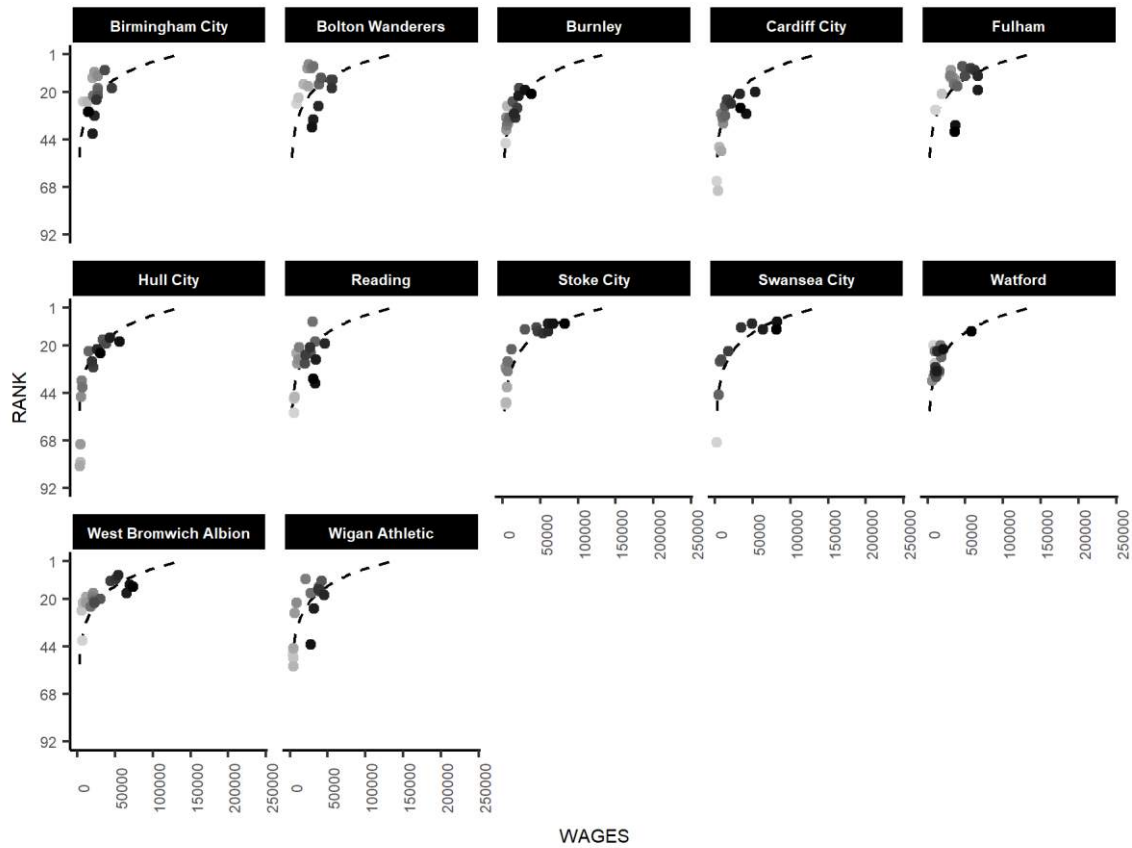


For the permanent members of the Premier League, small change can appear distinct. Arsenal and Manchester United are the most consistent, with Liverpool generating substantial increments in trading revenue towards the end of the observation period. Chelsea have recorded much more erratic player wages expenditure. In contrast, Aston Villa, Everton and Tottenham Hotspur have controlled

²⁴ Only the paths for the bivariate relationship between player wages and league rank are shown as the individual effects of player wages is strongest.

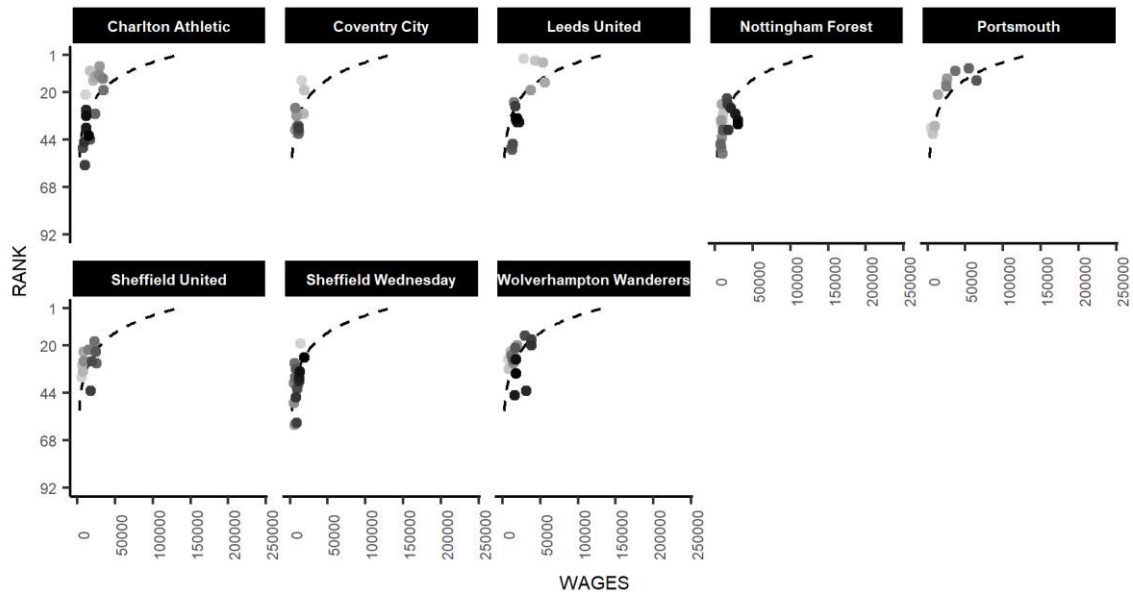
spending, although Aston Villa and, to a lesser extent, Everton, have failed to maintain sporting performance.

Figure 6.25: League rank to player wages, growth clubs



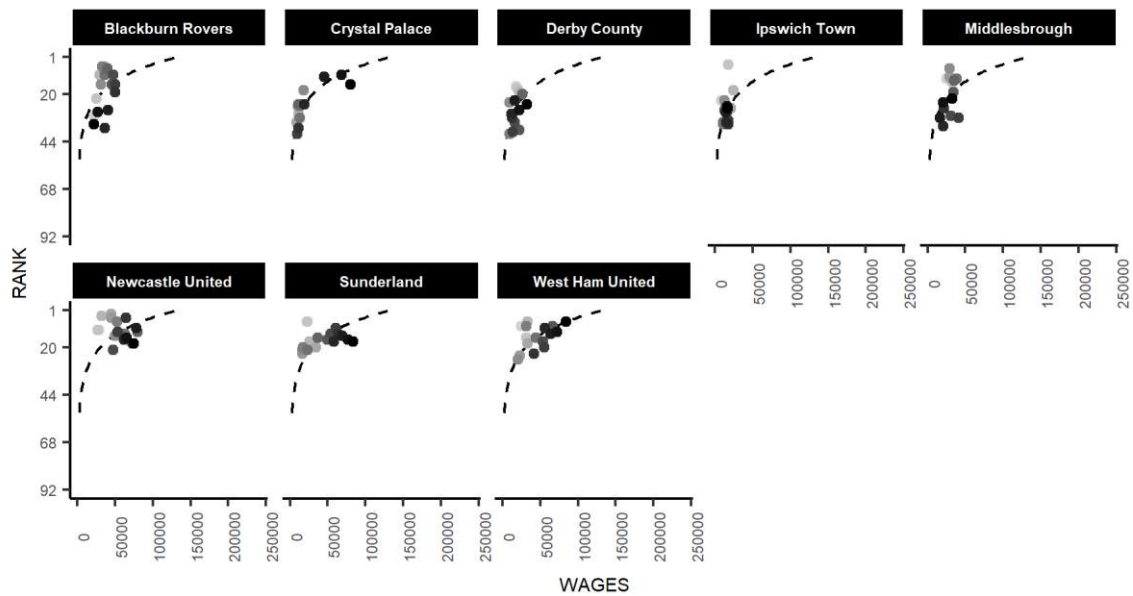
Burnley, Hull City, Stoke City and Swansea City are examples of clubs that have successfully adjusted team resources while improving sporting performance. Most of the other clubs in this group tend to over-perform relative to resources during periods of growth, as indicated by points above and to the left of the regression line. Those that subsequently experience decline, tend to under-perform or are over-resourced, as shown by movement to the bottom and right of the line. The exception is Watford, who have managed to control player wages when they were relegated from the Premier League.

Figure 6.26: League rank to player wages, decline clubs



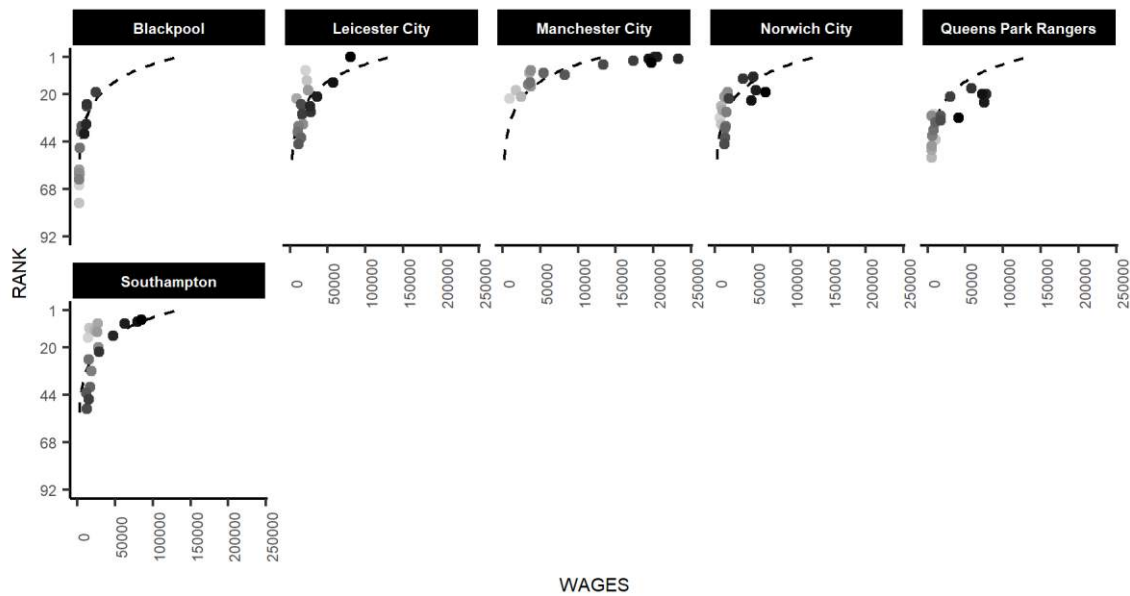
Clubs that have experienced decline have generally transitioned from over-performance to under-performance. Leeds United, Nottingham Forest and Wolverhampton Wanderers have not been able to maintain league rank relative to their player wages expenditure. Sheffield Wednesday have controlled wages as they were relegated from the Premier League to the Football league Championship and League One. However, there is more missing data for clubs that have experienced decline, meaning that a number of clubs are removed from the sample.

Figure 6.27: League rank to player wages, yo-yo clubs



Clubs that have been members of the Premier League and Football League Championship since 1992 are the yo-yo clubs. These clubs have struggled to match player wages to league rank, which is not surprising given that many have experienced multiple promotion and relegation events; for example, Crystal Palace have been promoted and relegated four times since 1992. Overall, there is some indication of a transition to under-performance, which is surprising given management of clubs is considered to have improved, as evidenced by the reduction in the number of administration events highlighted in Section 2.4.

Figure 6.28: League rank to player wages, volatile clubs



Clubs that have been members of three or four divisions have experienced the most volatility, but are surprisingly adaptable, as demonstrated by Blackpool's sporting performance and perceptions of the capabilities of the club owners (Bounds, 2010). Initially, Leicester City and Southampton were over-performing clubs, probably due to the constraints of their stadiums before relocation. Norwich City and Queens Park Rangers have not been able to control player wages relative to their league rank. Manchester City is an exception, where new investors have enabled the club to transition from one that was over-performing in the Football League Championship to winning the Premier League champions in just ten years.

6.5. Conclusions: Sporting performance

A predictive model is deployed to test Proposition 1, and confirms the relationship between team resources and sporting performance. Player wages and value explain 68.8% of the variance in league rank, with a change 13.9% in player wages being associated with a change in rank of one place, and likewise a 34.3% change in player value affecting a change of one position. League rank is determined by marginal points and the panel regression model does not consider the effect of membership of different divisions or the effect of the gaps between and within divisions (see Section 2.8).

Some patterns are noticeable between and within groups of clubs. Of the permanent members, four clubs (Arsenal, Chelsea, Liverpool and Manchester United) have unique paths and are becoming

detached from other clubs. Manchester City, who are not a permanent member of the Premier League, now share many of the characteristics of this group in terms of their resources and performance outcomes. There is evidence of transition from over-performance to under-performance for clubs subsequent to period of growth or concurrent to periods of decline. Growth has mostly been achieved by sustained over-performance, although many clubs then have difficulty in adjusting once they have secured their membership of the Premier League. Conversely, some clubs have managed to withstand decline in sporting performance as they have been relegated to the Football League. Many of the yo-yo clubs have experienced some difficulty in responding to the growth and divergence of the Premier League and Champions League, but in most instances have promptly compensated for any incompatibility between resources and performances. However, as with the group of clubs that have experienced volatile paths of growth and decline, there is considerable within-group variation.

7. Empirical research: Business performance model

Chapter summary

- The significant relationship between sporting performance and business performance is confirmed, with league rank explaining 64.9% of matchday and commercial revenue.
- Each incremental increase of league rank is associated with increased trading revenue of 0.059%, which demonstrates how the modest incremental rewards in the Football League compare to the substantial returns on sporting performance in the Premier League.
- The permanent members of the Premier League, and specifically Arsenal, Chelsea, Liverpool and Manchester United, plus Manchester City, have commercialised their sporting success by generating superior matchday and commercial revenue.
- Clubs that have grown from League One and League Two have generated relatively modest increase in trading revenue, which suggests that most business performance growth has been appropriated from broadcast rights.

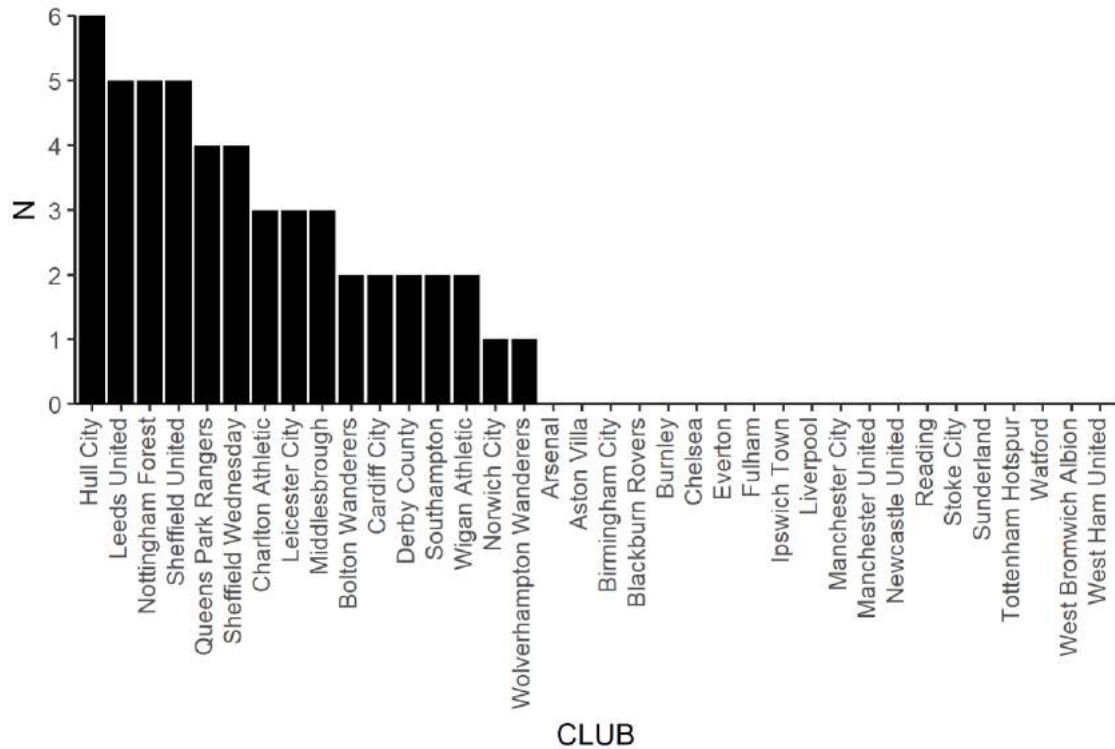
A predictive model is deployed to empirically confirm the relationship between the sporting performance of Premier League clubs and their business performance. The results are supplemented with post-test diagnostics to explore differences between and within groups of clubs. The chapter opens with summary statistics for the panel data, and the dependent and independent variables are then described. Pre-test diagnostics are presented to test that the assumptions of the linear regression model prior to the test statistics.

7.1. Data

The revenue of Premier League and Football League clubs is segmented into matchday, commercial and broadcasting from 1999, as indicated in Section 5.5. Therefore, to capture trading revenue, the observation period is set from 1999 to 2016. 11% of data is missing, due to 226 missing values from the 2346 total values. Ten clubs are removed from the sample to reduce the proportion of missing data: Swindon Town, Bradford City, Oldham Athletic, Bournemouth, Barnsley, Crystal Palace, Swansea City, Blackpool, Coventry City and Portsmouth. The revised sample has 97 missing values

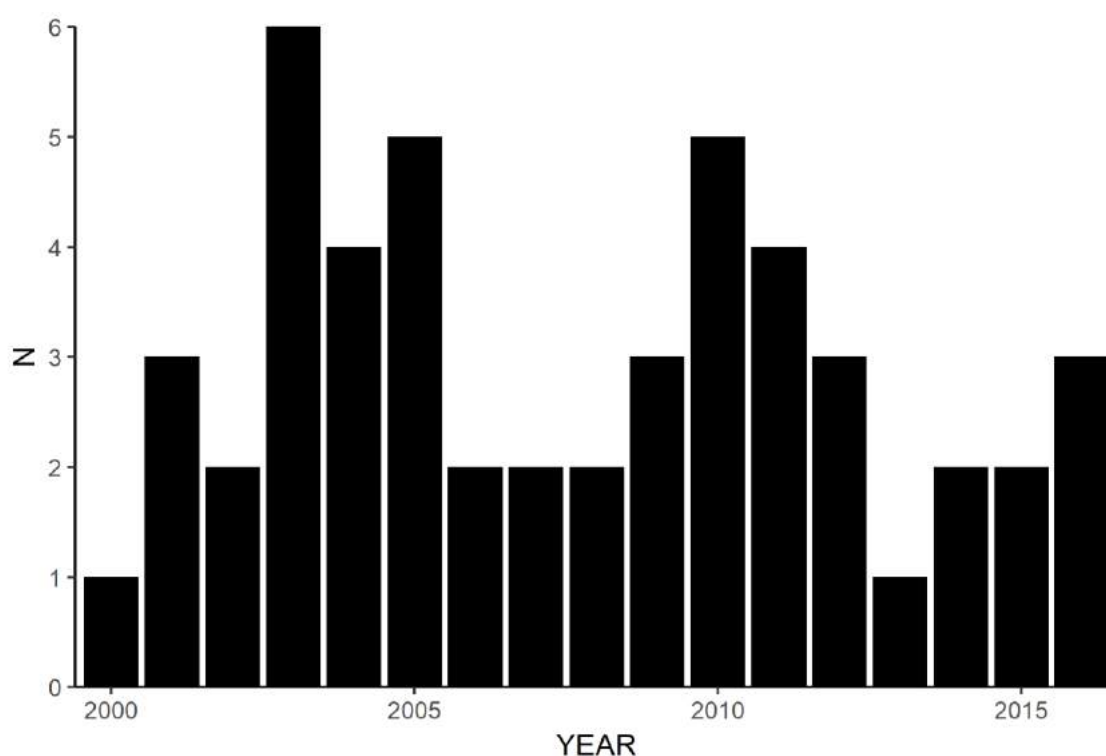
from 2091 observations, representing 4% of data. Figure 7.1 plots the number of missing cases for each of the remaining 36 clubs in the sample.

Figure 7.1: Missing cases for business performance model per club



None of the permanent members of the Premier League have missing cases, whereas the clubs with the fewest complete cases tend to have been members of the Football League for most of the observation period. This further suggests a relationship between the number of missing cases and the sporting and business performance of clubs in the retained sample. The number of missing cases for each year of the observation period are presented in Figure 7.2.

Figure 7.2: Missing cases for business performance model per year



Of the remaining 17 years, there is considerable fluctuation in missing data, with peaks of missing data in 2003 and 2010. This coincides with an increase in clubs entering administration due to the failure of ITV Digital and Setanta Sports, as documented in Section 2.4. This may adversely affect the findings and any conclusions that can be drawn from analysing the performance of clubs that experienced this form of business failure.

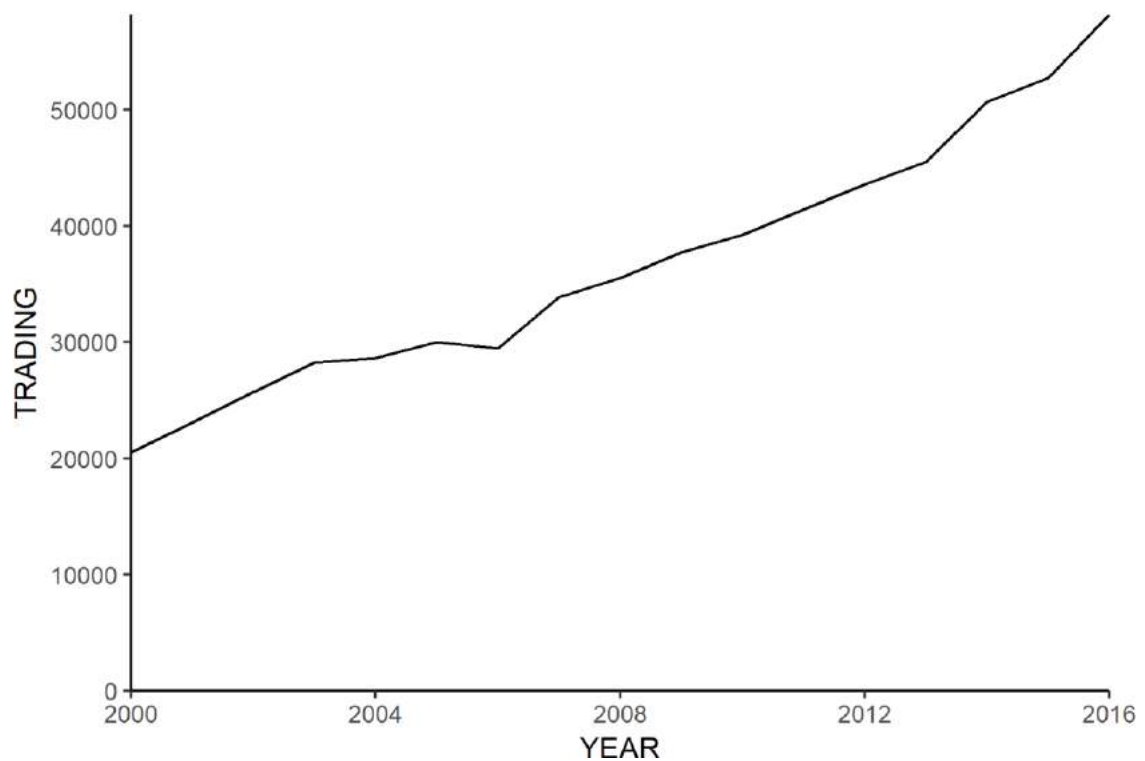
7.2. Descriptive statistics

Two variables are employed to measure business performance and sporting performance. The variables are trading revenue (*TRADING*) and league rank (*RANK*). The descriptive statistics each variable are presented in Table 7.1 for the panel data that is revised to account for the missing data. The panel comprises individual clubs ($i=36$) for the observation period ($t=17$) from 2000 to 2016.

Table 7.1: Descriptive statistics for trading revenue and league rank

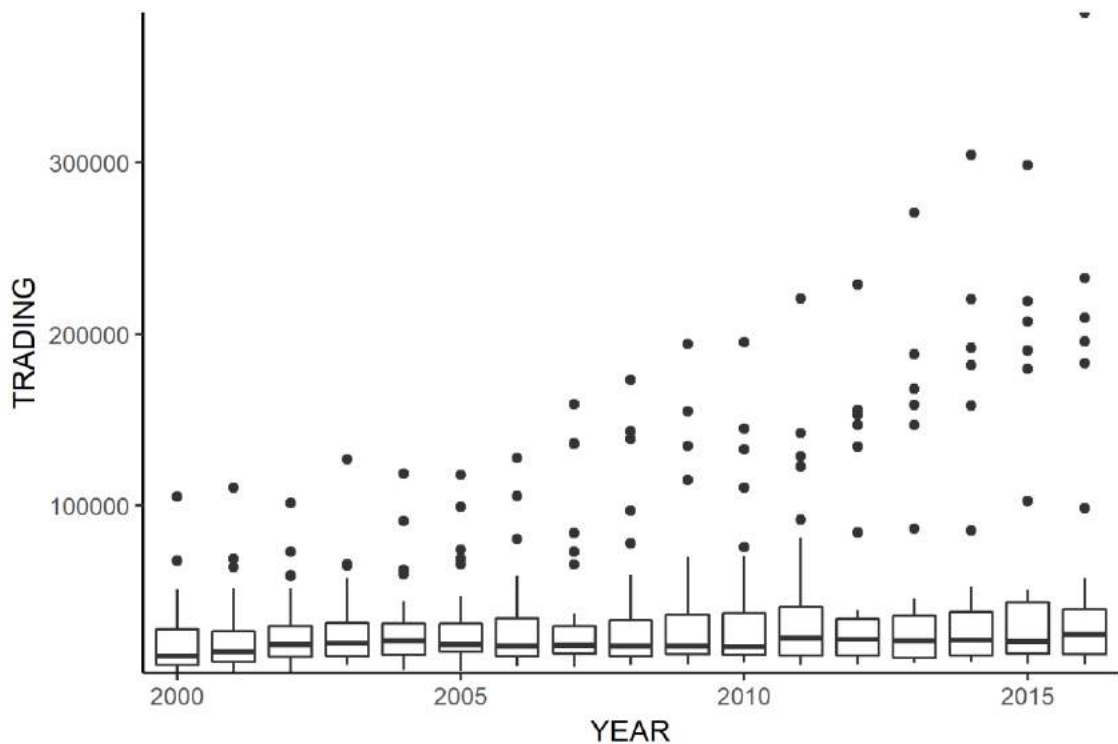
	<i>TRADING</i>	<i>RANK</i>
Mean	36774.829	21.660
Median	18784.500	20.000
Minimum	2162	1
Maximum	387508	82
Variance	2383030361.108	214.906
Standard deviation	48816.292	14.660
Skewness	3.059	0.809
Kurtosis	14.066	3.752
Total	20667454	13256
Observations	612	612

The central tendency and dispersion for both variables is as expected. The outcome variable does not appear to have a normal distribution, which is a consequence of the presence of a small number of large clubs generating superior matchday and commercial revenue. Further tests are conducted with pre-test diagnostic statistics. There is a considerable variance in trading revenue, which is due to the stadium and brand resources of clubs, as well as an increase in matchday and commercial revenue during the Premier League era. This growth is documented in Chapter 2. The mean values for the trading revenue of clubs in the sample from 2000 to 2016 is shown in Figure 7.3.

Figure 7.3: Mean of trading revenue per year

As anticipated, the trading revenue of clubs in the sample has increased, and this trend has been mostly consistent. The principal contributor to the growth in Premier League club revenue has been from broadcast rights, although clubs have also been able to increase matchday and commercial revenue. The larger clubs that have generated trading revenue from their membership of the Premier League and Champions League. Concurrently, smaller clubs have emerged to gain promotion to, and retained their membership of, the Premier League. Figure 7.4 uses a boxplot to illustrate the distribution of the variables for trading revenue.

Figure 7.4: Distribution of trading revenue per year



The increase in the number and variance of outliers suggests a divergence in trading revenue. The average trading revenue for clubs in the sample is relatively stable. However, the data has an apparent positive skew, although this is not consistent, and is further tested in the pre-test diagnostic statistics. These excessive values indicate that more matchday and commercial revenue is being appropriated by clubs that are members of the Premier League and, perhaps more importantly, the Champions League. For matchday and commercial revenue, it appears that the rich are getting richer, and the very rich are getting extremely rich. The total value and the dispersion of trading revenue has increased during the Premier League era. This suggests that some clubs may be generating superior business performance relative to other clubs, but it may be that this performance is not sustained. The paths for all the clubs in the revised sample are shown, with business performance (trading revenue) in Figure 7.5 and sporting performance (league rank) in Figure 7.6.

Figure 7.5: Trading revenue per year, by club

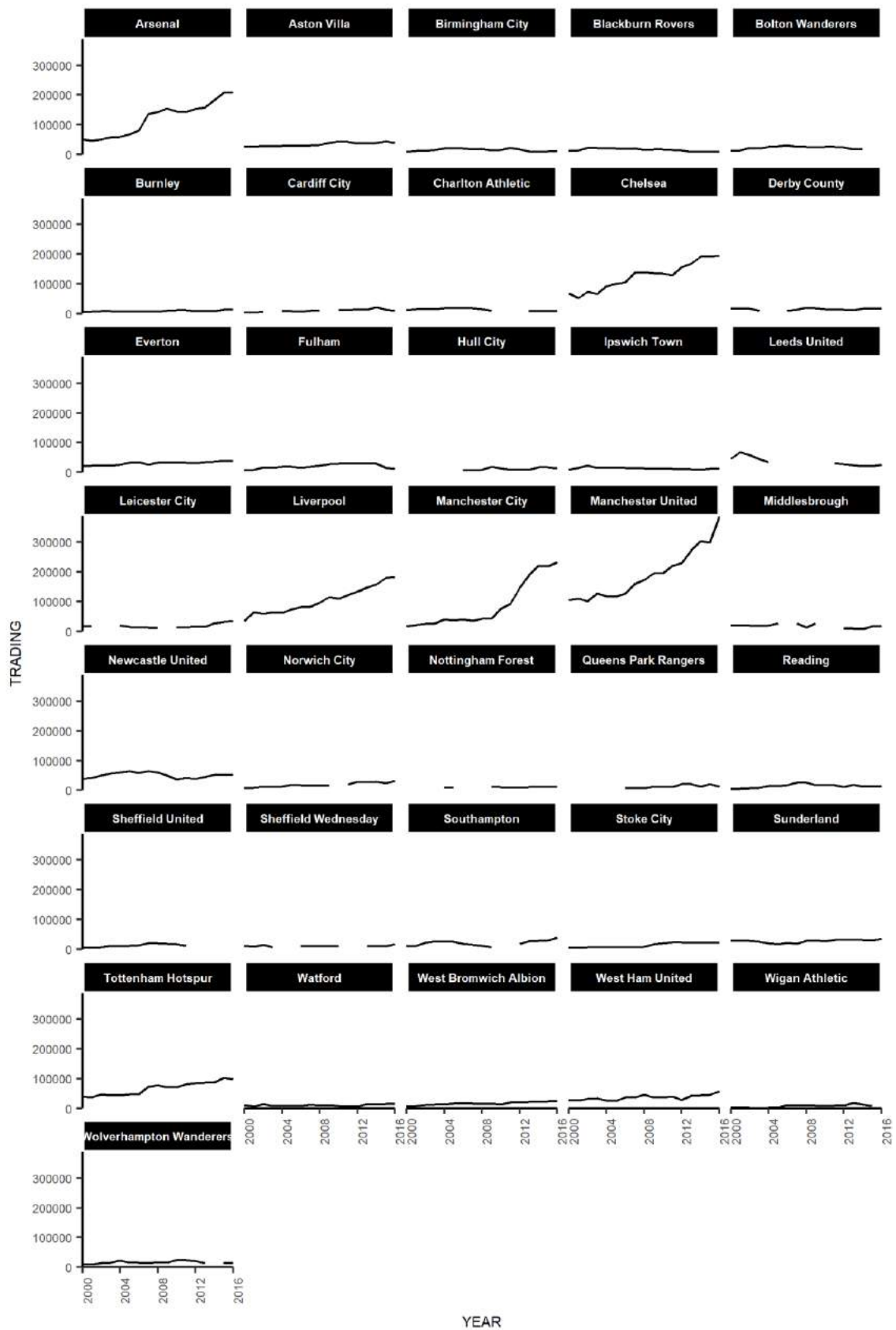
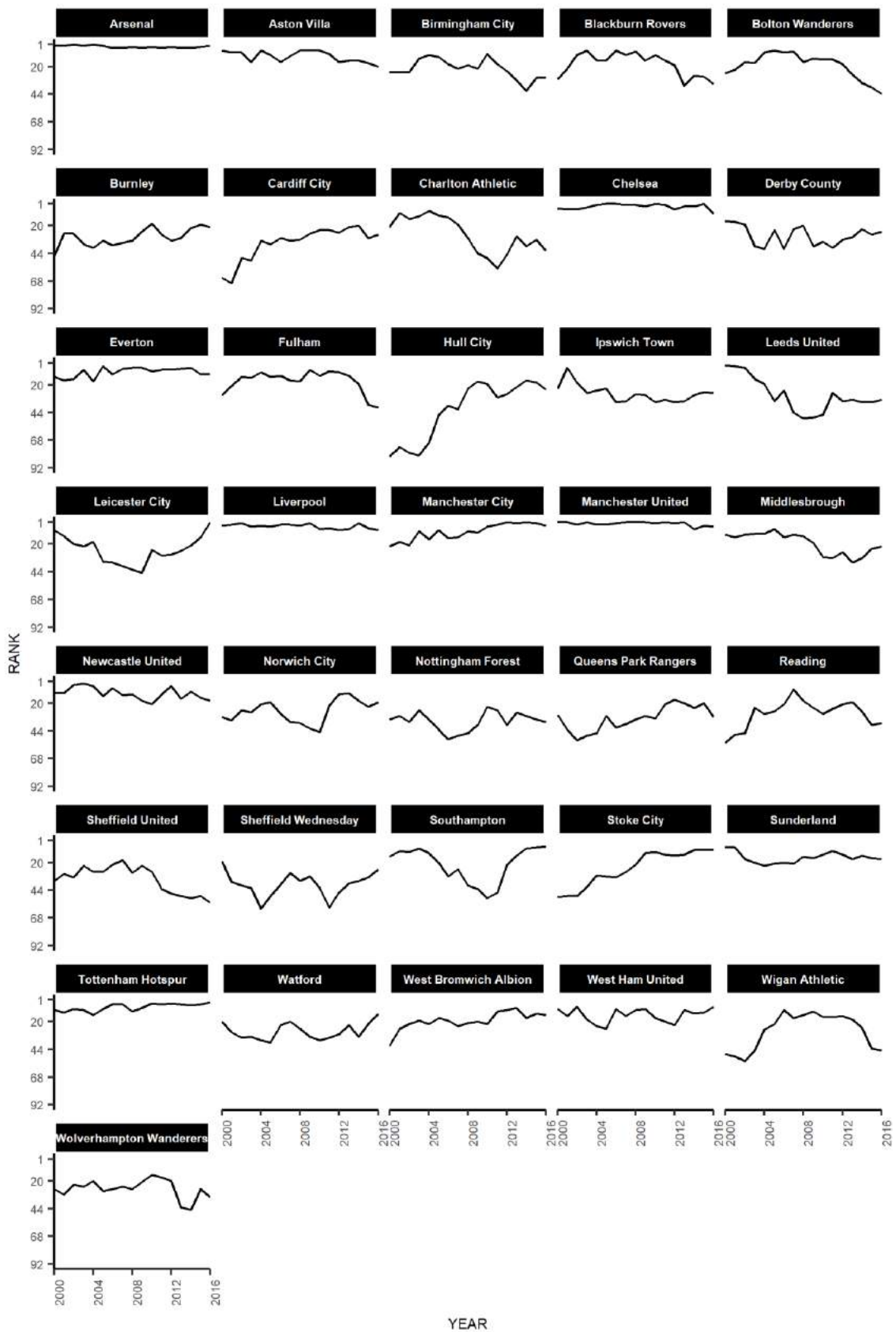


Figure 7.6: League rank per year, by club



Much of the growth in matchday and commercial revenue appears to have been generated by the permanent members of the Premier League, and specifically Arsenal, Chelsea, Liverpool and Manchester United, plus Manchester City. In contrast, Tottenham Hotspurs' growth has been more modest, while Aston Villa and Everton have not been able to monetise their membership of the Premier League.

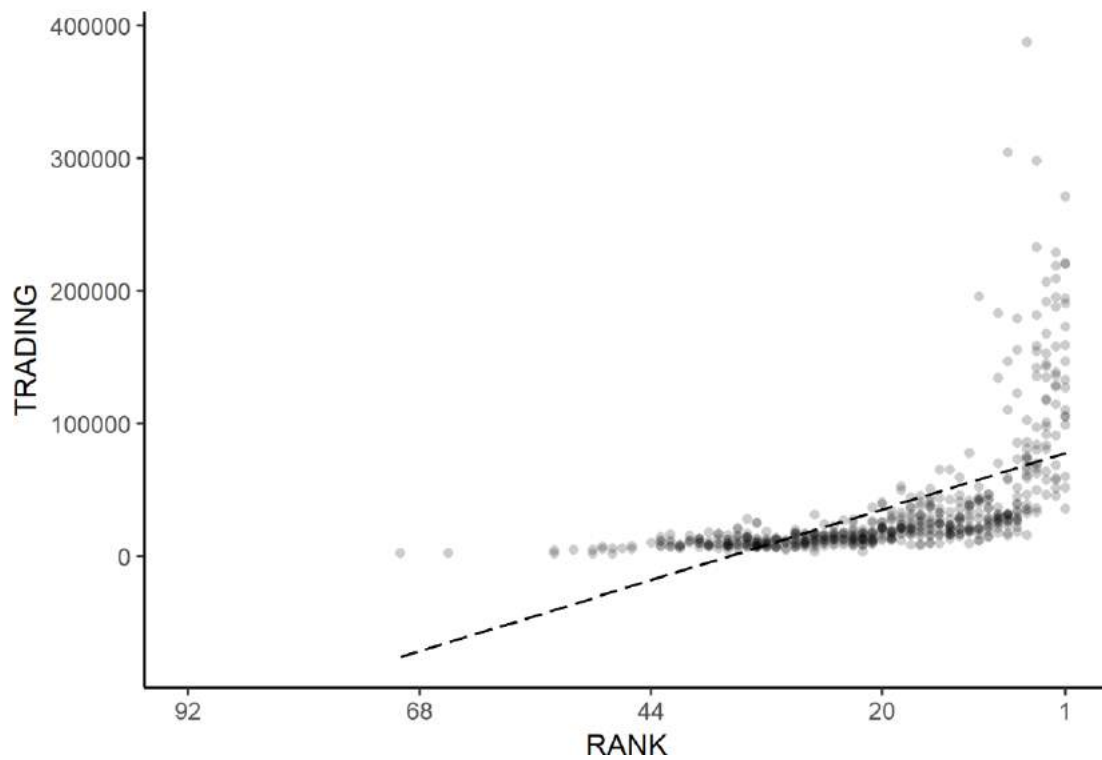
7.3. Pre-test diagnostic statistics

Pre-test diagnostic statistics are used to confirm the assumptions of functional form, of multicollinearity, that average value of errors is zero, of homoscedasticity, that covariance of errors is zero, of non-stochastic regressors, and that disturbances are normally distributed.

Assumption of functional form.

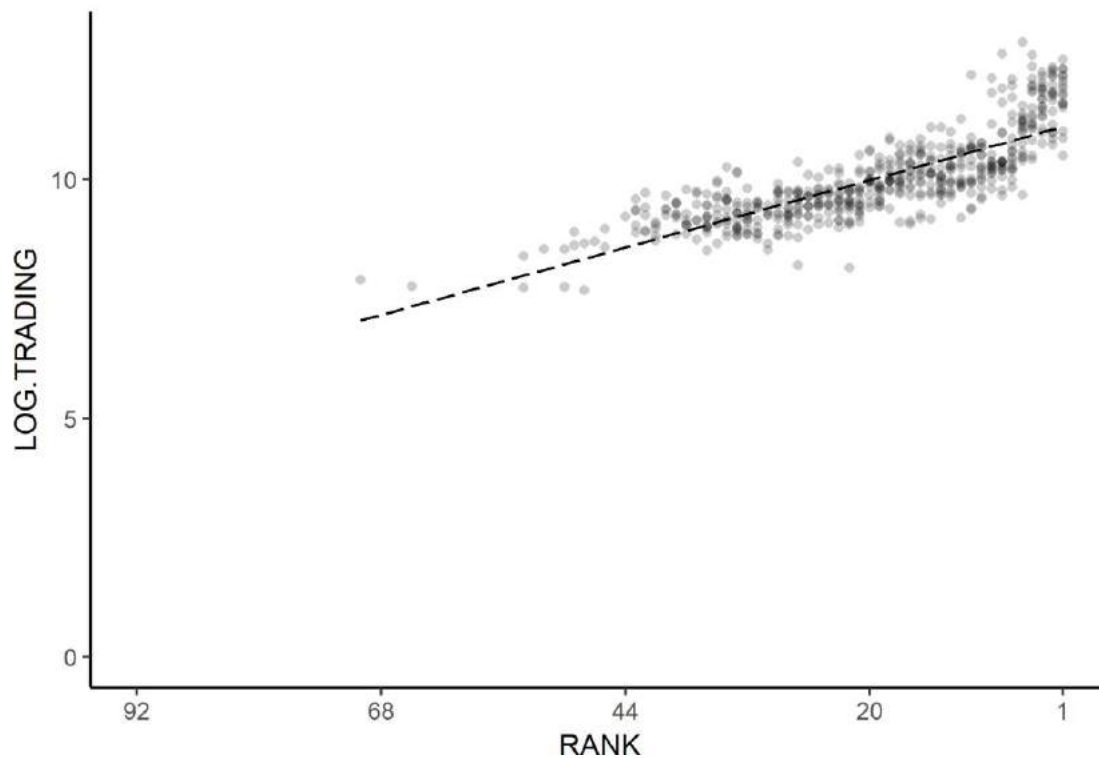
There is a non-linear relationship between league rank and trading revenue. Figure 7.7 show that the trading revenue of those clubs competing to win the Premier League and qualify for the Champions League (to the right of the panel) is much higher. In contrast, Football League clubs' trading revenue (to the left of the cluster) is substantially lower. This provides an indication of the gap between divisions, especially between the Premier League and Football League Championship, and, importantly, within divisions, such as those Premier League clubs aiming to qualify for, and participating in, the Champions League.

Figure 7.7: Trading revenue to league rank



The data is transformed because of the non-linearity, with a natural logarithm adopted as being the most appropriate form for the data. The trading revenue (*TRADING*) variable is transformed and coded as *LOG.TRADING*. The linear-log model represents a better fit of the data, as illustrated by Figure 7.8. There is, however, some evidence that residuals are more likely to be positive for the highest and lowest values of league rank, with negative values for the remaining cases.

Figure 7.8: Trading revenue to logarithm of league rank



Assumption of multicollinearity

The assumption of multicollinearity is not applicable as there is only one predictor.

Assumption that average value of errors is zero

The mean value of errors is zero to 18 decimal places (0.000000000000000005) and is approximately zero. The assumption that the average value of errors is zero is confirmed and there is no known justification for restricting the regression through the origin.

Assumption of homoscedasticity

There is contradictory evidence of homoscedasticity in the relationship between the model's explanatory variable and its residuals. There is no obvious pattern between the fitted and residual values in Figure 7.9, but there is some evidence of diverging residuals coinciding with the values for the explanatory variable (Figure 7.10). The Goldfeld-Quandt test statistic is 0.989 ($p=0.536$), meaning that the null hypothesis of homoscedasticity is accepted and the data is assumed to be homoscedastic. However, the data has been transformed and therefore the Breusch-Pagan is

preferred, with this test statistic being 36.551 ($p=0.000$). The null hypothesis of homoscedasticity is rejected and the model is assumed to be heteroscedastic.

Figure 7.9: Fitted values to residual values for business performance model

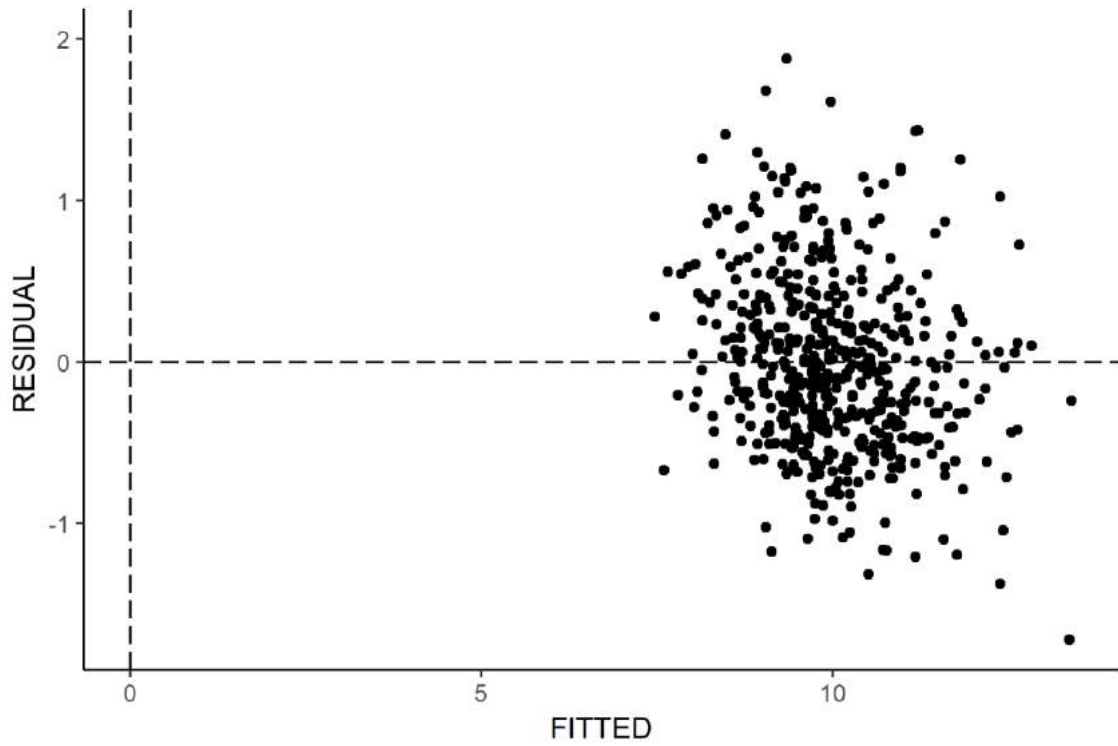
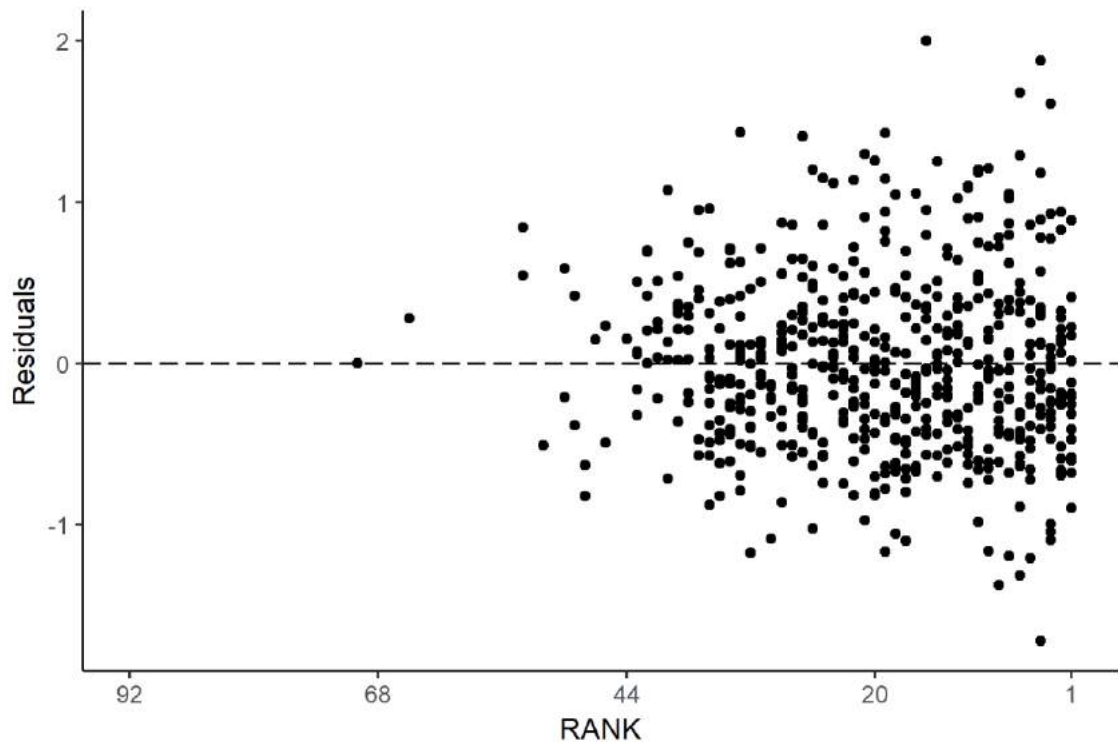


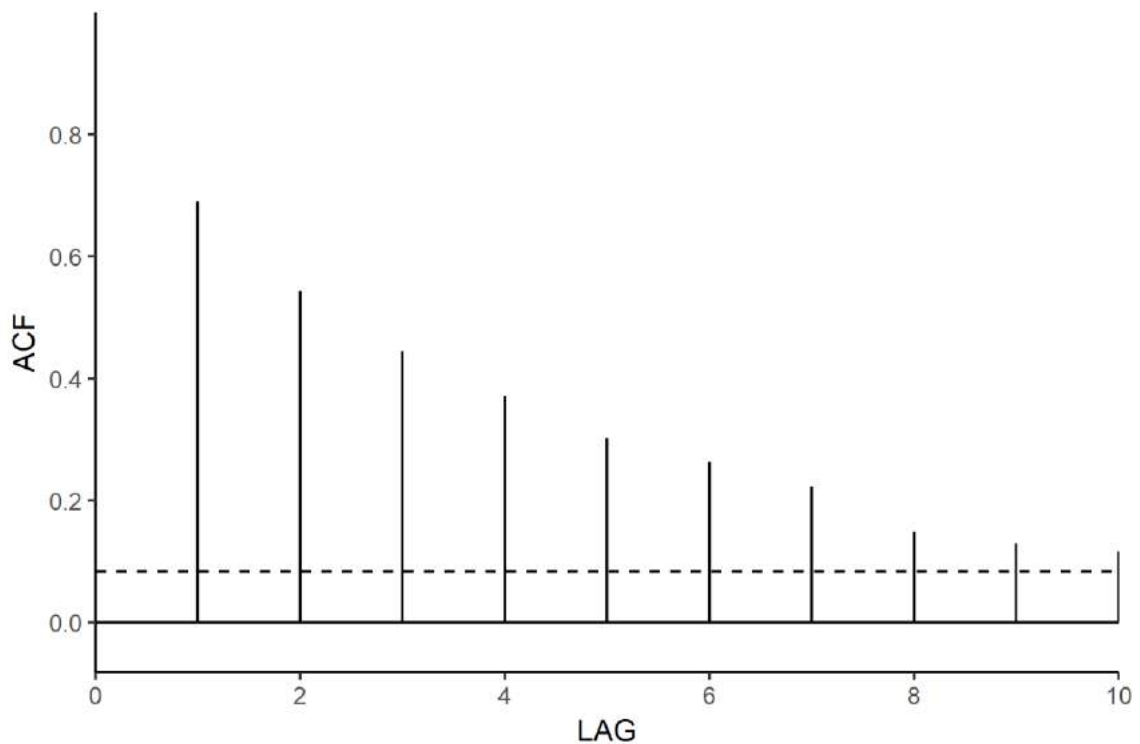
Figure 7.10: Residual values to league rank



Assumption that covariance of errors is zero

There is mixed evidence of autocorrelation in the data. The autocorrelation function (Figure 7.11) reveals that lagged values of the league rank may be correlated with business performance, which suggests that clubs generate and appropriate matchday and commercial revenue as a consequence of historic sporting performance, as suggested by Kuper and Szymanski (2012). But, in contrast, the Durbin-Watson panel test statistic is 0.618 ($p=0.000$) and is supported by the Breusch-Godfrey panel test statistic of 279.263 ($p=0.000$). The null hypothesis is rejected and no evidence of autocorrelation can be drawn.

Figure 7.11: Autocorrelation function for business performance model



Assumption of non-stochastic regressors

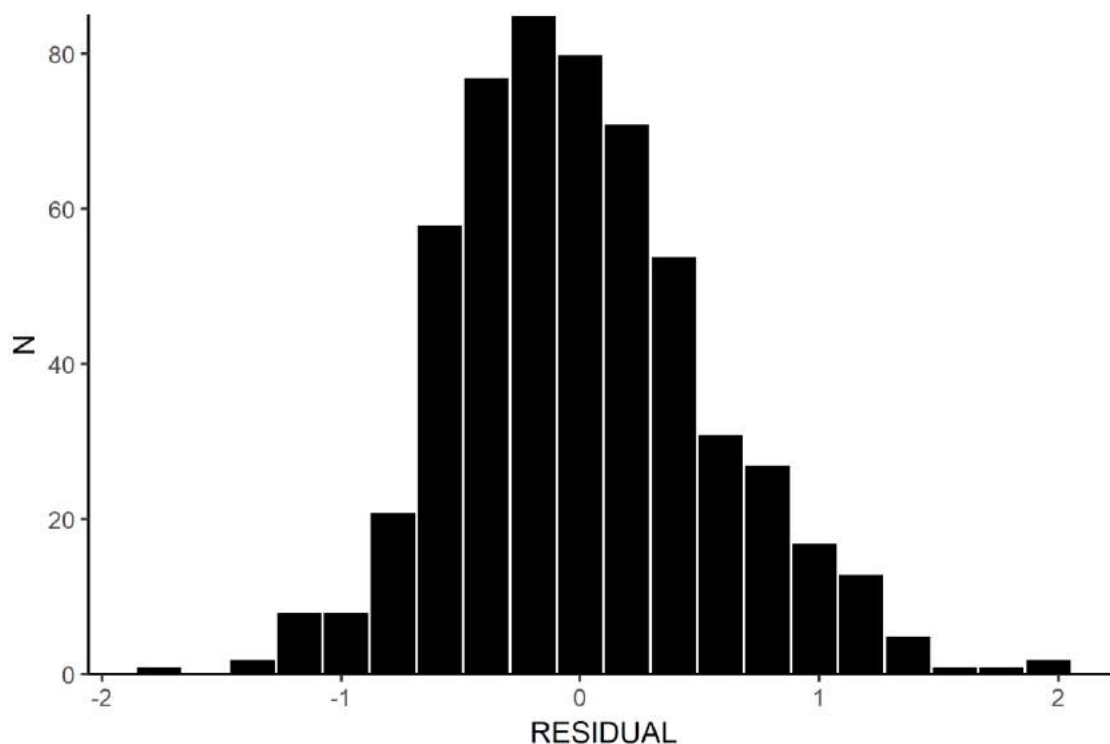
For the business performance model, sporting performance is considered an exogenous variable. League rank is determined by a club's team resources (player wages and value), as confirmed by Proposition 1 (Chapter 6), and by the management of these resources. Sporting performance, and especially superior performance in the Premier League and Champions League, is anticipated to have an effect on matchday and commercial revenue. This trading revenue does not have a direct relationship on sporting performance as clubs do not win more matches or championships *because* they generate more revenue. Instead, and similar to the sporting performance model, there is an indirect relationship: Clubs that generate superior revenue may return a profit and retained earnings, which are then reinvested in team resources. These resources, conceptualised and measured by the variables of player wages and value, are then exogenous to the model specified for Proposition 2.

Assumption that disturbances are normally distributed

There is evidence of outliers in the residual values. Figure 7.12 suggests that the distribution of residuals is skewed. The residuals have a skewness of 0.431 and kurtosis of 3.462, indicating some

positive skew to the distribution. The Jarque-Bera panel test statistic is 22.356 ($p=0.000$), meaning that the null hypothesis of normality is rejected and it that the distribution of residuals may be non-normal.

Figure 7.12: Residual values for business performance model



7.4. Test statistics

The premise of Proposition 2 is that the sporting performance of Premier League football clubs has a positive effect on their business performance. Panel regression models are utilised to test for cross-sectional and time-series effects, with tests conducted for pooled, fixed, time-fixed and two-way effects. The outcome variable is the logarithm of trading revenue (*LOG. TRADING*) and the explanatory variable is the logarithm of league rank (*RANK*). The results for the pooled, fixed effects and time-fixed effects and two-way effects models are presented in Table 7.2.

Table 7.2: Panel regression models for business performance

	Pooled	Fixed effects	Time-fixed effects	Two-way effects
	<i>LOG.TRADING</i>	<i>LOG.TRADING</i>	<i>LOG.TRADING</i>	<i>LOG.TRADING</i>
	(1)	(2)	(3)	(4)
<i>RANK</i>	-0.059***	-0.031***	-0.059***	-0.029***
	(0.002)	(0.002)	(0.002)	(0.001)
	<i>t</i> =-32.149	<i>t</i> =-19.657	<i>t</i> =-32.931	<i>t</i> =-22.841
	<i>p</i> =0.000	<i>p</i> =0.000	<i>p</i> =0.000	<i>p</i> =0.000
Constant	11.160***			
	(0.042)			
	<i>t</i> =263.181			
	<i>p</i> =0.000			
Observations	562	562	562	562
<i>R</i> ²	0.649	0.424	0.666	0.506
Adjusted <i>R</i> ²	0.648	0.384	0.656	0.456
<i>F</i>	1,033.585*** (<i>df</i> =1; 560) (<i>p</i> =0.000)	386.402*** (<i>df</i> =1; 525) (<i>p</i> =0.000)	1,084.473*** (<i>df</i> =1; 544) (<i>p</i> =0.000)	521.715*** (<i>df</i> =1; 509) (<i>p</i> =0.000)

Note: **p*<0.1; ***p*<0.05; ****p*<0.01

Pooled model

The pooled panel regression model is:

$$LOG.TRADING_{it} = \alpha + \beta_1 RANK_{it} + \mu_{it}$$

The *F*-statistic (1,033.585, *p*=0.000) is significant and provides evidence of a good overall fit for the pooled model. Furthermore, the *R*² (0.649) indicates that there is a strong correlation, with sporting performance explaining 64.9% of the variance of business performance. League rank has a significant effect on trading revenue (*t*=-0.059, *p*=0.000) and the anticipated negative relationship is evident, as lower values for league rank are related to higher values for trading revenue because the value for first place (1) is lower than for last place (92). For logarithm models, an increase of league rank by one place is expected to increase trading revenue in value by 0.059%. This illustrates the relatively small incremental returns from trading revenue in the Football League, which then increase as clubs progress in the Football League Championship, Premier League and, ultimately, the Champions League. Further tests were conducted with inclusion of lagged values for league rank but they did not have a significant effect on trading revenue and are therefore not retained in the model.

Fixed effects model

The fixed effects panel regression model is:

$$LOG.TRADING_{it} = \alpha + \beta_1 RANK_{it} + \mu_i + v_{it}$$

The F -statistic of 386.402 ($p=0.000$) is significant and indicates that the overall fit of the fixed effects model is good, but the R^2 (0.424) indicates that there is only a moderate correlation, with the sporting performance of clubs explaining 42.4% of the variance in business performance. For the logarithm model, league rank has a significant and negative effect on trading revenue ($t=-19.657$, $p=0.000$). For the fixed effects linear-log model, an increase in league rank by one place is expected to increase trading revenue in value by 0.031%. The fixed effects coefficients from this model are presented in Table 7.3.

Table 7.3: Fixed effects coefficients for business performance

<i>CLUB</i>	Estimate	Standard error	<i>t</i>	<i>p</i>
Arsenal	11.660	0.076	153.479	0.000
Aston Villa	10.775	0.078	138.384	0.000
Birmingham City	10.264	0.083	123.118	0.000
Blackburn Rovers	10.178	0.081	125.555	0.000
Bolton Wanderers	10.502	0.085	123.881	0.000
Burnley	9.941	0.089	111.357	0.000
Cardiff City	10.145	0.097	104.076	0.000
Charlton Athletic	10.152	0.091	111.519	0.000
Chelsea	11.770	0.076	154.809	0.000
Derby County	10.439	0.092	113.442	0.000
Everton	10.593	0.077	137.287	0.000
Fulham	10.365	0.080	128.974	0.000
Hull City	10.138	0.102	99.170	0.000
Ipswich Town	10.342	0.087	118.606	0.000
Leeds United	11.093	0.097	114.556	0.000
Leicester City	10.522	0.092	114.722	0.000
Liverpool	11.607	0.076	152.341	0.000
Manchester City	11.305	0.077	146.310	0.000
Manchester United	12.143	0.076	159.934	0.000
Middlesbrough	10.321	0.088	116.990	0.000
Newcastle United	11.177	0.078	143.387	0.000

<i>CLUB</i>	Estimate	Standard error	<i>t</i>	<i>p</i>
Norwich City	10.546	0.088	119.963	0.000
Nottingham Forest	10.289	0.105	98.427	0.000
Queens Park Rangers	10.221	0.099	103.386	0.000
Reading	10.389	0.089	117.324	0.000
Sheffield United	10.244	0.101	101.745	0.000
Sheffield Wednesday	10.364	0.102	101.333	0.000
Southampton	10.444	0.086	121.898	0.000
Stoke City	10.131	0.085	118.645	0.000
Sunderland	10.720	0.080	134.423	0.000
Tottenham Hotspur	11.280	0.077	147.045	0.000
Watford	10.105	0.088	114.801	0.000
West Bromwich Albion	10.221	0.082	125.269	0.000
West Ham United	10.920	0.079	138.032	0.000
Wigan Athletic	9.595	0.090	106.281	0.000
Wolverhampton Wanderers	10.483	0.088	119.120	0.000

All of the fixed effects coefficients are significant ($p < 0.000$). The permanent members of the Premier League have relatively high coefficients and low standard errors, which is indicative of a narrow confidence interval. However, there are clubs whose business performance has been erratic that share similar values and, furthermore, there does not appear to be any pattern for the coefficients and standard errors, regardless of whether clubs have experienced growth, decline or sustained sporting failure during the observation period. Therefore it is not possible to draw conclusive findings from the fixed effects coefficients.

Time-fixed effects model

The time-fixed effects panel regression model is:

$$LOG.TRADING = \alpha + \beta_1 RANK_{it} + \lambda_t + v_{it}$$

The *F*-statistic (1,084.473, $p = 0.000$) is significant and suggests that the overall fit of the time-fixed effects model is good. The R^2 (0.666) indicates that there is strong correlation, with sporting performance explaining 66.6% of the variance of business performance. League rank has a significant, negative effect on trading revenue ($t = -32.931$, $p = 0.000$). For the fixed effects linear-log model, an increase in league rank by one place is expected to increase trading revenue in value by

0.059%. The time-fixed effects coefficients from the panel regression model are presented in Table 7.4.

Table 7.4: Time-fixed effects coefficients for business performance

YEAR	Estimate	Standard error	<i>t</i>	<i>p</i>
2000	10.848	0.098	111.061	0.000
2001	10.878	0.099	110.102	0.000
2002	11.081	0.098	113.343	0.000
2003	10.982	0.101	108.869	0.000
2004	10.995	0.098	112.069	0.000
2005	11.059	0.100	110.760	0.000
2006	11.132	0.097	114.742	0.000
2007	11.129	0.096	115.457	0.000
2008	11.169	0.097	115.698	0.000
2009	11.233	0.098	114.888	0.000
2010	11.146	0.099	112.196	0.000
2011	11.212	0.098	114.182	0.000
2012	11.222	0.097	115.631	0.000
2013	11.293	0.095	118.273	0.000
2014	11.344	0.097	117.442	0.000
2015	11.416	0.097	117.747	0.000
2016	11.460	0.098	116.816	0.000

All of the time-fixed effects coefficients all significant. The coefficients increase for much of the observation period, while the standard errors are reasonably constant. This is expected as trading revenue has increased during the observation period.

Two-way effects model

The two-way effects panel regression model is:

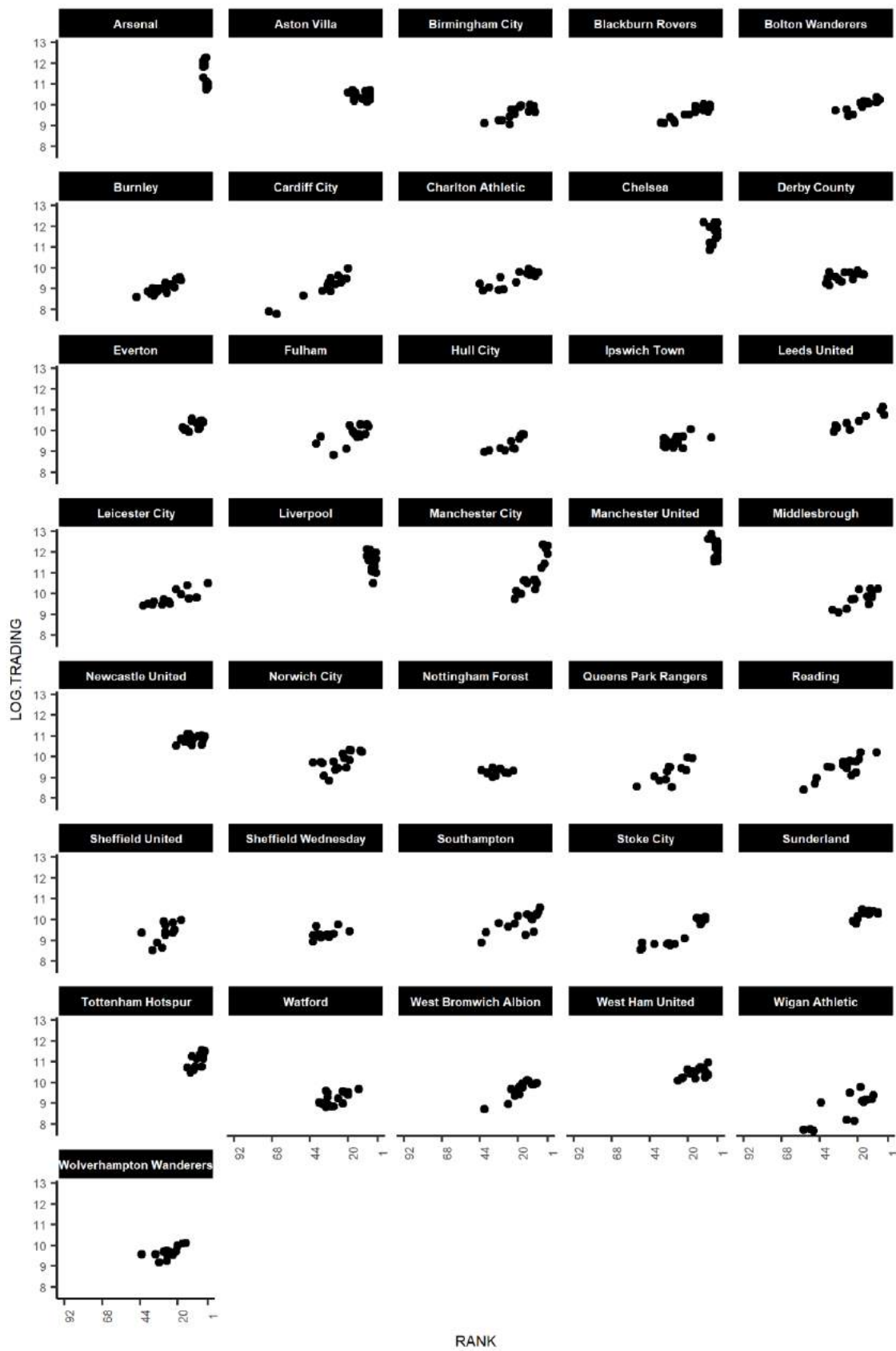
$$LOG.TRADING = \alpha + \beta_1 RANK_{it} + \mu_i + \lambda_t + v_{it}$$

The *F*-statistic (521.715, *p*=0.000) is significant, meaning that the overall fit of the two-ways effects model is good. However, the *R*² (0.506) shows that there is moderate correlation, with sporting performance explaining 50.6% of the variance of business performance. Therefore, both the pooled and time-fixed effects models are preferred to the two-way effects model.

7.5. Post-test diagnostic statistics

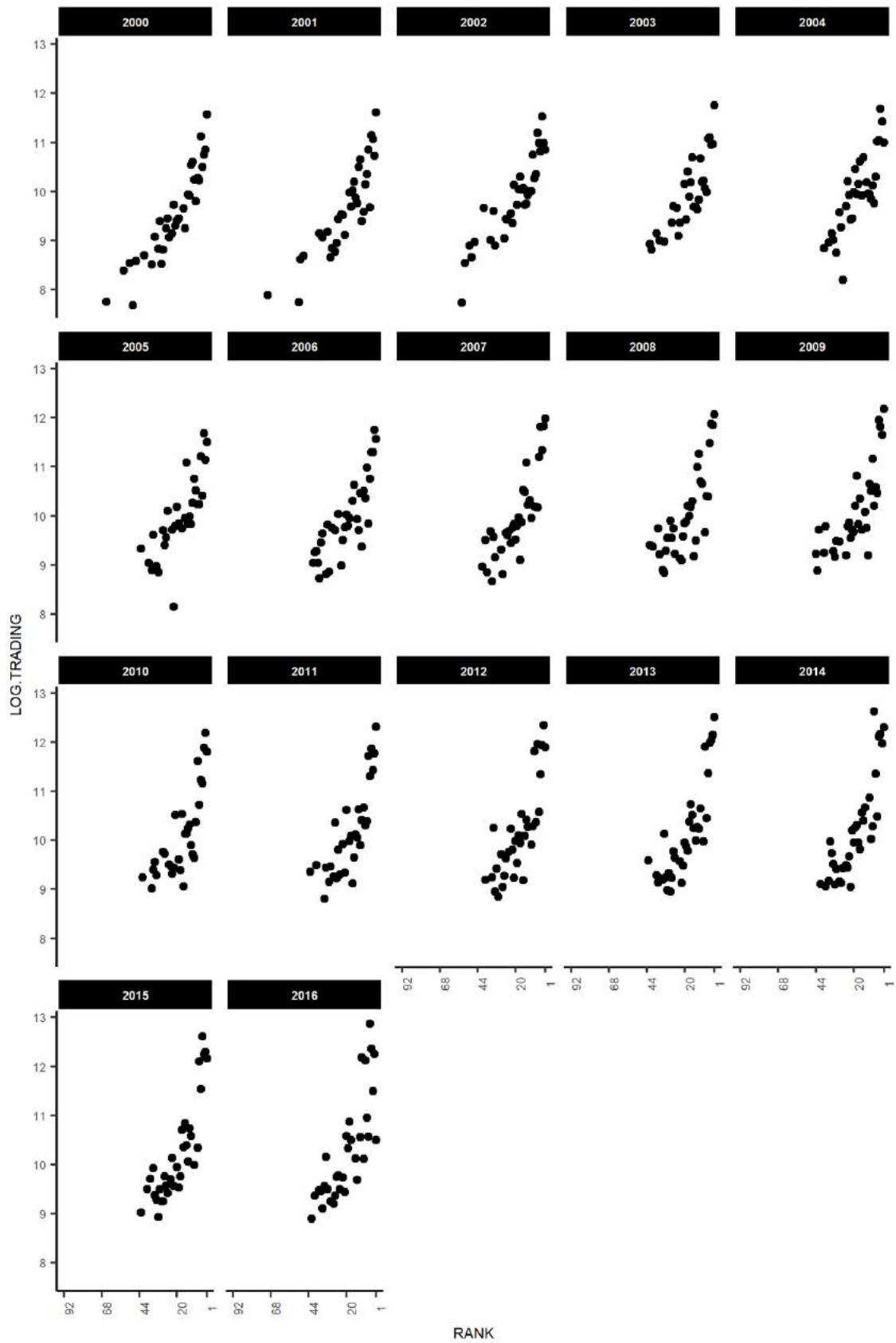
Post-test diagnostics are used to ascertain the most appropriate model. The F -test identifies whether the fixed effects and time-fixed effects models are more robust than the pooled model. The F -test statistic for pooled and fixed effects models is 33.500 ($p=0.000$), which means that the null hypothesis of no difference between the fixed effects and pooled models can be rejected and, instead, it is appropriate to specify the pooled model. For pooled and time-fixed effects models, the F -test statistic is 3.577 and has a p -value of 0.000, and the null hypothesis that there is no difference between the time-fixed effects and pooled models is rejected and the pooled model can be used. Figure 7.13 demonstrates the relationships between league rank and trading revenue for each club in the sample.

Figure 7.13: Logarithm of trading revenue to league rank, by club



For fixed effects, there is no evident pattern for the clubs in the sample. The values for clubs that have been permanent members of the Premier League – and most notably for Arsenal, Chelsea, Liverpool and Manchester United – tend to be clustered in the top right corner. Clubs that have grown or declined between the Premier League and Football League are more dispersed, and no pattern is obvious. This suggests that clubs have adopted unique paths to success and failure. The differences within the sample are further examined in the contingency models (see Chapters 8 and 9). Figure 7.14 confirms the presence of time-fixed effects in the panel regression model. The relationships between league rank and trading revenue is shown for each season and financial year in the observation period.

Figure 7.14: Logarithm of trading revenue to league rank, by year

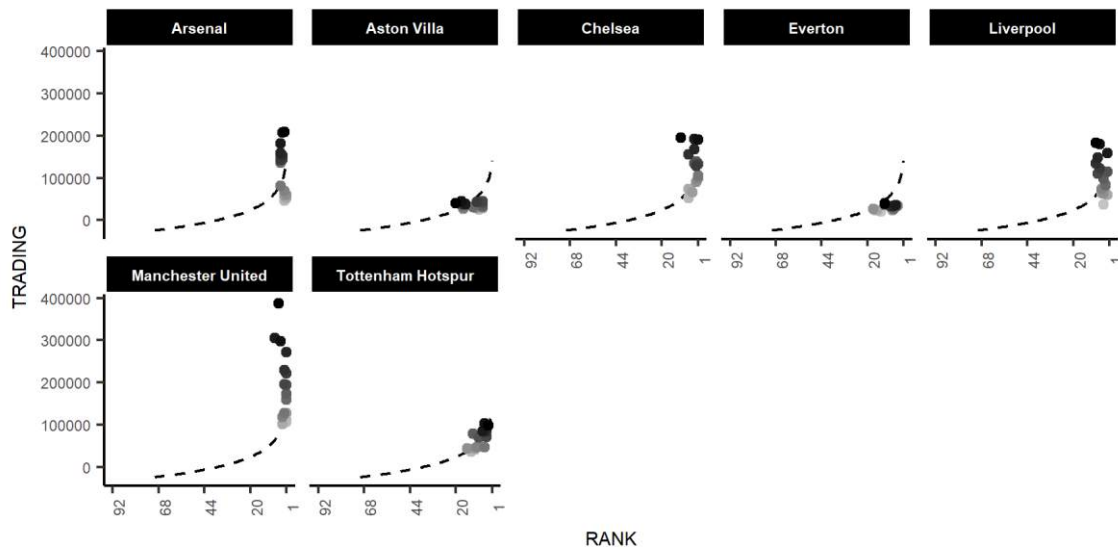


In contrast, the time-fixed effect is evident when data is presented by season and financial year. The relationship between sporting performance (league rank) and business performance (logarithm of trading revenue) is maintained throughout the observation period. There is an increase in trading revenue for all clubs, and especially those clubs that have superior sporting performance.

Groups

Figures 7.15 to 7.19 show the paths of clubs by the permanent, growth, decline, yo-yo and volatile groups. Paths start from the lighter, grey points (the 1999/2000 season and financial year) and end with the darker, black points in 2015/16. Points that are above and to the left of the dashed, non-linear regression line indicate over-performance in that clubs are generating more trading revenue than is predicted by their league rank. Conversely, points to the right and below the line indicate under-performance, where clubs are generating less trading revenue than could be expected from their league rank.

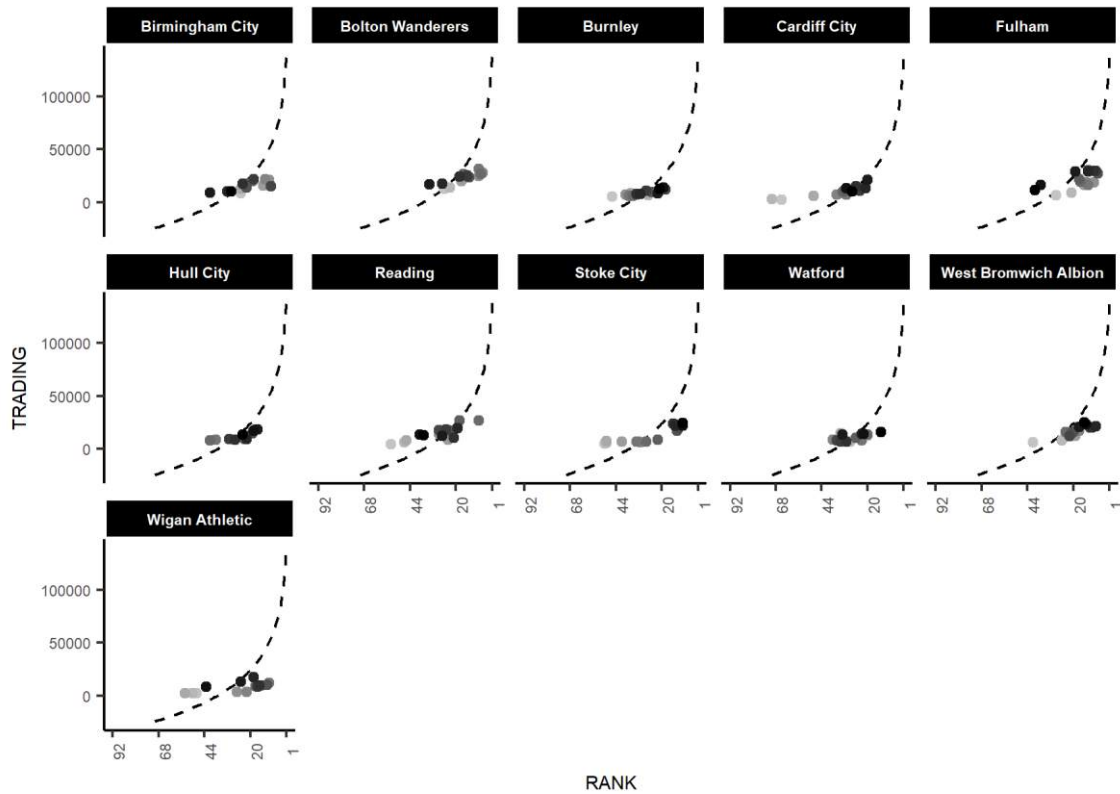
Figure 7.15: Trading revenue to league rank, permanent clubs



Arsenal, Chelsea, Liverpool and Manchester United have been able to appropriate incremental matchday and commercial revenue from their sporting performance. The increased trading revenue generated by Manchester United indicates that the club have been able to monetise sporting performance through the increased capacity of its Old Trafford stadium and the development of their sponsorship and licensing programmes. Aston Villa, Everton and, to a lesser extent, Tottenham

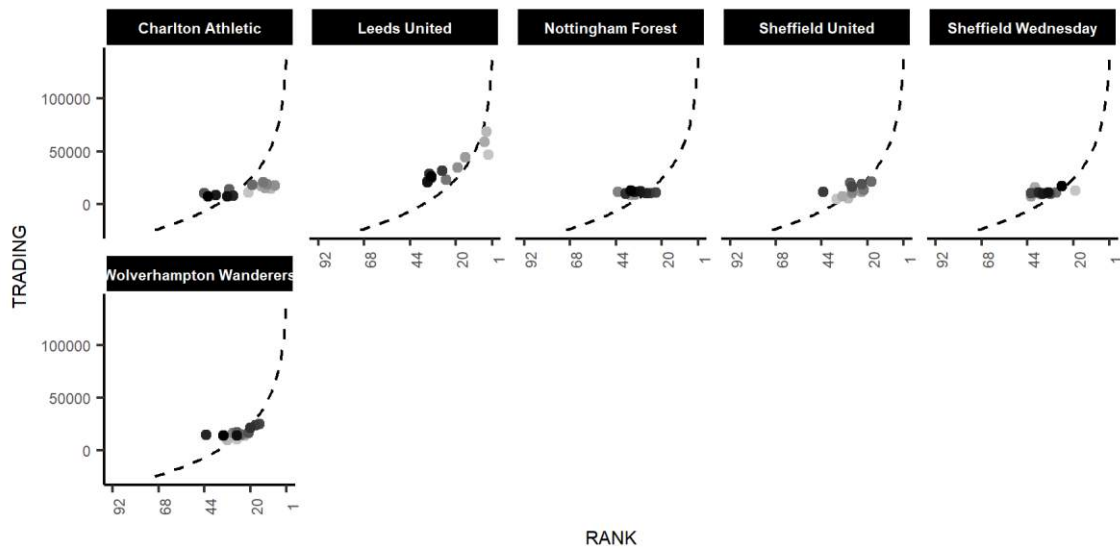
Hotspur have not been able to generate comparable performance. This suggests that Arsenal, Chelsea, Liverpool and Manchester United and Manchester City may represent a distinct group.

Figure 7.16: Trading revenue to league rank, growth clubs



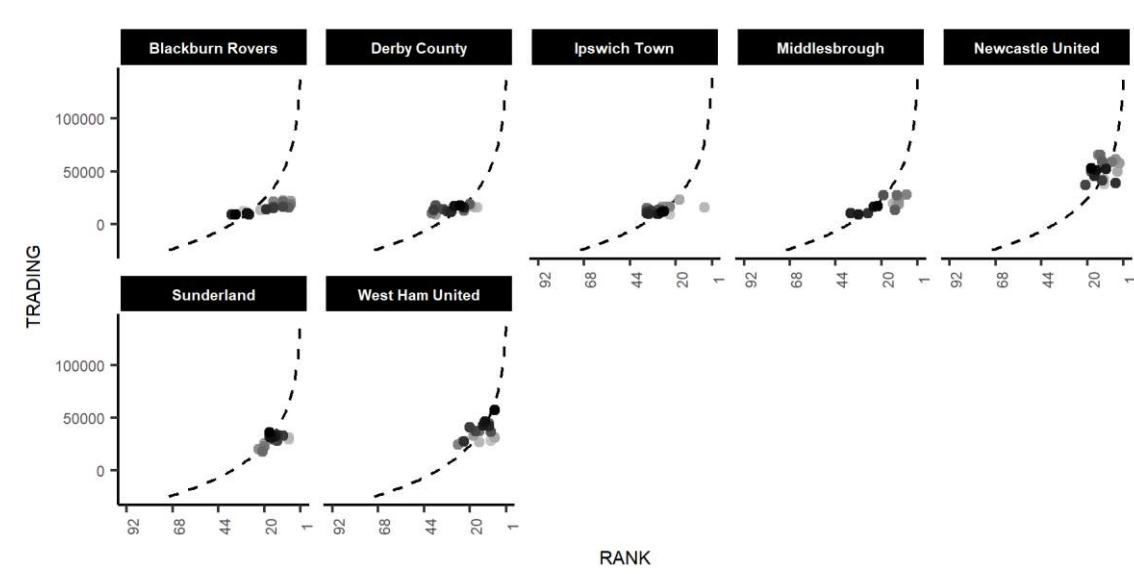
Growth clubs have generated relatively modest increases in trading revenue relative to permanent members. There is only indication of modest growth when clubs such as Burnley, Cardiff City, Hull City and Stoke City have achieved promotion to the Premier League. This may indicate that these clubs have not been able to commercialise their sporting performance but instead are reliant on broadcast revenue to cover increased player wages expenditure.

Figure 7.17: Trading revenue to league rank, decline clubs



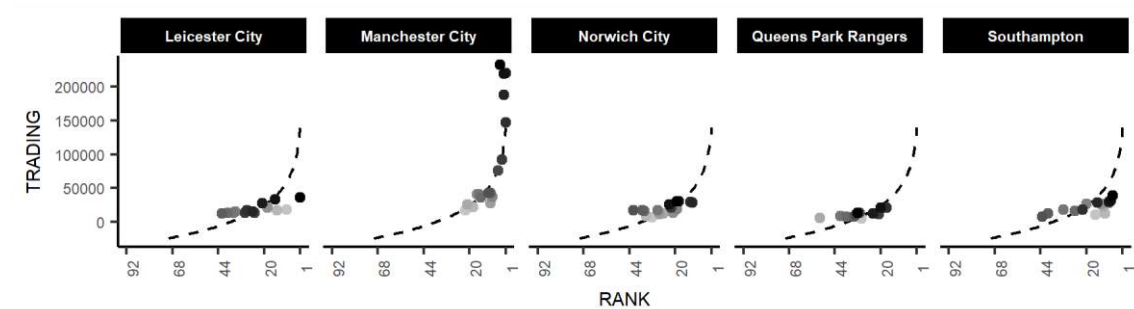
Similarly, it does not appear that matchday and commercial revenue declines as much as broadcast revenues for clubs that are relegated. This is likely due to the strong loyalty of football fans. However, it is noticeable that the trading revenue of Leeds United has declined, despite matchday attendances remaining reasonably robust. This may be due to discounted ticket price and a reduction in sponsorship and licensing revenue from when the club were competing at the top of the Premier League and in the Champions League.

Figure 7.18: Trading revenue to league rank, yo-yo clubs



There is no evident pattern in the paths of the so-called yo-yo clubs. As with the management of team resources, this suggests that these clubs are reasonably adept at commercialisation, and are able to appropriately market and price their products and services according to whether they are competing in the Premier League or Football League Championship.

Figure 7.19: Trading revenue to league rank, volatile clubs



Manchester City are evidently a unique member of this group, and their recent sporting and business performance has had more in common with the permanent members of the Premier League. The path of Manchester City shows how they have been able to generate matchday and commercial revenue from their sporting performance, and have not just relied on broadcast revenue. Other clubs with new stadiums (Leicester City and Southampton) have generated incremental revenue from Premier League membership compared to clubs with older venues. Queens Park Rangers' proposals to expand or relocate have been thwarted, and instead branded themselves as a "boutique club" (Moore,

2008). For small- and medium-size clubs, the quality of the stadium and facilities may be as important as the quantity (capacity).

7.6. Conclusions: Business performance

Proposition 2 confirms the relationship between sporting performance and business performance by use of a predictive model. The variation in league rank of clubs can be explained by 64.9% of matchday and commercial revenue, with a change in rank of one position being associated by a 0.059% change in trading revenue. This confirms the financial rewards that can be appropriated from incremental sporting performance between the Football League and the Premier League (see Section 2.8) and, furthermore, from the Premier League to the Champions League.

There are notable differences between the groups of clubs but also within groups, which constrain any conclusions that are drawn. Arsenal, Chelsea, Liverpool and Manchester United, as permanent members of the Premier League, plus Manchester City have commercialised their superior sporting performance by generating substantial trading revenue. In contrast, the remaining permanent members and most of the clubs that have gained promotion from the Football League have generated modest incremental revenue from matchday sales and commercial rights, with more revenue growth being appropriated from Premier League broadcast rights. Clubs that have experienced deteriorating sporting performance have usually had an associated decline in trading revenue, whether from fewer customers, lower prices, or both. Perhaps surprisingly, the yo-yo clubs have maintained trading revenue despite relegation to the Football League, which may indicate strong fan loyalty and that club owners and executives have the necessary capabilities for managing turbulence. Clubs that have endured volatility have been more adept at maintaining revenue if they have a new stadium. These trends highlight the difficulties for smaller clubs to generate incremental trading revenue from promotion to the Premier League and their reliance on broadcast revenue.

8. Empirical research: Contingency models

Chapter summary

- Contingency theory is applied to explore Premier League club performance, with fit modelled as mediation, moderation and deviation.
- The fit or match between team resources (player wages and value) and sporting performance (league rank) has no discernible effect on financial performance (operating profit), whether fit is modelled as mediation, moderation or deviation.
- The standardised scores for deviation reveal that the degree of misfit is usually moderate and temporary, with most clubs maintaining fit or, when they experience misfit, are able to promptly and sufficiently refit.
- Further analysis of deviation as fit indicates that there is some evidence of patterns in the paths of clubs in the permanent, growth and decline groups, but, conversely, many of the yo-yo and volatile clubs are idiosyncratic and adopt unique paths.

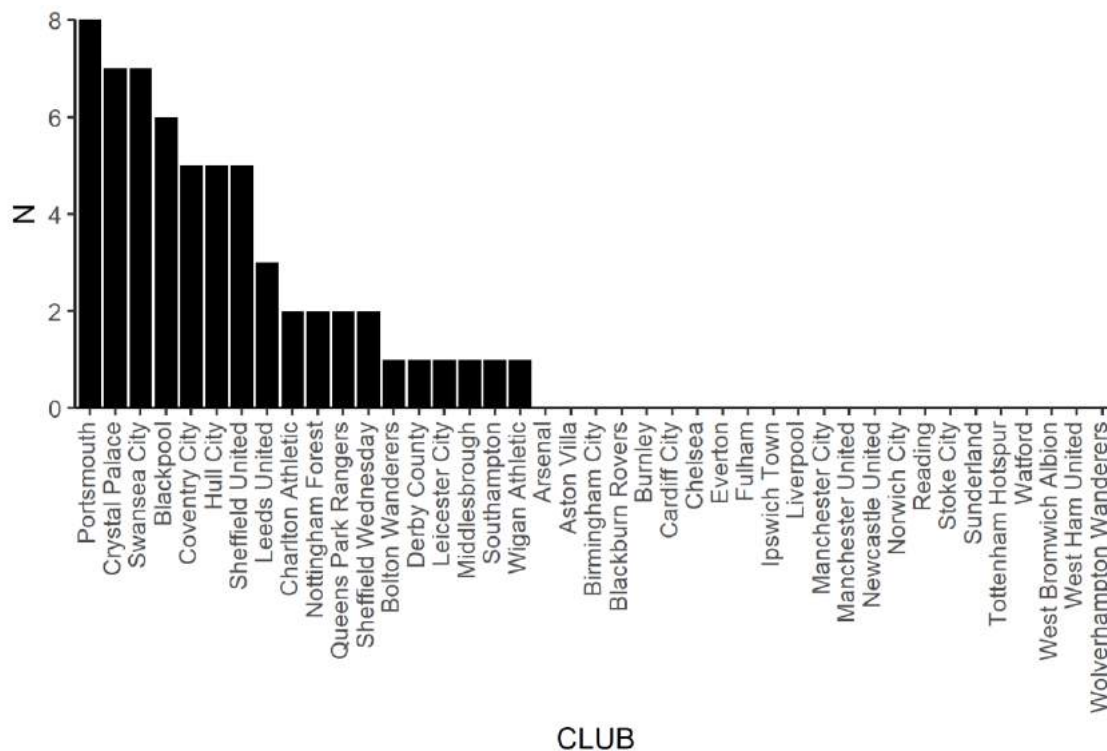
Contingency models are utilised to explore the concept of fit between inputs and contingency effects, and the effect of this fit on the outputs of Premier League clubs. The data and descriptive statistics for the dependent, independent and contingency variables used in the models are presented. The test statistics for Propositions 3, 4 and 5 extend the *input–output* regression models adopted in Propositions 1 and 2 through the application of mediation, moderation and deviation models. Post-test analysis of the deviation scores is conducted, with further exploration of fit values by group.

8.1. Data

The specified observation period is from the 1999/2000 season and financial year until 2015/16. There is no data for player wages (*WAGES*) in 1993 nor for player value (*VALUE*) from 1993 to 1998 (see Section 5.5). The original data has 328 missing values from the 3128 values, which is 12% of data. Swindon Town, Bradford City, Oldham Athletic, Bournemouth and Barnsley are therefore removed, meaning that there are 134 missing values from the 2788 observations in the revised sample, which

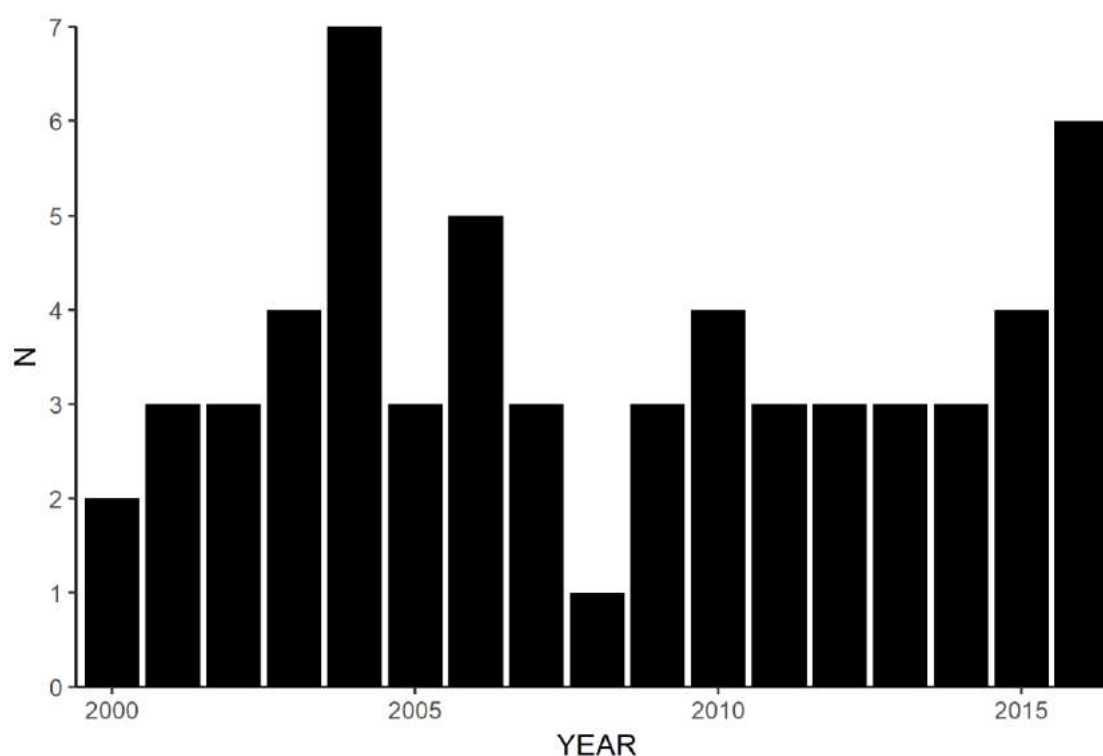
represents 5% of data. Figure 8.1 plots the number of missing cases for each of the retained 41 clubs in the sample.

Figure 8.1: Missing cases for contingency models, by club



There is more missing data for clubs that have experienced sporting and financial failure, such as Portsmouth. In contrast, complete cases of data are available for all permanent members of the Premier League. As with the predictive models, there may be a relationship between missing data and club performance, with missing cases being positively related to sporting and financial performance. The number of missing cases for the observation period are presented in Figure 8.2.

Figure 8.2: Missing cases for contingency models per year



There is missing data in every year, with a peak in 2004. This is further evidence of the increase in administrative events associated with the failure of ITV Digital, (see Section 2.4). More missing cases are evident at the end of the observation period. It is anticipated that some of this data will be included in future editions of the *Annual Review of Football Finance*. Overall, the number of missing cases is relatively consistent and ranges from three to four per year in most of the observation period.

8.2. Descriptive statistics

For the contingency models, variables are adopted to measure financial performance, team resources and sporting performance. The outcome variable is operating profit (*PROFIT*) and the explanatory variables are player wages (*WAGES*) and player value (*VALUE*). The contingent variable is *league rank* (*RANK*). Descriptive statistics are presented in Table 8.1 for the panel of individual clubs ($i=41$) during the observation period ($t=17$) from 2000 to 2016.

Table 8.1: Descriptive statistics for operating profit, player wages, player value and league rank

	<i>PROFIT</i>	<i>WAGES</i>	<i>VALUE</i>	<i>RANK</i>
Mean	2193.235	39019.885	27406.975	23.789
Median	-1258.500	25126.000	10803.500	21.000
Minimum	-81636	2128	0	1
Maximum	173464	240684	268414	89
Variance	388937842.335	1729742291.096	1915054438.169	274.520
Standard deviation	19721.507	41590.171	43761.335	16.569
Skewness	2.697	2.356	2.855	0.987
Kurtosis	18.640	9.132	11.785	4.154
Total	1447535	25714104	17485650	16581
Observations	697	697	697	697

The central tendency and dispersion data is as anticipated and suggests that the distribution of data is non-normal. In particular, there is evidence of kurtosis for operating profit and considerable variance in operating profit, which, together, suggests that many clubs are usually breaking-even or recording modest profits or losses, with relatively few examples of significant profits or losses. The distribution of data is further examined in the pre-test diagnostic statistics. Most of the key performance indicators, for both performance and resources, have increased since 1992 (see Chapter 2). Figures 8.3 to 8.5 show the mean values for operating profit, player wages and player value for the sample of clubs during the Premier League era.

Figure 8.3: Mean of operating profit per year

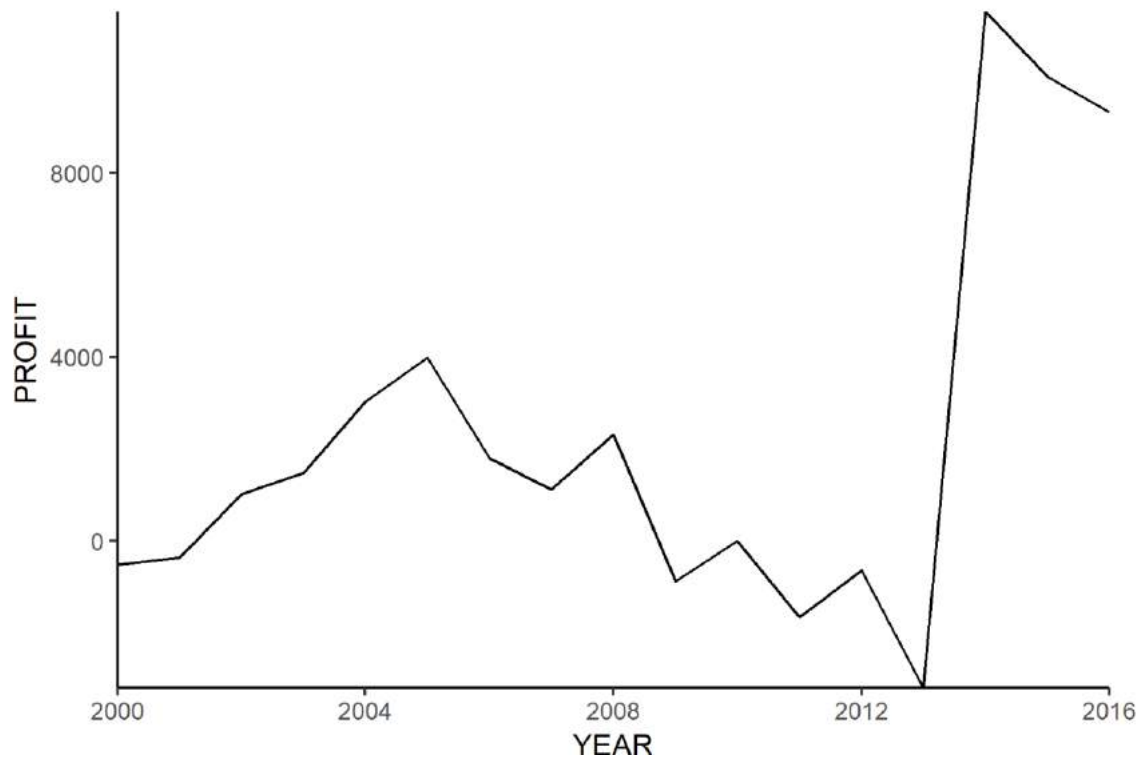


Figure 8.4: Mean of player wages per year

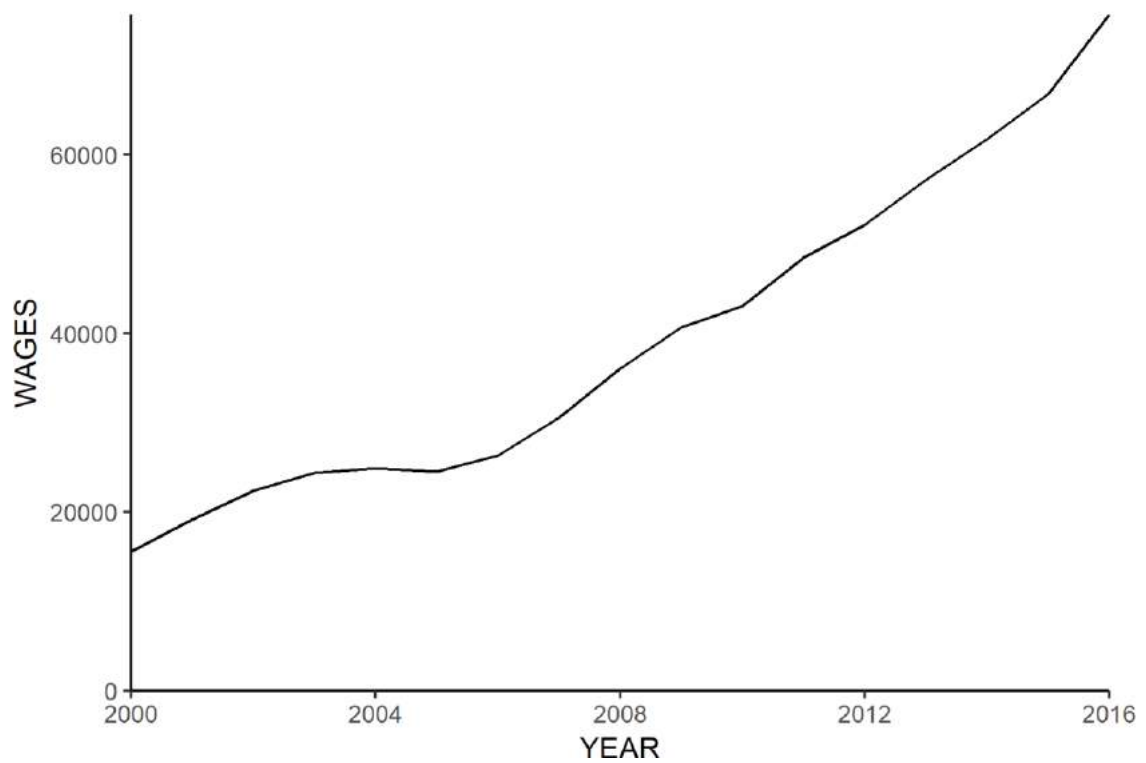
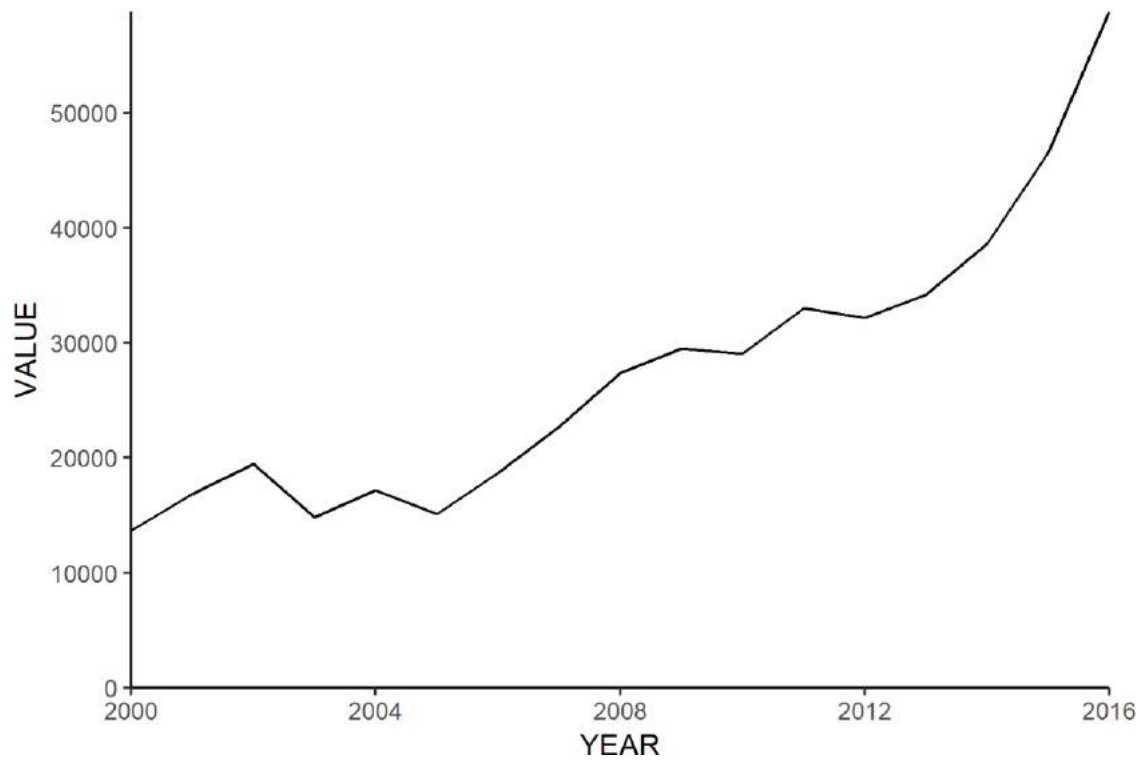


Figure 8.5: Mean of player value per year

The change in operating profit from 2013 to 2014 appears to be a shock; however, the profits generated by Premier League clubs are relatively modest when compared to revenue, and the change can be attributed to relatively small improvement in financial performance. Furthermore, the average operating profit for the Premier League may be affected by a few influential cases as the operating profit margin prior to the shock was relatively low. Therefore, the distribution of the operating profit, player wages and player value variables are presented as boxplots in Figures 8.6 to 8.8.

Figure 8.6: Distribution of operating profit per year

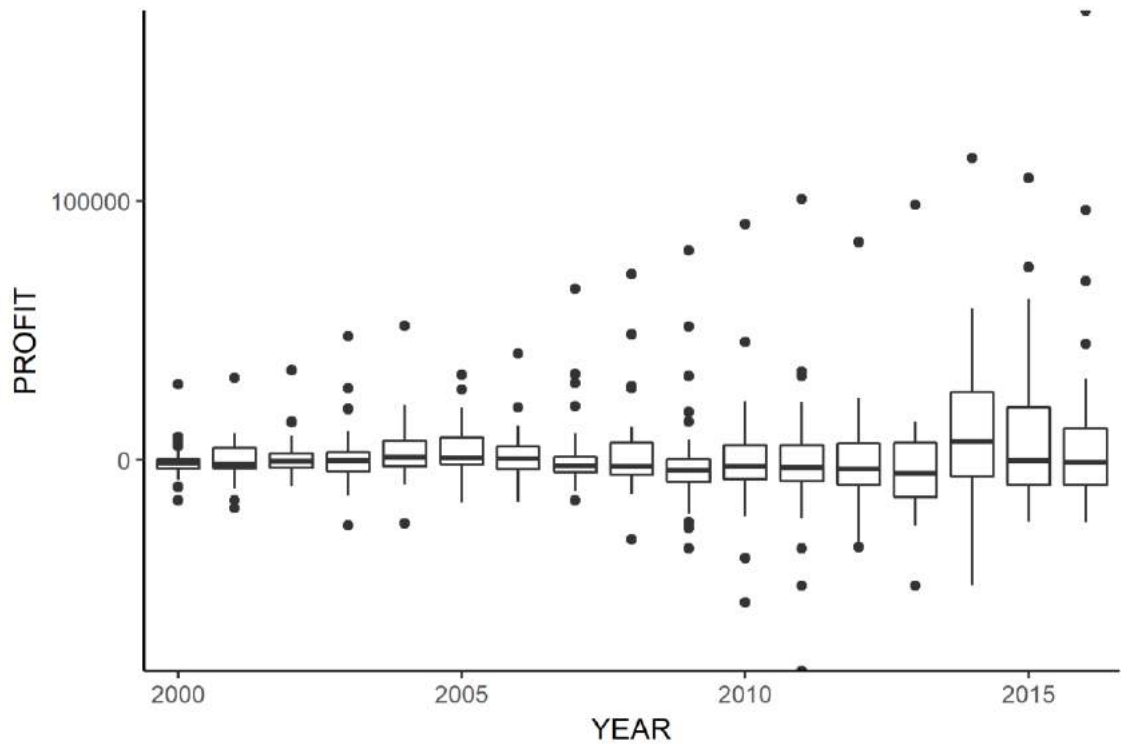


Figure 8.7: Distribution of player wages per year

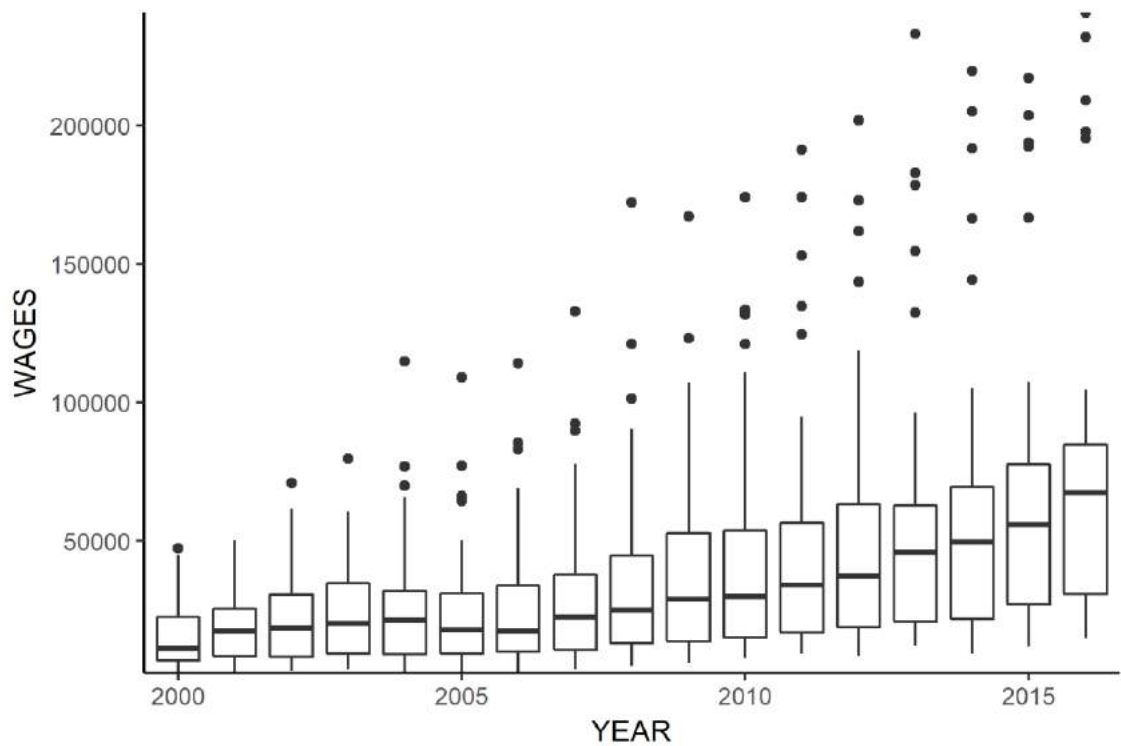
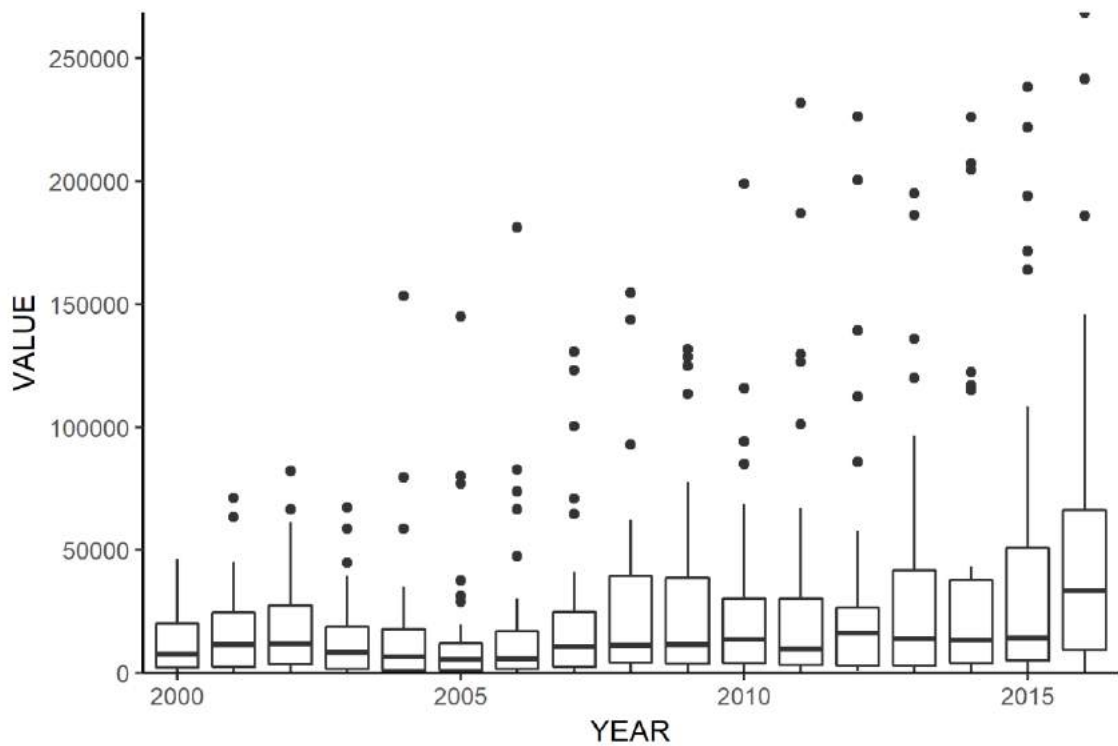


Figure 8.8: Distribution of player value per year



There is evidence of an increase in the average and dispersion of many key performance and resource indicators since 1992. Recently, more clubs are recording very high operating profit, with a reduction of the number of clubs reporting very low operating losses. Within the sample of clubs, there have been examples of sustained success, plus growth, decline and persistent failure. The paths for each club's operating profit (financial performance), player wages, player value (team resources) and league rank (sporting performance) are shown in Figures 8.9 to 8.12, which highlight the variety of inputs and outputs.

Figure 8.9: Operating profit per year, by club

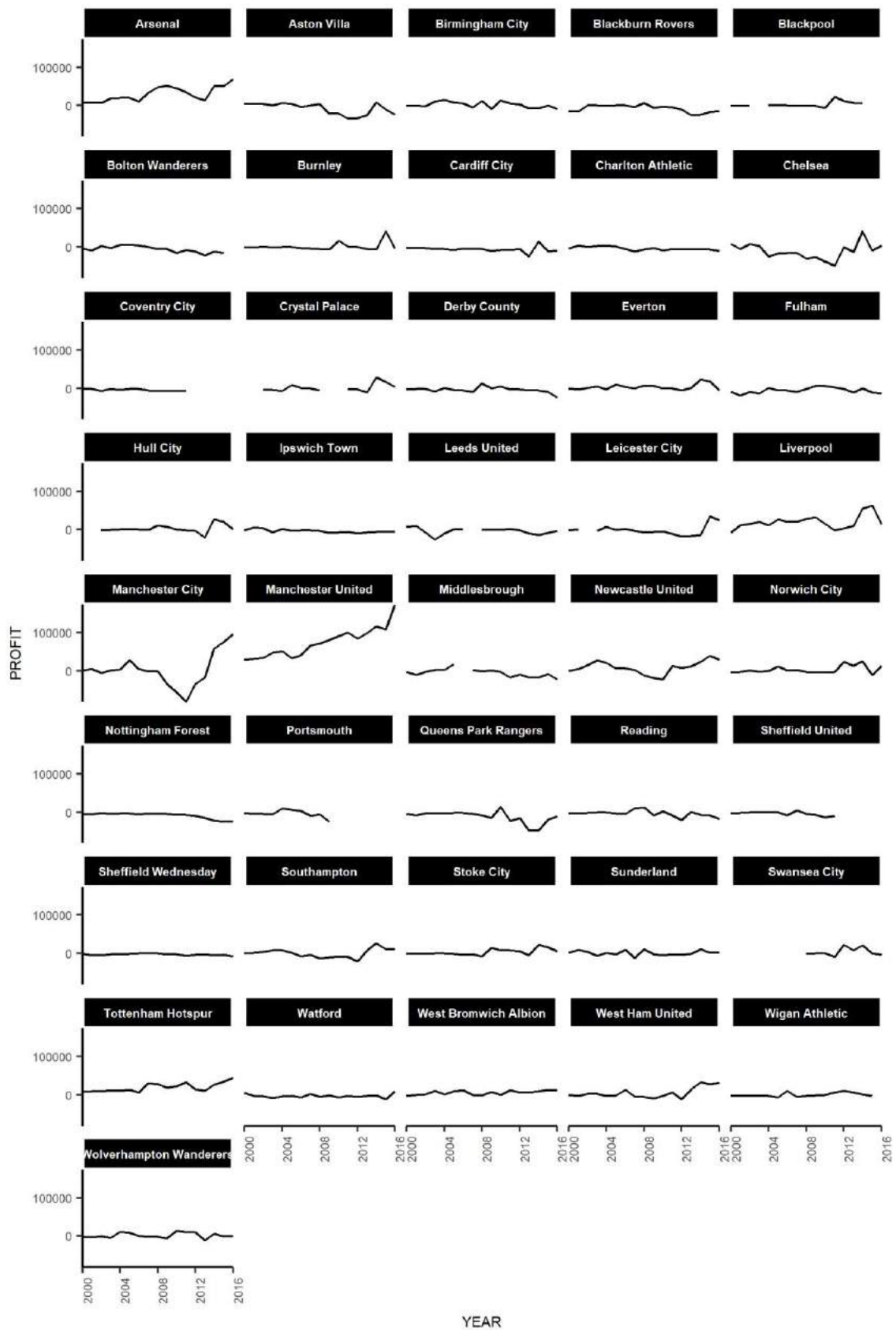


Figure 8.10: Player wages per year, by club

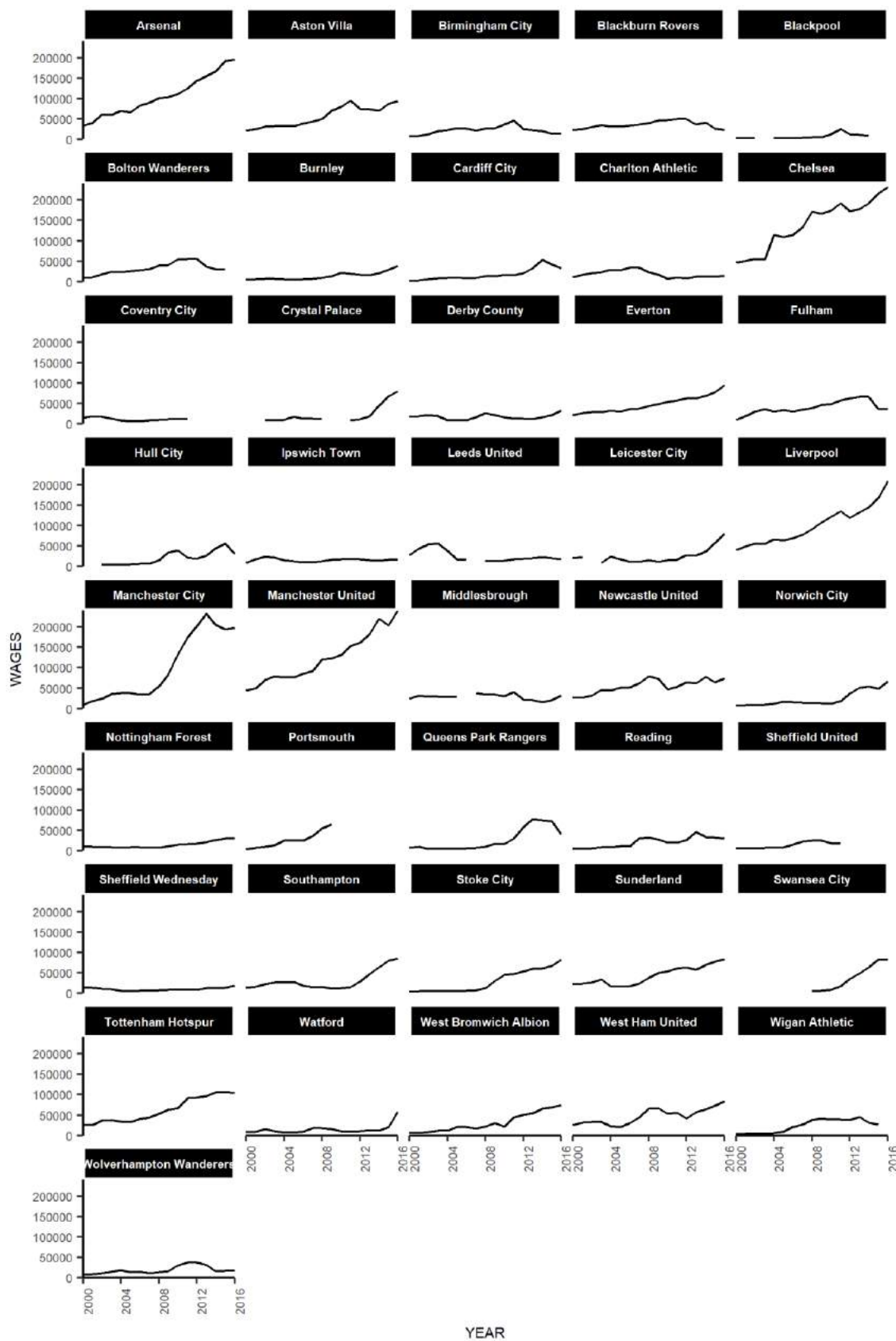


Figure 8.11: Player value per year, by club

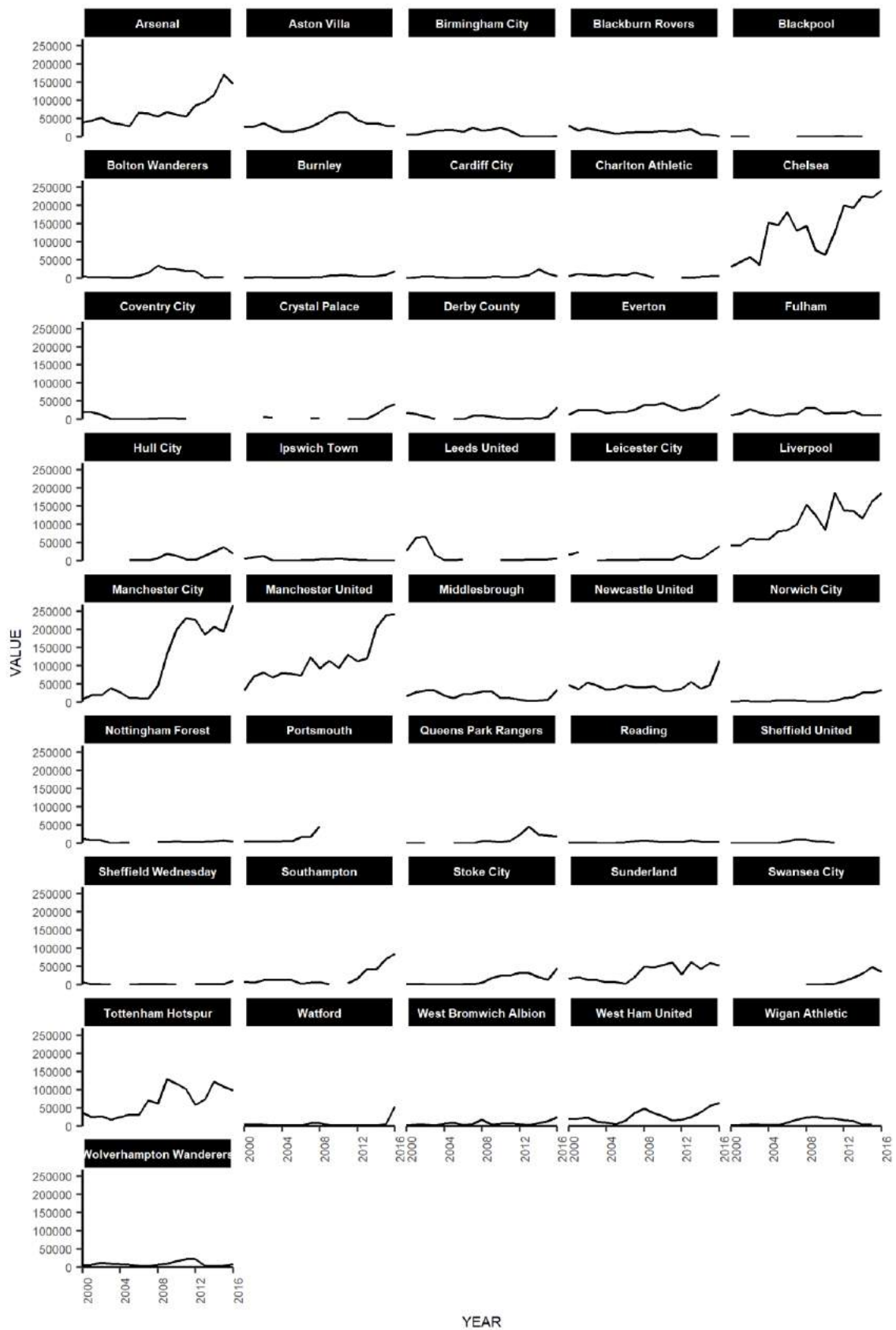
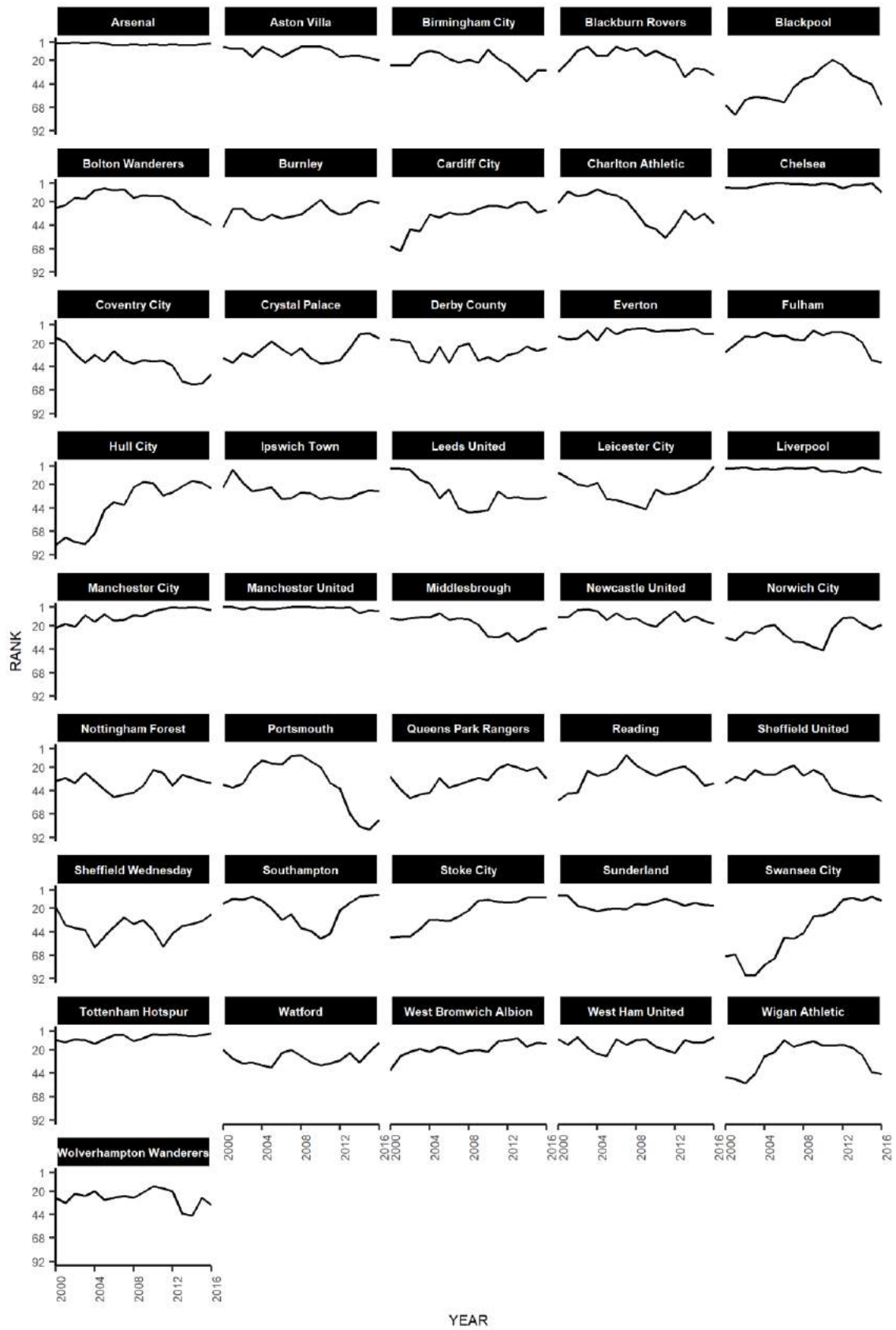


Figure 8.12: League rank per year, by club



The fluctuation in operating profit during the observation period can mostly be attributed to the performance of a few clubs, such as Arsenal, Manchester City and Manchester United. This recent growth may be due to change in club ownership and to club owners' objectives, as well as to the introduction of *Club Licensing* and *Financial Fair Play* by UEFA, as highlighted in Section 2.4. This trend has coincided with an increase in player wages and value for the most successful Premier League clubs, who have maintained their league rank at or near the top of the Premier League. However, there are obvious differences between these successful clubs and the other clubs, many of which have experienced growth, decline, or both growth and decline.

8.3. Test statistics

Tests are conducted to establish the tripartite relationship between team resources, sporting performance and financial performance. Sporting performance is conceptualised and measured as league rank, which acts as a contingency effect between team resources (player wages and player value) and financial performance (operating profit). Specifically, the tests explore the fit between the explanatory variables of player wages and value (*WAGES* and *VALUE*) and the contingency factor of league rank (*RANK*) and its relationship with the outcome variable of operating profit (*PROFIT*). The concept of fit is modelled as mediation in Proposition 3, moderation in Proposition 4, and deviation in Proposition 5.

Fit as mediation

Proposition 3 states that sporting performance mediates the relationship between team resources and financial performance. This is established by a three-step procedure (Tabachnick and Fidell, 2007). First, the explanatory variables are confirmed to have a significant effect on the outcome variable:

$$PROFIT_{it} = \alpha + \beta_1 WAGES_{it} + \beta_2 VALUE_{it} + \mu_{it}$$

The second step ascertains whether the explanatory variables have a significant relationship on the mediating variable:

$$RANK_{it} = \alpha + \beta_1 WAGES_{it} + \beta_2 VALUE_{it} + \mu_{it}$$

The third step is to check that the mediator is a significant predictor of the outcome variable *and* that the relationship between the explanatory variables is zero (for complete mediation) or at least reduced (for partial mediation).

$$PROFIT_{it} = \alpha + \beta_1 WAGES_{it} + \beta_2 VALUE_{it} + RANK_{it} + \mu_{it}$$

The results of the contingency model where fit is modelled as mediation are shown in Table 8.2. Models 1 to 3 correspond to the aforementioned steps.

Table 8.2: Panel regression model for fit as mediation

	<i>PROFIT</i>	<i>RANK</i>	<i>PROFIT</i>
	(1)	(2)	(3)
<i>WAGES</i>	0.137***	-0.000***	0.087**
	(0.042)	(0.000)	(0.044)
	<i>t</i> =3.255	<i>t</i> =-8.271	<i>t</i> =1.988
	<i>p</i> =0.002	<i>p</i> =0.000	<i>p</i> =0.048
<i>VALUE</i>	0.078*	0.000	0.078*
	(0.040)	(0.000)	(0.040)
	<i>t</i> =1.923	<i>t</i> =0.064	<i>t</i> =1.951
	<i>p</i> =0.055	<i>p</i> =0.950	<i>p</i> =0.052
<i>RANK</i>			-244.045***
			(67.119)
			<i>t</i> =-3.636
			<i>p</i> =0.001
Constant	-5,235.999***	29.191***	1,887.818
	(1,075.675)	(0.630)	(2,230.208)
	<i>t</i> =-4.868	<i>t</i> =46.302	<i>t</i> =0.846
	<i>p</i> =0.000	<i>p</i> =0.000	<i>p</i> =0.398
Observations	637	637	637
<i>R</i> ²	0.201	0.396	0.217
Adjusted <i>R</i> ²	0.198	0.395	0.213
<i>F</i>	79.551*** (<i>df</i> =2; 634) (<i>p</i> =0.000)	208.264*** (<i>df</i> =2; 634) (<i>p</i> =0.000)	58.463*** (<i>df</i> =3; 633) (<i>p</i> =0.000)

Note: **p*<0.1; ***p*<0.05; ****p*<0.01

The results of the model where fit is modelled as mediation are mixed. The model indicates that league rank partially mediates the relationship between player wages and operating profit. However, there is no such moderating effect from league rank on the relationship between player wages and operating profit. Overall, sporting performance has limited mediating effects on the relationship between team resources and financial performance and there is insufficient evidence to support the application of fit as mediation (Venkatraman, 1989).

Fit as moderation

Proposition 4 predicts that sporting performance acts as a moderator on the relationship between team resources and financial performance. This is tested by employing a two-step procedure (Hair et al, 2010). The relationship between the explanatory variables (player wages and player value) and the outcome variable (operating profit) is established:

$$PROFIT_{it} = \alpha + \beta_1 WAGES_{it} + \beta_2 VALUE_{it} + \mu_{it}$$

Next, an interaction term is incorporated so that financial performance (operating profit) is predicted by the multiplicative effect of team resources (player wages and player value) and sporting performance (league rank):

$$PROFIT_{it} = \alpha + \beta_1 WAGES_{it} \times \beta_2 RANK_{it} + \beta_3 VALUE_{it} \times \beta_4 RANK_{it} + \mu_{it}$$

The results of the contingency model where fit is modelled as moderation are shown in Table 8.3. The original model (Model 1) is a pooled regression model which regresses sporting performance on financial performance. This is then compared to the moderated model (Model 2), which is another pooled model that regresses the moderated contingency effect (the interaction between team resources and sporting performance) on financial performance.

Table 8.3: Panel regression model for fit as moderation

	<i>PROFIT</i>	<i>PROFIT</i>
	(1)	(2)
<i>WAGES</i>	0.137***	
	(0.042)	
	<i>t</i> =3.255	
	<i>p</i> =0.002	
<i>VALUE</i>	0.078*	
	(0.040)	
	<i>t</i> =1.923	
	<i>p</i> =0.055	
<i>WAGES</i> × <i>RANK</i>		-0.023***
		(0.003)
		<i>t</i> =-7.348
		<i>p</i> =0.000
<i>VALUE</i> × <i>RANK</i>		0.030***
		(0.004)
		<i>t</i> =7.843
		<i>p</i> =0.000
Constant	-5,235.999***	6,658.623***
	(1,075.675)	(1,422.602)
	<i>t</i> =-4.868	<i>t</i> =4.681
	<i>p</i> =0.000	<i>p</i> =0.000
Observations	637	637
<i>R</i> ²	0.201	0.101
Adjusted <i>R</i> ²	0.198	0.098
<i>F</i>	79.551*** (<i>df</i> =2; 634) (<i>p</i> =0.000)	35.546*** (<i>df</i> =2; 634) (<i>p</i> =0.000)

Note: **p*<0.1; ***p*<0.05; ****p*<0.01

The *F*-statistic (35.546, *p*=0.000) for the moderated model suggests that the interaction term does not contribute to financial performance. Furthermore, the *R*² of the moderated model (0.101) indicates that it explains less of the variance in operating profit than the original model (0.201). Therefore, the effects of player wages and value on operating profit is not moderated by league rank. Centering predictor variables as recommended by Tabachnick and Fidell (2007) does not have any discernible effect on the significance of the model. In conclusion, there is no empirical evidence that the key relationship

between the team resources of a club and its sporting performance is moderated by sporting performance, as conceptualised Drazin and Van de Ven (1985) and Venkatraman (1989).

Fit as deviation

Proposition 5 states that the deviation between team resources and sporting performance has an effect on financial performance. Here, the value of fit (*FIT*) is the residual of the regression of the contingency factor (league rank) on the explanatory variables (player wages and player value):

$$RANK_{it} = \alpha + \beta_1 WAGES_{it} + \beta_2 VALUE_{it} + \mu_{it}$$

$$FIT_{it} = \mu_{it}$$

The fit value (*FIT*) is then used as a predictor in the regression model to predict operating profit (*PROFIT*):

$$PROFIT_{it} = \alpha + \beta_1 FIT_{it} + \varepsilon_{it}$$

Table 8.4 shows the results of the regression models where fit is modelled as deviation. In Model 1, league rank is the contingency effect, and is regressed on player wages and value. This generates the values of fit (*FIT*) between the explanatory variables and contingency factor, which is then used in Model 2 to predict operating profit (*PROFIT*).

Table 8.4: Panel regression model for fit as deviation

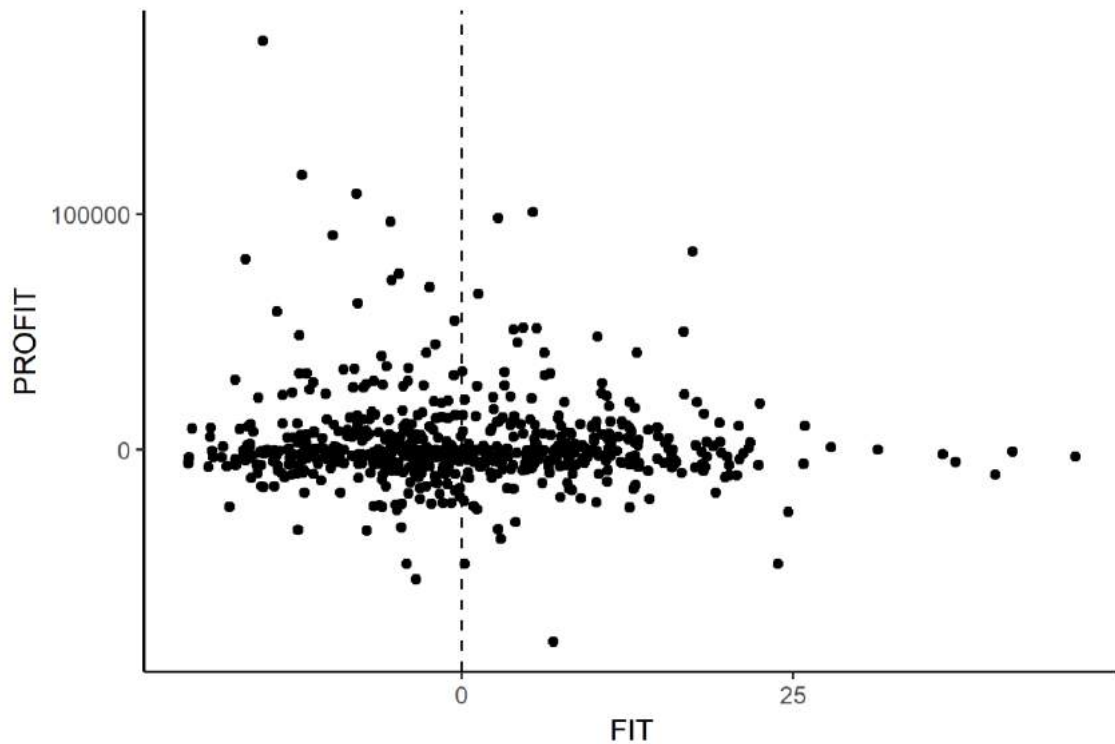
	<i>RANK</i>	<i>PROFIT</i>
	(1)	(2)
<i>WAGES</i>	-0.000***	
	(0.000)	
	<i>t</i> =-8.271	
	<i>p</i> =0.000	
<i>VALUE</i>	0.000	
	(0.000)	
	<i>t</i> =0.064	
	<i>p</i> =0.950	
<i>FIT</i>		-18.558
		(75.727)
		<i>t</i> =-0.245
		<i>p</i> =0.807
Constant	29.191***	2,381.192***
	(0.630)	(793.703)
	<i>t</i> =46.302	<i>t</i> =3.000
	<i>p</i> =0.000	<i>p</i> =0.003
Observations	637	637
<i>R</i> ²	0.396	0.000
Adjusted <i>R</i> ²	0.395	-0.001
<i>F</i>	208.264*** (<i>df</i> =2; 634) (<i>p</i> =0.000)	0.060 (<i>df</i> =1; 635) (<i>p</i> =0.807)

Note: **p*<0.1; ***p*<0.05; ****p*<0.01

The *F*-statistic of 0.060 (*p*=0.807) of the contingency model indicates that there is no significant effect from the fit between team resources (player wages and value) and sporting performance (league rank) on the financial performance (operating profit) of Premier League clubs. The values of fit do not explain any of the variation in operating profit, as indicated by the *R*² (0.000). When fit is modelled as deviation, there does not appear to be any contingent effect between team resources and sporting performance on financial performance. Figure 8.13 shows the relationship of fit between team resources and sporting performance (the residuals from Model 1) on financial performance. If deviation effects are present, the distribution should resemble the hat symbol (^), with high positive

and negative values of fit (x -axis) associated with low performance (y -axis), and low values of fit (zero) being associated with high performance.

Figure 8.13: Operating profit (*PROFIT*) to fit (*ABS.FIT*)



There is no evidence of fit as deviation being a significant contingency effect. Values are dispersed between positive and negative misfit, but there is no obvious effect where values at or near fit (where *FIT* equals zero) are related to expected high performance. There are a small number of high values over-fit, but they are not associated with low financial performance.

Fit as absolute deviation

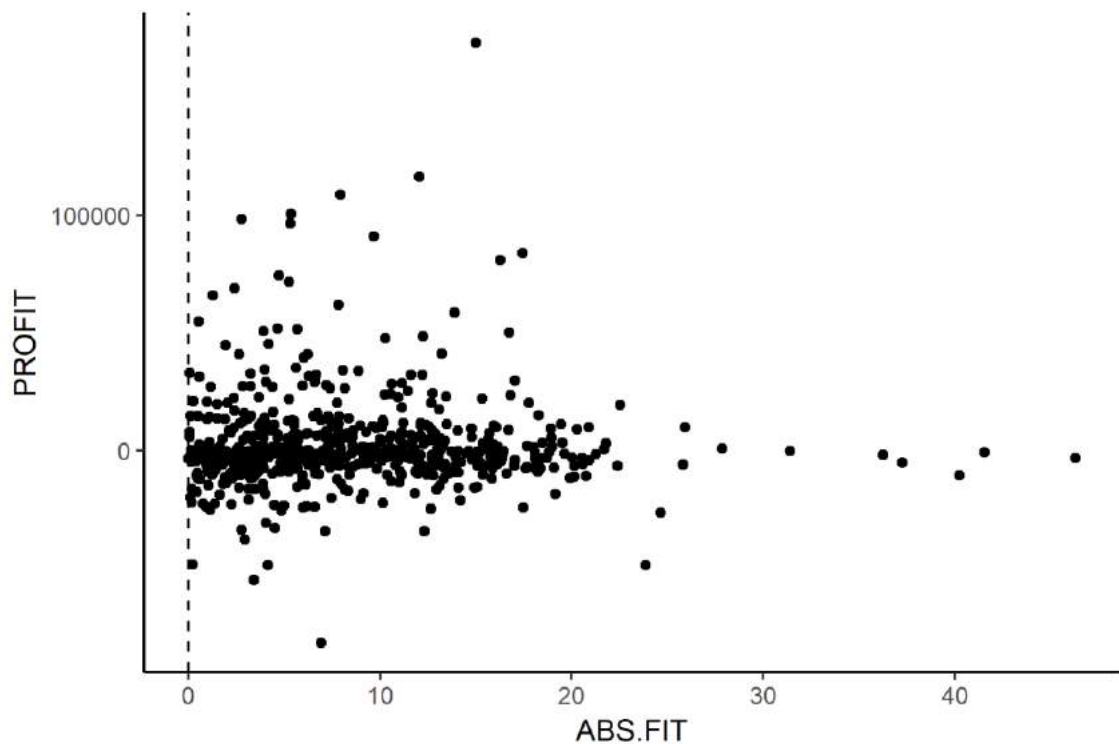
The limitation of including values of fit as a predictor variable in a regression model is that the relationship between fit and performance is not expected to be linear. Low values of fit are hypothesised to be associated with high performance, whereas high values – whether positive or negative – are related to low performance. Therefore, Table 8.5 shows the output of the regression models where fit is modelled as absolute deviation. It differs from the preceding model only in that the absolute values of fit (*ABSOLUTE.FIT*) between the predictor and contingency effect are generated (Model 1). These absolute values are then used to predict the outcome (Model 2).

Table 8.5: Panel regression model for fit as absolute deviation

	<i>RANK</i>	<i>PROFIT</i>
	(1)	(2)
<i>WAGES</i>	-0.000***	
	(0.000)	
	<i>t</i> =-8.271	
	<i>p</i> =0.000	
<i>VALUE</i>	0.000	
	(0.000)	
	<i>t</i> =0.064	
	<i>p</i> =0.950	
<i>ABSOLUTE.FIT</i>		0.481
		(124.732)
		<i>t</i> =0.004
		<i>p</i> =0.997
Constant	29.191***	2,377.184*
	(0.630)	(1,307.334)
	<i>t</i> =46.302	<i>t</i> =1.818
	<i>p</i> =0.000	<i>p</i> =0.070
Observations	637	637
<i>R</i> ²	0.396	0.000
Adjusted <i>R</i> ²	0.395	-0.002
<i>F</i>	208.264*** (<i>df</i> =2; 634) (<i>p</i> =0.000)	0.000 (<i>df</i> =1; 635) (<i>p</i> =0.997)

Note: **p*<0.1; ***p*<0.05; ****p*<0.01

The *F*-statistic of 0.000 (*p*=0.997) of the contingency model suggests that the deviation effects are not significant where fit is modelled as absolute deviation. The model has no explanatory effect, as demonstrated by the zero value for *R*² (0.000). This adds further evidence that the deviation between team resources and sporting performance does not predict financial performance. Figure 8.14 shows the relationship between absolute fit and financial performance. If deviation effects are present, there should be a negative linear distribution, with low values of fit (*x*-axis) associated with high performance (*y*-axis), and high values of fit for low performance.

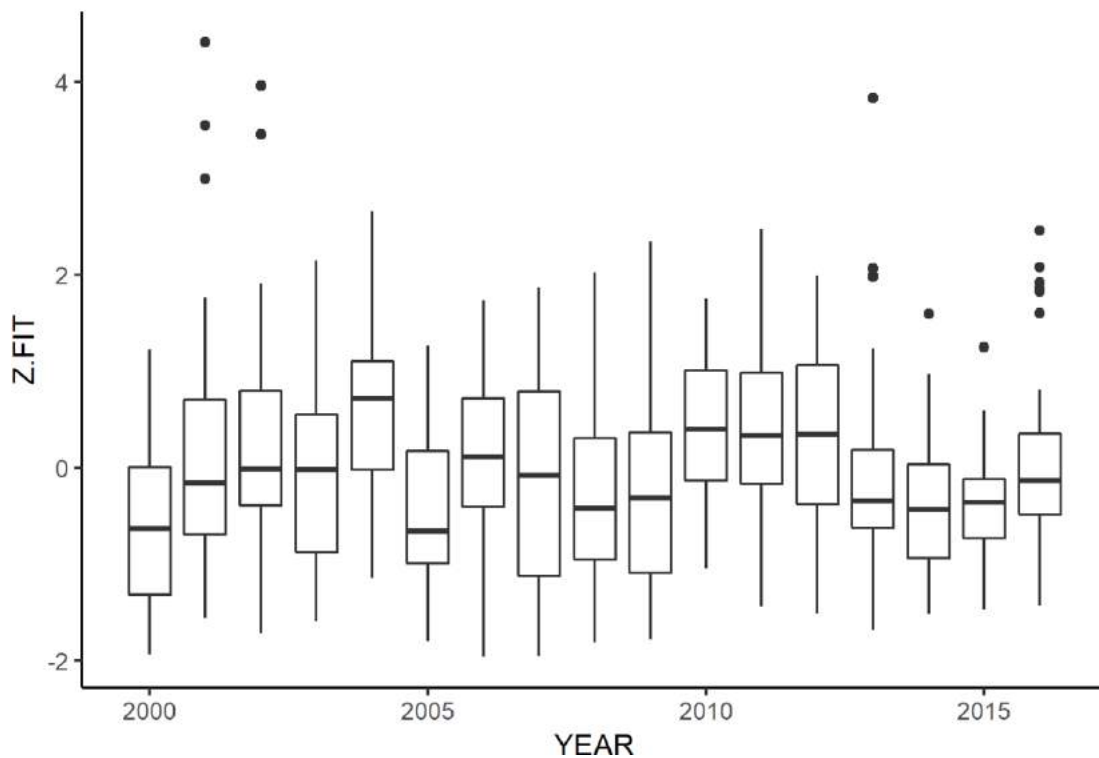
Figure 8.14: Operating profit (*PROFIT*) to absolute fit (*ABS.FIT*)

No evidence is provided that absolute fit as deviation represents a significant contingency effect. There is no obvious relationship between the values of fit to high performance or, conversely, that misfit is related to low performance. There are a small number of values of excessive misfit, but no indication that they are related to superior (or inferior) performance. It is concluded that there is no evidence that the deviation of fit between team resources and sporting performance has any significant effect on financial performance, and therefore the concept of fit as deviation (Venkatraman, 1989) is not applicable.

8.4. Post-test diagnostic statistics

The results of the regression models suggest that there are no significant contingency effects, whether fit is modelled as mediation, moderation or deviation. Post-test diagnostics are used to explore possible explanations for the results. Specifically, the model of fit as deviation (Proposition 5) provides further data from standardised scores of fit (*Z.FIT*). This data enables analysis of the contingency effects for each club and for each year of the observation period. The distribution of the standardised fit scores are shown by year in Figure 8.15.

Figure 8.15: Standardised fit (*Z.FIT*) by year



The average and dispersion of fit values is mostly consistent during the Premier League era. There is some fluctuation in 2004 and in 2010, which may be further evidence of the failure of some clubs to adjust to the contagion caused by the failure of ITV Digital in 2002 and Setanta in 2009 (see Section 2.4). There are no excessive values of under-fit, but there are, however, some outlier values of over-fit towards the start and the end of the observation period. The values at the start of the period are particularly surprising even though the data has been standardised. There has been considerable growth in player wages and value, plus some increase in operating profit, and therefore the onset of more excessive values of fit toward the end of the observation period is expected. Further statistical examination of the outliers by club is conducted. Table 8.6 lists the mean, standard deviation, minimum and maximum for the standardised values of fit for each club in the sample. The clubs are listed in alphabetical order.

Table 8.6: Descriptive statistics of standardised fit (*Z.FIT*)

<i>CLUB</i>	Mean	Standard deviation	Minimum	Maximum
Arsenal	0.111	1.067	-1.936	2.147

<i>CLUB</i>	Mean	Standard deviation	Minimum	Maximum
Aston Villa	-0.187	0.808	-1.807	1.207
Birmingham City	-0.124	0.991	-1.686	1.763
Blackburn Rovers	-0.378	1.016	-1.959	2.136
Blackpool	-0.053	0.653	-1.066	1.071
Bolton Wanderers	-0.092	0.910	-1.566	1.535
Burnley	0.068	0.857	-1.178	1.810
Cardiff City	-0.067	0.814	-1.466	1.729
Charlton Athletic	-0.302	0.996	-1.785	1.268
Chelsea	0.302	1.079	-1.498	2.349
Coventry City	-0.018	1.149	-1.623	1.923
Crystal Palace	0.518	1.009	-1.062	2.078
Derby County	-0.515	1.059	-1.964	1.740
Everton	0.307	1.244	-1.716	2.460
Fulham	0.350	1.125	-1.465	2.656
Hull City	-0.214	0.886	-1.511	1.488
Ipswich Town	-0.049	1.013	-1.519	1.751
Leeds United	-0.510	0.685	-1.503	0.761
Leicester City	-0.036	0.946	-1.819	1.603
Liverpool	0.291	0.927	-1.165	1.993
Manchester City	0.254	1.001	-1.325	2.025
Manchester United	-0.055	0.936	-1.553	1.663
Middlesbrough	-0.017	0.587	-0.897	1.073
Newcastle United	-0.332	0.616	-1.254	0.752
Norwich City	-0.251	0.869	-1.724	1.070
Nottingham Forest	0.227	0.793	-0.987	1.455
Portsmouth	0.163	0.969	-1.241	1.506
Queens Park Rangers	0.093	0.776	-1.129	1.922
Reading	0.376	1.103	-1.395	3.458
Sheffield United	0.210	0.831	-1.239	1.584
Sheffield Wednesday	0.065	1.196	-1.130	3.552
Southampton	-0.421	1.054	-1.626	1.353
Stoke City	-0.104	1.327	-1.550	3.962
Sunderland	-0.234	0.951	-1.518	1.996
Swansea City	-0.123	1.004	-1.463	1.343
Tottenham Hotspur	-0.031	0.906	-1.625	1.412
Watford	0.490	1.275	-1.116	4.412

<i>CLUB</i>	Mean	Standard deviation	Minimum	Maximum
West Bromwich Albion	0.024	1.268	-1.803	2.995
West Ham United	-0.215	1.056	-1.795	1.899
Wigan Athletic	-0.033	0.887	-1.325	1.910
Wolverhampton Wanderers	0.581	1.265	-1.131	3.837

There are no evident patterns between or within groups of clubs. For example, the average and dispersion of fit values differ for the seven clubs that have been permanent members of the Premier League. Some of these clubs, such as Manchester United and Tottenham Hotspur, have an average standardised fit value (z-score) close to zero, but so do clubs that typically generate inferior financial performance, such as Middlesbrough and West Bromwich Albion. Similarly, there is no apparent relationship between the dispersion of fit values, as indicated by standard deviation, and financial performance. Standardised values for fit in excess of two standard deviations above or below the mean represent the cases of clubs and years for which the most excessive misfit is recorded. These standardised values of misfit are listed in chronological order in Table 8.7.

Table 8.7: Excessive values of standardised fit (*Z.FIT*), by year

YEAR	CLUB	Z.FIT
2001	Watford	4.412392
2001	Sheffield Wednesday	3.552195
2001	West Bromwich Albion	2.994843
2002	Stoke City	3.962306
2002	Reading	3.457632
2003	Arsenal	2.146736
2004	Fulham	2.655792
2006	Derby County	-1.964202
2008	Manchester City	2.025398
2009	Chelsea	2.348653
2009	Blackburn Rovers	2.135690
2011	Wolverhampton Wanderers	2.469406
2011	Chelsea	2.275293
2012	Sunderland	1.995772
2013	Wolverhampton Wanderers	3.836655
2013	Everton	2.067034
2013	Liverpool	1.993011
2013	Fulham	1.980184
2016	Everton	2.460140
2016	Crystal Palace	2.077662

There is no obvious trend of excessive values of misfit during the observation period. All such values are positive (under-fit), and are examples of over-performance (or under-resourcing). The values are distributed throughout the observation period, with occurrences of misfit in 11 of the 17 years. There are no more than three values in any year (2001 and 2013), with the three-year gap from 2013 to 2016 being the longest period between cases. The list includes some permanent Premier League members and it may be that owners are occasionally taking risks to achieve or maintain success. The standardised values for excessive misfit are also listed in alphabetical order in Table 8.8.

Table 8.8: Excessive values of standardised fit (*Z.FIT*), by club

YEAR	CLUB	Z.FIT
2003	Arsenal	2.146736
2009	Blackburn Rovers	2.135690
2009	Chelsea	2.348653
2011	Chelsea	2.275293
2016	Crystal Palace	2.077662
2006	Derby County	-1.964202
2013	Everton	2.067034
2016	Everton	2.460140
2004	Fulham	2.655792
2013	Fulham	1.980184
2013	Liverpool	1.993011
2008	Manchester City	2.025398
2002	Reading	3.457632
2001	Sheffield Wednesday	3.552195
2002	Stoke City	3.962306
2012	Sunderland	1.995772
2001	Watford	4.412392
2001	West Bromwich Albion	2.994843
2011	Wolverhampton Wanderers	2.469406
2013	Wolverhampton Wanderers	3.836655

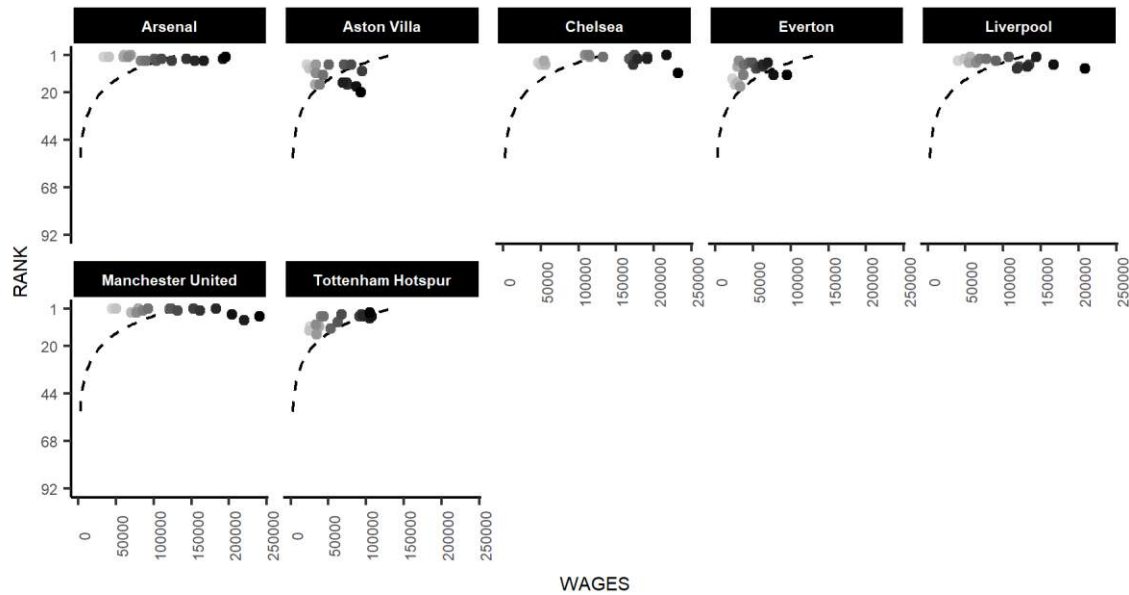
The incidents of misfit are dispersed by case as well as by time. 16 clubs have had at least one season of excessive misfit, which represents 39% of clubs in the sample. However, only four clubs (Chelsea, Everton Fulham and Wolverhampton Wanderers) have had two years of fit. Furthermore, these incidents of excessive misfit are never in consecutive seasons and are separated by two years (Chelsea and Wolverhampton Wanderers), three years (Everton) or nine years (Fulham). No club experienced three or more seasons of excessive misfit. This indicates that clubs do not endure misfit for multiple years and, when they misfit, are able to promptly adapt.

8.5. Scores of fit by group

The scores of fit are further analysed by the identification of patterns between and within groups of clubs. The scores are identical to those produced with the sporting performance model, but here they are analysed for the effect of the fit between player wages and league rank on the clubs' financial

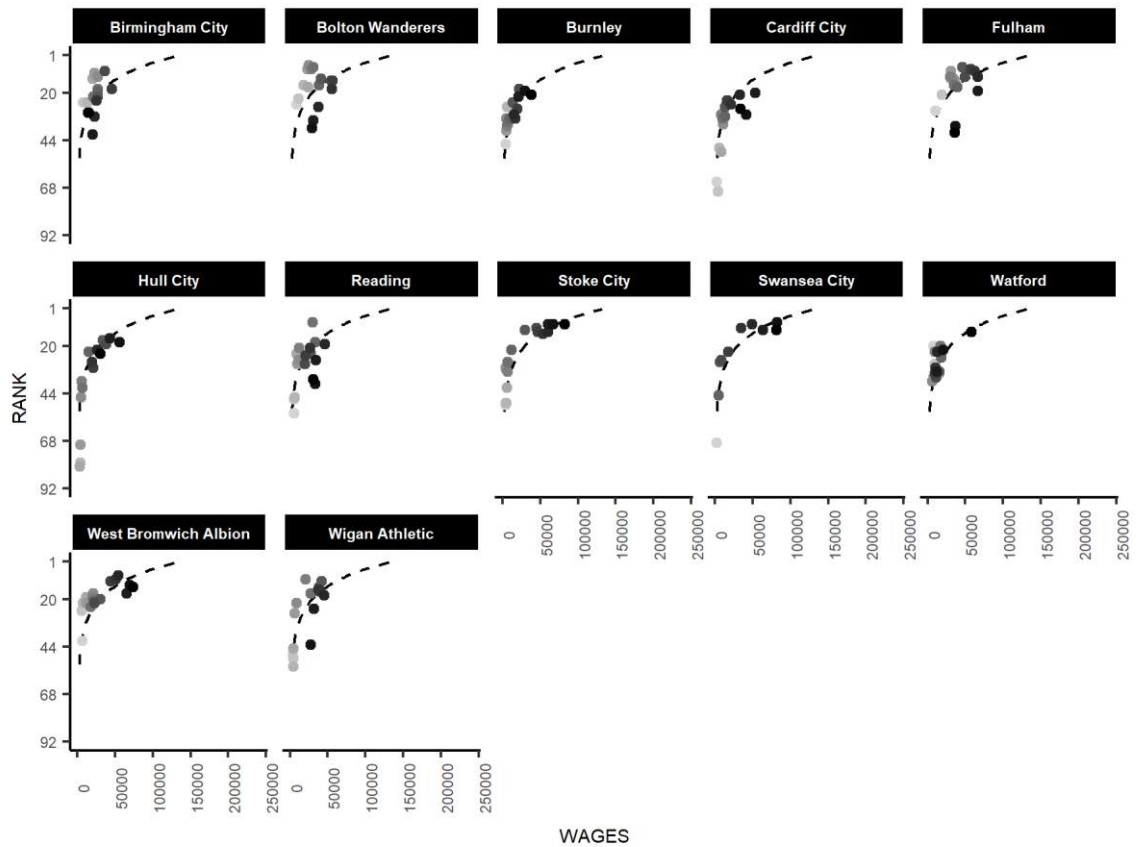
performance. The paths of clubs are plotted in Figures 8.16 to 8.20 for the permanent, growth, decline, yo-yo and volatile groups, with the expected line of fit indicated by the dashed non-linear line.

Figure 8.16: Fit of league rank to player wages, permanent clubs



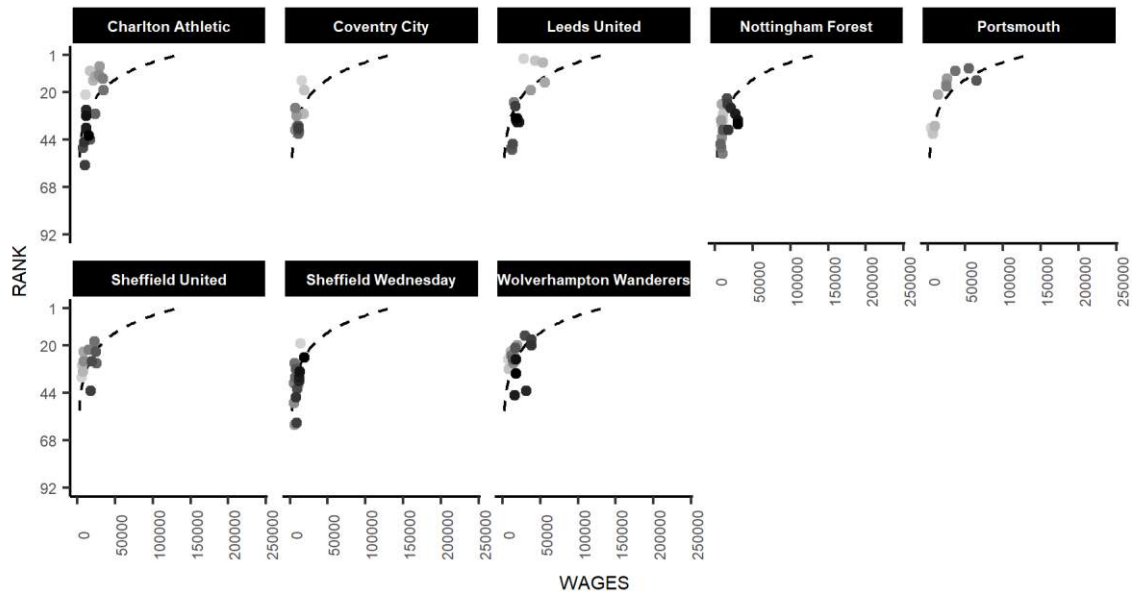
The limitations of pooled model are further highlighted by the evidence that permanent clubs have adopted a unique path to the other groups. There were substantial increases in player wages expenditure by Arsenal, Chelsea, Liverpool and Manchester United towards the end of the observation period, which indicates that these clubs, plus Manchester City, are diverging from others in the group. The remaining clubs are more clustered, but have nonetheless sustained sporting performance. This highlights the difficulty even for permanent members to compete for the Premier League and Champions League (while generating and sustaining an operating profit).

Figure 8.17: Fit of league rank to player wages, growth clubs



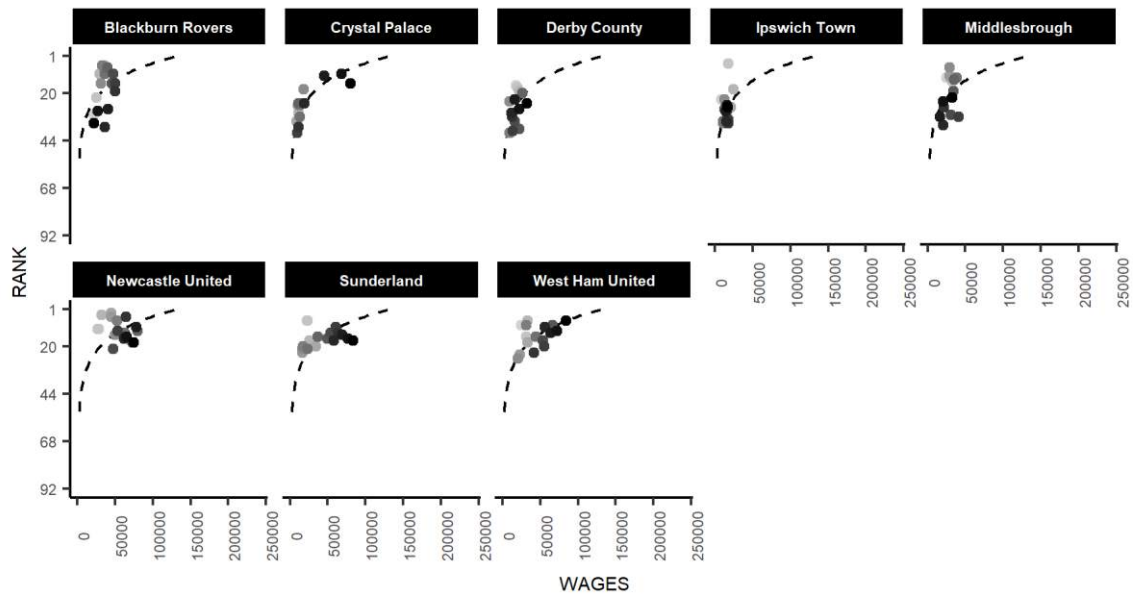
The maintenance of fit is epitomised by Burnley, Hull City, Stoke City and Swansea City, despite some of these clubs entering administration during the observation period. Watford have controlled team resource expenditure during promotion to the Premier League and subsequent relegation to the Football League Championship. In contrast, Birmingham City, Bolton Wanderers, Cardiff City, Fulham, Reading, Wigan and West Bromwich Albion have transitioned to under-performance (or over-resourcing) at the end of their growth period. Nevertheless, most of these clubs have continued to manage player wages despite their subsequent decline in sporting performance, although this has not necessarily resulted in improved financial performance (such as for Birmingham City and Bolton Wanderers).

Figure 8.18: Fit of league rank to player wages, decline clubs



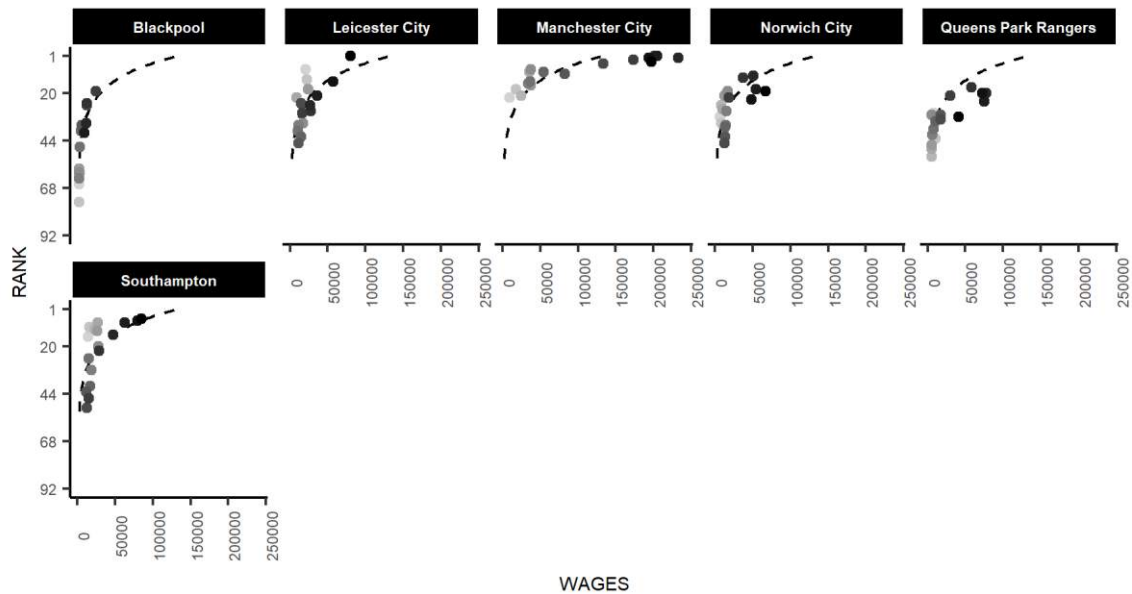
Some of the clubs that have suffered from declining sporting and financial performance, such as Sheffield Wednesday, have not increased player wages expenditure. In contrast, Nottingham Forest, Sheffield United and Wolverhampton Wanderers have moved to under-performance (or over-resourcing) while enduring inferior sporting performance. Charlton Athletic, Leeds United and Portsmouth have been more erratic, although there is missing data for Portsmouth during their period of failure. Many of the clubs removed from sample due to missing data would otherwise be members of this group.

Figure 8.19: Fit of league rank to player wages, yo-yo clubs



In contrast to some of the volatile clubs, the yo-yo clubs have experienced a lot more turbulence between over- and under-fit. Many of these clubs have not been able to adjust to the Premier League, and there is a general pattern from over-performance at the start of the Premier League era to under-performance (or over-resourcing towards the end of the observation period. However, there is no notable pattern between the degree of fit, or instances of excessive misfit, and the financial failure of clubs, such as Crystal Palace and Ipswich Town, that have been put into administration.

Figure 8.20: Fit of league rank to player wages, volatile clubs



Two types of paths are evident for volatile clubs. This group includes both large and small clubs. Managed decline and growth has been demonstrated by Blackpool and Manchester City and, after relocating to a new stadium and entering administration, by Leicester City and Southampton. In contrast, Norwich City and Queens Park Rangers have experienced misfit, notably towards the end of the observation period. Their paths suggest that they may have been unable to refit during a period when the Premier League has grown. This does confirm, however, that relegation and administration need not lead to administration.

8.6. Conclusions: Contingency models

There is limited evidence in support for contingent relationships where financial performance is conditional on the fit between team resources and sporting performance, whether fit is modelled as mediation, moderation and deviation. League rank partially mediates the relationship between player wages and operating profit, but not between player value and profit. Furthermore, league rank does not moderate team resources to operating profit. Where fit is modelled as deviation, there is no significant statistical evidence of any relationship between deviation of fit (between team resources and sporting performance) and the financial performance of clubs. Further examination of deviation scores, or scores of fit, does not reveal any discernible patterns between or within groups of club, nor during the observation period. Most clubs have maintained fit for at least most of the observation

period and any misfit is usually controlled and temporary. There is some commonality in the paths of certain clubs in the permanent, growth and decline groups; however, many of the yo-yo and volatile clubs have adopted unique paths.

9. Empirical research: Sporting, business and financial performance model

Chapter summary

- Contingency models are extended to incorporate sporting, business and financial performance with clubs' team and stadium resources and resource management capabilities, and to appraise the effect of the degree of fit between team resources and sporting performance.
- Comparative and dynamic analysis of clubs during the Premier League era reveals unique paths, both between and within groups of clubs.
- There is no obvious positive or negative relationship between the degree of fit and different forms of sporting success and failure, including winning the Champions League or promotion to, or relegation from, the Premier League, or with business failure in the form of insolvency events.
- Club owners and business executives make strategic decisions with regard to team managers and stadium resources and these also do not appear to have any demonstrable effect on fit, which indicates that clubs possess or utilise the capabilities to match their resources to the changing competitive environment.

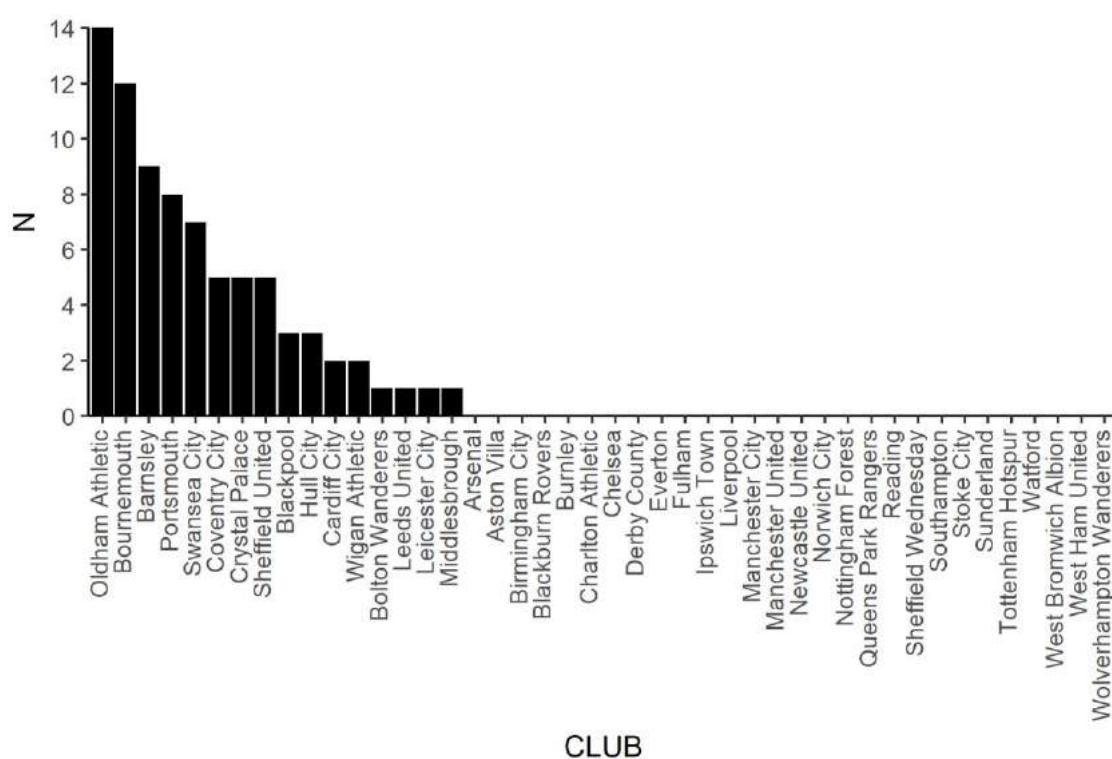
Contingency models are further applied to explore the relationship between Premier League clubs resources, the fit between resources and contingency effects, and performance. First, the data from the extended sample and observation period used in the model is described. Second, the data displays are introduced. The data displays are analysed by groups of clubs, with further analysis of sporting, business and financial performance, and of clubs' team and stadium resources and resource management.

9.1. Data

The assumptions of the classic linear regression model are not applicable to the cross-sectional time-series data displays, but the threshold of 5% of missing values is retained to ensure that there is

sufficient data for visual analysis. To further optimise the sample and observation periods, only player wages is utilised to generate fit scores. This enables the observation period to be extended to 1994 to 2016 because, as highlighted in Section 5.5, there is data for player wages (*WAGES*) from 1994, but player value (*VALUE*) is only available from 1999. This panel has 227 missing values from the 3174 values, which represents 8% of data. This requires just two clubs (Swindon Town and Bradford City) to be removed from the sample to reduce the proportion of missing data to 5% of the total. For the revised sample, there are 154 missing values from the 3036 observations. The number of missing cases for each club in the remaining sample of 44 clubs is presented in Figure 9.1.

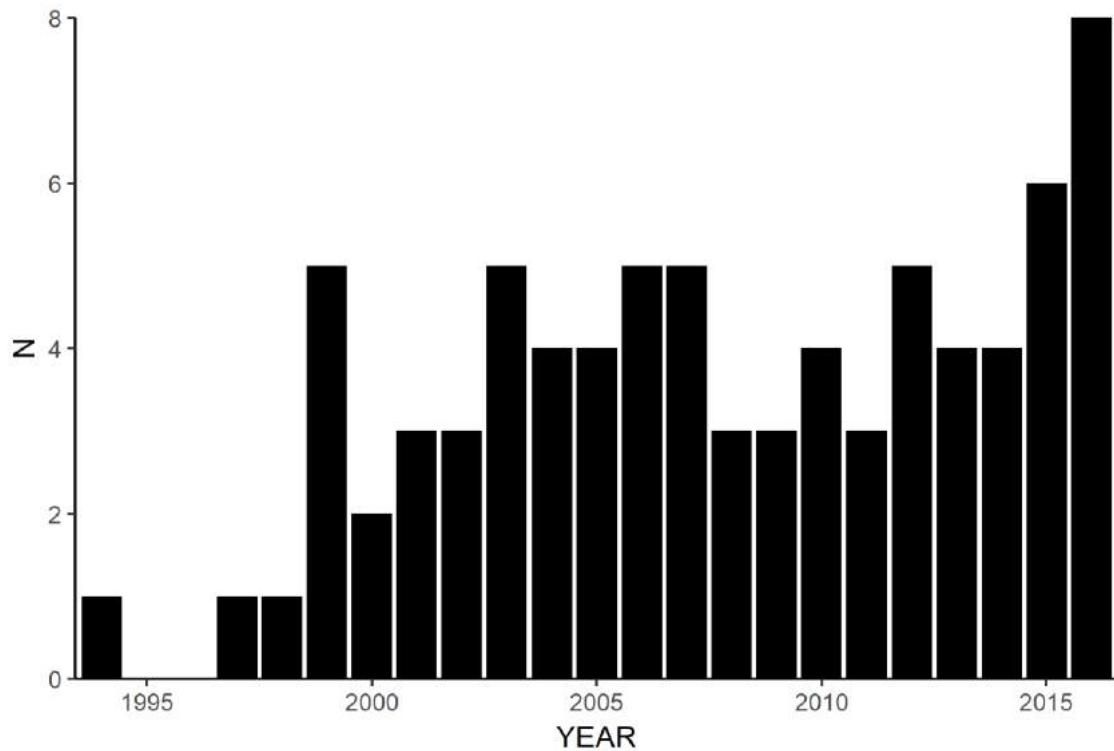
Figure 9.1: Missing cases for sporting and business performance model per club



As with the preceding empirical models, there are no missing values for the seven clubs that have been permanent members of the Premier League. Many of the remaining clubs with the fewest complete cases have been members of the Football League for most of the observation period and Oldham Athletic, Bournemouth, Barnsley, Portsmouth, Swansea City, Coventry City and Crystal Palace have all entered administration during the era. This further indicates that there may be a relationship between missing data and club performance, and missing cases may therefore be

positively related to sporting and business performance. Figure 6.2 plots the number of missing cases for each of the 23 years of observation period from 1994 to 2016.

Figure 9.2: Missing cases for sporting and business performance models per year



There are fewer missing cases from 1994 to 2002, which was when Deloitte published data on third and fourth division clubs, and because there are fewer insolvency events for the sample of clubs, with Bournemouth (in 1997) and Crystal Palace and Portsmouth (both in 1999) being the only clubs to enter administration before 2001. Since then, the number of missing cases per year is consistent. There is more missing data in the most recent years as errors and omissions are typically updated in subsequent editions of the *Annual Review of Football Finance*.

9.2. Data displays

The resources, performance and contingency effects per year for each club is shown in Figures 9.3 to 9.46 of Appendix 9.1. For each club, three panels are used to show different types of data, encompassing team and stadium resources, plus sporting, business and financial performance. The horizontal axis is constant for all three panels and for each club, and indicates the financial year and season during the observation period.

The first panel shows the sporting performance of each club and charts league rank per season. Each case is identified by a point, which includes the club's position in the division for that season. Divisions are indicated by horizontal dotted lines²⁵. The thick solid black vertical lines highlight the Premier League winners, with thin solid black vertical lines for promotion to Premier League and thin dashed black vertical lines for relegation from Premier League. The small black circles represent the FA Cup winners and small grey circles the EFL Cup winners, with large black circles for the Champions League winners and large grey circles for the Europa League winners.

The second panel presents data on business and financial performance and stadium resources. The light grey rectangle indicates when a club has relocated to a new stadium. The dark grey area indicates clubs' revenue, the black line is operating profit (with the origin indicating the break-even point), and the dashed line is net cash. The black triangle signifies if and when a club has entered administration. The panel only includes the key financial indicators of revenue, profit and cash, which indicate relative success and failure. For clarity, expenditure for team and stadium resources is not shown, but instead is part of the expenditure that is deducted from revenue to determine the club's profit or loss.

The third panel plots the standardised degree of fit between player wages (*WAGES*) and league rank (*RANK*), with the origin indicating fit. Positive and negative values represent misfit. Positive values indicate over-fit, where a club has under-performed or, alternatively, is over-resourced²⁶. Negative values indicate under-fit, where clubs have under-performed or are over-resourced. The grey rectangle represents a zone of fit, which is approximately two standard deviations above and below the mean. Each case is indicated by a white point, with cases of excessive misfit (being those that are plotted outside of the zone of fit), being highlighted by a black point.

9.3. Groups

Clubs are grouped by sporting performance and specifically their membership by division since 1992. Each club is assigned to either the permanent, growth, decline, yo-yo or volatile group (see Appendix

²⁵ The horizontal lines indicate divisions and broken when the Premier League and Football League was restructured in 1995/96 (see Footnote 5).

²⁶ Positive values of misfit are associated with under-performance as league rank is a reverse-order variable where low values indicate superior performance (for example, a rank of 1 in the Premier League is the champion) to high values, which indicate inferior performance (where the last-placed Premier League team has a rank of 20).

5.2). This enables comparative analysis of clubs within and between groups. Specifically, it analyses the paths of the club during the observation period.

Permanent clubs

Only a few of the permanent members of the Premier League – and most notably Arsenal – have maintained fit for most of the observation period, which is expected given the size of their capital and operating expenditure relative to other clubs. The ownership models of Premier League clubs has changed (see Section 2.5) and this appears to have had a positive effect on the degree of fit of those clubs that have been acquired by new owners. Chelsea have become more consistent during the Premier League era and stabilised almost immediately after being acquired by Roman Abramovich in 2003. This period of relative stability included when they were Champions League winners in 2012. Manchester United endured a period of turbulence between over- and under-performance (including winning the Champions League for the first time in 1999), which continued for two years after being taken over by Malcom Glazer in 2005. The degree of fit has since stabilised, including in 2008 when the club were Champions League winners for the second time. For Liverpool, there has been an apparent trend of both increasing turbulence and over-performance, including the season that they were Champions League winners in 2005 and the financial years before and since the acquisition by Kop Football in 2007 and New England Sports Ventures in 2010. Similarly, Manchester City were much less stable when they were relegated to and promoted from the third division, before Sheikh Mansour Bin Zayed Al Nahyan purchased the club in 2008. They became more stable within four years, and were subsequently Premier League champions in 2012 and 2014. In contrast, Aston Villa maintained fit before and since the acquisition by Randy Lerner in 2006, while Everton and Tottenham Hotspur have recorded large and consecutive change between over- and under-performance. Both have had consistent ownership during the Premier League era (Everton until 2016) and both clubs have sought to relocate, with Tottenham Hotspur opening their new stadium in 2019.

Growth clubs

Many of the clubs that grew from League One to the Premier League experienced some form of shock at the onset of their growth. Some clubs (including Birmingham City, Bolton Wanderers, Reading and Stoke City) recorded excessive misfit that coincided with the start of their period of growth. A number of clubs have endured multiple cases of misfit, including Birmingham City and Burnley (twice) and

Reading (three times). However, clubs such as Cardiff City maintained fit during the entire observation period, while others recorded misfit before or after their period of growth. The shock that prompts growth is usually negative, but can be positive, and may be single or multiple. The precursor to growth from the fourth to the first division for Bournemouth, Hull City and Swansea City was an administration event. More positively, Hull City and Swansea City opened new stadiums. Bolton and Reading experienced a coincidental negative shock of administration with a positive shock of a new stadium.

Decline clubs

In contrast, there is no evident pattern to the paths of clubs that have experienced decline. Only some of the clubs in this group have entered administration, which further indicates that the consequences of sporting performance failure is not necessarily financial failure. Furthermore, many of the insolvency events occurred during decline (for example, Leeds United and Portsmouth) or after the period of decline (for example, Barnsley, Coventry City and Oldham Athletic). Coventry City were the only club in this group to relocate to a new stadium during the Premier League era. There are numerous possible explanations for this apparent pattern and may indicate that affected clubs had both inferior team and stadium resources. Many clubs in the group have recorded cases of excessive misfit, while others have entered administration or relocated to a new stadium. However, Charlton Athletic and Sheffield Wednesday have experienced none of these characteristics during their decline from the Premier League to League One, although, like a number of clubs in this group, there is some missing data.

Yo-yo clubs

Clubs that have had erratic sporting performance and, in particular, experienced promotion and relegation between the Premier League and Football League Championship, have been subject to more change than clubs whose membership of a division has been constant. Fewer yo-yo clubs have suffered from financial failure than the decline clubs, with Crystal Palace (twice) and Ipswich Town (once) being the only clubs to enter administration. This group includes Blackburn Rovers, who won the Premier League at the start of the observation period, but have since been relegated from the Premier League on two occasions. Only three clubs (Derby County, Middlesbrough and Sunderland) relocated to a new stadium, and in each case this was at the start of the observation period. There is no evidence of excessive misfit or ongoing cases of misfit for the yo-yo clubs, and it is therefore

difficult to identify any distinct patterns in the performance, resources and resource management of clubs in this group.

Volatile clubs

The clubs in this group have experienced the most volatility, but are characterised by their heterogeneity. Some of the clubs have recorded sporting success, with Manchester City (twice) and Leicester City (once) winning the Premier League. Both of these clubs, and Southampton, have relocated to new stadiums. However, Leicester City and Southampton were two of three clubs (with Queens Park Rangers) that experienced financial failure during the observation period, when they entered administration. Despite the volatility in their sporting and financial performance, only three clubs recorded excessive misfit. However, all three clubs did so on multiple occasions: Leicester City and Manchester City had two cases each of excessive misfit, while Norwich City endured misfit three times. But even these cases were dispersed, which indicates that even volatile clubs are able to refit team resources to sporting performance.

9.4. Performance

Proposition 5 established that the effect of the fit between team resources and sporting performance (conceptualised and measured by league rank) on the financial performance of clubs is limited. The data displays further suggest that the fit between team resources and league rank does not have any predictive relationship on other forms of sporting performance. This applies both to sporting failure and success.

There is no evidence of a relationship between fit and sporting failure in the form of relegation from the Premier League. No club has ever suffered relegation in the same season as it experienced excessive misfit, although some have been on the threshold of the zone of fit, while there are very few instances where excessive misfit immediately precedes or follows relegation. This suggests that clubs are able to adapt to relegation, and may benefit from the so-called *parachute payments*, where relegated Premier League clubs receive a reduced proportion of broadcast rights for up to three years (Deloitte, 2018). There may, however, be a lagged effect from relegation where, if the club is not promoted back to the Premier League, the *parachute payments* end. This effect can be "almost as severe" as relegation (Deloitte, 2008).

Very occasionally, excessive misfit immediately precedes promotion, but there are no examples of promotion leading to excessive misfit in the next year. Excessive misfit more often coincides with promotion than it does with relegation. However, there are still relatively few occurrences given the number of clubs that are promoted each season. These occurrences are often recorded during a period of volatility in fit scores, which suggest that such clubs struggle to adapt to success.

This analysis of relegation and promotion suggests that excessive misfit is more often recorded at about the same time as inferior sporting performance than it is with superior performance, albeit with very few examples of either. Furthermore, there are even fewer cases of clubs experiencing excessive misfit at the same time as winning the Premier League. Some of these clubs have experienced excessive misfit, but this has always been many years before winning the championship and is typically intervened by relegation, promotion, stadium relocation and even administration events. There are also few cases of misfit that coincide with winning the Champions League, Europa League, FA Cup or EFL Cup, which suggests that clubs are able to manage these shocks. Success in cup competitions often coincides with other league or cup performance, although occasionally a club is relegated in the same season that it wins a cup competition. This complementarity between league and cup performance is particularly evident for the Champions League and Europa League, which require qualification based on domestic league or cup performance in the previous season.

There is no evident pattern between the standardised scores of fit and business performance (revenue), or between fit and financial performance (operating profit). Furthermore, the paths of clubs reveal no pattern in the fit between team resources and sporting performance before and after business performance failure, conceptualised and measured by insolvency events. Many clubs survive administration (Szymanski, 2015) and have the capability to manage their resources accordingly. Unfortunately, these events often coincide with missing data, which limits the analysis of this effect.

Overall, there is more evidence for a relationship between excessive misfit and promotion to the Premier League than for any other performance outcome. There is no evidence of misfit being related to other forms of sporting success, be it league or cup, or to sporting or business failure. Clubs that enjoy success and Premier League and Champions League have the necessary capability to formulate and implement appropriate strategies as they experience changing performance outcomes. For other competitions, the limited financial rewards associated with winning the FA Cup, EFL Cup, Europa League are not sufficient to affect resources. This may be specific to the Premier League,

where clubs have been relatively unsuccessful in the Europa League (see Table 2.7). Failing clubs are able to maintain fit when relegated from the Premier League, which may be due to compensation from the *parachute payments*.

9.5. Resources

The key resources for professional sport clubs are teams and stadiums (Borland, 2006a). However, it is not only the ownership or control of these resources that generate performance; it is the management of the resources, as discussed in Section 4.2. Therefore, decisions that determine the change of team manager and of the club's stadium are essential to any analysis of professional sport club performance. The data displays enable the empirical model to incorporate resource management capabilities with resources, and to explore any relationship with sporting and business performance. Specifically, the model encompasses team and stadium resource management capabilities and the relationship between change in these capabilities and the degree of fit for each club. There were some examples where clubs have adopted a successful resource management strategy, but these are contradicted by examples of similar strategies which have returned inferior performance.

Team resource management

Clubs have adopted divergent strategies for the management of their team resources. Some clubs only occasionally change their team manager, while other clubs have done so repeatedly. Four clubs in the sample have team managers who have completed ten seasons or more: Arsenal's Arsène Wenger (20 seasons from 1996 to the end of the observation period), Manchester United's Sir Alex Ferguson (19 seasons from the Premier League's inaugural season to 2012); Charlton Athletic's Alan Curbishley (10 seasons from 1995 to 2005) and Everton's David Moyes (10 years from 2002 to 2012). Three of these four clubs are permanent members of the Premier League. It is expected that team managers who generate sustained success will maintain their tenure. Alternatively, it may indicate that these team owners have longer-term objectives and are less likely terminate the contract of their team manager due to short-term failure. However, Aston Villa, Chelsea and Tottenham Hotspur have not retained any of their managers for more than three complete seasons during the observation period, but maintained their Premier League membership. Uniquely, Chelsea have enjoyed sustained sporting success by recruiting and terminating the contracts of a succession of team managers. Liverpool have had three managers with between three to five complete seasons. Five clubs have not employed any

manager who has completed three or more seasons: Crystal Palace, Nottingham Forest, Oldham Athletic, Southampton and Swansea City. These clubs have had different levels of success and failure, and in different eras. There is no apparent relationship between the tenure of team managers and sporting performance. Instead, clubs adopt contrasting approaches to the *hiring and firing* of team managers. Furthermore, there is no pattern between the degree of fit and the tenure of a club's team manager, nor of the decisions by club owners to terminate and recruit a new manager. Successful professional sport clubs may therefore possess or utilise efficient and effective human resource management capabilities.

Stadium resource management

17 clubs in the sample have relocated to new stadiums during the Premier League era, with most (15) being opened in the ten years from 1997 to 2006: Middlesbrough, Bolton Wanderers, Derby County, Stoke City and Sunderland (all 1997), Reading (1998), Wigan Athletic (1999), Southampton (2001), Hull City, Leicester City and Wimbledon (2002), Manchester City (2003), Coventry City and Swansea City (both 2005), Arsenal (2006), Cardiff City (2009) and West Ham United (2016). As illustrated in Section 2.3, Arsenal are the only permanent member of Premier League to move to new stadium during the observation period. Most stadium projects were completed by Football League clubs, with some having their inaugural year in the season immediately before or after promotion to, or relegation from, the Premier League. Furthermore, a number of clubs entered administration immediately before or after relocating. Club owners and business executives have often had to manage stadium relocation, which is usually the most critical resource decision that a club makes, during a period of considerable and uncertain change.

There is no evidence that substantial investment in stadium resources – and specifically when a club relocates to a new venue – has a positive or negative affect on the club's degree of fit. This may be because clubs are prevented from excessive team resource expenditure due to financial constraints of debt or equity that is issued or raised to fund new capital investment. Alternatively, clubs may maintain team player wages and transfer fee expenditure to ensure that sporting performance is not detrimental to the commercial opportunity of the new stadium. This suggests that the business executives of professional football clubs are adept at maintaining fit or, where there is evidence of misfit, refitting their resources to sporting performance. This would mean that some professional football clubs have, or at least temporarily utilise, appropriate capabilities in the management of large capital projects.

9.6. Conclusions: Sporting, business and financial performance

Proposition 6 explores the sporting, business and financial performance of Premier League clubs. It utilises a more complex model that incorporates team and stadium resources and introduces resource management capabilities. There is more evidence that promotion to the Premier League is related to excessive misfit than for any other performance outcome, whether positive or negative. But, overall, there is no discernible link between fit and other forms of sporting success, be it league or cup competitions, or between misfit and sporting failure (such as relegation) or business failure (insolvency events). Most clubs are usually able to accomplish sporting and business performance success, or endure failure (including relegation and administration), without any sustained, excessive effect on fit scores.

The permanent members of the Premier League have maintained fit for at least most of the observation period, including those seasons when clubs have won the Premier League or Champions League. This indicates that they have the necessary capabilities to manage their superior resource endowments. However, even these most successful clubs have occasionally experienced misfit and excessive misfit, which suggests that readjustments are necessary to sustain Premier League and Champions League membership. This may be particularly so in a growing and increasingly intense competitive environment, with competition from new clubs and from existing rivals with new owners (see Section 2.5).

Many of the clubs that have grown from the third and fourth divisions of the Football League to the Premier League have experienced excessive misfit at the onset of their growth. In contrast, there is no evidence that excessive misfit is always, or even usually, a consequence of relegation for clubs that yo-yo between the Premier League and Football League. Surprisingly, deviation is not necessarily associated with decline or failure, be it sporting or business performance. Even excessive under-performance does not necessarily lead to administration (Szymanski, 2015). Clubs in the yo-yo and volatility groups usually maintain fit or can refit as and when necessary. This suggests that, despite the widening gap between and even within divisions, clubs can acquire, develop and divest the necessary resources and capabilities to bridge the gap (see Section 2.8).

The resilience and adaptability of clubs is demonstrated by the formulation and implementation of their resource strategies. Clubs have differentiated human resource strategies for the termination and

appointment of multiple managers, which result in varying performance outcomes. Those clubs that generate and sustain sporting success usually maintain fit, and may have or utilise superior human resource management capabilities. Similarly, the relocation to a new stadium does not have any apparent sustained and excessive effect on a club's willingness or ability to match its resources to performance. These clubs have, or utilise, the necessary capabilities for the management of such capital projects.

Appendix 9.1: The clubs

Figure 9.3: Performance and resources, Arsenal, 1994 to 2016

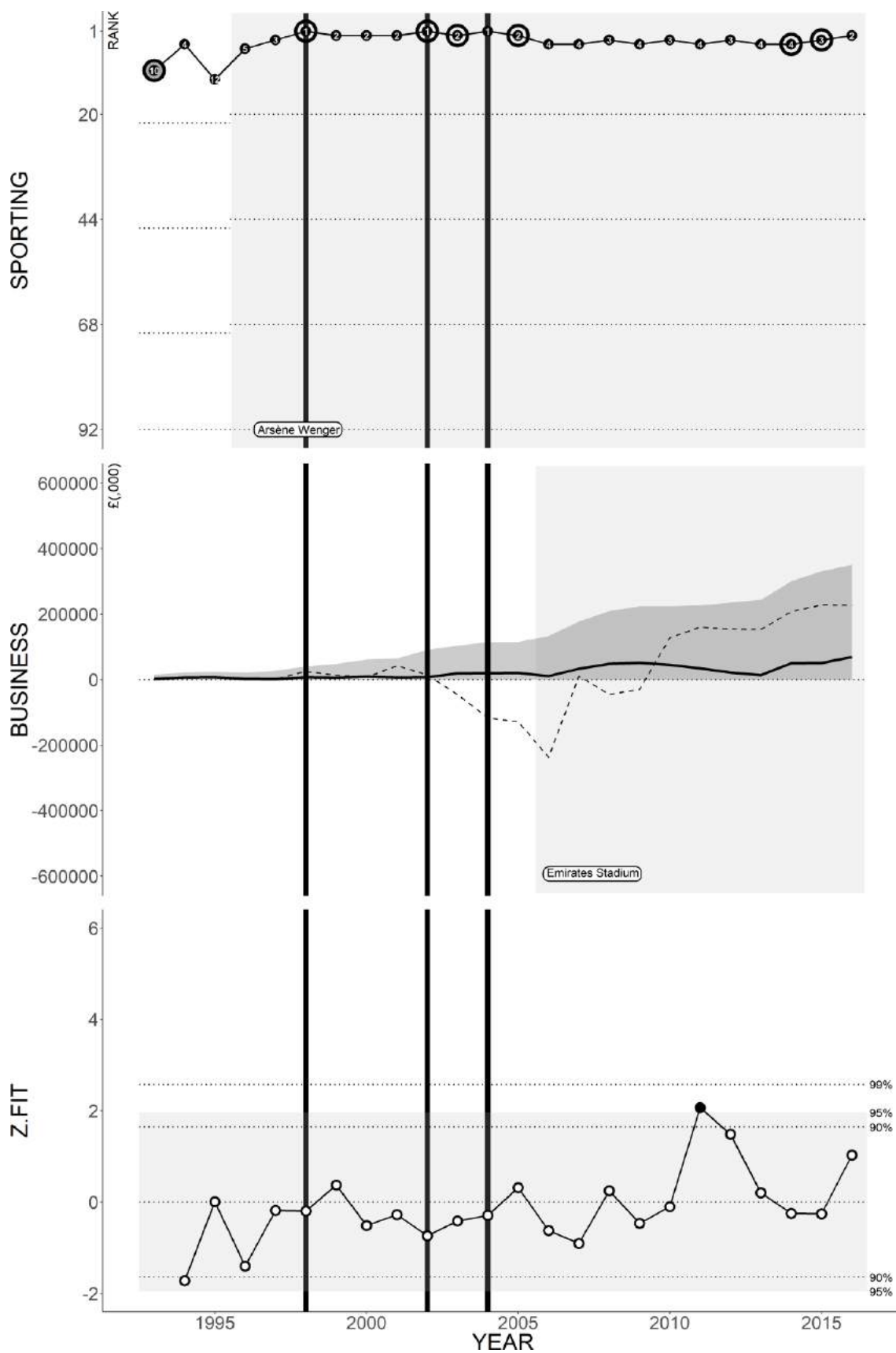


Figure 9.4: Performance and resources, Aston Villa, 1994 to 2016

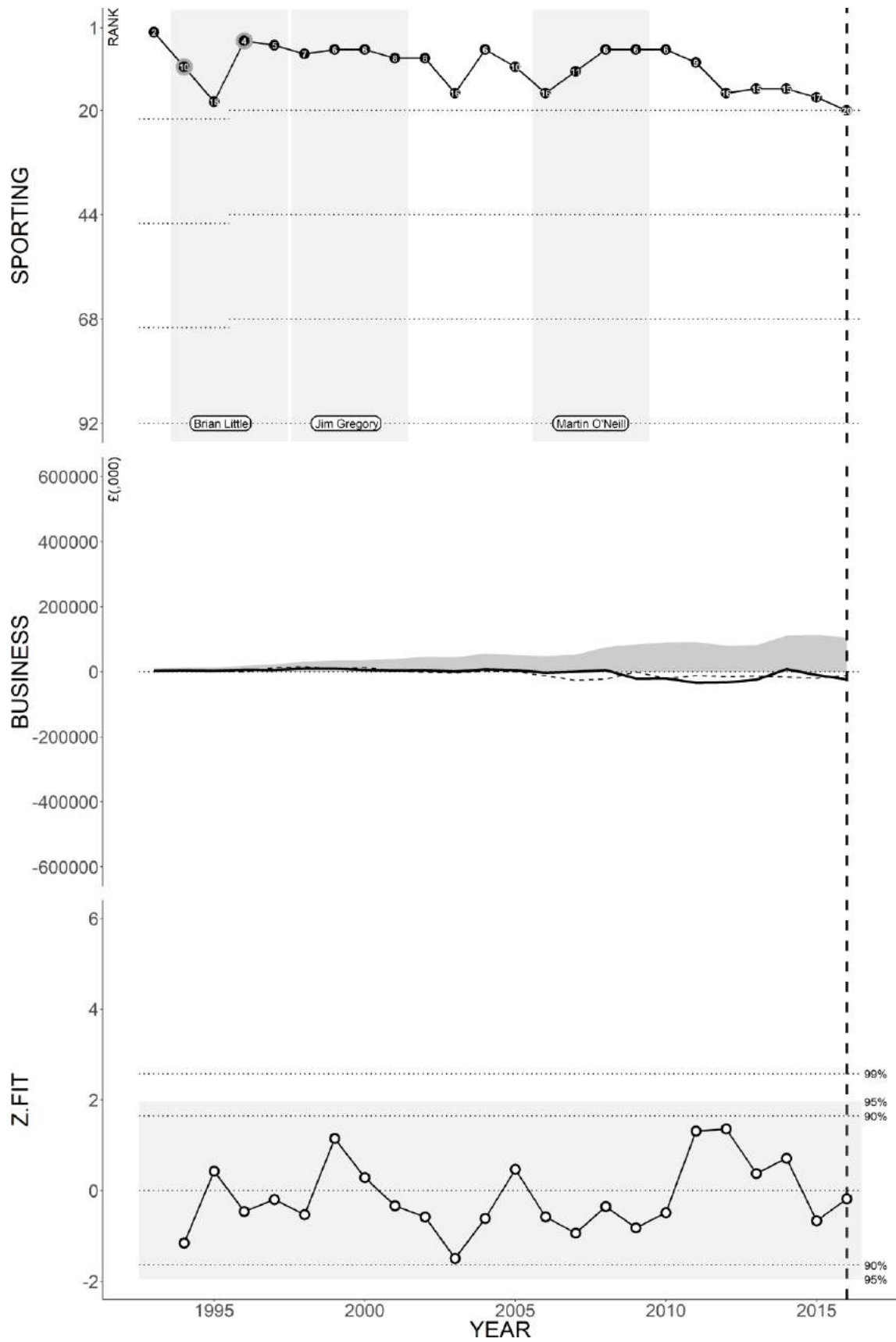


Figure 9.5: Performance and resources, Barnsley, 1994 to 2016

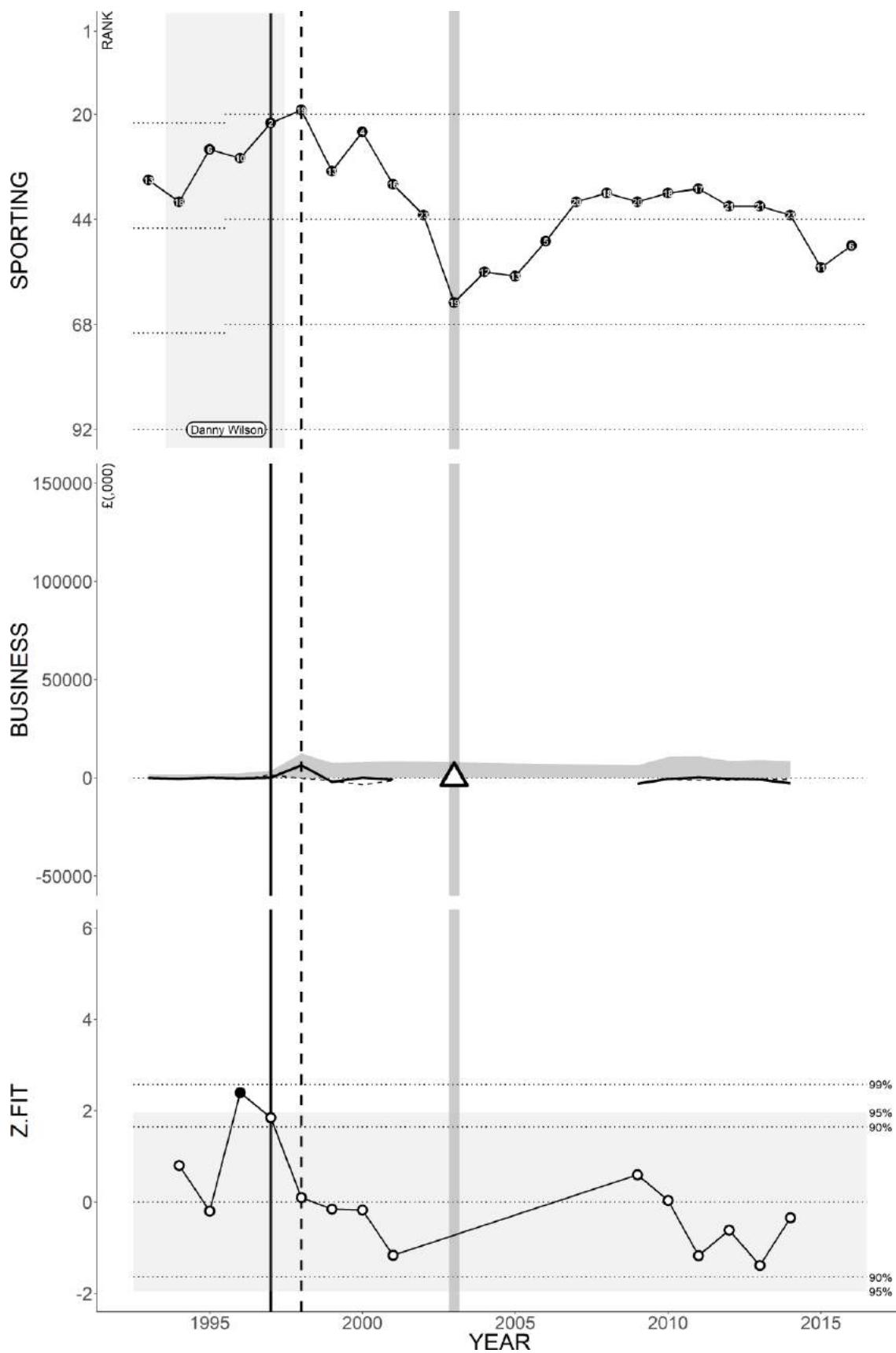


Figure 9.6: Performance and resources, Birmingham City, 1994 to 2016

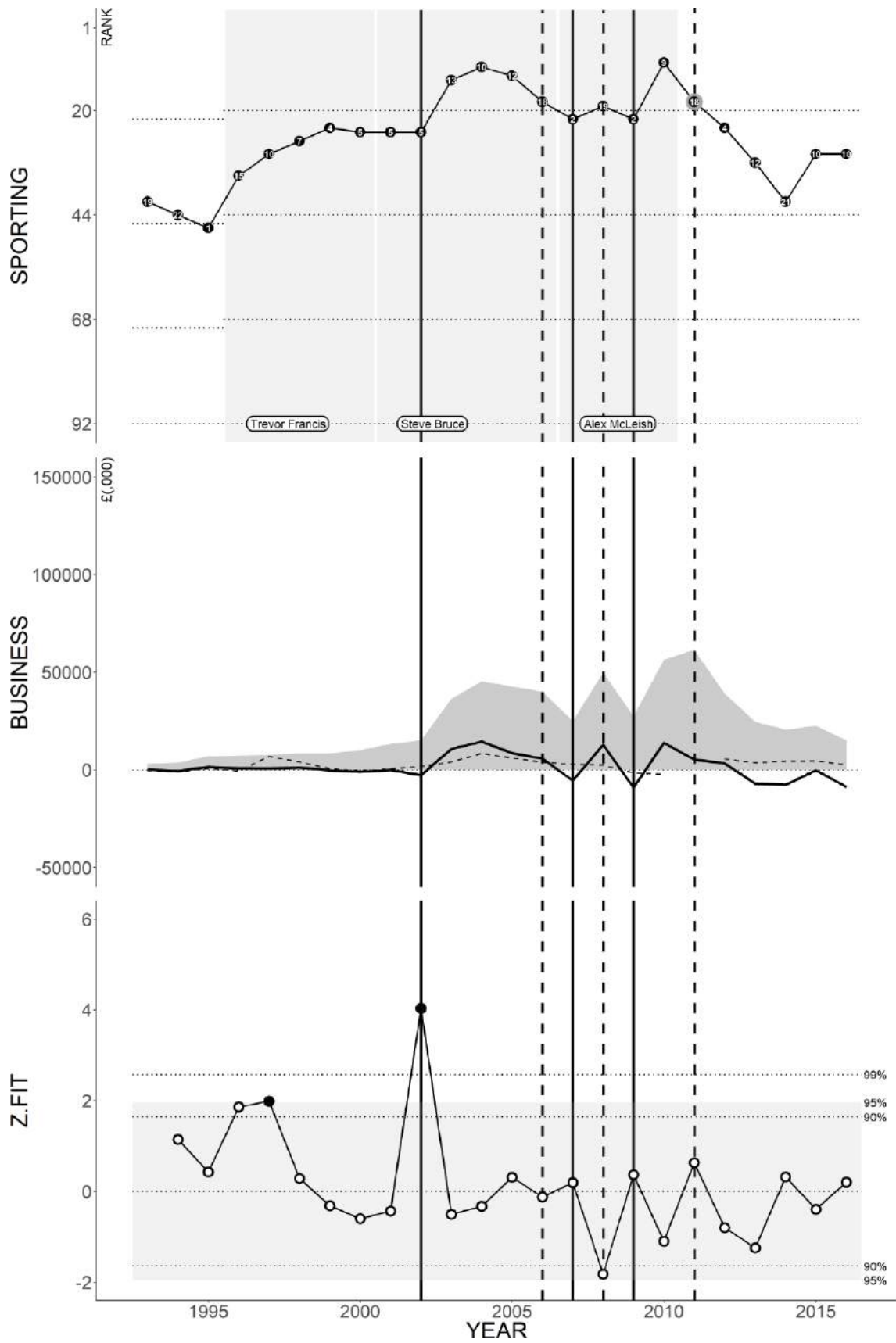


Figure 9.7: Performance and resources, Blackburn Rovers, 1994 to 2016

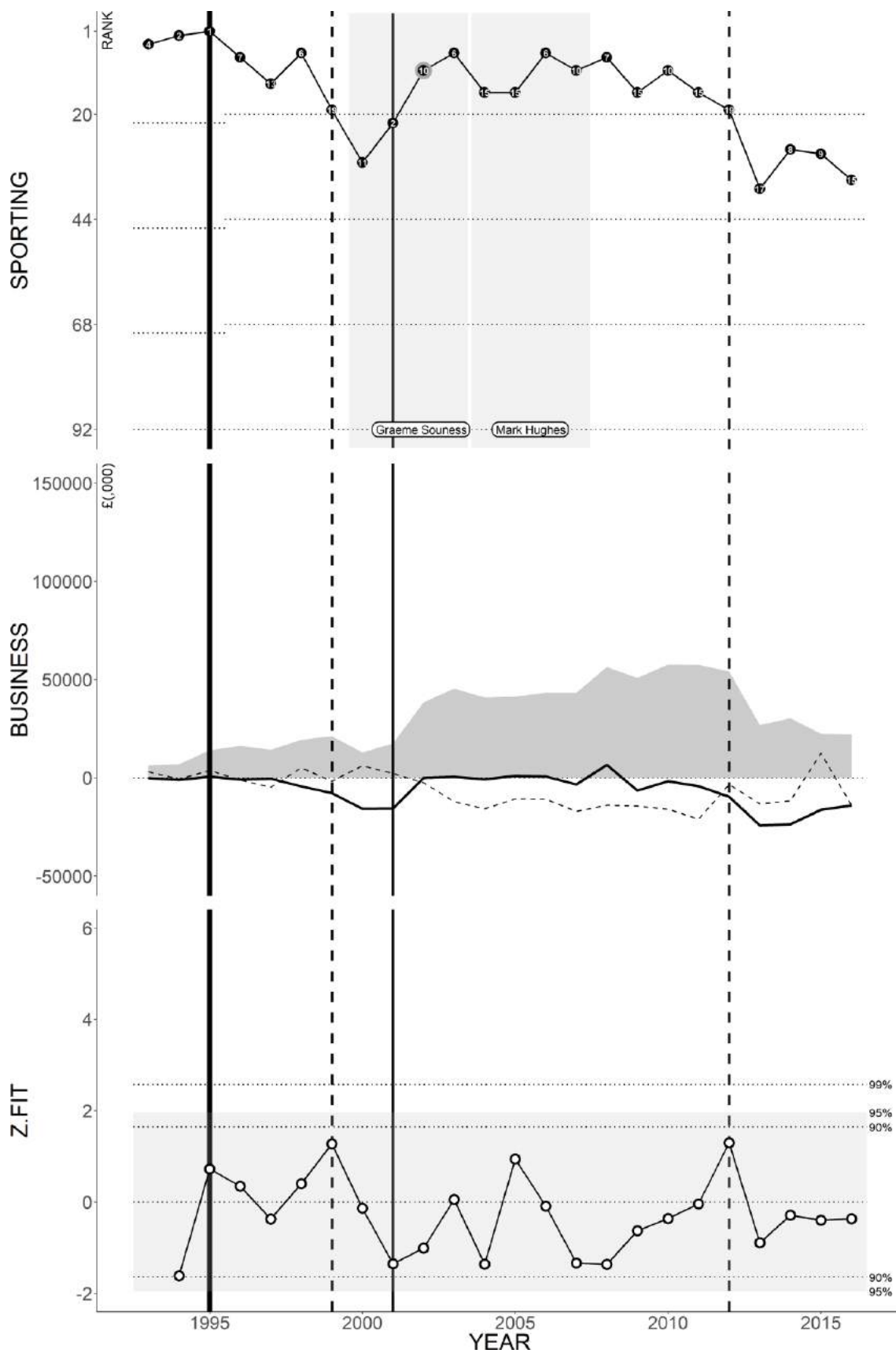


Figure 9.8: Performance and resources, Blackpool, 1994 to 2016

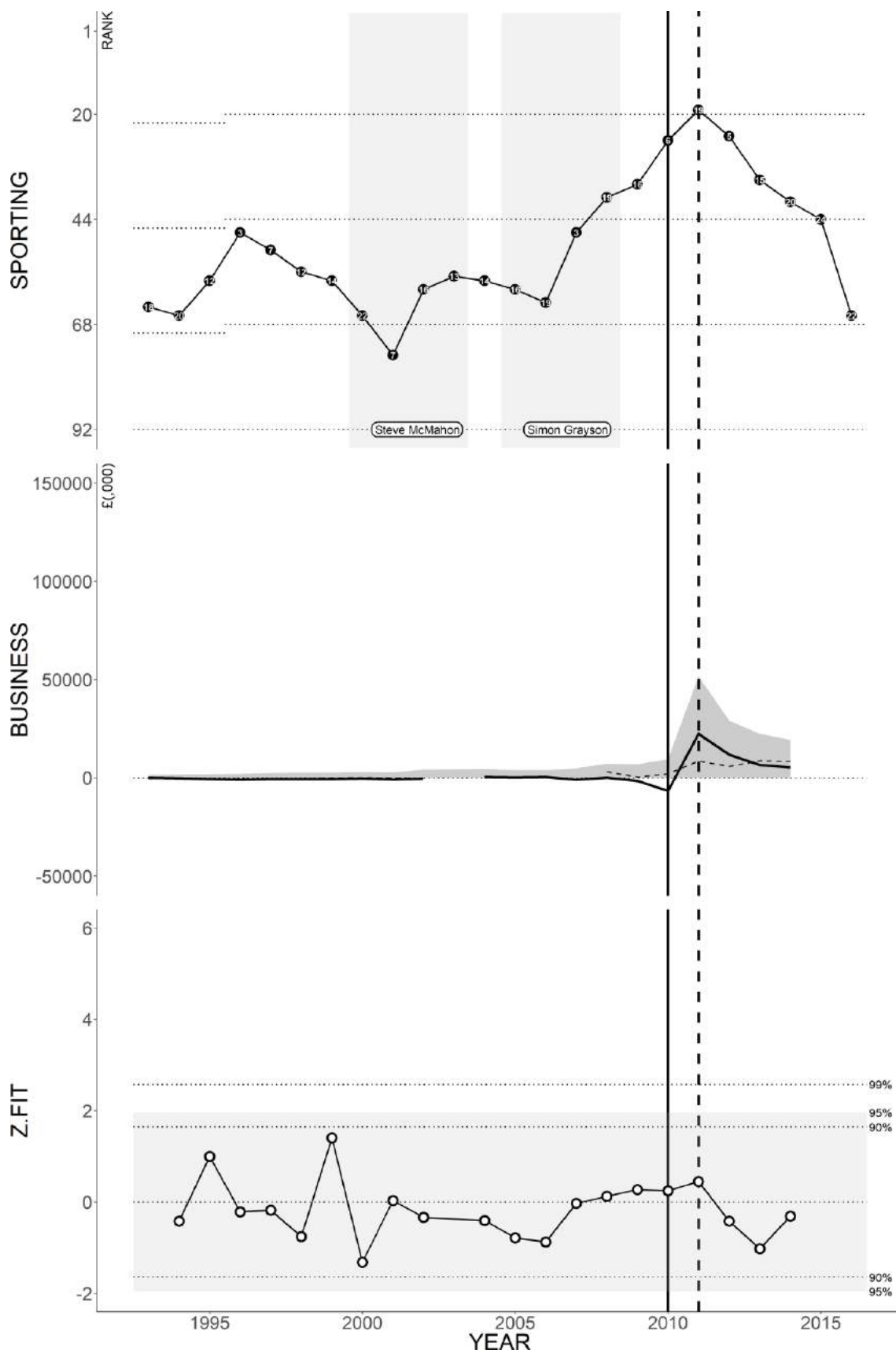


Figure 9.9: Performance and resources, Bolton Wanderers, 1994 to 2016

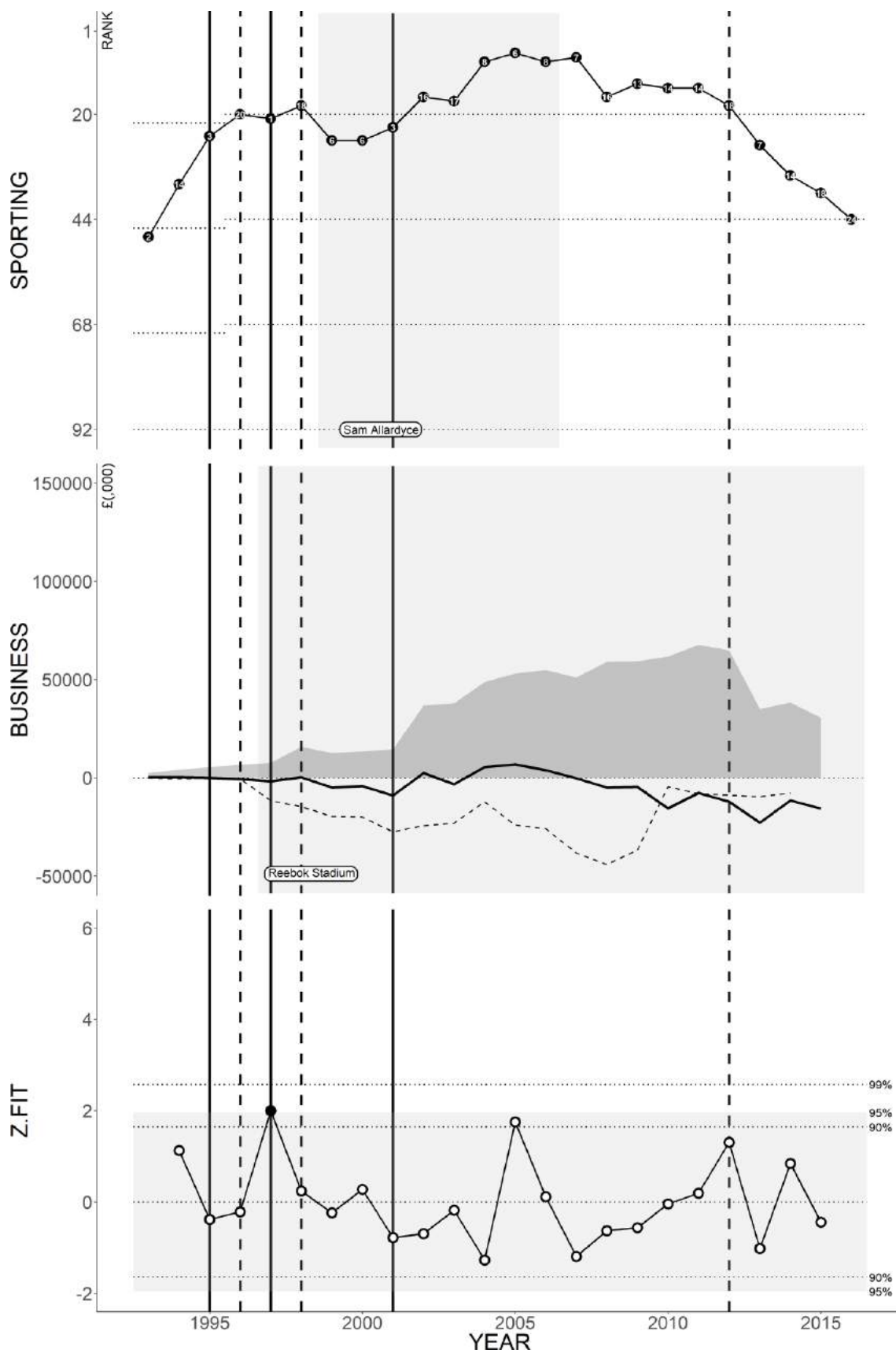


Figure 9.10: Performance and resources, Bournemouth, 1994 to 2016

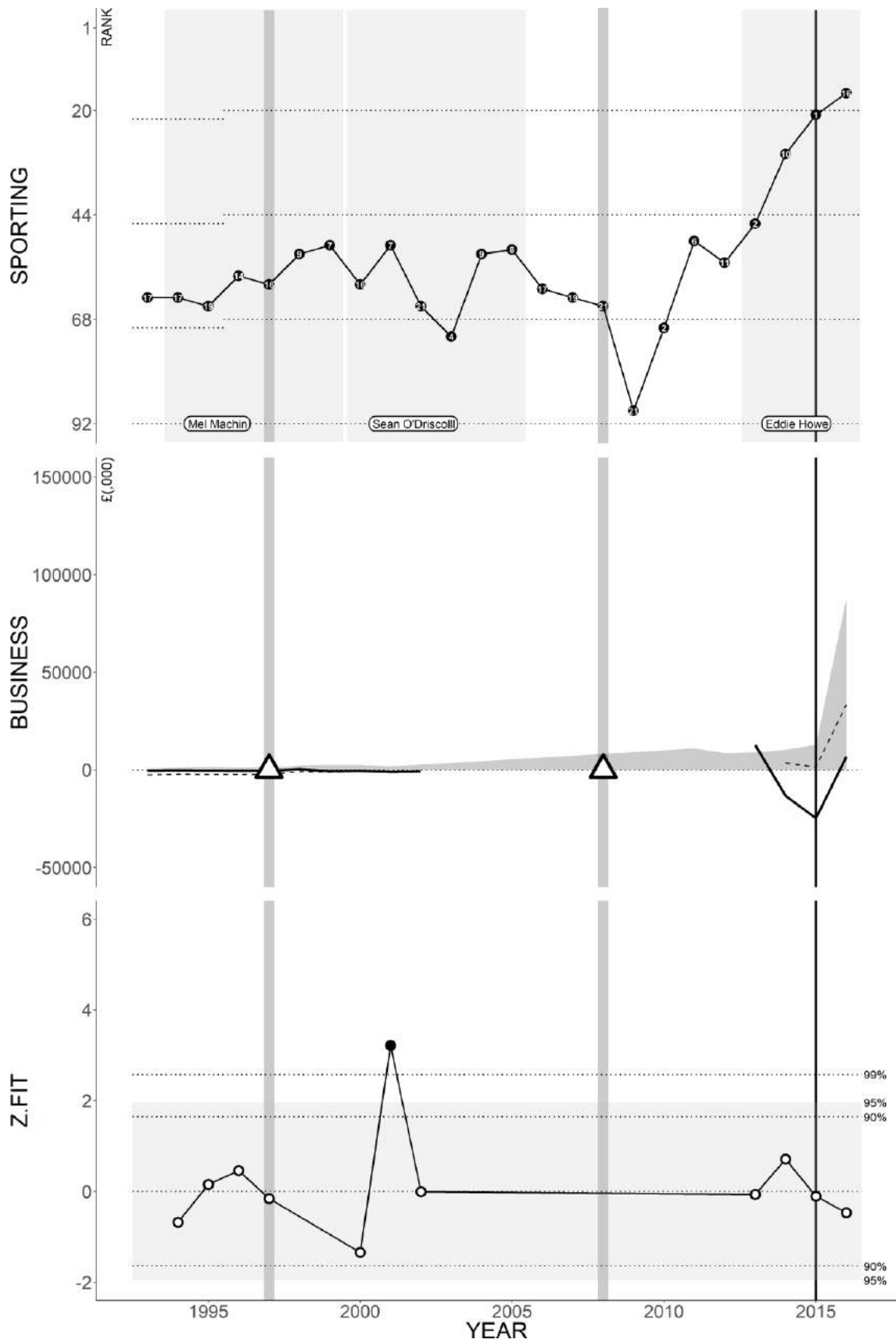


Figure 9.11: Performance and resources, Burnley, 1994 to 2016

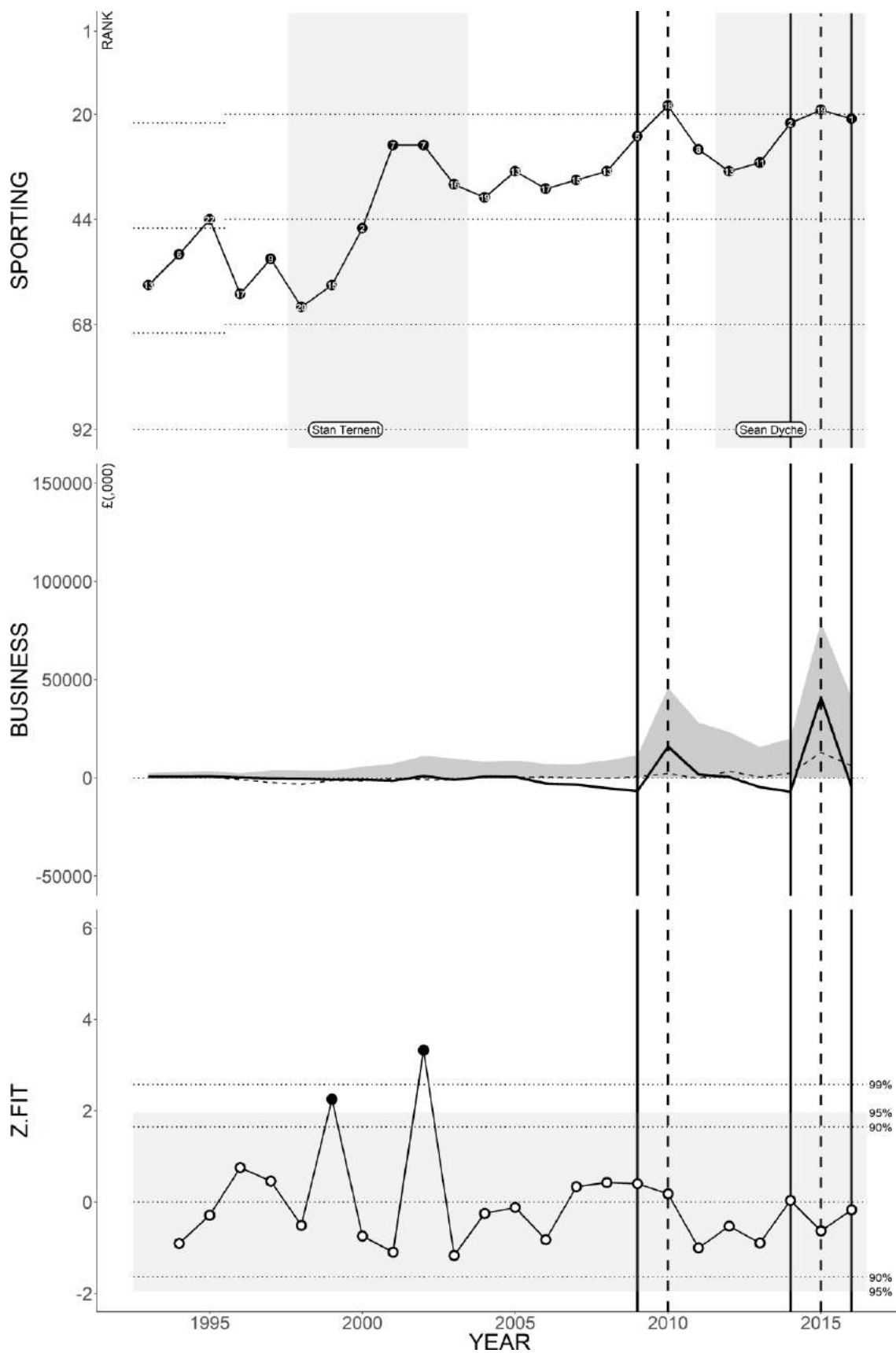


Figure 9.12: Performance and resources, Cardiff City, 1994 to 2016

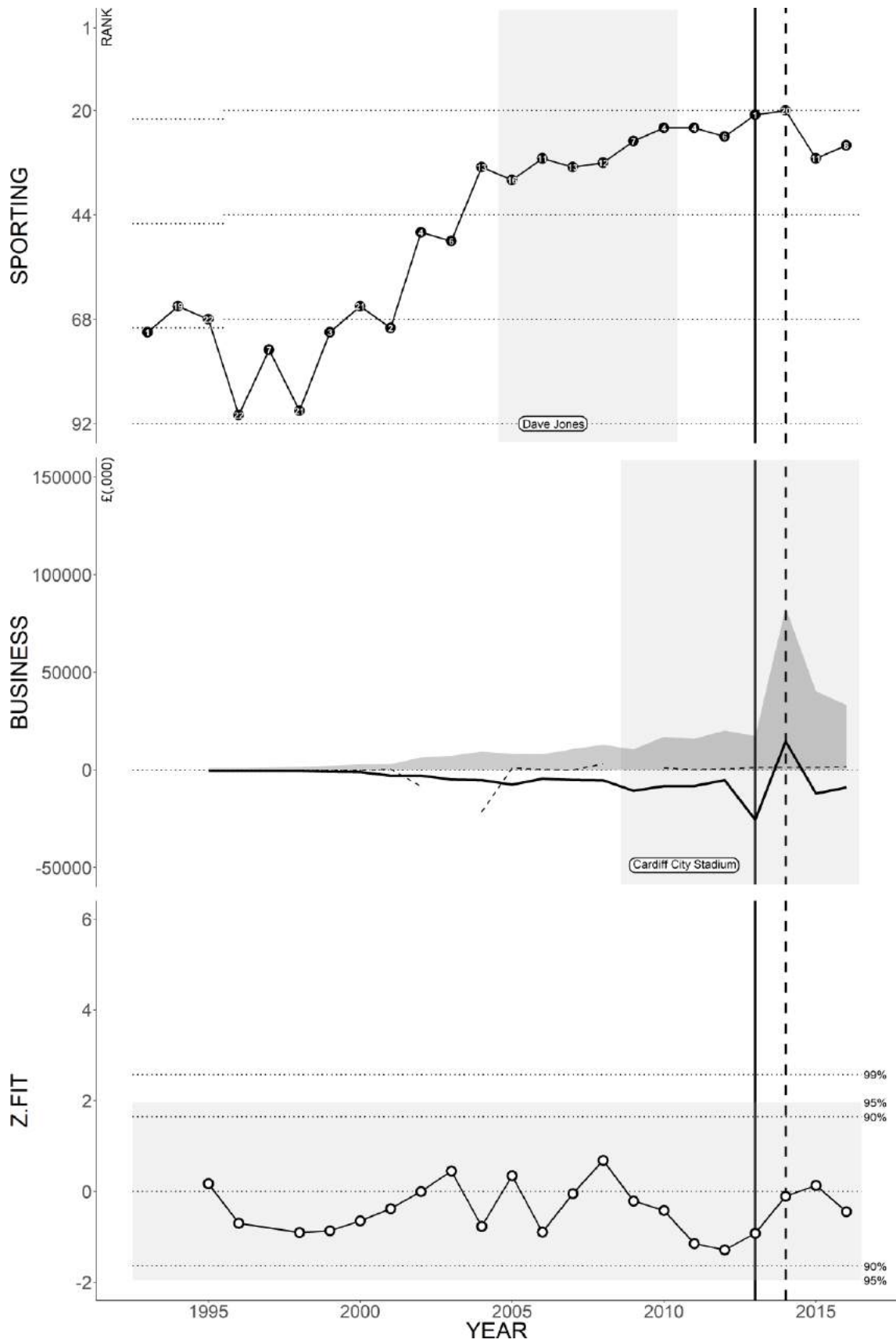


Figure 9.13: Performance and resources, Charlton Athletic, 1994 to 2016

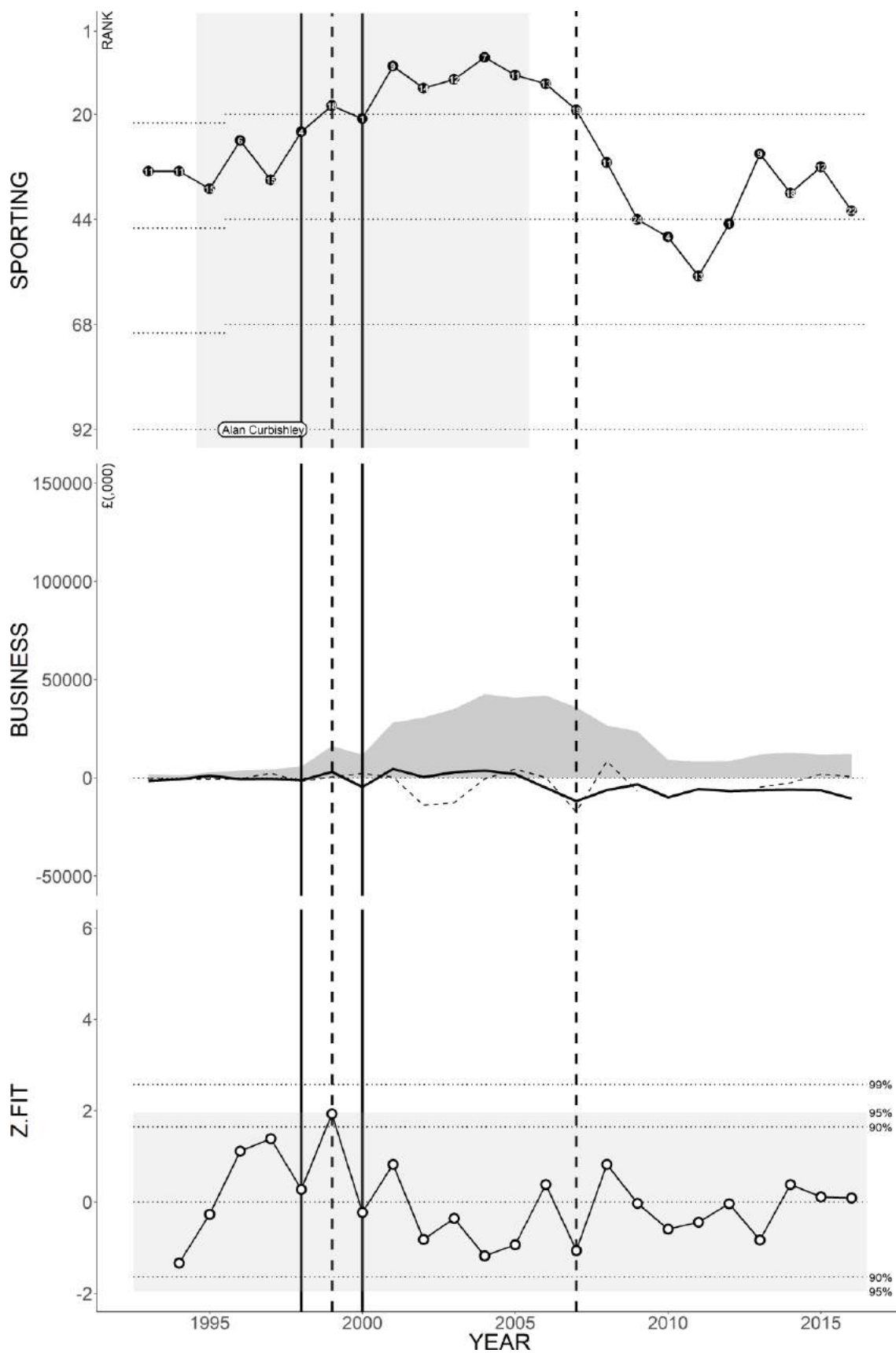


Figure 9.14: Performance and resources, Chelsea, 1994 to 2016

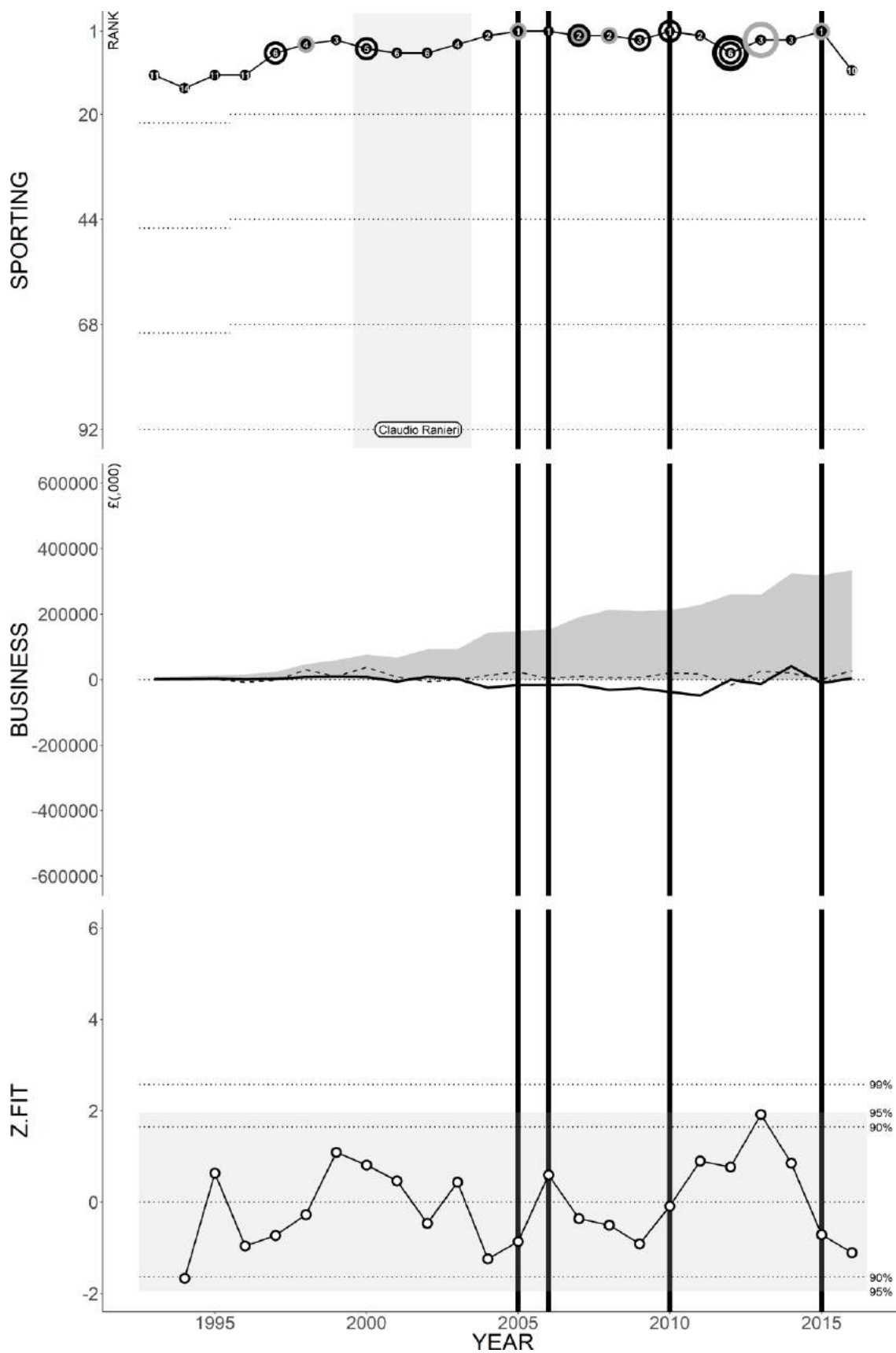


Figure 9.15: Performance and resources, Coventry City, 1994 to 2016

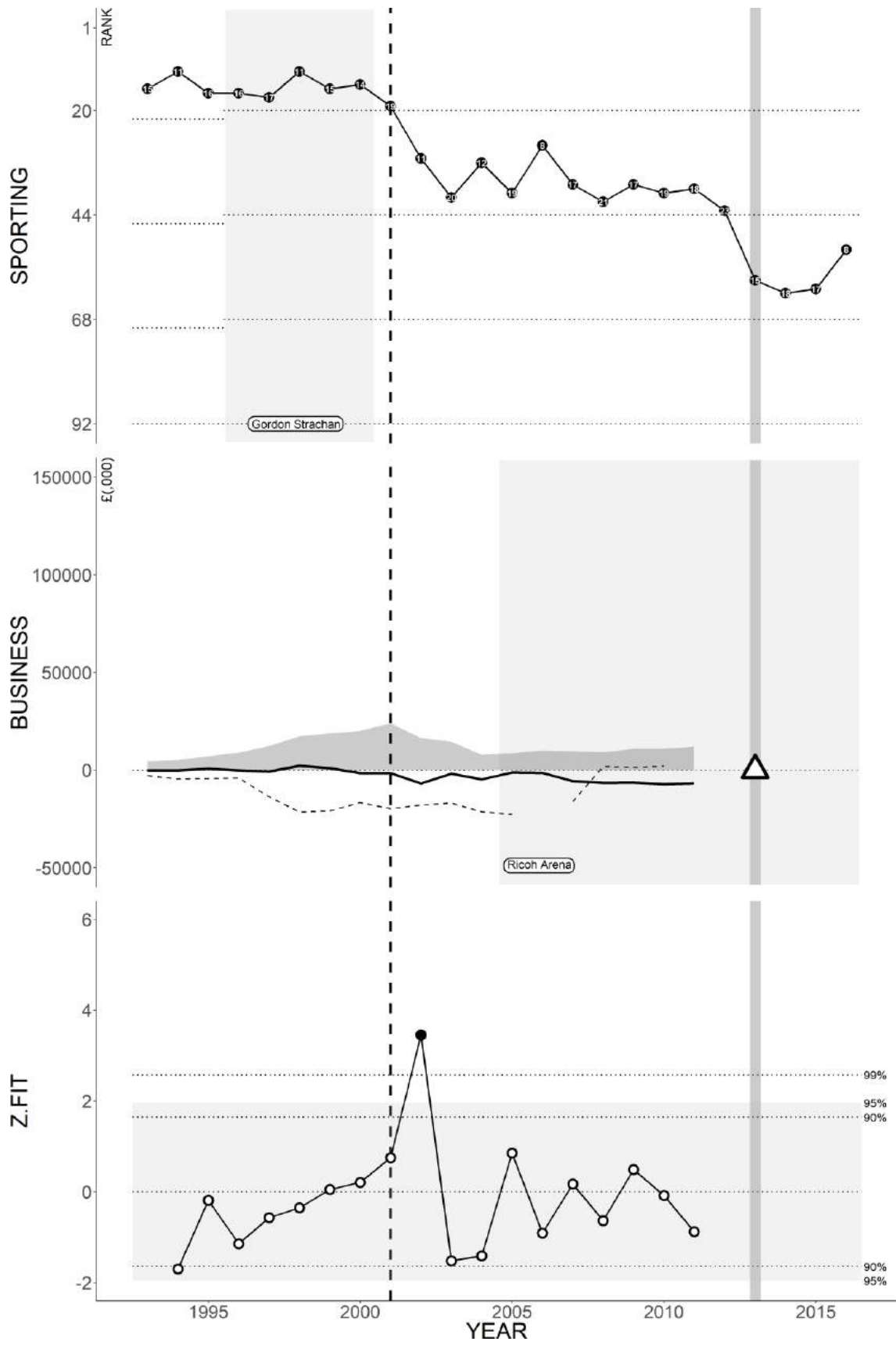


Figure 9.16: Performance and resources, Crystal Palace, 1994 to 2016

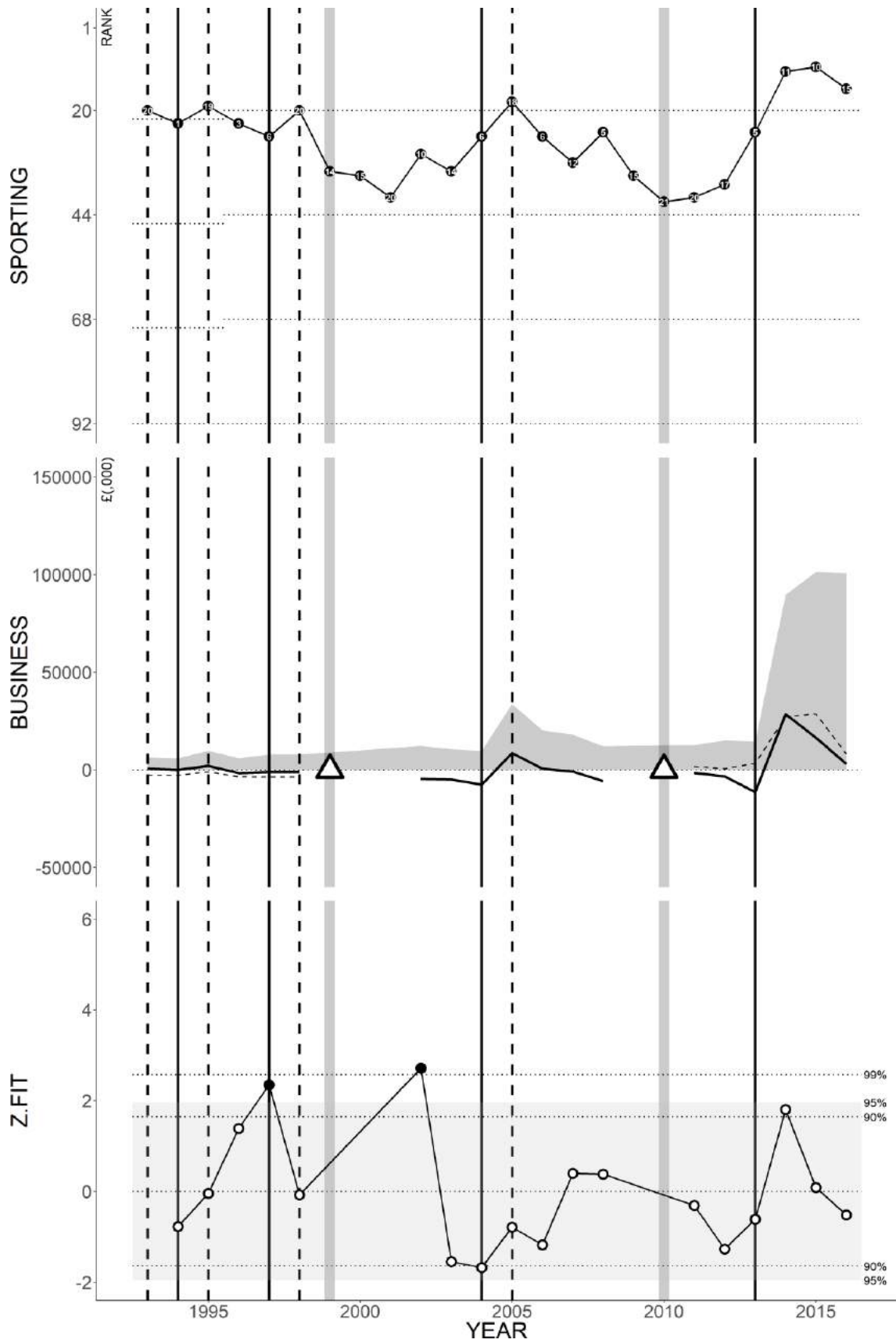


Figure 9.17: Performance and resources, Derby County, 1994 to 2016

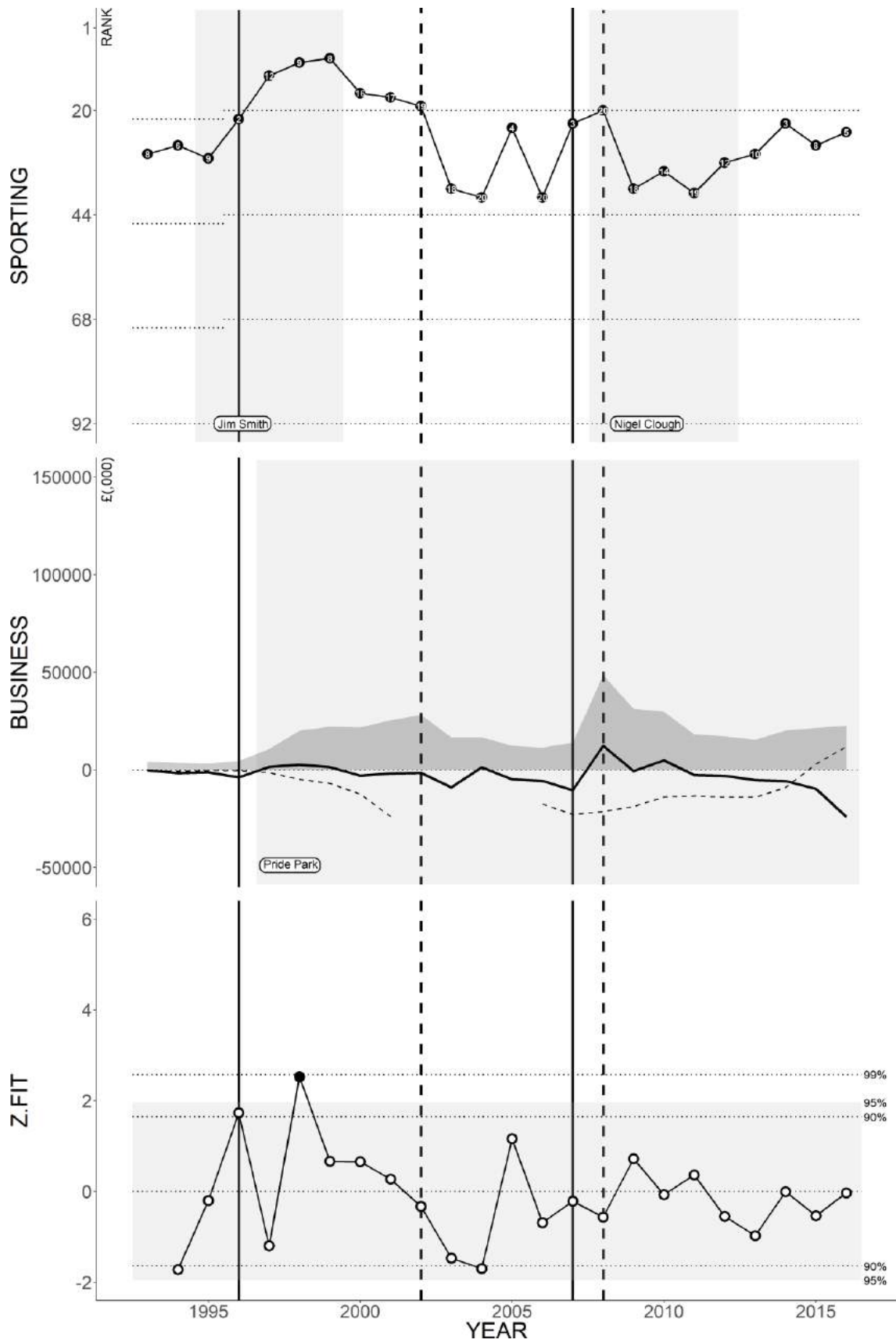


Figure 9.18: Performance and resources, Everton, 1994 to 2016

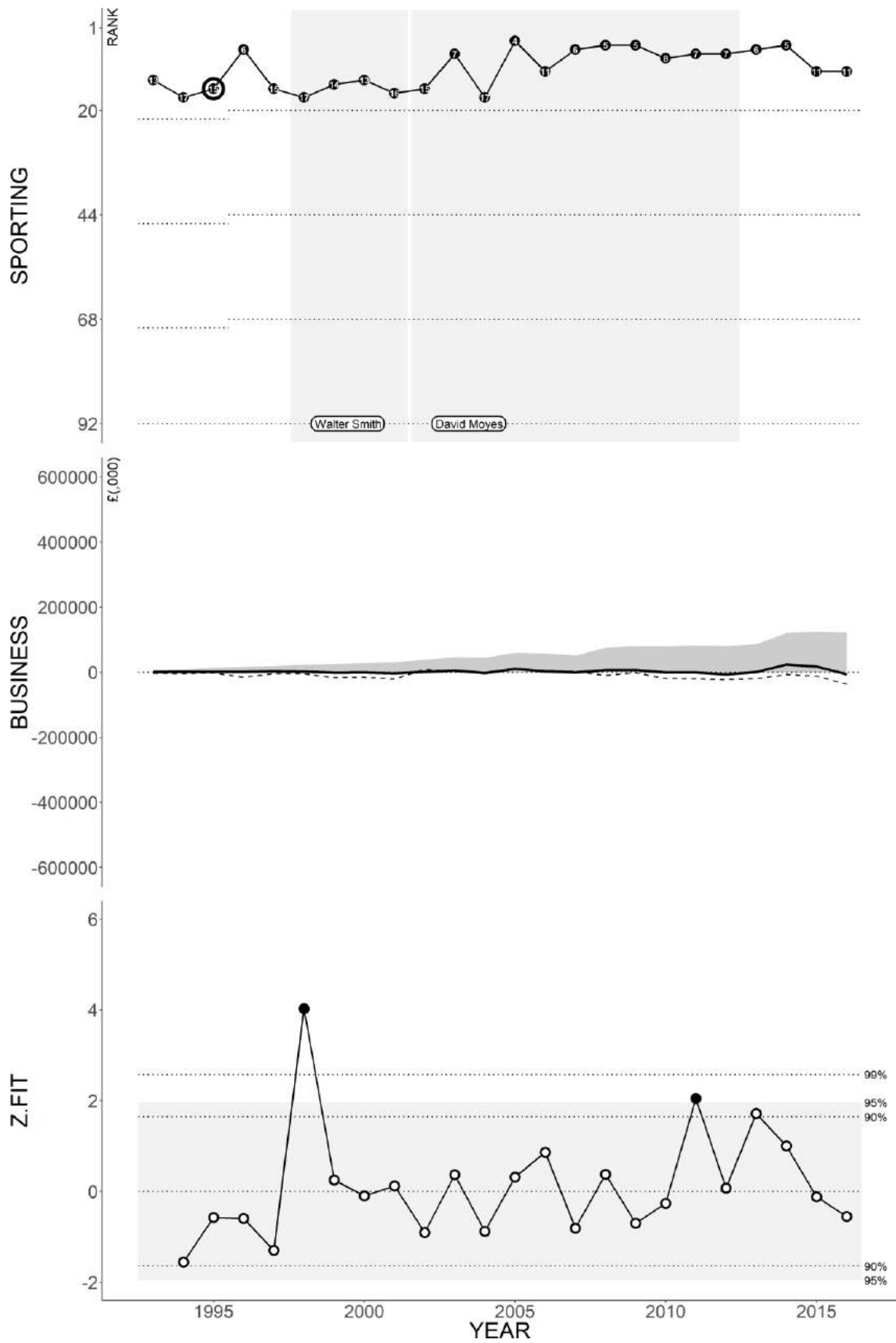


Figure 9.19: Performance and resources, Fulham, 1994 to 2016

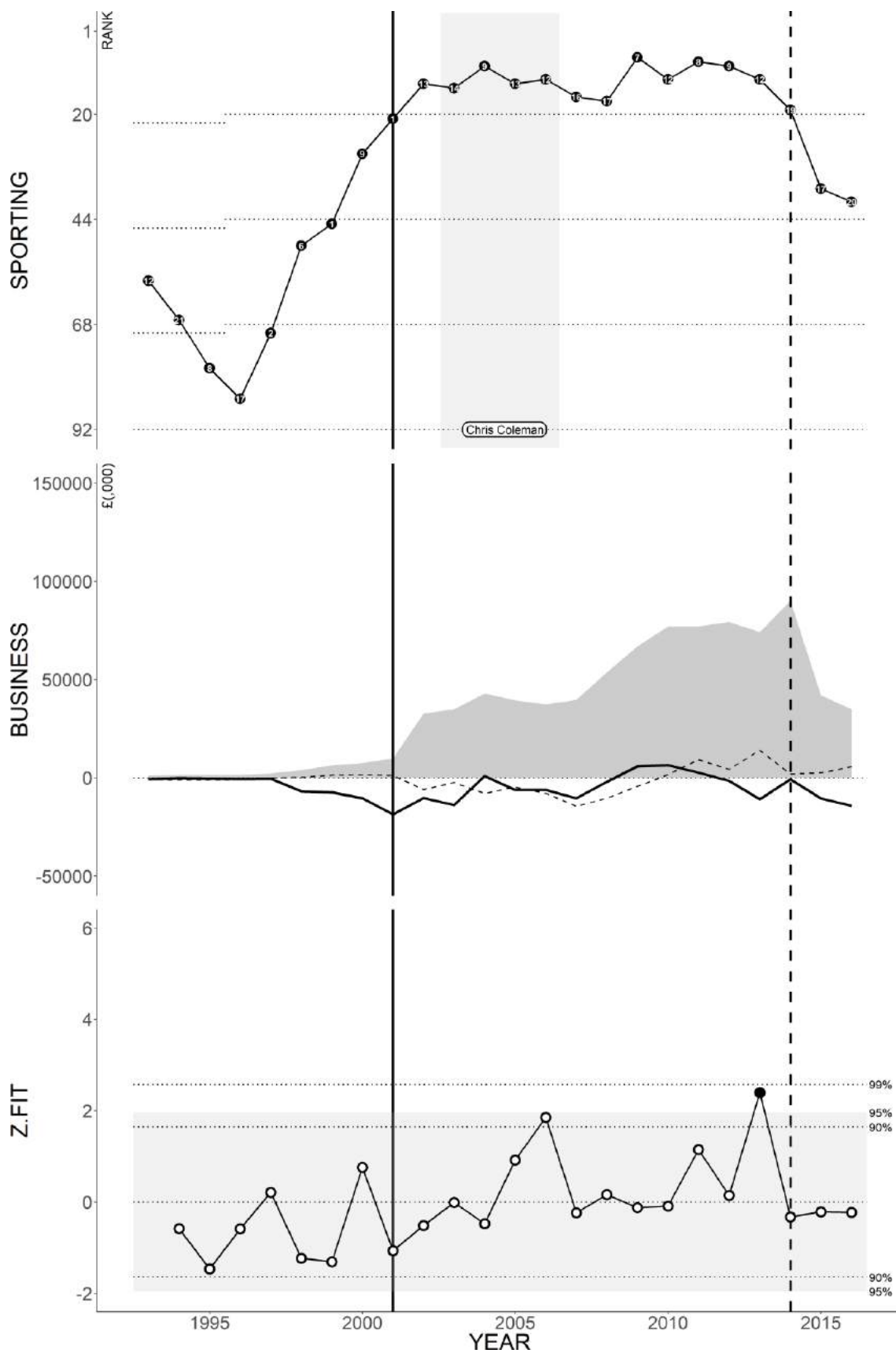


Figure 9.20: Performance and resources, Hull City, 1994 to 2016

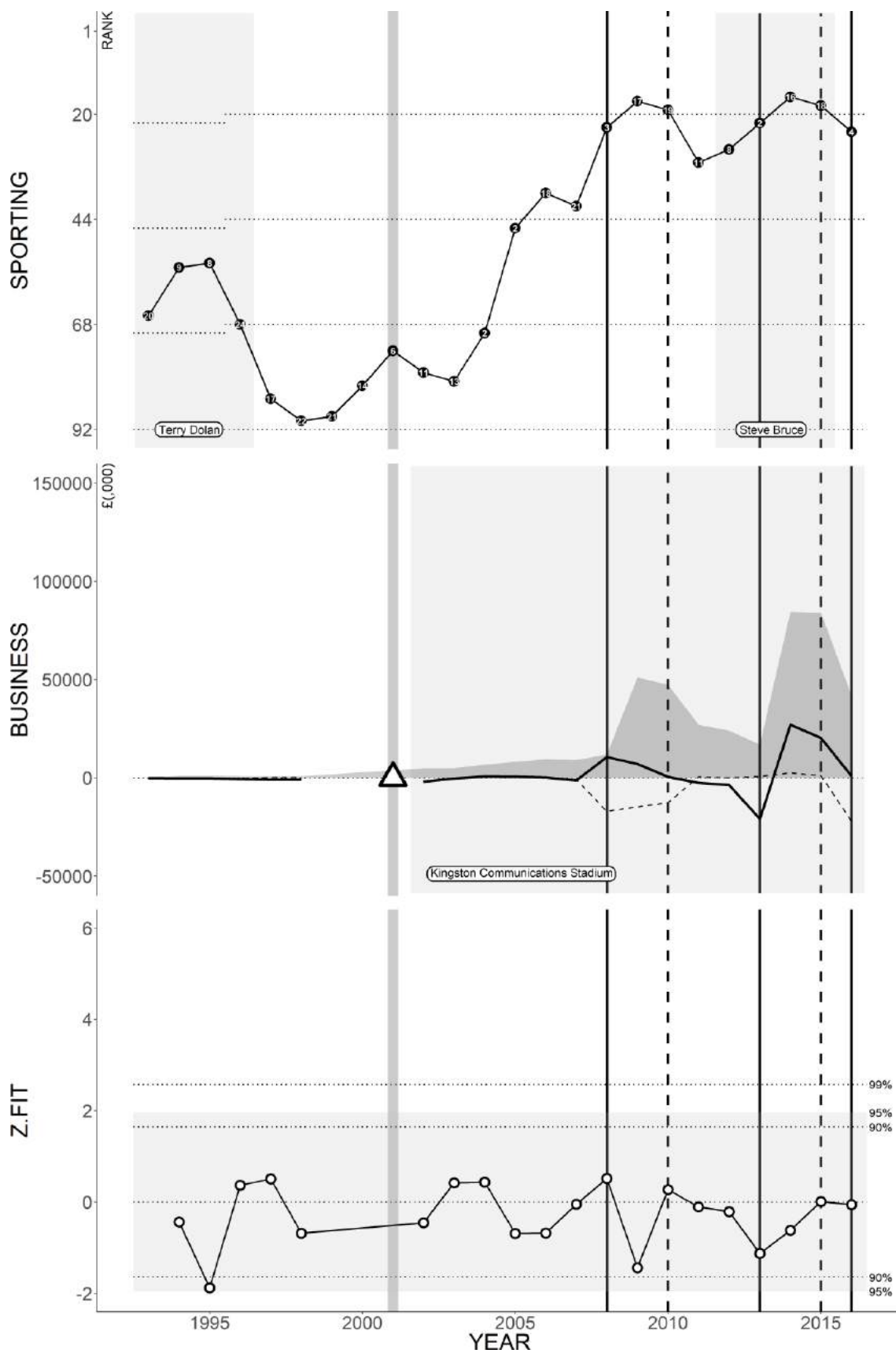


Figure 9.21: Performance and resources, Ipswich Town, 1994 to 2016

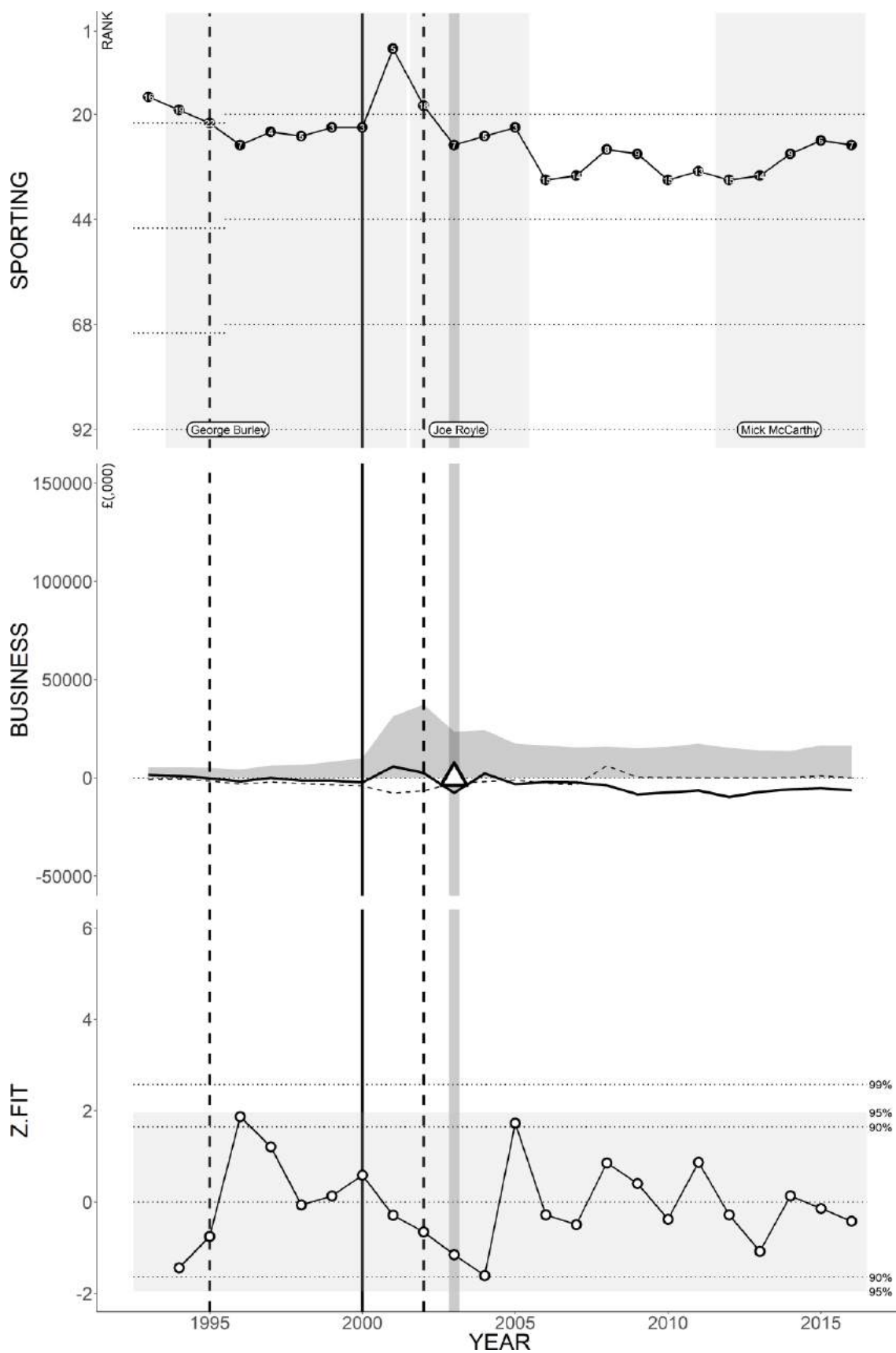


Figure 9.22: Performance and resources, Leeds United, 1994 to 2016

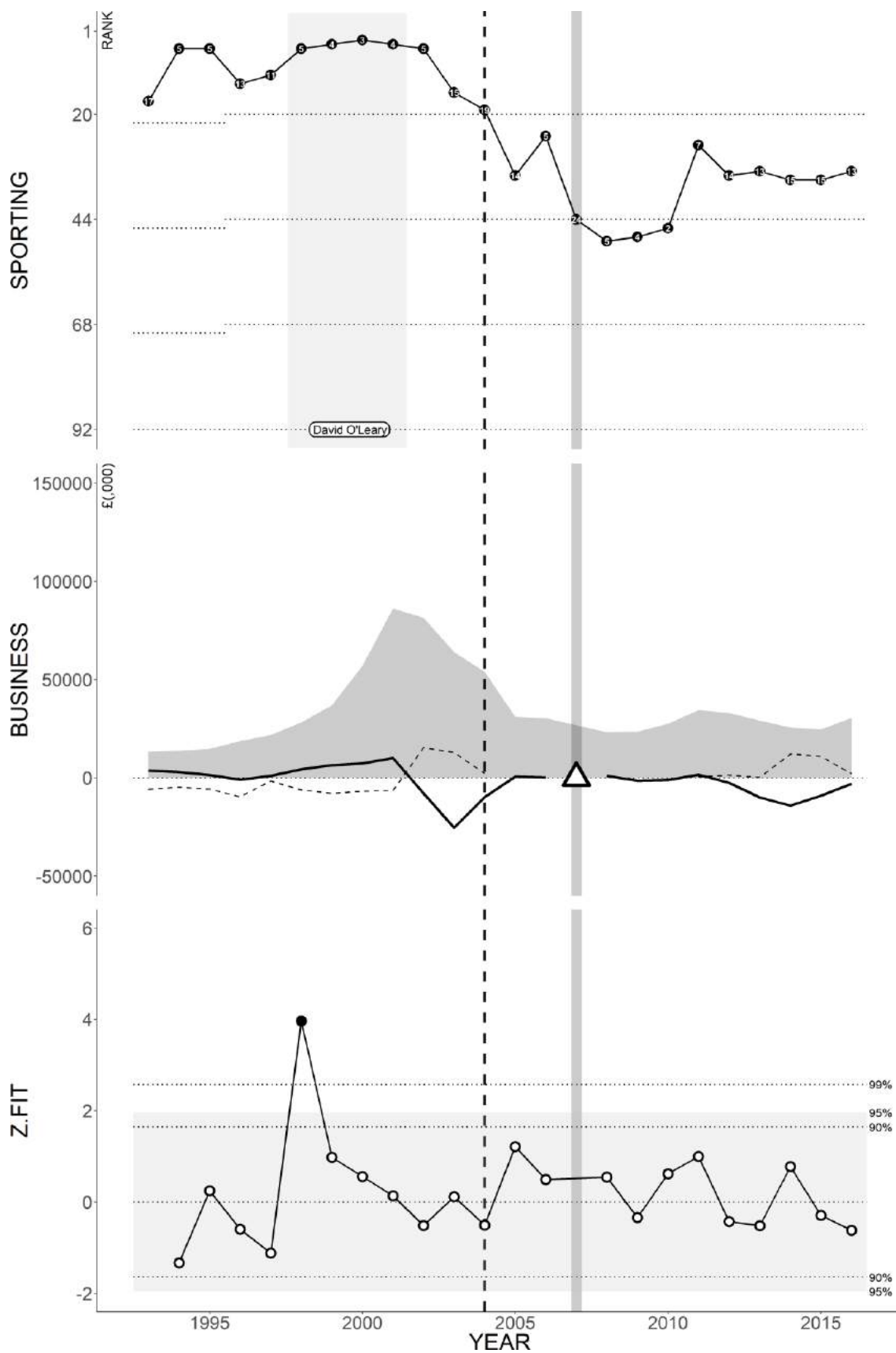


Figure 9.23: Performance and resources, Leicester City, 1994 to 2016

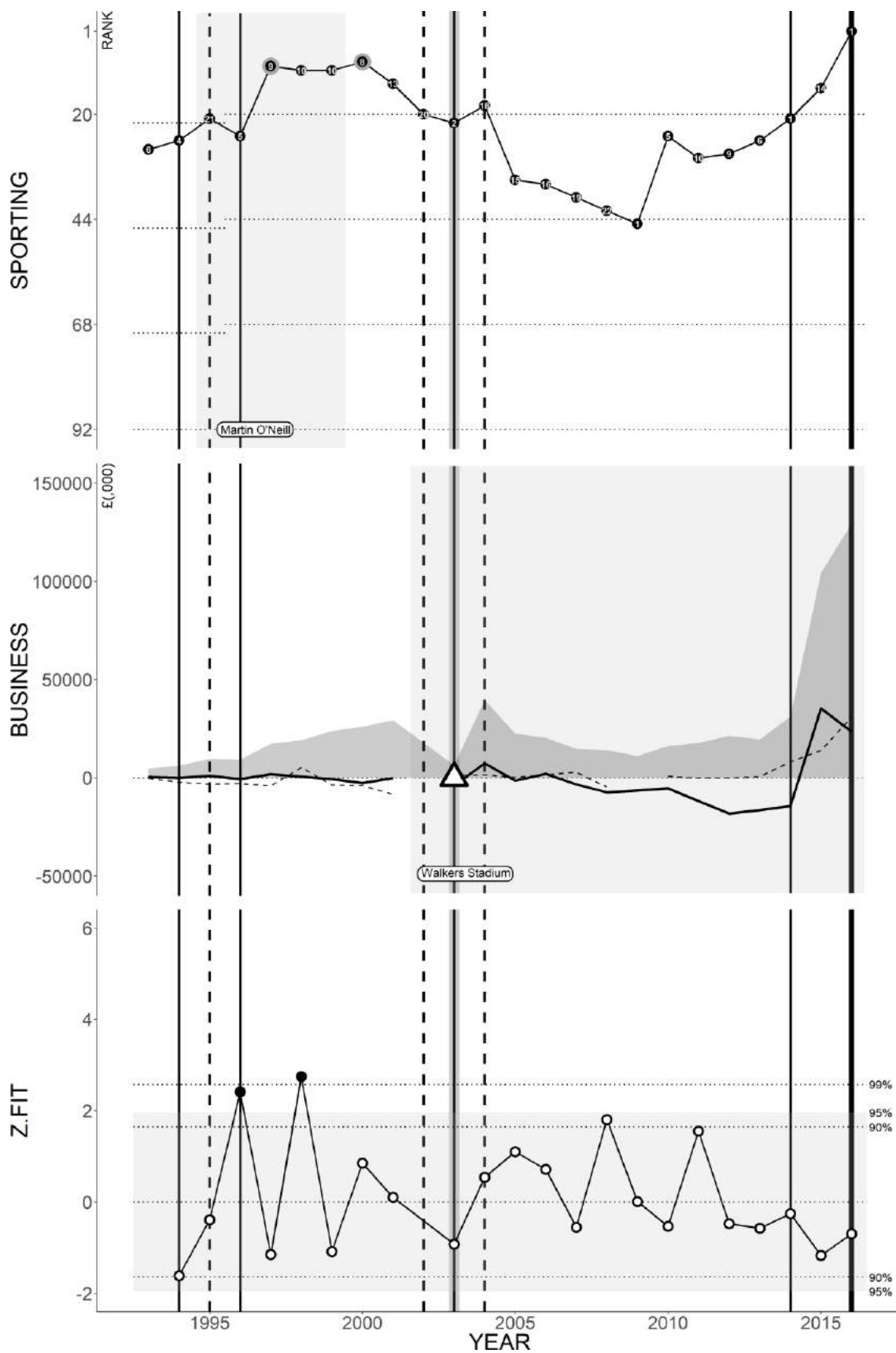


Figure 9.24: Performance and resources, Liverpool, 1994 to 2016

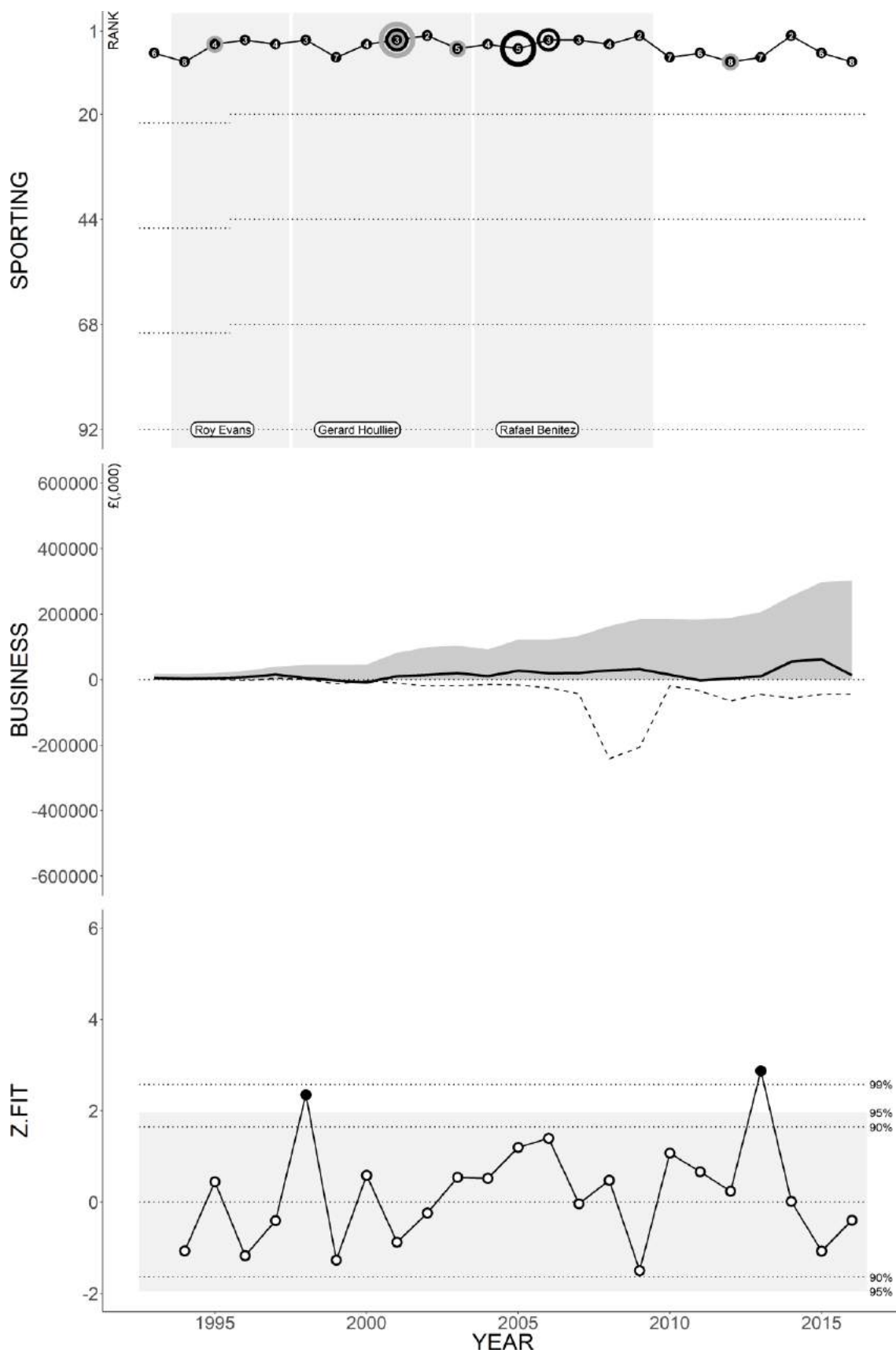


Figure 9.25: Performance and resources, Manchester City, 1994 to 2016

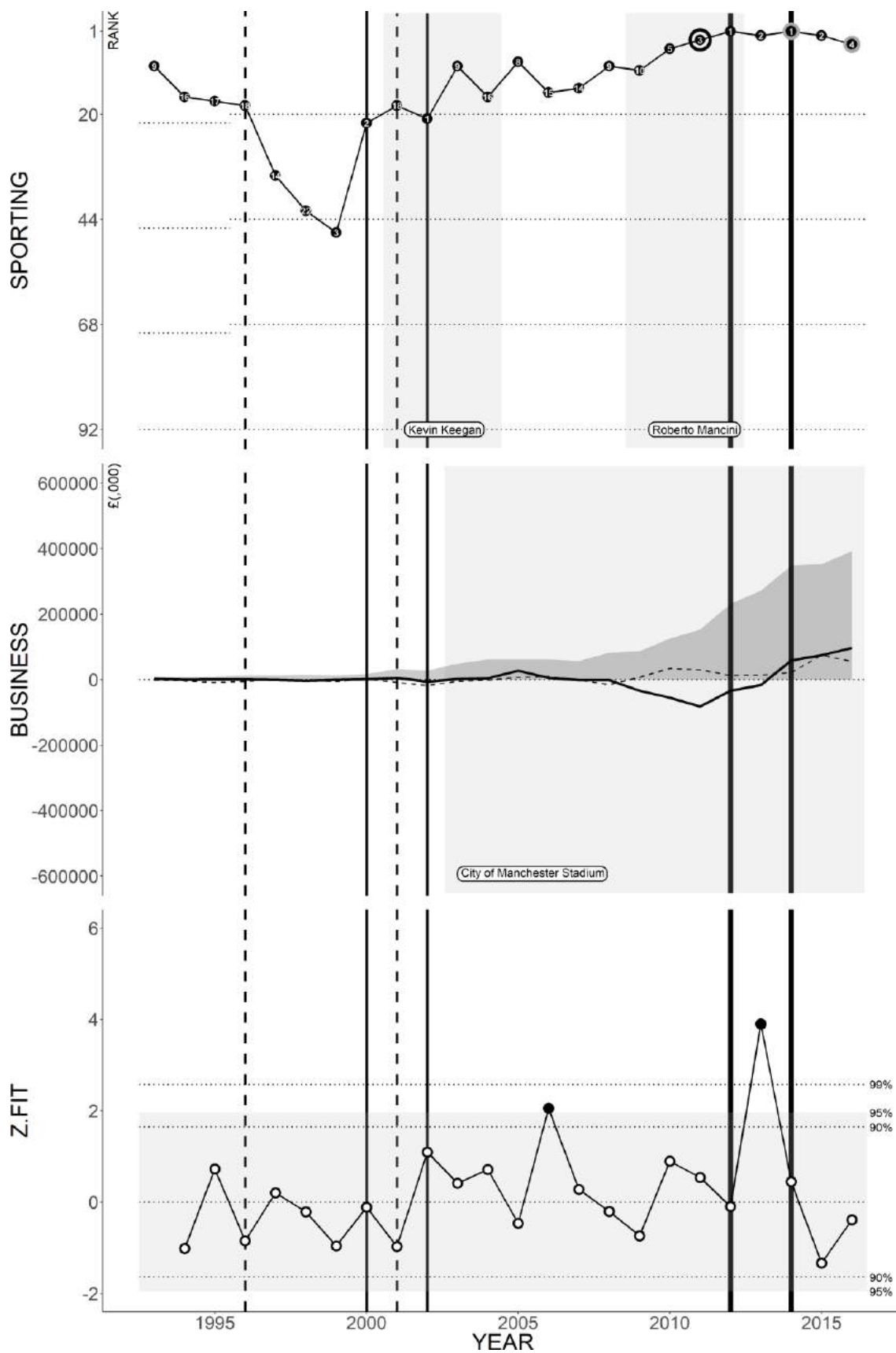


Figure 9.26: Performance and resources, Manchester United, 1994 to 2016

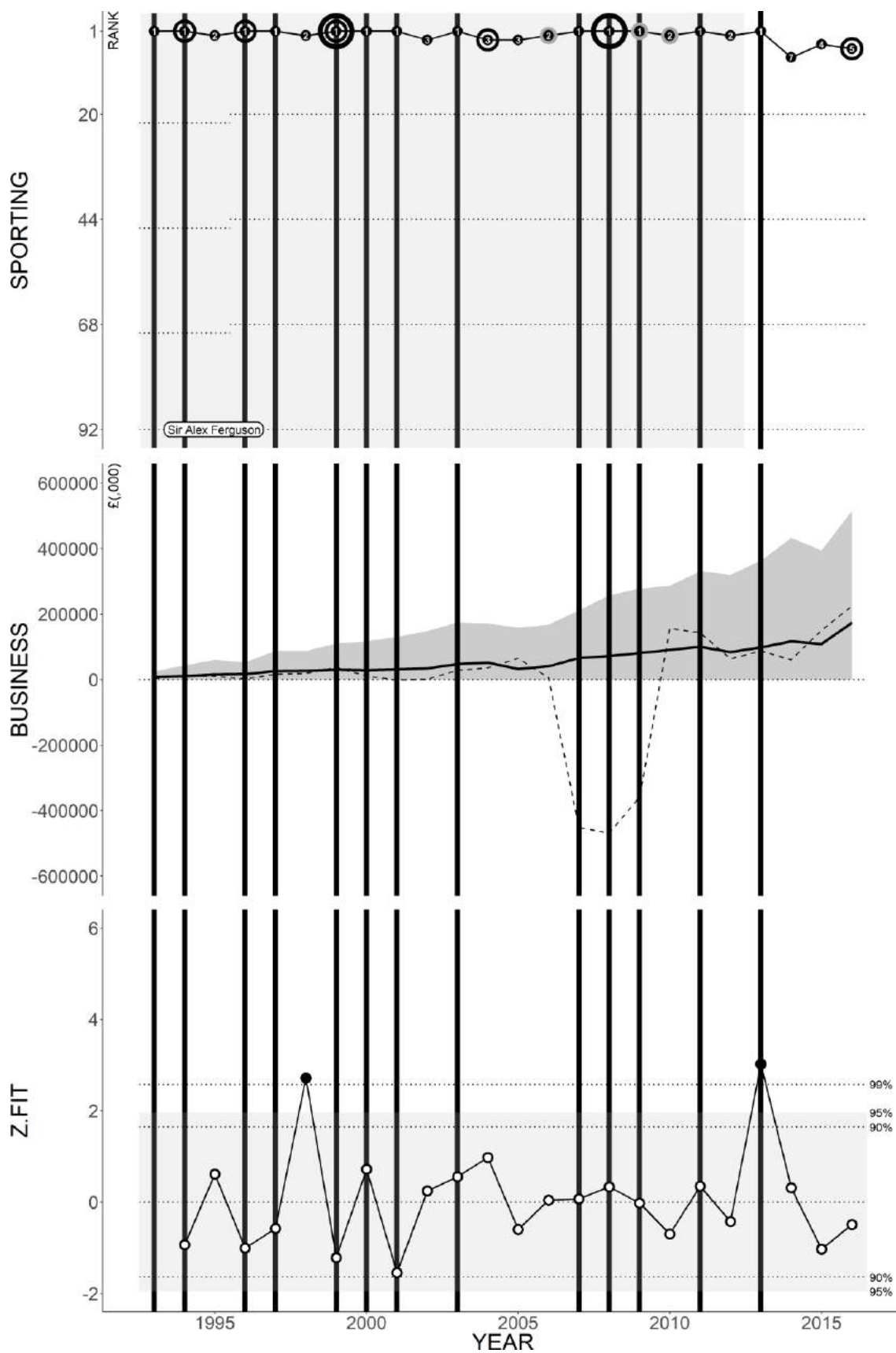


Figure 9.27: Performance and resources, Middlesbrough, 1994 to 2016

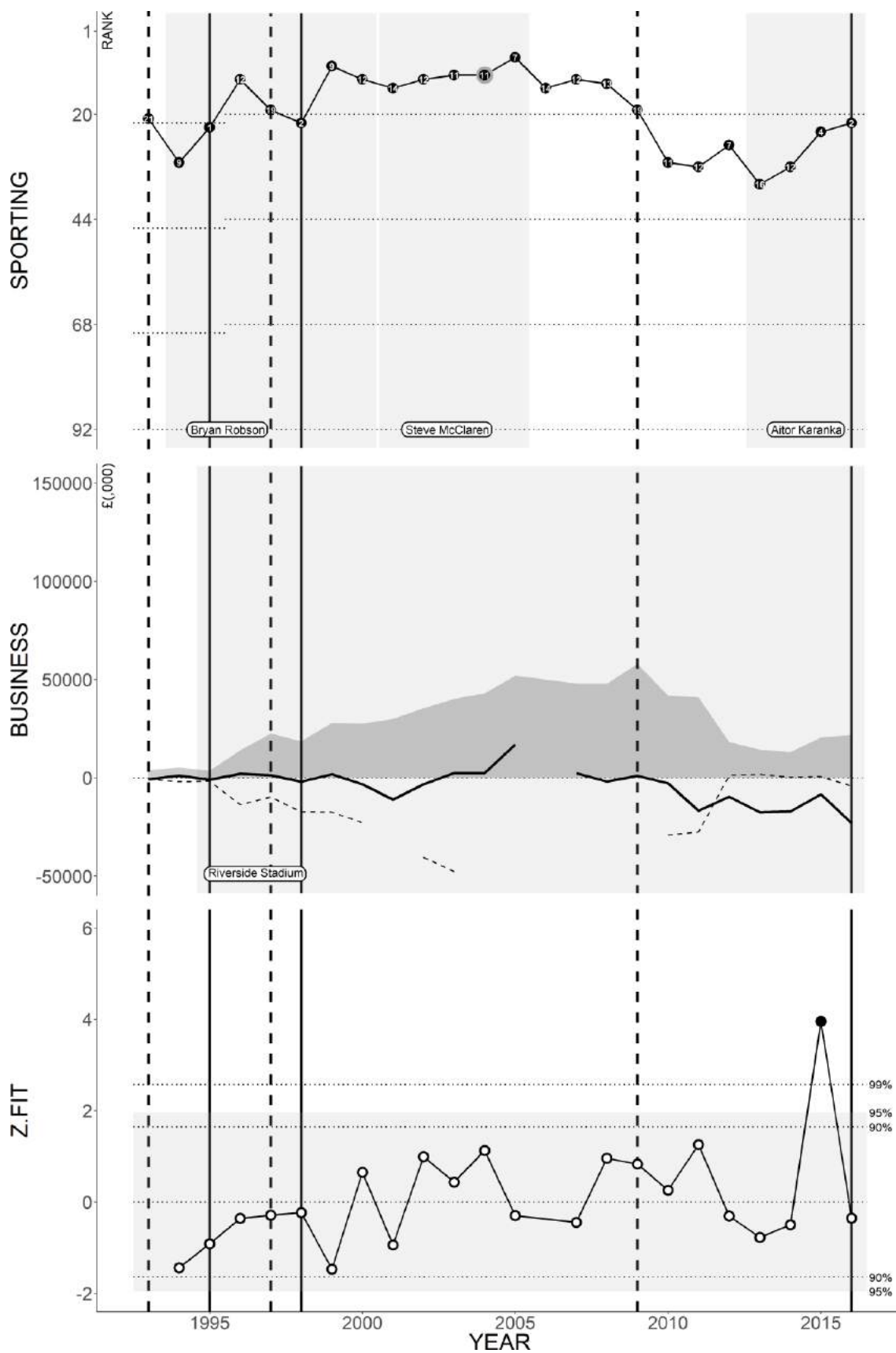


Figure 9.28: Performance and resources, Newcastle United, 1994 to 2016

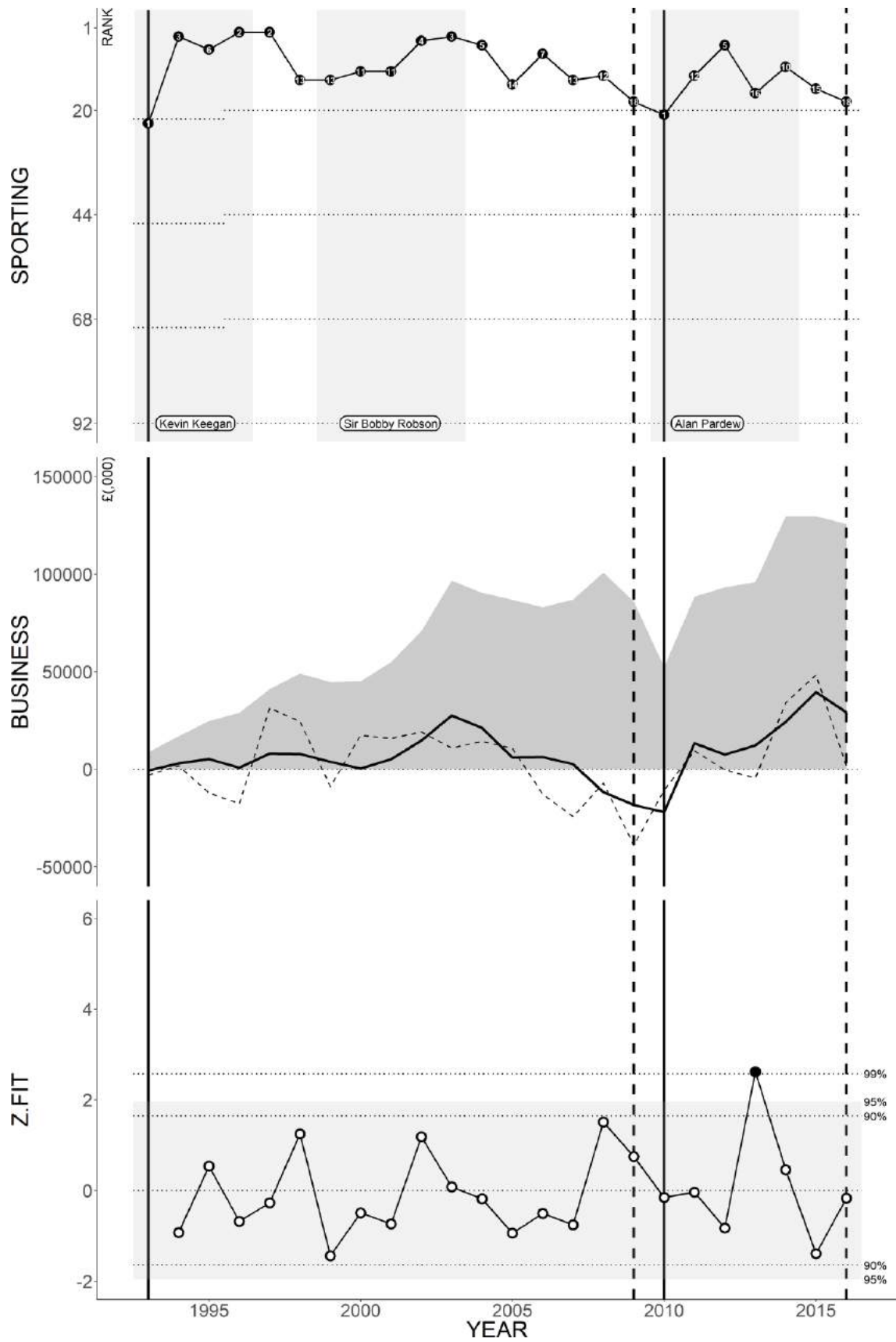


Figure 9.29: Performance and resources, Norwich City, 1994 to 2016

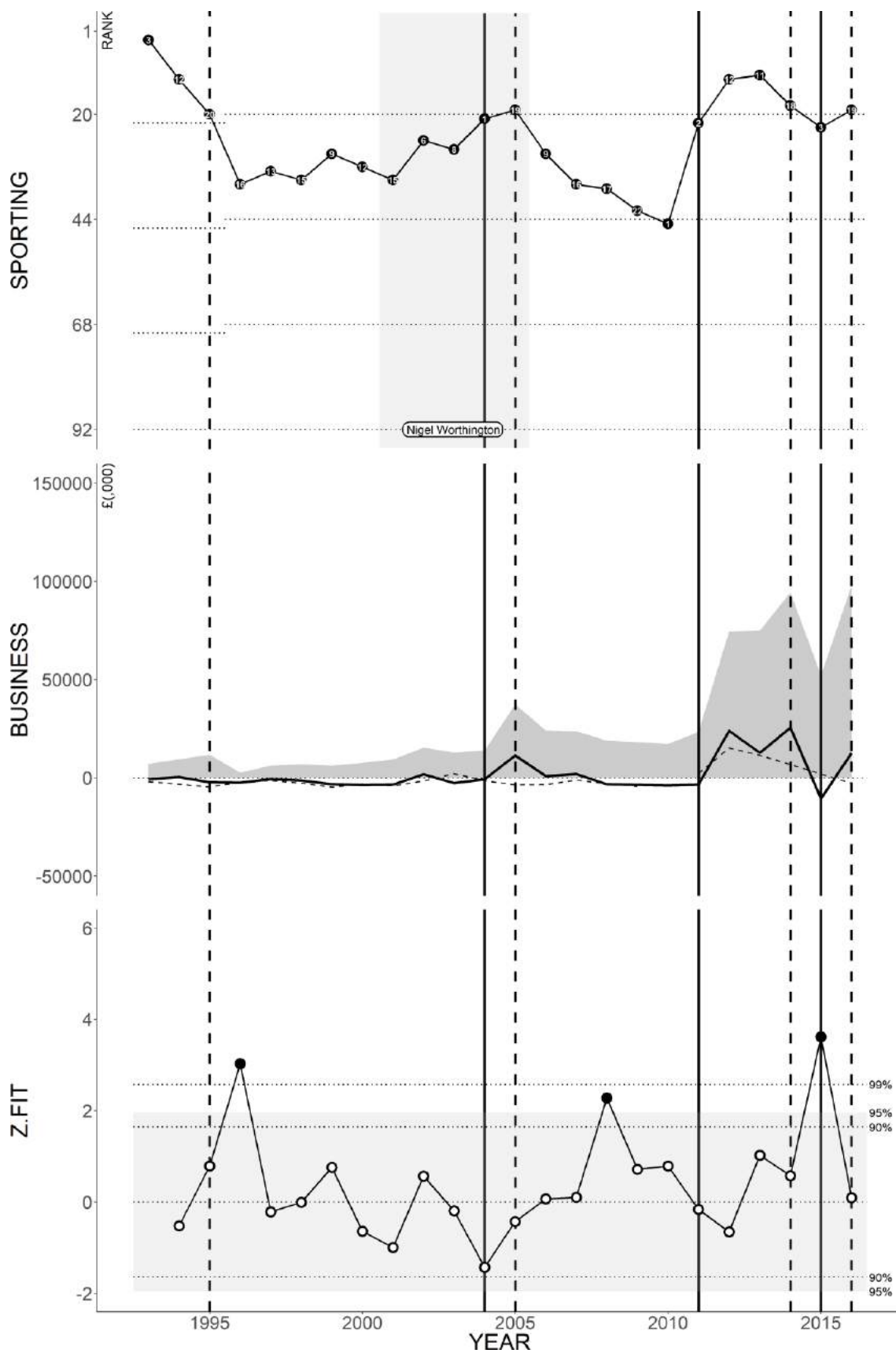


Figure 9.30: Performance and resources, Nottingham Forest, 1994 to 2016

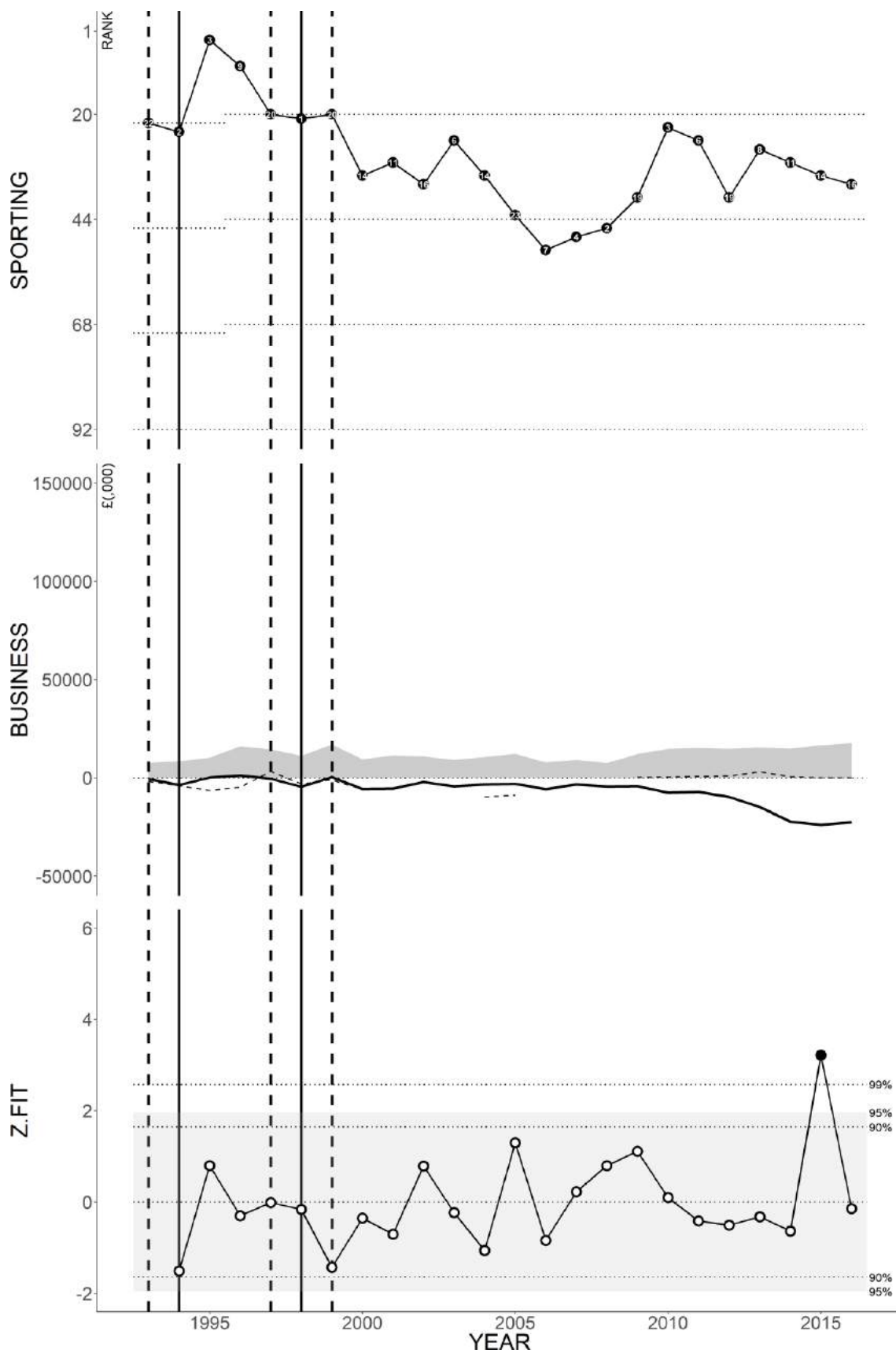


Figure 9.31: Performance and resources, Oldham Athletic, 1994 to 2016

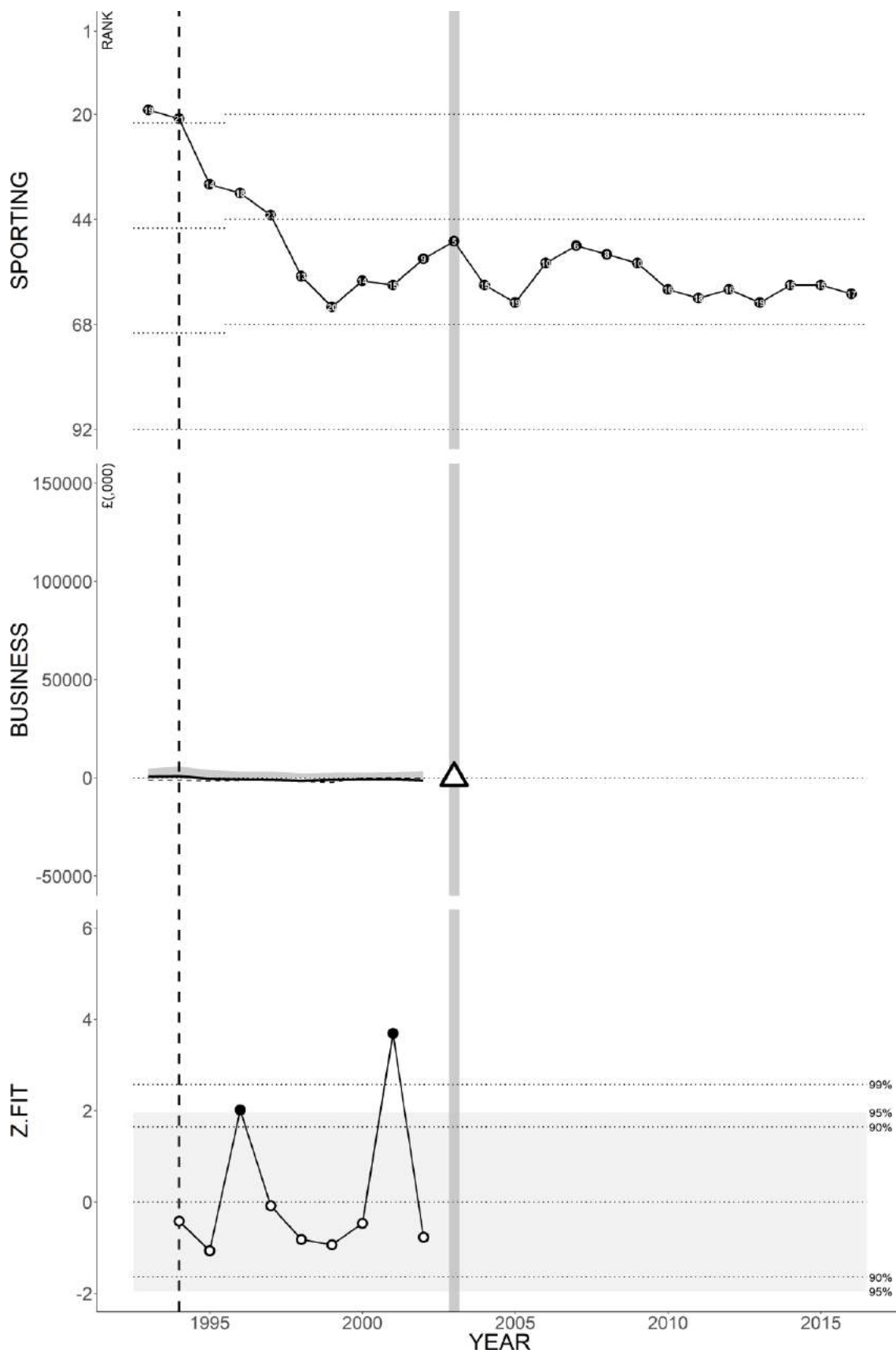


Figure 9.32: Performance and resources, Portsmouth, 1994 to 2016

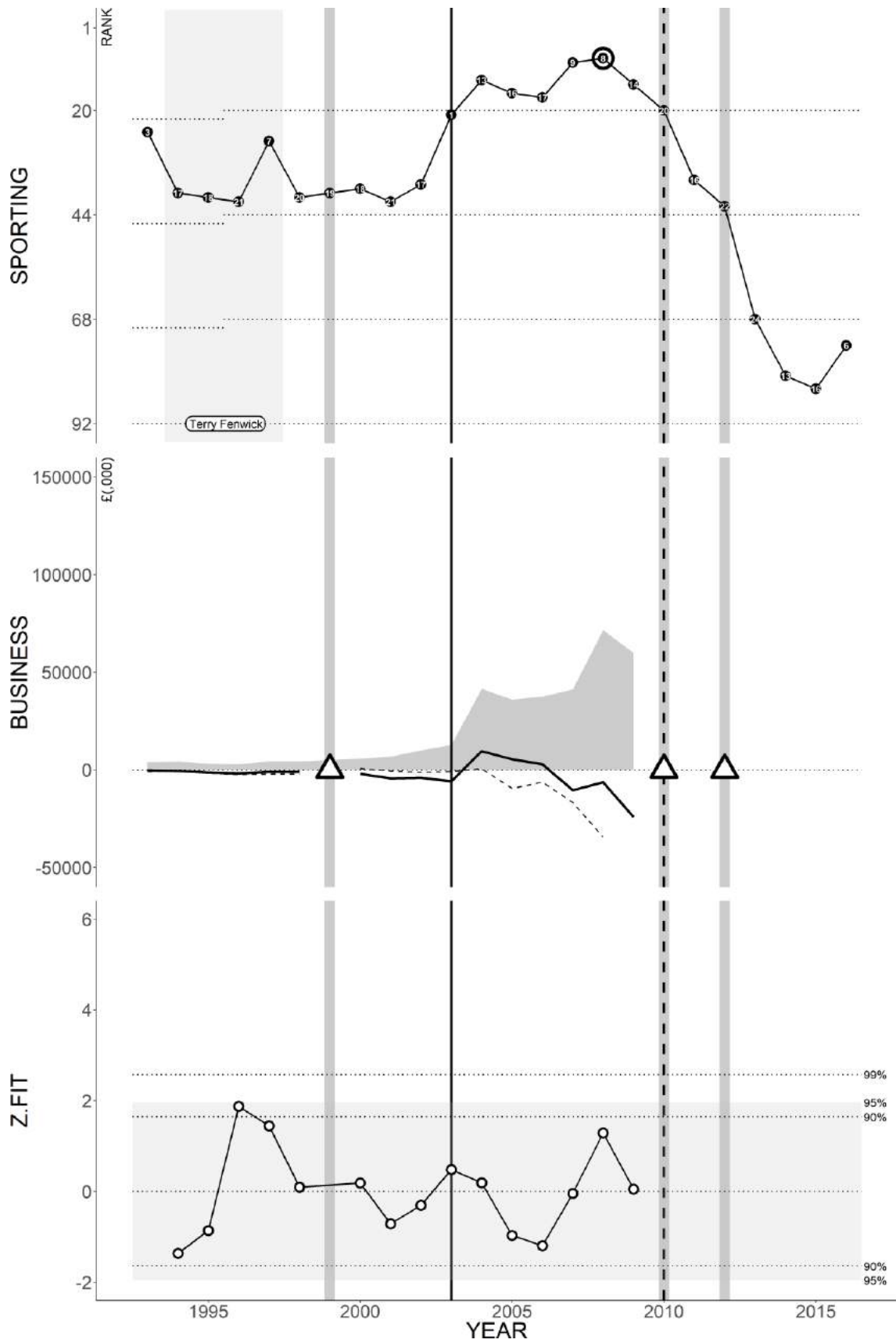


Figure 9.33: Performance and resources, Queens Park Rangers, 1994 to 2016

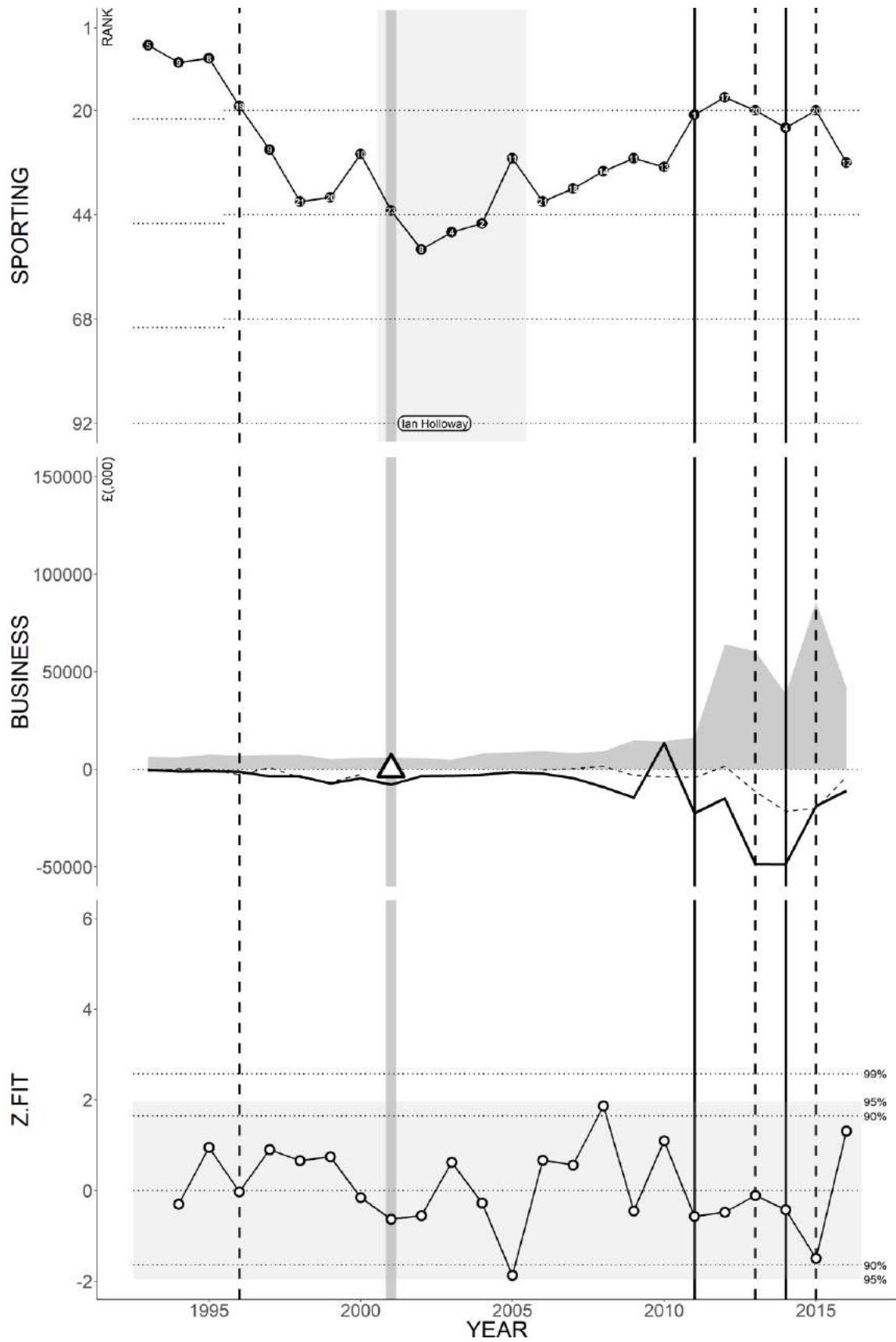


Figure 9.34: Performance and resources, Reading, 1994 to 2016

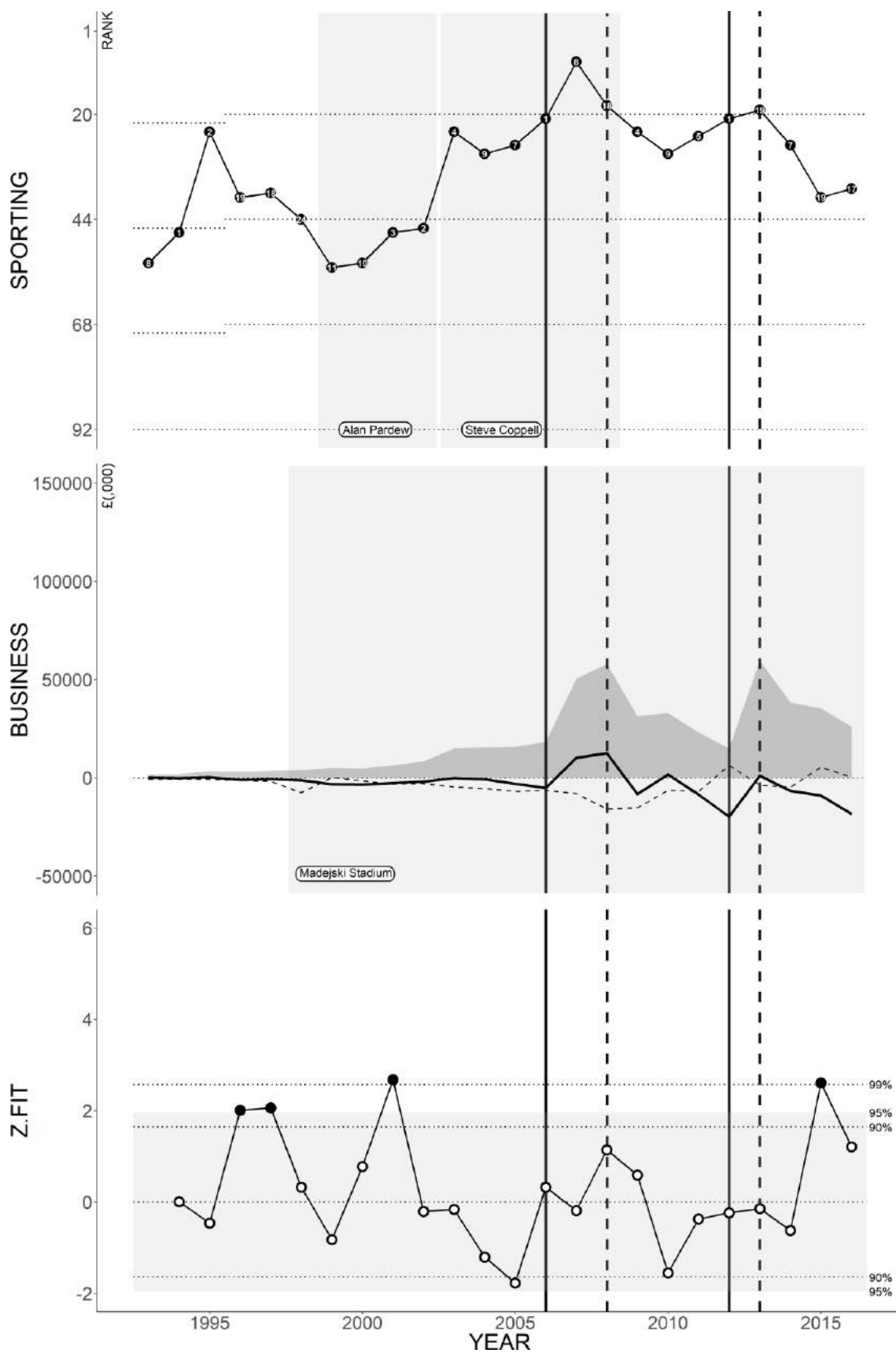


Figure 9.35: Performance and resources, Sheffield United, 1994 to 2016

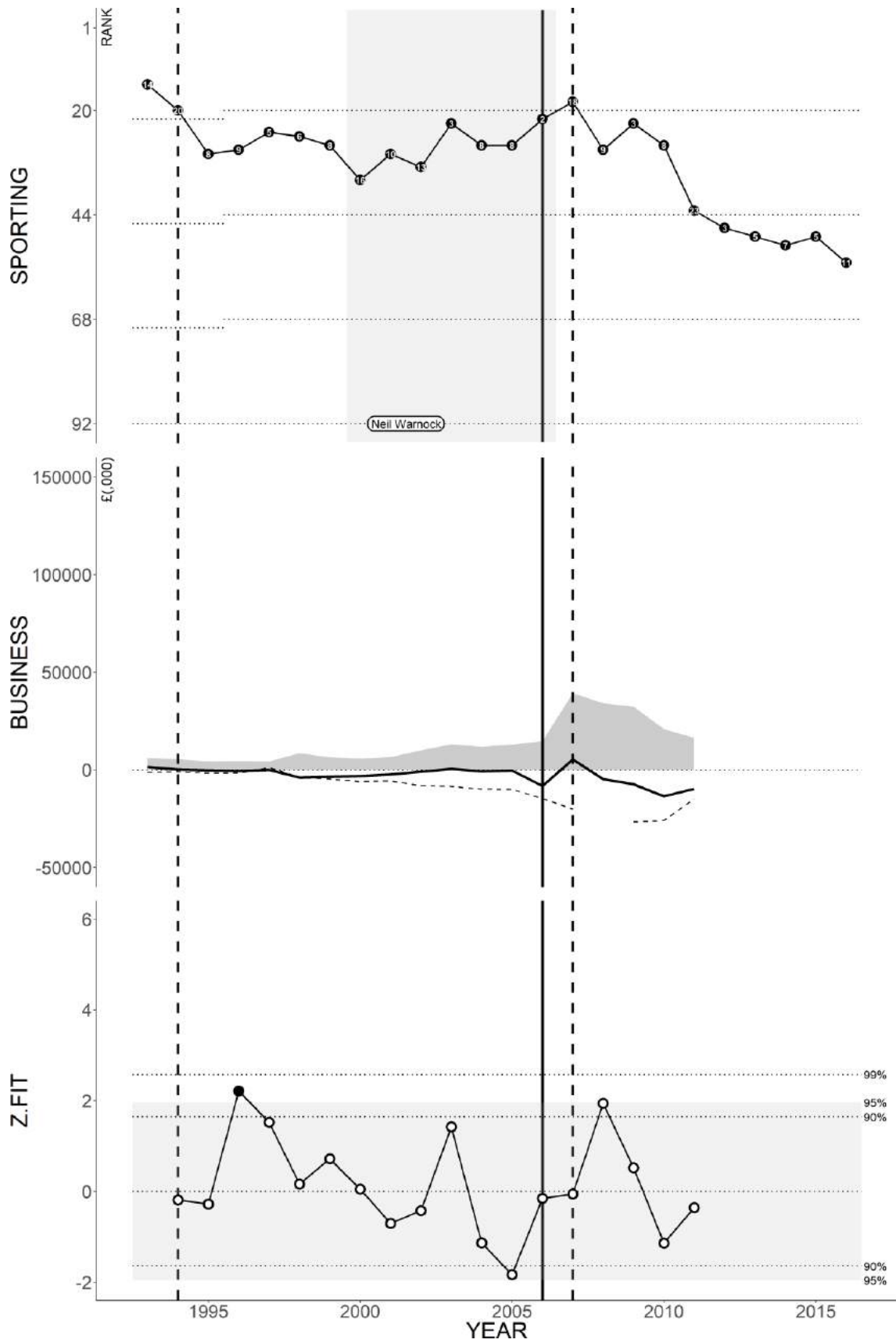


Figure 9.36: Performance and resources, Sheffield Wednesday, 1994 to 2016

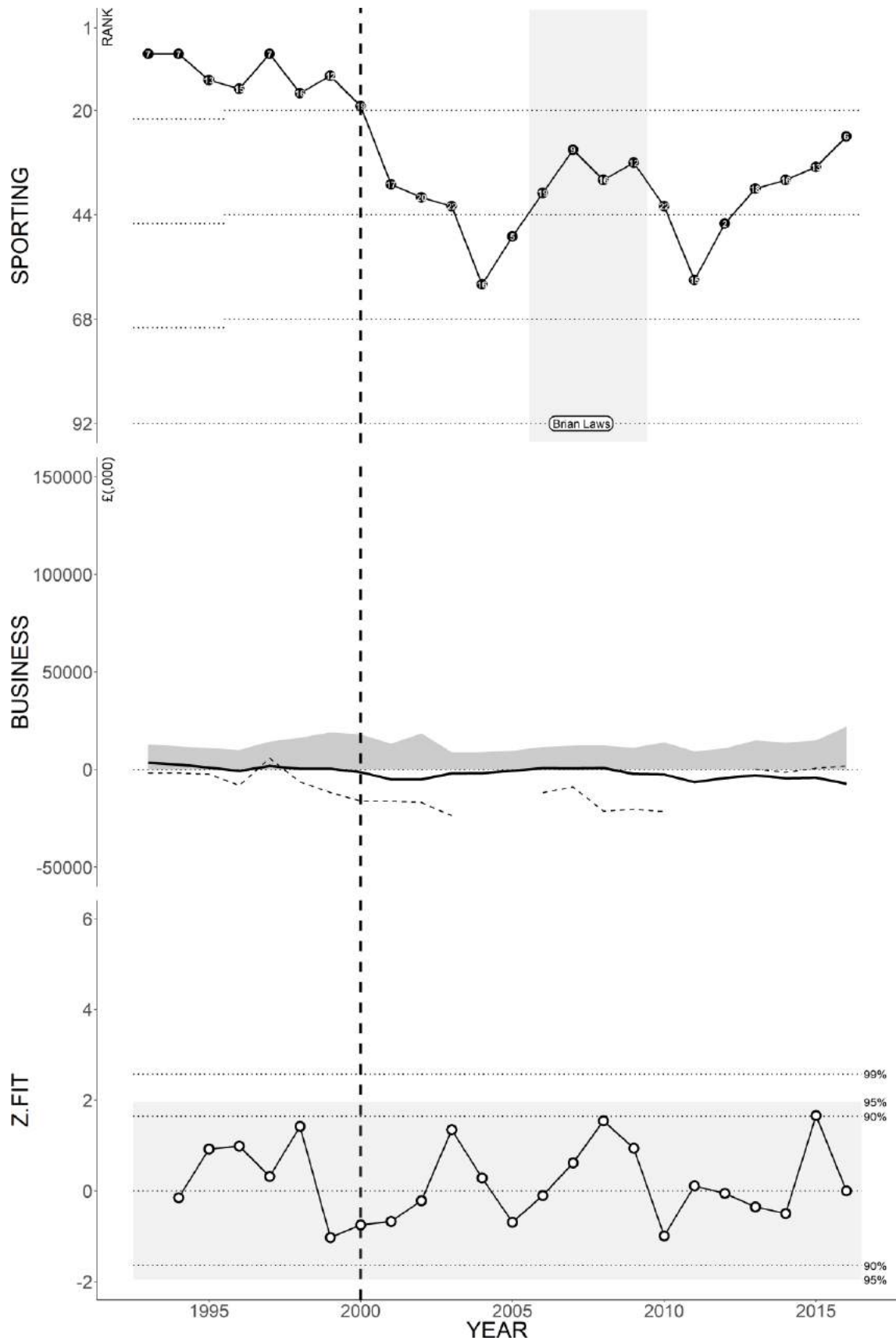


Figure 9.37: Performance and resources, Southampton, 1994 to 2016

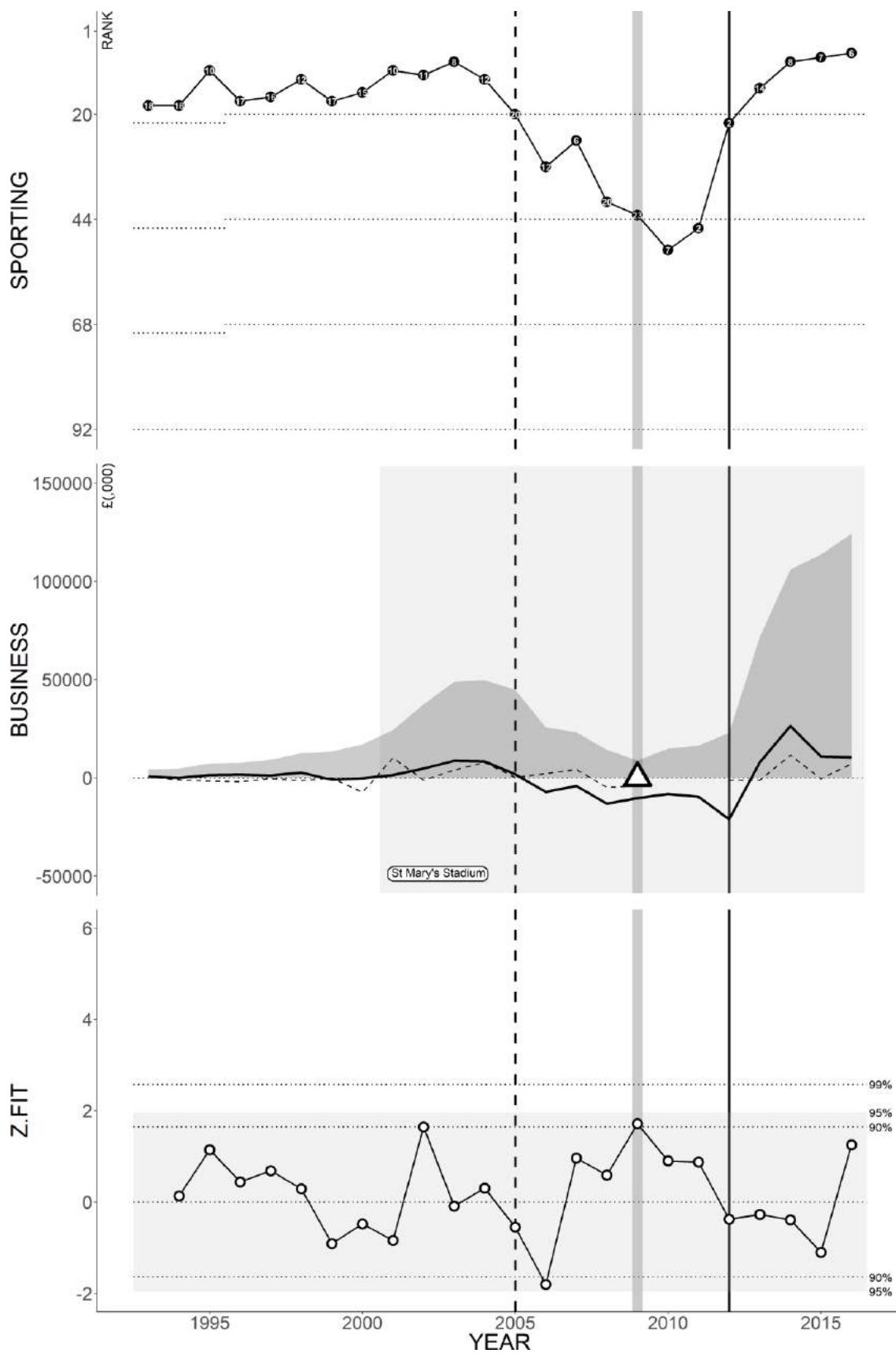


Figure 9.38: Performance and resources, Stoke City, 1994 to 2016

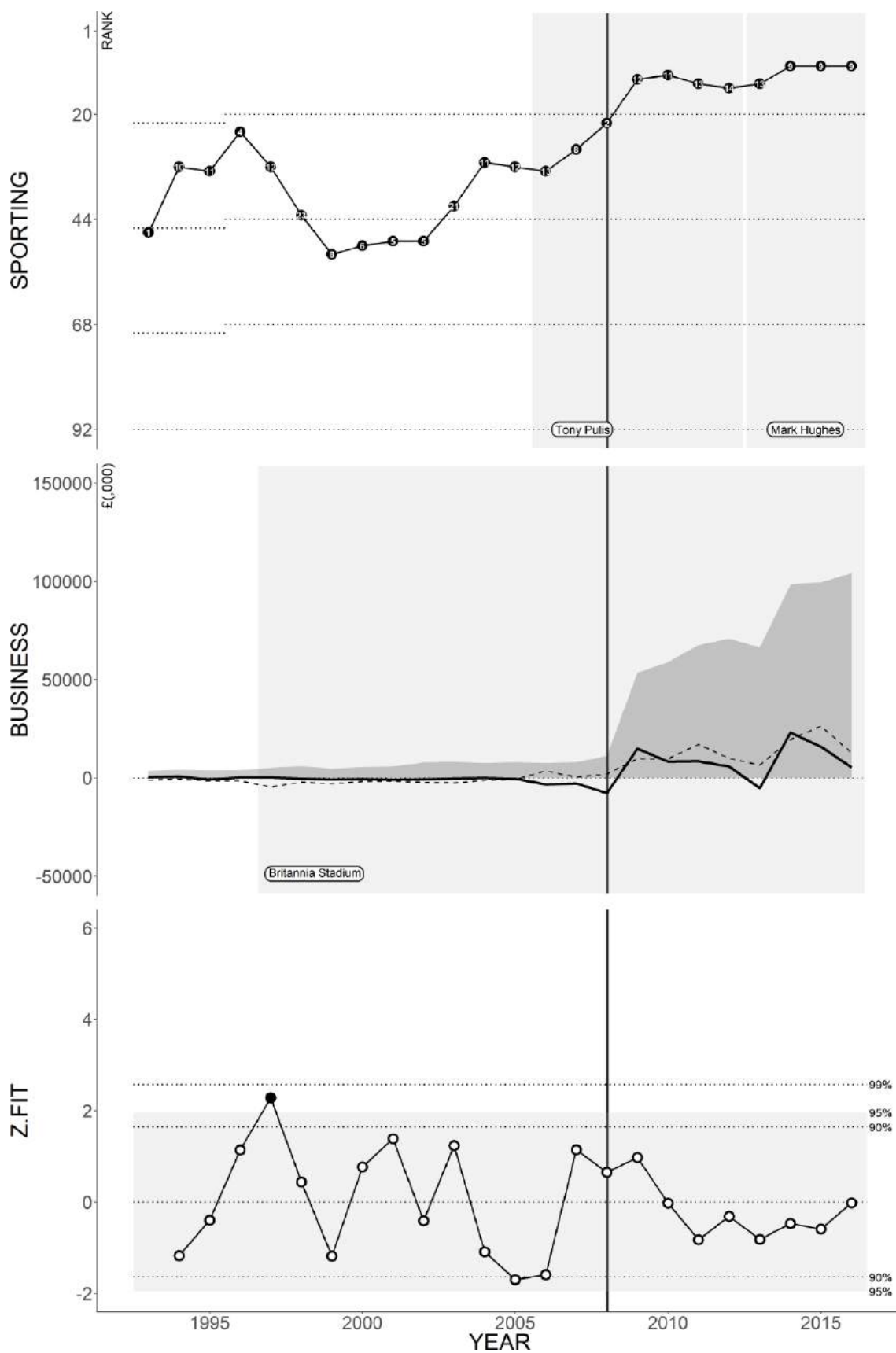


Figure 9.39: Performance and resources, Sunderland, 1994 to 2016

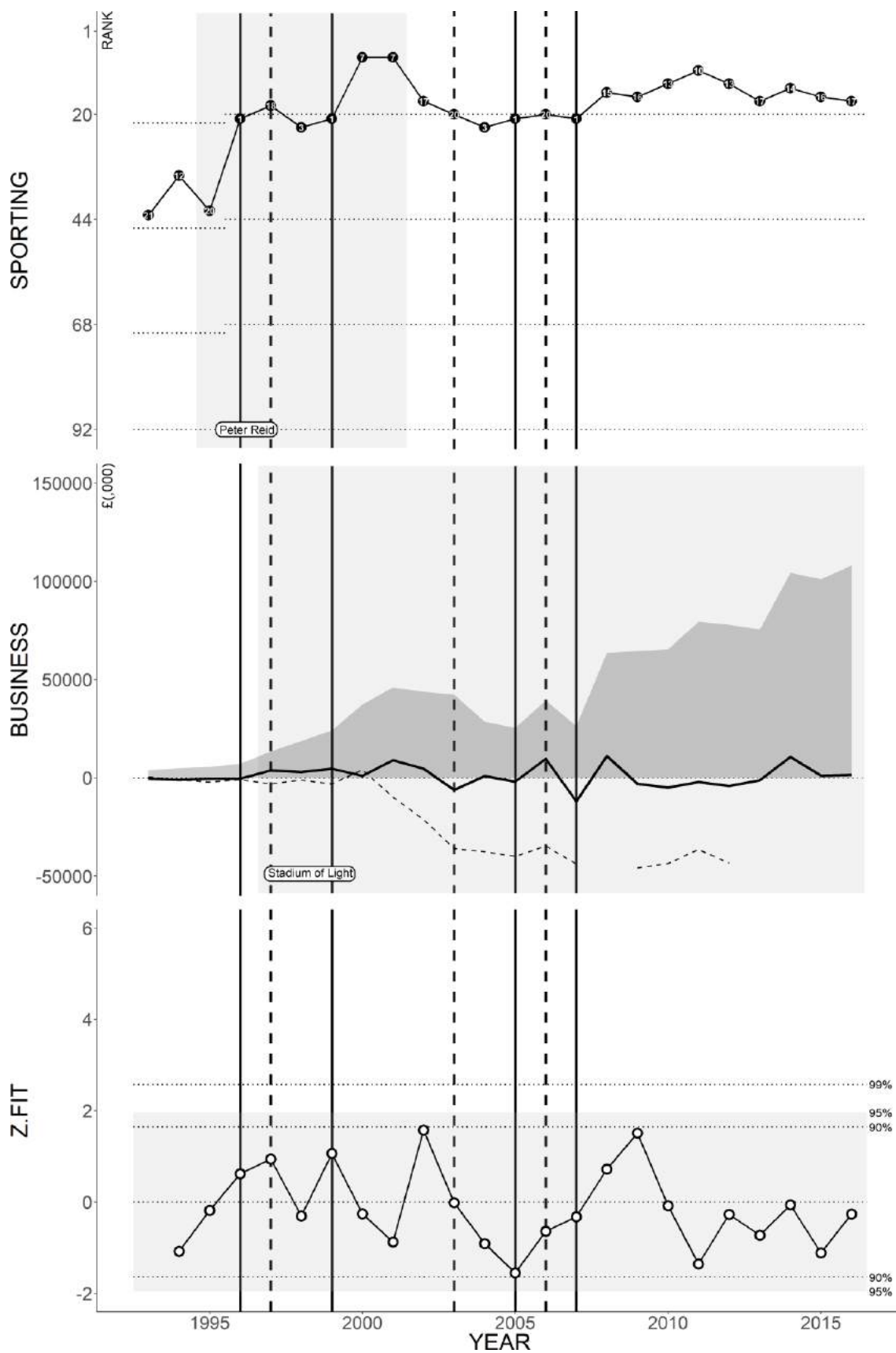


Figure 9.40: Performance and resources, Swansea City, 1994 to 2016

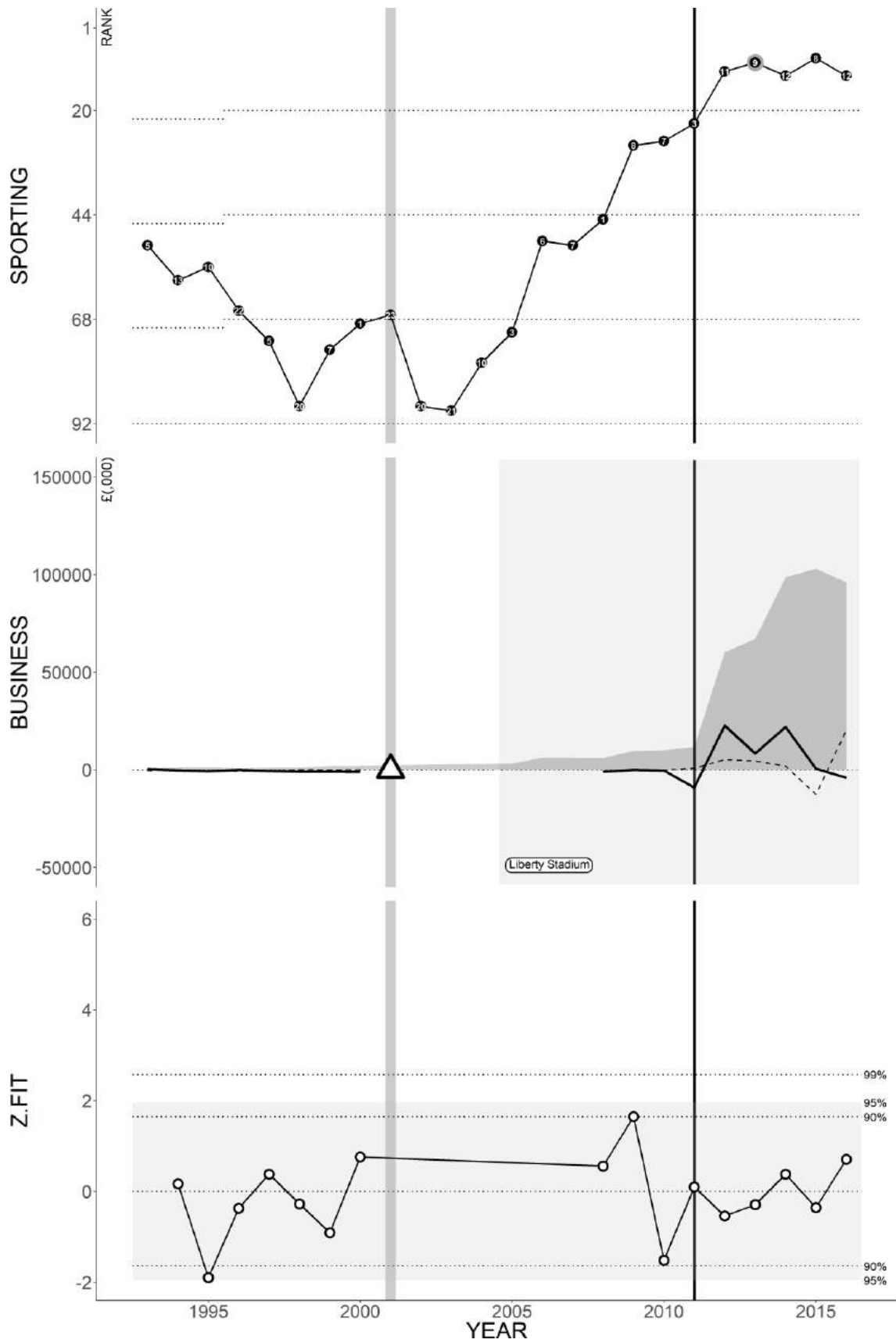


Figure 9.41: Performance and resources, Tottenham Hotspur, 1994 to 2016

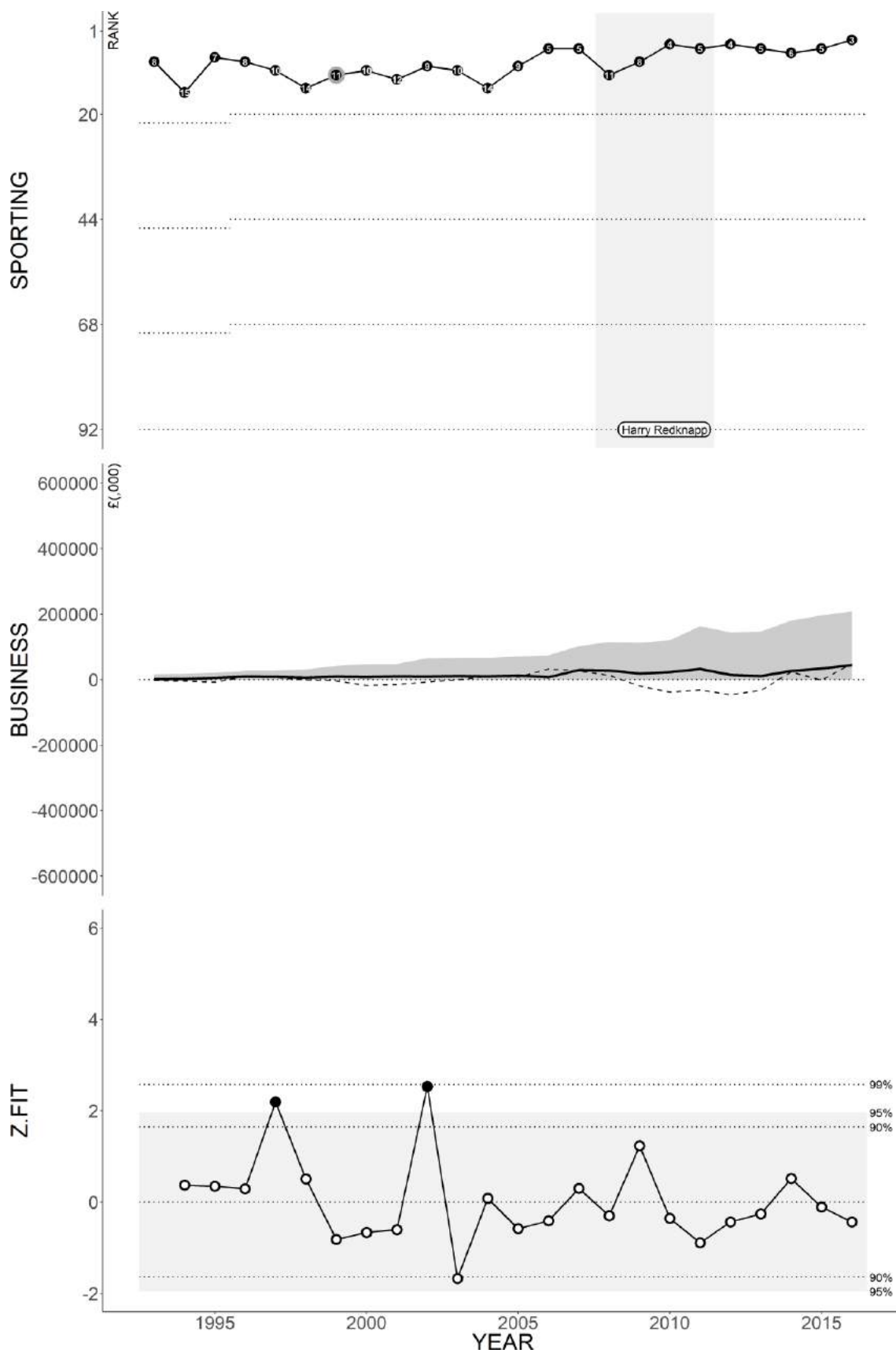


Figure 9.42: Performance and resources, Watford, 1994 to 2016

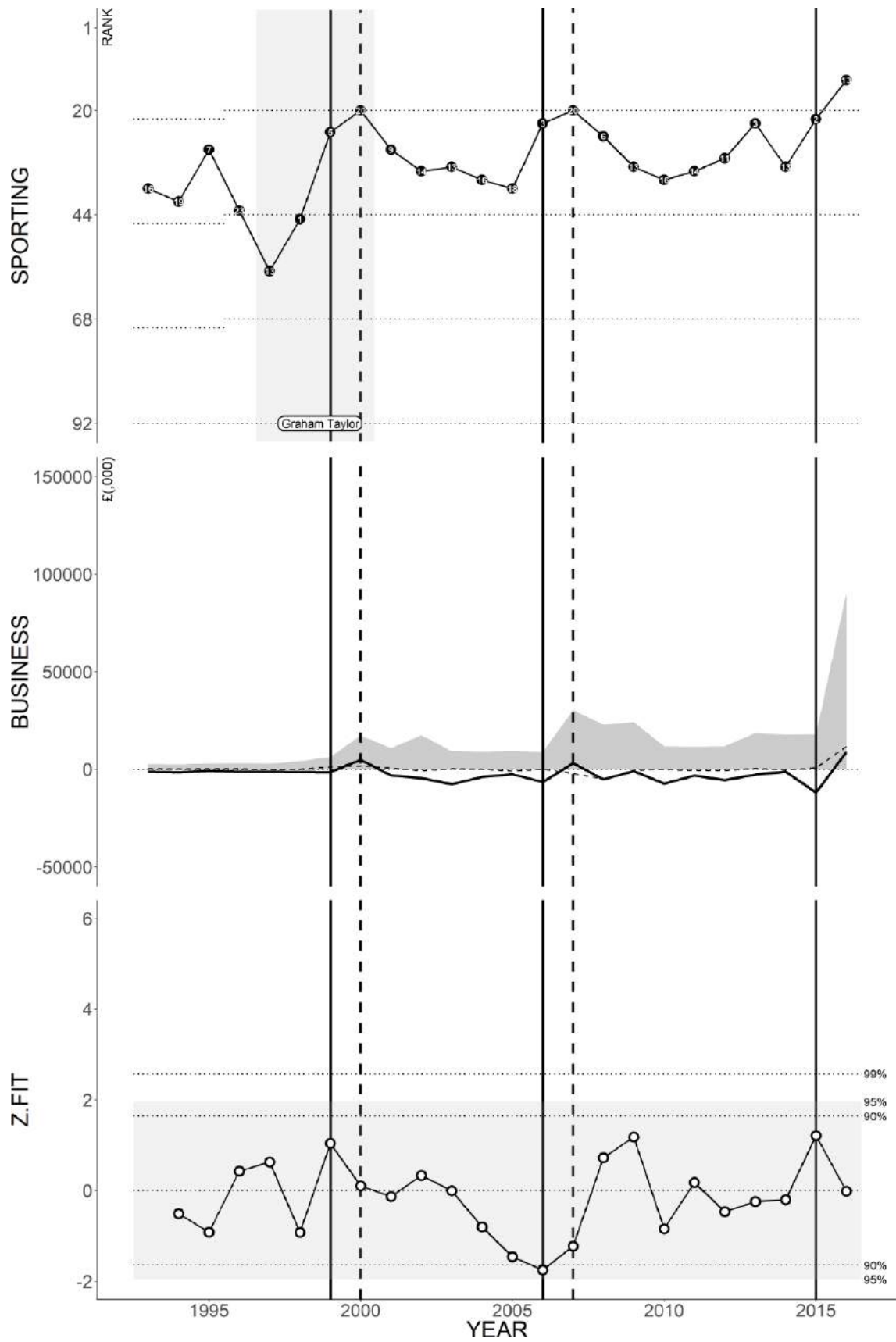


Figure 9.43: Performance and resources, West Bromwich Albion, 1994 to 2016

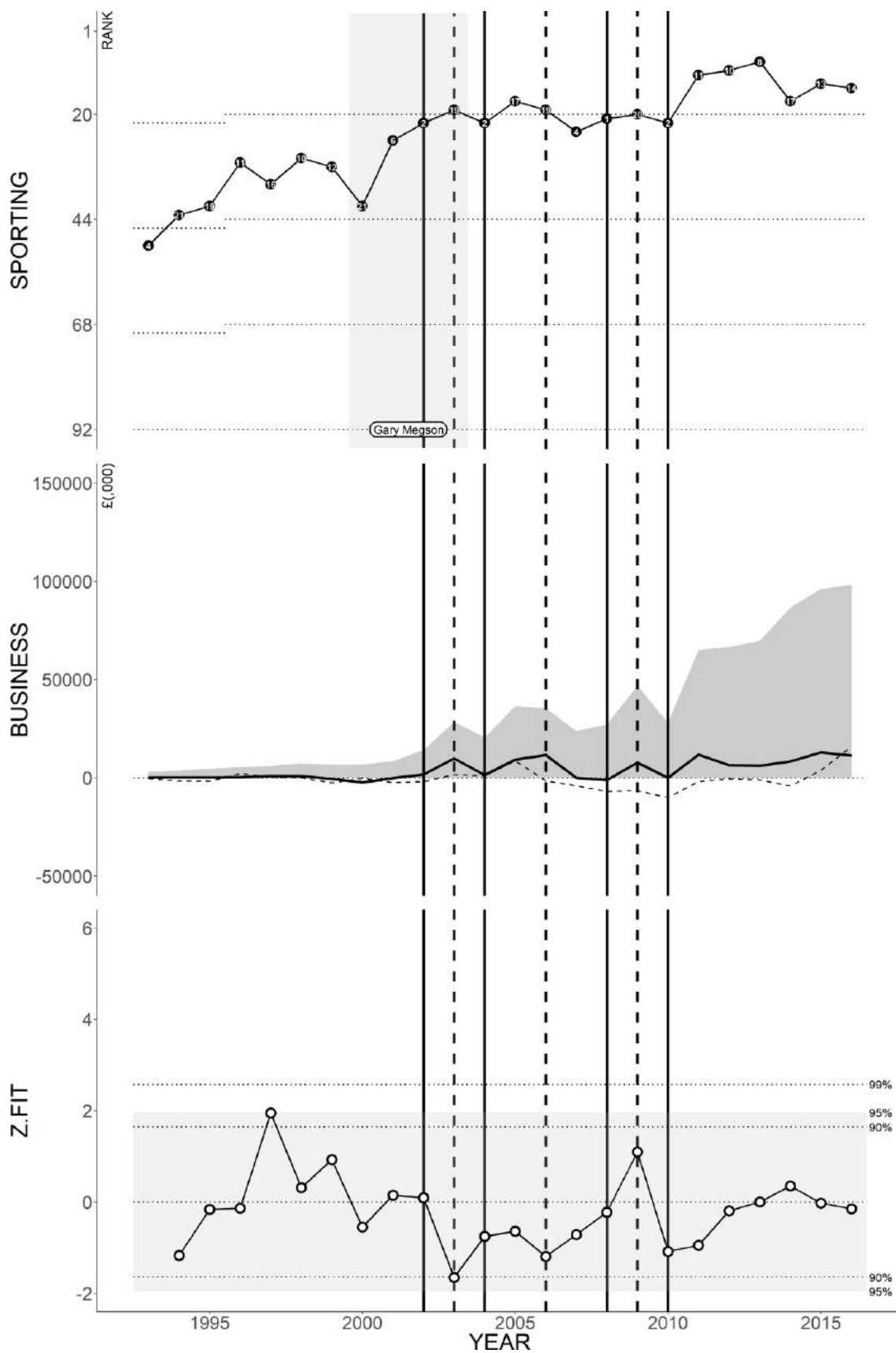


Figure 9.44: Performance and resources, West Ham United, 1994 to 2016

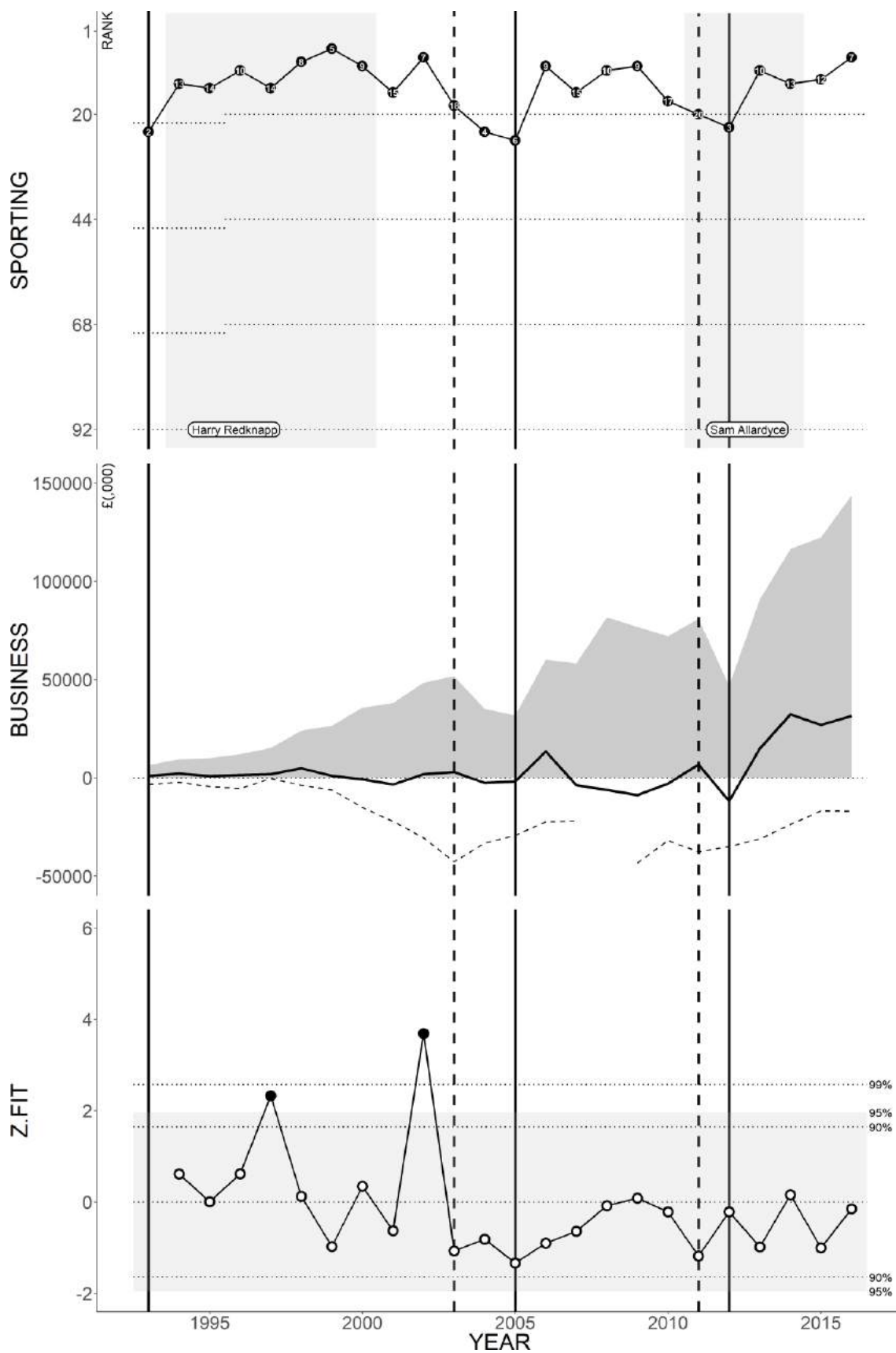


Figure 9.45: Performance and resources, Wigan Athletic, 1994 to 2016

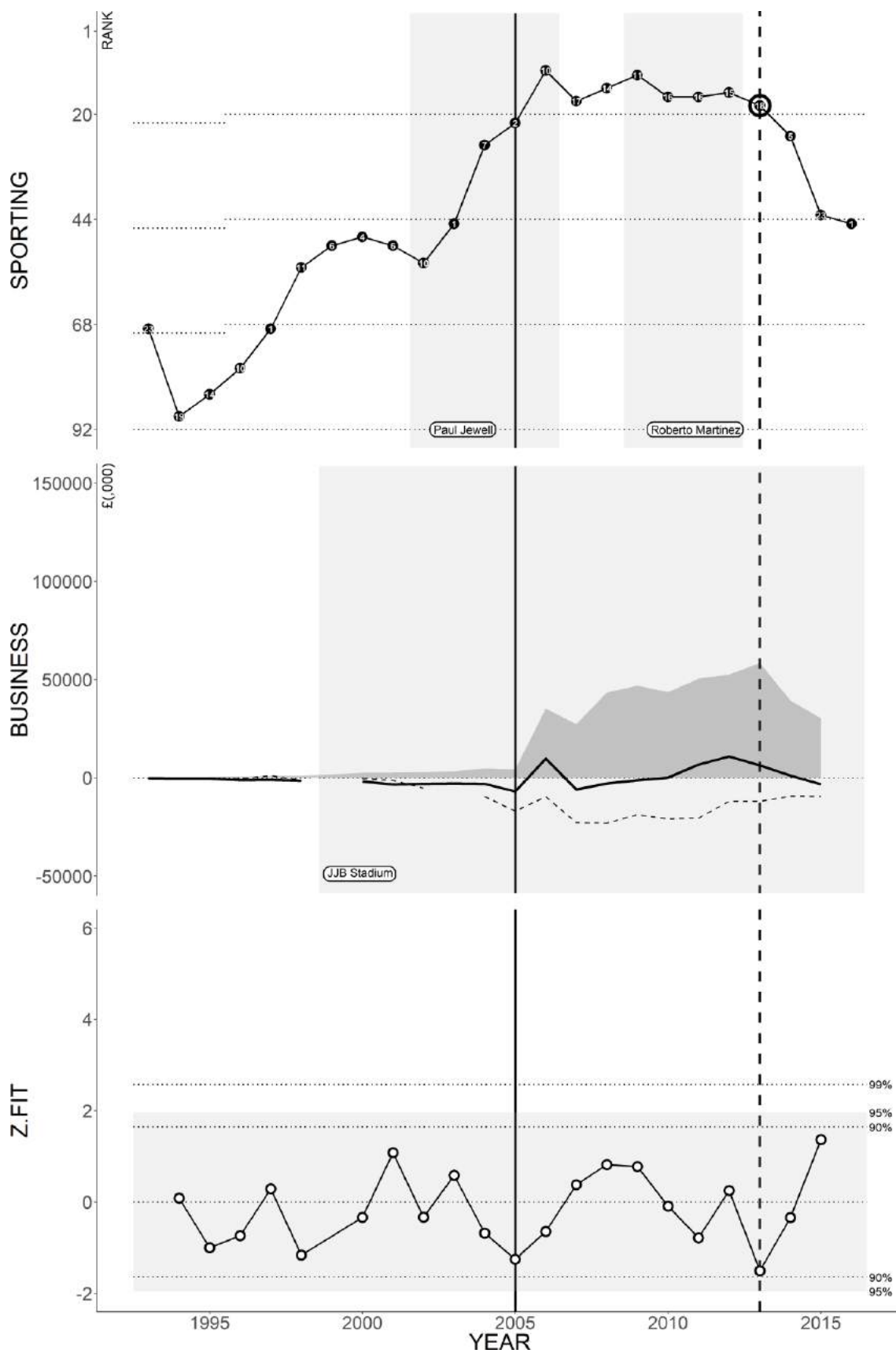
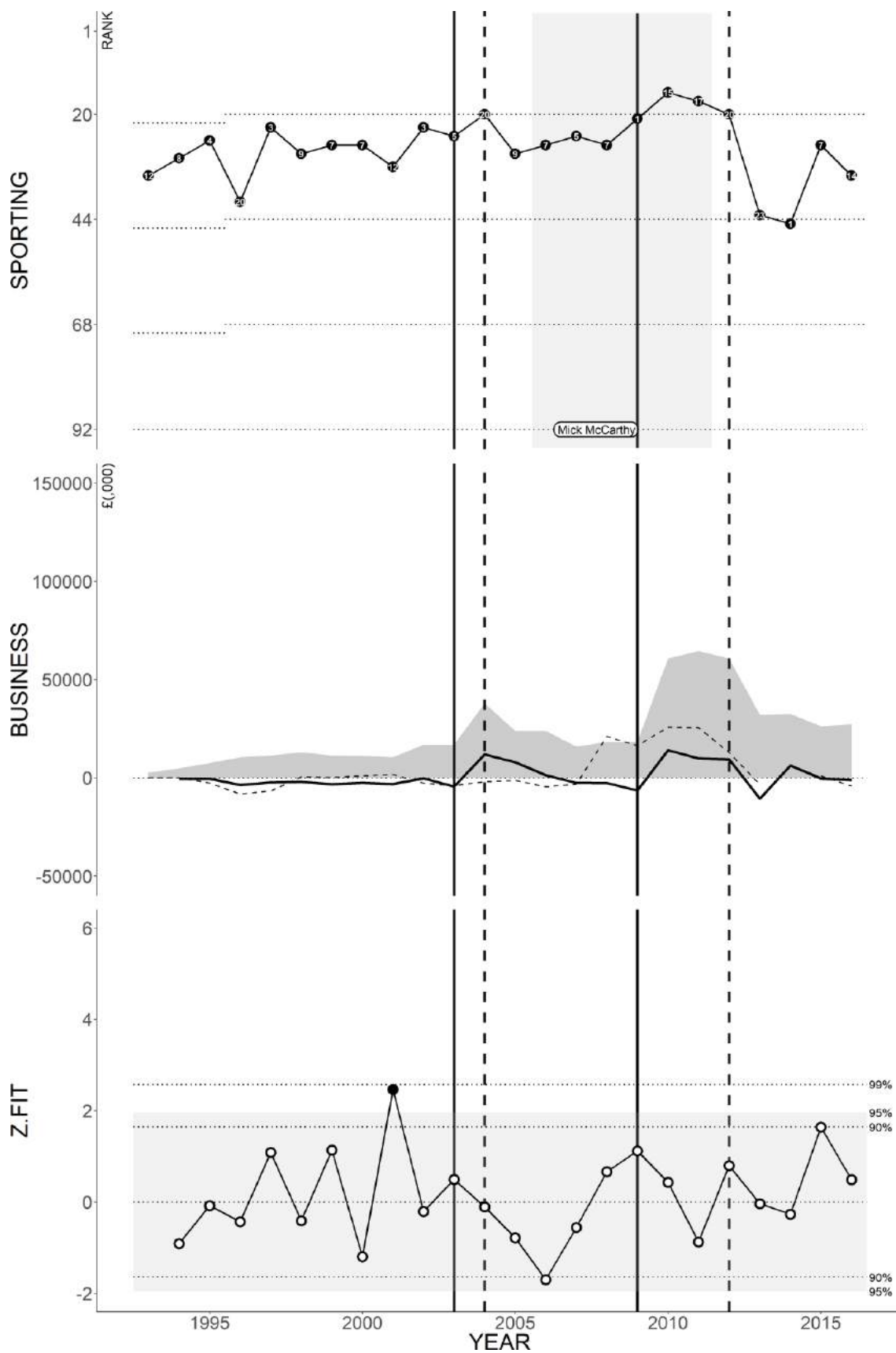


Figure 9.46: Performance and resources, Wolverhampton Wanderers, 1994 to 2016



10. Conclusions: The conclusions to and recommendations from the thesis

Chapter summary

- The management of Premier League clubs is prudent, whether clubs are experiencing sustained success, growth, failure, decline or both growth and decline.
- The concept of fit is applied to explore the performance of clubs, and specifically cases of sustained or temporary advantage, and of over- and under-performance
- There are relatively few and always temporary instances of excessive misfit, with clubs promptly refitting and often compensating for over-or under-fit.
- Professional team sport clubs are simple firms in terms of their resources and performance outcomes, but models of strategy and of business and sporting performance are complex.
- The resource and resource management strategies that clubs adopts are unique and the paths of realised and unrealised performance outcomes – which are observed in the Premier League and Football League – are divergent and equifinal.
- Professional sport clubs are resilient and adaptable to internal change, and specifically change in performance outcomes (especially between and within divisions) and to team and stadium resources and resource management capabilities, as well as to external change, such as the growth, globalisation and commercialisation of the Premier League.
- The utilisation of panel data is essential for capturing competitive and dynamic dimensions of professional sport club performance, and enables the paths of successful and failing clubs to be plotted.
- However, professional team sport performance cannot be predicted with absolute certainty as sport is not deterministic and, fundamentally, depends on at least some element of uncertainty of outcome for it to be purposeful and viable.

The thesis aims to contribute to theory and to practice. It develops and applies sport management theory and contingency theory (encompassing change and the concept of fit) to provide an explanation of the practice of professional sport club management. The research complements and

extends strategy and management research of professional sport teams and leagues. The adopted research methodology and the findings have practical application for club and league executives, and for other professional team sport practitioners. Specifically, it can inform the decision-making of club owners and business executives on the formulation and implementation of a club's resource and resource management strategy and the evaluation of performance outcomes. Conclusions are provided on the development and application of theory, the research methodology, and the practical findings drawn from the research. Recommendations for further theoretical development, empirical research and professional team sport strategy and management practice are offered.

The objectives of the research are to explain how and why Premier League football clubs utilise their resources to generate and sustain performance. This is addressed with three research questions. The first two research questions are intended to confirm that the team resources of professional football clubs explain superior sporting performance and that sporting performance is related to business performance. As expected, player wages and player value explain most of the variation of the league rank of clubs. Player wages are more influential than player value, but the retention of both variables enables the incorporation of operating and capital resource expenditure. Similarly, league rank is a strong predictor of business performance. However, neither relationship is deterministic and, in both models, there are cases of under- and over-performance. These clubs are outliers but, conceptually and empirically, are more interesting than the confirmed trends between team resources, sporting performance and business performance. The third research question explores how and why clubs utilise their team and stadium resources to generate and sustain superior sporting, business and financial performance. The concepts of change and fit are introduced and, although limited trends and patterns are evident, the contingency models reveal that clubs adopt unique paths to success and failure. Premier League clubs are resilient and adaptable to internal and external change that is perceived and observed by club owners and business executives.

10.1. Principal findings

Since 1992, there has been considerable internal and external change – both positive and negative – for clubs, leagues and the professional team sport industry. In particular, growth and change in the financial, insurance, information and communication industries has enabled the commercialisation and globalisation of the Premier League. Growth has been realised from matchday, commercial and, most notably, broadcast revenue; however, the increase in revenue has not always been mirrored by

profits, with a number of clubs entering administration. Concurrently, there is a widening gap between the Premier League and the Football League and between the Premier League and Champions League.

Few models of sport management theory incorporate sporting and business performance. Those models that do have limitations with the exclusion of key constructs, such as team resources, or simplified relationships. Most assume that all clubs are homogenous and are static. Therefore, they do not consider the competitive and dynamic nature of competition, which is becoming even more important as the gap between divisions and leagues widens.

Conceptualising and measuring the competitive and dynamic dimensions of professional sport club performance and resources is essential in a changing competitive environment. Relative inputs and outputs are essential when evaluating strategy as clubs compete with other clubs in the league for sporting success and with other clubs, leagues and industries for revenue. The dynamic dimension is required as club owners and business executives acquire, accumulate and divest resources to generate and sustain performance. The outputs of clubs are conceptualised as sustained performance advantage, and inputs as accumulated resource advantage.

The empirical research confirms the relationships between team resources and sporting performance and between sporting performance and business performance. Player wages and value are a strong predictor of league rank, while a club's league rank predicts trading revenue, which comprises matchday and commercial revenue. There are few discernible patterns between and within groups of clubs, although some of the permanent members of the Premier League and clubs that have experienced promotion from, or relegation to, the Football League, have adopted distinctive paths.

A series of contingency models are developed and applied to empirically explore whether the relationships between inputs and outputs are conditional on change. The capability of owners and business executives to match their club's resources to change in performance and the competitive environment is conceptualised and measured as fit. Fit is modelled as mediation, moderation and deviation. It is hypothesised that the relationship between team resources and business performance is contingent on sporting performance. However, there is limited statistical evidence that league rank mediates or moderates the relationship between player wages and player value and a club's trading revenue. Deviation from the fit between team resources and sporting performance is also not a useful

predictor of business performance, and further analysis of the scores of fit – whether by year, club or groups of clubs – does not reveal many demonstrable patterns.

Further empirical research is conducted to explore the more complex relationships between sporting, business and financial performance. It examines how and why clubs generate and sustain performance advantage from their team and stadium resources, including the use of related resource management capabilities. Visual analysis reveals that clubs appear to be prudently-managed, with owners and executives being willing and able to match resources to performance. Most clubs maintain fit in most years, and if and when misfit does occur, they promptly refit and often compensate for previous under-performing or over-performance (or over or under-resourcing). There is some evidence of a link between instances of excessive misfit being related to promotion to the Premier League, but otherwise there are no discernible patterns between misfit and other forms of sporting success, including winning the Premier League and domestic and European cup competitions. Nor is there any relationship between fit and sporting failure (relegation from the Premier League) or business performance failure (insolvency proceedings). Clubs are resilient and adaptable to shocks, and appear to have the appropriate resource management capabilities to efficiently and effectively bridge the widening gap between divisions.

10.2. The development of professional team sport management theory

Resources are a strong predictor of performance, but professional team sport is not deterministic. Premier League club owners and business executives can and do change strategy and this affects the performance generated by clubs. The findings support Szymanski's (2015, p. 206) assertion that, despite evidence of sporting and business failure, many professional football clubs are "doing their best" to avoid financial failure. Premier League club owners and business executives appear to be prudent in their pursuit of mutual business and sporting performance advantage.

The concept of fit (Rumelt, 1987) is introduced to explain the effects of resources on performance in a changing competitive environment. There are cases where an excessive value of misfit is related to business performance failure (such as an administration event), to sporting performance failure (for example, in the form of relegation), or to simultaneous business and sporting failure. However, there are further examples of clubs surviving excessive misfit, and clubs suffering from inferior financial

performance or financial failure despite maintaining fit. There is no statistical or visual evidence that the degree of fit between team resources and sporting performance explains the financial performance of clubs. This is regardless of whether fit is conceptualised as mediation, moderation or deviation (Drazin and Van de Ven, 1985; Venkatraman, 1989).

Professional team sport clubs are simple firms, while the professional sport leagues in which they compete represent discrete and mostly closed competitive environments. However, any model that aims to explain the strategy is confounded by the competitive and dynamic dimensions of sporting and business performance. The contingency models use different panels of data and demonstrate that fit as deviation is sensitive to change in the variables, sample and observation period. This sensitivity may be due to a small number of influential cases, rather than any change in strategy or performance by all or most of the clubs in the sample. For example, the mobility of clubs is fluid as clubs can be promoted and relegated in consecutive seasons. Furthermore, misfit may be the consequence of change by other clubs as the acquisition, accumulation or divestment of resources by other clubs can, consequently, affect the regression model from which value of fit (residuals) are derived. Change by a number of clubs or substantial change by one or a small number of influential clubs may affect the line of best fit. Therefore, misfit may not necessarily be due to the realisation of a club's strategy and, conversely, a club that maintains fit or refits may do so *despite*, and not *because of*, its strategy.

Complexity

The formulation and implementation of professional sport club strategy is further complicated as change to clubs' resources are often infrequent, uncertainty, irreversible, multi-functional and occasional (Rumelt, 1984) and, furthermore, fluctuating performance outcomes may be intended or unintended (Mintzberg, 1973). The acquisition, accumulation and divestment of resources can be prevalent in sport, such as the termination and recruitment of a team manager, or a special project, such as relocating to a new stadium. Some of the changes in performance are intended as they are the rewards of success, such as clubs aiming to qualify for the Champions League or gain promotion to the Premier League, while others are unintended, such as relegation or administration events, thus representing the risk of failure.

Change can be internal and external and the contingency models therefore incorporate both properties, as recommended by Anderson and Paine (1975) and Paine and Anderson (1977).

Internally, a club may change its resources and resource management capabilities, while externally there may be change to the league, including the other member clubs, and the competitive environment of the league. Change has two further dimensions: The effects *of* decision-making on the league and competitive environment, and the effects of change *on* the decisions made by club owners and business executives.

Furthermore, the performance outcomes of clubs are not determined only by the observed, or objective, change in these internal and external contingency factors. The difference between objective and perceived change is critical imperative. The objective change may not have been predicted or, alternatively, the prediction may have differed from what was subsequently observed. Differences in perceptions may vary between clubs, but also within clubs, such as the perceptions of owners and business executives. The performance generated from strategic decision-making depends on the perceptions of change, and not just on observed or objective change (Anderson and Paine, 1975; Aragón-Correa and Sharma, 2003; Bourgeois, 1985; Milliken, 1987).

The proposed conceptual model of professional team sport performance is simple, but may be too simplistic to capture all of the key relationships. More complex models could integrate internal and external constructs with multiple relationships, but must not be so complex that they cannot be tested or are not practicable (Whetten, 1989). The model proposed in Figure 5.6 and empirically tested in Chapter 9 is more comprehensive than the simple models of Szymanski, 2015, Dobson and Goddard, 1998 and Pinnuck and Potter, 2006. Clubs need to consider sporting, business and financial performance. Furthermore, there are multiple predictors of performance, including league and cup performance in sport, and different sources of revenue as well as predictors and key performance indicators such as profit and cash. However, the incorporation of additional constructs into variables will mean that models become more complex.

Divergent and equifinal paths

The clubs in the sample utilise distinct bundles of resources and generate varying performance outcomes in different eras. Therefore, they adopt unique paths. The predictors that explain Manchester United 's sustained success are not necessarily the same as those that explain the perennial failure of clubs to reach the Premier League, and nor do they necessarily explain the growth of clubs such as Fulham and Hull City nor the decline and failure of Portsmouth. Similar paths are

evident for clubs with contrasting performance outcomes, while, conversely, clubs that have followed similar paths do not necessarily generate the same or similar outcomes. The paths of clubs during the Premier League can be divergent or equifinal. The research builds on some of the empirical research that introduce differentiated models for clubs in different geographical locations and markets (Dobson and Goddard, 1998) and by size of club (Baroncelli and Lago, 2006).but others such as different owner objectives. Different stages of lifecycle, sustained or temporary and growth or decline. Change, including decision-making on resources and resource management and performance outcomes from strategy. Specific to Premier League, generalisable to European sport leagues, notably football, but less so for major sport leagues. Also period of growth and may not be applicable to leagues in other stage of lifecycle, such as introduction or decline.

Resilience and adaptability

There are very few examples of excessive misfit or extended periods of excessive misfit. Most clubs have maintained fit or have appropriately adjusted or refitted their team resources to match their sporting performance. Premier League clubs are adaptable and have been resilient to considerable change, including substantial and immediate change to:

- Resources, such as the relocation to a new stadium or the termination and recruitment of a team manager.
- Sporting and business performance, such as promotion or relegation, especially between the Premier League and Football League Championship, or administration events.
- To the competitive environment, such as the failure of ITV Digital and Setanta Sports or the effects of the Bosman case.

This suggests that suggests that the owners and business executives of professional football clubs in England and Wales have formulated and implemented appropriate change to match or adapt their resources and resource management capabilities to a changing competitive environment: "The resilience and adaptability of these clubs should not be underestimated" (Deloitte, 1999, p. 12).

10.3. Empirical sport management research

The Premier League provides a unique context for analysing the performance of professional sport clubs. It enables analysis of financial and non-financial performance and of tangible and intangible resources. Furthermore, the Premier League includes both successful and failing clubs, such as those

that win championships or gain promotion with those that are relegated or enter administration.

Premier League clubs have similar resources and performance outcomes to other professional sport clubs. Regardless of the league or sport, most professional sport clubs utilise team resources (players) and stadium (or arena) resources. However, while the Premier League is similar to other European football leagues and especially to those in France, Germany, Italy and Spain (Deloitte, 2017a), there are some significant differences to North America major league sports (Andreff and Staudohar, 2000; Neale, 1964; Hoehn, 2006; Hoehn and Szymanski, 1999; Noll, 1974; Sloane, 2006). The applicability to practice in other leagues may be inappropriate.

The generalisability of the context is limited because of its uniqueness. The Premier League is one of most valuable leagues in the world and, since its formation in 1992, has experienced sustained growth (see Chapter 2). Further research could be conducted in the context of smaller leagues or of leagues that have experienced decline or are at other stages of the lifecycle (Miller and Friesen, 1984). This could include other professional football leagues in Europe or other sports, including team or individual sports. In particular, the conceptual and empirical model could be replicated in the major sport leagues of North America, including Major League Soccer, to compare and contrast the respective geographical markets.

The conceptual model represents a holistic and practicable model of professional sport club strategy. However, it may be too simplistic to provide adequate insights into complex clubs, league and competitive environment factors or for the analysis of competitive and dynamic effects. It can be extended with additional constructs and relationships. Only Proposition 6 incorporates management capabilities, meaning that Propositions 1 to 6 assume that team and stadium resources are managed as effectively and efficiently by each club and for each year, which is not a realistic assumption. The dynamic nature of performance and resources requires further consideration. Financial performance – and specifically retained earnings from profits – can be reinvested with further capital investment (for example, from debt and equity), so that they become financial resources that can then be used to enhance team and stadium resources. Financial performance can also be appropriated by owners and lenders in the form of dividends and interest.

The sample and observation period appear to be sufficient. The sample includes all clubs that are, or have been, members of the Premier League, and therefore reduces success and survivor bias. The observation period extends from the formation of the Premier League to the season for which the most

recent data is available. It can be continued as the competition continues and as financial data from the 2016/17 season is published. Panel data is useful for the simultaneous analysis of cross-sectional competitive effects between clubs and for time-series dynamic effects of cumulative resources and sustained performance.

There is scope to extend the sample of clubs and observation period. The revised sample could include all clubs that have been members of the Football League since 1992/93, which would increase the sample to clubs that have never been members of the Premier League since its formation.

However, the availability of data for clubs in the third and fourth division is limited. Increasing the observation period to pre-1992/93 would enable a comparison between the Premier League era to the Football League, and hence between a period of growth and an era of volatility and decline. However, the availability of data for clubs in the third and fourth division is limited. As explained in Section 5.5, sporting performance and stadium resource data is available for all or most clubs and years, but data collection for business performance is less consistent.

The research adopts variables for sporting, business and financial performance and for team and stadium resources. These physical and human resources are tangible and further research could incorporate intangible resources, such as club brands and fan loyalty, and resource management capabilities, including team and stadium management. However, it is necessary to measure such unobservable resources and capabilities using methods other than the difference between performance (outputs) and resources (inputs), otherwise this would be replicate performance as both part of the predictor and as the outcome of the predictive model.

The propositions enable empirical testing of professional sport club performance from different perspectives. These models provide confirmation of the predictive relationships that were established in the *Literature Review* (Section 3.3), plus the exploration of contingent relationships incorporating change and the concept of fit. Further research is recommended to incorporate the performance, resources and resource management capabilities of clubs, including:

- For financial performance and resources, has the issue of debt and equity made clubs more prudent, especially where the equity has introduced new owners to a club?
- For team resources, does the relationship between a club's team manager and its business leaders, such as the Managing Director or Chief Executive, have an effect on performance,

as may be evident by the coincidental tenure of Sir Alex Ferguson with Ken Friar (to 2000) and Keith Edelman (from 2000 to 2008) at Manchester United and Arsène Wenger with Martin Edwards (to 2003) and David Gill (from 2004 to 2013) at Arsenal?

- For stadium resources, have new facilities enabled clubs to generate and appropriate incremental matchday and commercial revenue, or have they made clubs more prudent due to the obligation to generate operating profit to cover capital expenditure?

There is further scope to introduce marketing resources into the conceptual model, comprising the club brand and fan loyalty resources, as well as the necessary marketing capabilities.

Each model required the collection of a panel of archived data for the specified variables and for a sufficient sample and observation period. Statistical analysis is utilised for empirical tests of predictive models and for different types of fit, including deviation, moderation and mediation. The panel regression models confirm the predictive trends between team resources, sporting performance and business performance, while, importantly, the examination of outliers enables the paths of clubs to be explored. Alternatively, the relationships between a network of variables could be analysed with a structural equation model, as applied by Galariotis et al (2017). Visual analysis enables further exploration of the paths of individual clubs during the observation period and to establish patterns between and within groups of clubs.

There are constraints to the collection of archival data that is required for the panel data. Archival data is not always consistent and comparable. There is some missing data due to revised data collection by Deloitte and for individual clubs, most commonly by clubs that have entered administration. There are concerns about potential bias as data on failing clubs is thereby excluded from the panel during the period of failure. There is also some inconsistency between financial years, especially in player value, due to accounting standards.

There are further limitations to the analysis of the panel data. Although many of the performance outcomes and resources of professional football clubs are quantitative and the use of statistical analysis is appropriate for simplifying complex models, it can be reductionist and remove some factors that may otherwise have been of interest (Remenyi et al 2008). Furthermore, the panel regression model does not explicitly test for causality, with reverse causality being highlighted in a number of models. The utilisation of the Granger test of causality for panel data (Brooks, 2008) may be

advantageous for testing the precedence of resources and performance outcomes. For visual analysis, the drawing conclusions from patterns observed by inspection of data displays presents some unique findings and more in-depth analysis that is specific to individual clubs. However, there are substantial limitations to the recognition of patterns by comparing and contrasting multiple variables for 44 clubs over 23 years, let alone the identification of competitive and dynamic relationships between these variables. Further case study research, which should incorporate quantitative and qualitative data, may provide further insights, especially into resource management capabilities. The assumption of heterogeneity is addressed by the analysis of clubs by group, which are designated by the clubs' sporting performance during the observation period. There is scope to create alternative groups based on business and financial performance, by team and stadium resources, or by a combination of factors. Longitudinal or time-series cluster analysis could be applied for this purpose to capture group membership by time.

10.4. Professional team sport management practice

The findings and the methodologies have potential application for club management and league governance. For club owners and business executives, the models can inform strategic decision-making, and the evaluation of dynamic performance relative to competitors. The competitive and dynamic dimensions of the model may be especially useful for forming and implementing strategy in a competitive environment where there is considerable internal change (to resources and capabilities) and for managing perceived and objective change (specifically growth) in the external competitive environment. For executives of leagues, governing bodies and federations, the empirical model can facilitate the monitoring and control of clubs. Specifically, it can be used to evaluate the performance and resources of clubs during periods of growth or decline. The data can be applied to analysis of the competitive balance of clubs, and this could be extended to national competitions (such as the Premier League) and international competitions (such as the Champions League). For both sets of stakeholders, the adopted methods enable the analysis of relative and sustained sporting, business and financial performance of clubs and of leagues and divisions. However, the predictive models do have limitations as professional sport leagues require some uncertainty of outcome in order to create and maintain sporting and financial viability.

The performance of Premier League clubs

Professional football clubs in England and Wales have comparable and consistent resources and performance outcomes. However, they are not homogeneous. They adopt unique strategic paths, and there are important differences between and within groups of clubs that have common performance outcomes. In particular, there are unique characteristics between those clubs that have sustained performance advantage, experienced growth, and suffered decline. These represent broad strategic types that clubs owners and decision-makers could use to identify potential resource-based strategies and for the identification of competitors in both sporting and business competitive environments.

The permanent members of the Premier League are clubs that have sustained success but, nevertheless, have had to adapt to substantial and dynamic change in the competitive environment, including the formation and growth of the Premier League and the Champions League. Arsenal, Manchester United and, to a lesser extent, Liverpool have established a dominant sporting and business performance advantage. But even this competitive environment is changing with competitors emerging from within the group, such as Chelsea, and from other groups, with the emergence of Manchester City. The permanent members have been affected *by* change in the Premier League and, moreover, have affected change *to* the Premier League.

Clubs that have experienced growth and decline have endured considerable change. Those clubs that have grown during the observation period have not only had to manage change as they achieved promotion from the third or fourth division to the Premier League, but have had to do so while the revenue, and especially broadcast rights, of the Premier League, and to a lesser extent the Football League, has grown. The growth of clubs from the Football League to the Premier League has often coincided, or been prompted, by a shock, whether a positive change (such as relocation to a new stadium) or a negative effect (such as an administration event). Furthermore, change has often had to be formulated and implemented in concurrent seasons. Conversely, clubs that have suffered from consecutive relegation have had to adapt to manage their decline. Some, but not all, have failed to do so and entered administration as a consequence. This has been exasperated by the widening gap between divisions.

The yo-yo and volatile clubs are the most adaptable clubs but, by definition, have endured the most change in performance outcomes. However, there are few evident patterns in their resource and

resource management strategy, with many differences between and within these groups of clubs. This may be because these clubs have had to make substantial and sometimes recurrent change to their resources and capabilities, which then enables them to adapt to their changing internal and external competitive environment.

Some clubs appear to be more resistant to sporting failure and have maintained business and financial performance, despite the reduction in broadcast revenue. This may indicate that they have strong marketing resources, such as the club brand and fan loyalty, or have marketing capabilities to optimise demand and prices. Further exploration of the formulation and implementation of clubs' ticketing, hospitality, retail, merchandise, licensing and sponsorship strategies may reveal useful insights that explain relative performance. Despite the growth in broadcast revenue, the failure to invest in stadium resources may have severe consequences for clubs. Portsmouth failed to redevelop their stadium or relocate, and suffered repeated relegation and administration events. This demonstrates the importance of matchday and commercial revenue to clubs and the risk of relying on league broadcast revenue, most of which is appropriated by clubs competing in the Premier League and Champions League, and the strategic relevance of the club's stadium resources.

Predicting and protecting unpredictable Premier League performance

However, the models have limited application as predictive models. The sporting and business performance of clubs is mostly, but not entirely, predictable. Sport has to be unpredictable for it to be purposeful. If participants knew who was going to win matches and championships then there would be no purpose in competing. For professional team sport, the demand from spectators for the clubs' products and services would be reduced if the outcome was certain, thus diminishing the viability of clubs and leagues. Sport therefore relies on at least some uncertainty of outcome, and sport management theory and practice must incorporate this unpredictability.

References

- Ahlfeldt, G.M. and Kavetsos, G. (2013) 'Should I wish on a stadium? Measuring the effect on the treated', in Rodríguez, P., Késenne, S. and García, J. (eds.) *The Econometrics of Sport*. Cheltenham: Edward Elgar, pp. 189–201.
- Amir, E. and Livne, G. (2005) Accounting, Valuation and Duration of Football Player Contracts. *Journal of Business Finance & Accounting*, 32(3–4), pp. 549–586.
- Amit, R. and Schoemaker, P.J.H. (1993) Strategic Assets and Organizational Rent. *Strategic Management Journal*, 14(1), pp. 33–46.
- Anderson, C.R. and Paine, F.T. (1975) Managerial Perceptions and Strategic Behaviour. *Academy of Management Journal*, 18(4), pp. 811–823.
- Anderson, J. (2013) *Sky Sports Football Yearbook 2013–2014*. 44th edn. London: Headline Publishing Group.
- Anderson, J. (2014) *Sky Sports Football Yearbook 2013–2014*. 45th edn. London: Headline Publishing Group.
- Anderson, J. (2015) *Sky Sports Football Yearbook 2015–2016*. 46th edn. London: Headline Publishing Group.
- Anderson, J. (2016) *Sky Sports Football Yearbook 2016–2017*. 47th edn. London: Headline Publishing Group.
- Anderson, P. and Tushman, M.L. (2001) Organizational Environments and Industry Exit: the Effects of Uncertainty, Munificence and Complexity. *Industrial and Corporate Change*, 10(3), pp. 675–711.
- Andreff, W. (2006) 'Team sports and finance', in Andreff, W. and Szymanski, S. (eds.) *Handbook on the Economics of Sport*. Cheltenham: Edward Elgar, pp. 689–699.
- Andreff, W. and Staudohar, P.D. (2000) The Evolving European Model of Professional Sports Finance. *Journal of Sports Economics*, 1(3), pp. 257–276.
- Annual Review of Football Finance* (See Touche Ross, 1994, 1995; Deloitte & Touche, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008; Deloitte, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017)
- Aragón-Correa, J.A. and Sharma, S. (2003) A contingent resource-based view of proactive corporate environmental strategy. *Academy of Management Review*, 28(1), pp. 71–88.

- Arend, R.J. (2003) Revisiting the Logical and Research Considerations of Competitive Advantage. *Strategic Management Journal*, 24(3), pp. 279–284.
- Arsenal (2016) *Statement of accounts and annual Report 2015/16*. London: Arsenal Holdings PLC.
- Aston Villa (2003) *Revised arrangements with Premium TV Limited*. 15 October. Aston Villa PLC.
- AT Kearney (2010) *The AT Kearney EU Football Sustainability Study*. Düsseldorf: AT Kearney.
- AT Kearney (2014) *Winning in the Business of Sports*. AT Kearney.
- Atkinson, S.E., Stanley, L.R. and Tschirhart, J. (1988) Revenue sharing as an incentive in an agency problem: an example from the National Football League. *RAND Journal of Economics*, 19(1), pp. 27–43.
- Augier, M. and Teece, D.J. (2009) Dynamic Capabilities and the Role of Managers in Business Strategy and Economic Performance. *Organization Science*, 20(2), pp. 410–421.
- Barnett, S. (1990) *Games and sets: The changing face of sport on television*. London: British Film Institute.
- Barney, J.B. (1986a) Organizational Culture: Can It Be a Source of Sustained Competitive Advantage? *Academy of Management Review*, (11)4, pp. 656–665.
- Barney, J.B. (1986b) Strategic factors: Expectations, luck and business strategy. *Management Science*, 32(10), pp. 1231–1241.
- Barney, J.B. (1989) Asset Stock Accumulations and Sustainability of Competitive Advantage: A comment. *Management Science*, 35(12), pp. 1511–1513.
- Barney, J.B. (1991) Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17(1), pp. 99–120.
- Barney, J.B. (1997) *Gaining and Sustaining Competitive Advantage*. Reading, MA: Addison-Wesley Publishing Company.
- Barney, J.B. and Arikan, A. (2001) 'The Resource-Based View: Origins and Implications', in Hitt, M.A., Freeman, R.E. and Harrison, J.S. (eds.) *The Blackwell Handbook of Strategic Management*. Oxford: Blackwell Publishers, pp. 124–188.
- Barney, J.B. and Clark, D.N. (2007) *Resource-Based Theory: Creating and Sustaining Competitive Advantage*. Oxford: Oxford University Press.
- Baroncelli, A. and Lago, U. (2006) Italian football. *Journal of Sports Economics*, 7(1), pp. 13–28.

- BBC (2003) *Stadium blow for Sky Blues*. Available at: <http://news.bbc.co.uk/1/hi/england/2829191.stm>
(Accessed: 4 April 2018).
- BBC (2015) *Premier League spending 'will increase transfer tsunami'*. Available at:
<https://www.bbc.co.uk/sport/football/34153686> (Accessed: 4 April 2018).
- Bell, A., Brooks, C. and Markham, T. (2013) The performance of football club managers: skill or luck?
Economics & Finance Research, 1(1), pp. 19–30.
- Berri, D.J. and Brook, S.L. (2010) On the Evaluation of the "Most Important" Position in Professional Sports.
Journal of Sports Economics, 11(2), pp. 157–171.
- Berri, D.J., Leeds, M.A., Leeds, E.M., and Mondell, M. (2009) The Role of Managers in Team Performance.
International Journal of Sport Finance, 4(2), pp. 75–93.
- Blitz, R. (2011) Kroenke guns for controlling stake at Arsenal. *Financial Times*, 12 April, p. 17.
- Blitz, R. (2013) Chelsea scores with player trading. *Financial Times*, 10 January, p. 20.
- Blitz, R. and Wilson, J. (2007) Liverpool FC in US hands for Pounds 219m. *Financial Times*, 7 February, p. 18.
- Borland, J. (2006a) 'The production of professional team sports', in Andreff, W. and Szymanski, S. (eds.)
Handbook on the Economics of Sport. Cheltenham: Edward Elgar, pp. 22–26.
- Borland, J. (2006b) 'Production functions for sporting teams', in Andreff, W. and Szymanski, S. (eds.) *Handbook on the Economics of Sport*. Cheltenham: Edward Elgar, pp. 610–615.
- Bounds, A. (2012) Football season kicks off battle for revenue. *Financial Times*, 23 August, p. 10.
- Bourg, J-F. and Gouget, J-J. (2006) 'Sport and globalisation: sport as a global public good', in Andreff, W. and Szymanski, S. (eds.) *Handbook on the Economics of Sport*. Cheltenham: Edward Elgar, pp. 744–754.
- Bourgeois, L.J. (1985) Strategic goals, perceived uncertainty and economic performance in volatile environments. *Academy of Management Journal*, 28(3), pp. 548–573.
- Boyle, R. and Haynes, R. (2004) *Football in the New Media Age*. London: Routledge.
- Brand Finance (2017) *Football 50 2017: The annual report on the most valuable football brands*. Brand Finance.
- Brooks, C. (2008) *Introductory Econometrics for Finance*. 2nd edn. Cambridge: Cambridge University Press.

- Buraimo, B. (2006) 'The demand for sports broadcasting', in Andreff, W. and Szymanski, S. (eds.) *Handbook on the Economics of Sport*. Cheltenham: Edward Elgar, pp. 100–111.
- Buraimo, B., Frick, B., Hickfang, M. and Simmons, R. (2015) The economics of long-term contracts in the footballers' labour market. *Scottish Journal of Political Economy*, 62(1), pp. 8–24.
- Buraimo, B., Simmons, R. and Szymanski, S. (2006) English Football. *Journal of Sports Economics*, 7(1), pp. 29–46.
- Child, J. (1977) Organizational Design and Performance: Contingency Theory and Beyond. *Organization and Administrative Science*, 8(2–3), pp. 169–183.
- Clapp, C.M. and Hakes, J.K. (2005) How Long a Honeymoon? The Effect of New Stadiums on Attendance in Major League Baseball. *Journal of Sports Economics*, 6(3), pp. 237–263.
- Coakley, J.J. (1978) *Sport in society: Issues and controversies*. St Louis, MO: The CV Mosby Company.
- Coff, R.W. (1999) When Competitive Advantage Doesn't Lead to Performance. *Organization Science*, 10(2), pp. 119–133.
- Coff, R.W. (2010) The coevolution of rent appropriation and capability development. *Strategic Management Journal*, 31(7), pp. 711–733.
- Collis, D.J. and Montgomery, C.A. (1995) Competing on Resources: Strategy in the 1990s. *Harvard Business Review*, 73(4), pp. 118–128.
- Combs, J.G. and Ketchen Jr, D.J. (1999) Explaining interfirm cooperation and performance: Toward a reconciliation of predictions from the resource-based view and organizational economics. *Strategic Management Journal*, 20(9), pp. 867–888.
- Cotterill, J. and Mackenzie, M. (2012) Man United IPO enjoys robust demand. *Financial Times*, 10 August, p. 20.
- Courneya, K.S. and Carron, A.V. (1992) The Home Advantage In Sport Competitions: A Literature Review. *Journal of Sport and Exercise Psychology*. 14(1), pp. 13–27.
- Court of Arbitration for Sport (1999) *Arbitration CAS 98/200 AEK Athens and SK Slavia Prague / Union of European Football Associations (UEFA)*, award of 20 August 1999. Court of Arbitration for Sport.
- Cross, J. (2016) *Arsene Wenger: The inside story of Arsenal under Wenger*. London: Simon & Schuster UK.

- Crown Prosecution Service (n.d.) *Football Related Offences and Football Banning Orders: Legal Guidance*. Available at: <https://www.cps.gov.uk/legal-guidance/football-related-offences-and-football-banning-orders> (Accessed: 4 April 2018).
- Curley, J.P. and Roeder, O. (2016) English soccer's mysterious worldwide. *Contexts*, 15(1), pp. 78–81.
- Daase, C. and Kessler, O. (2007) Knowns and Unknowns in the 'War on Terror': Uncertainty and the Political Construction of Danger. *Security Dialogue*, 38(4), pp. 411–434.
- Dabscheck, B. (1975) Sporting Equality: Labor Market vs. Product Market Control. *Journal of Industrial Relations*, 17(2), pp. 174–190.
- Davenport, D. S. (1969) Collusive Competition in Major League Baseball: Its Theory and Institutional Development. *The American Economist*, 13(2), pp. 6–30.
- Davies, P (1990) *All Played Out: The Full Story of Italia '90*. London: William Heinemann.
- dell'Osso, F. and Szymanski, S. (1991) Who are the Champions? (An analysis of football and architecture). *Business Strategy Review*, 2(2), pp. 113–130.
- Deloitte & Touche (1996) *Deloitte & Touche Annual Review of Football Finance*. Manchester: Deloitte & Touche.
- Deloitte & Touche (1997) *Deloitte & Touche Annual Review of Football Finance*. Manchester: Deloitte & Touche.
- Deloitte & Touche (1998) *Deloitte & Touche Annual Review of Football Finance*. Manchester: Deloitte & Touche.
- Deloitte & Touche (1999) *Deloitte & Touche Annual Review of Football Finance*. Manchester: Deloitte & Touche.
- Deloitte & Touche (2000) *Deloitte & Touche Annual Review of Football Finance*. Manchester: Deloitte & Touche.
- Deloitte & Touche (2001) *Annual Review of Football Finance*. Manchester: Deloitte & Touche.
- Deloitte & Touche (2002) *Annual Review of Football Finance*. Manchester: Deloitte & Touche.
- Deloitte & Touche (2003) *Annual Review of Football Finance*. Manchester: Deloitte & Touche.
- Deloitte & Touche (2004) *Annual Review of Football Finance*. Manchester: Deloitte & Touche.

- Deloitte & Touche (2005) *Annual Review of Football Finance: A changing landscape*. Manchester: Deloitte & Touche.
- Deloitte & Touche (2006) *Annual Review of Football Finance: All eyes on Europe*. Manchester: Deloitte & Touche.
- Deloitte & Touche (2007) *Annual Review of Football Finance: Taking new direction*. Manchester: Deloitte & Touche.
- Deloitte & Touche (2008) *Annual Review of Football Finance: Sterling Silverware*. Manchester: Deloitte & Touche.
- Deloitte (2009) *Safety in numbers: Annual Review of Football Finance*. Manchester: Deloitte LLP.
- Deloitte (2010) *National interest: Annual Review of Football Finance*. Manchester: Deloitte LLP.
- Deloitte (2011) *Pressure to change: Annual Review of Football Finance*. Manchester: Deloitte LLP.
- Deloitte (2012) *New rules, narrow margins: Annual Review of Football Finance*. Manchester: Deloitte LLP.
- Deloitte (2013) *Turn on, tune in, turnover: Annual Review of Football Finance*. London: Deloitte LLP.
- Deloitte (2014) *A premium blend: Annual Review of Football Finance*. London: Deloitte LLP.
- Deloitte (2015) *Revolution: Annual Review of Football Finance*. London: Deloitte LLP.
- Deloitte (2016) *Reboot: Annual Review of Football Finance*. London: Deloitte LLP.
- Deloitte (2017a) *Ahead of the curve: Annual Review of Football Finance*. London: Deloitte LLP.
- Deloitte (2017b) *Planet football: Football Money League*. London: Deloitte LLP.
- Department for Culture, Media and Sport (2008) *Guide to Safety at Sports Grounds*. 5th edn. Norwich: Her Majesty's Stationery Office.
- Dierickx, I. and Cool, K. (1989) Asset Stock Accumulations and Sustainability of Competitive Advantage. *Management Science*, 35(12), pp. 1504–1511.
- Dietl, H. and Lang, M. (2008) The effect of gate revenue sharing on social welfare. *Contemporary Economic Policy*, 26(3), pp. 448–459.
- Dietl, H.M., Lang, M. and Werner, S. (2009) Social Welfare in Sports Leagues with Profit-Maximizing and/or Win-Maximizing Clubs. *Southern Economic Journal*, 76(2), pp. 375–96.

- Dobson, S. and Goddard, J. (2011) *The Economics of Football*. 2nd edn. Cambridge: Cambridge University Press.
- Dobson, S.M and Goddard, J.A. (1998) Performance and revenue in professional league football. *Applied Economics*, 30(12), pp. 1641–1651.
- Donaldson, L. (2001) *The Contingency Theory of Organizations*. Thousand Oaks, CA: Sage Publications.
- Donaldson, L. (2006) 'The contingency theory of organizational design: Challenges and opportunities', in Burton, R.M., Eriksen, B., Håkonsson, D.D. and Snow, C.C. (eds.) *Organization Design: The Evolving State-of-the-Art*. New York, NY: Spring Science and Business Media, pp. 19–40.
- Downward, P. (2014) 'English professional football', in Goddard, J. and Sloane, P. (eds.) *Handbook on the Economics of Professional Football*. Cheltenham, Gloucestershire: Edward Elgar Publishing, pp. 277–298.
- Drazin, R. and Van de Ven, A.H. (1985) Alternative Forms of Fit in Contingency Theory. *Administrative Science Quarterly*, 30(4), pp. 514–539.
- Duncan, R.B. (1972) Characteristics of organizational environments and perceived environmental uncertainty. *Administrative Science Quarterly*, 17(3), pp. 313–327.
- Edgecliffe-Johnson, A. (2007) Billionaire pays Pounds 42m for stake in Arsenal. *Financial Times*, 7 April, p. 15.
- Ehrenberg, A.S.C. (1982) *A Primer in Data Reduction: An Introductory Statistics Textbook*. Chichester: John Wiley & Sons.
- El-Hodiri, M. and Quirk, J. (1971) An Economic Model of a Professional Sports League. *Journal of Political Economy*, 79(6), pp. 1302–1319.
- Elliott, D., Frosdick, S. and Smith, D. (1997) 'The failure of 'legislation by crisis' in Frosdick, S. and Walley, L. (eds.) *Sports and safety management*. Abingdon, Oxon: Routledge, pp. 11–30.
- Emery, R. and Weed, M. (2006) Fighting for survival? The financial management of football clubs outside the 'top flight' in England. *Managing Leisure*, 11(1), pp. 1–21.
- ENIC PLC (2001) *Annual report & accounts 2001*. London: ENIC PLC.
- Ernst & Young (2015) *The economic impact of the Premier League*. London: Ernst & Young LLP.
- European Commission (2002) *Case COMP/37 806: ENIC/UEFA*. Brussels: European Commission.

- Everton (2016) *Club Statement*. Available at: www.evertonfc.com/news/2016/02/27/club-statement (Accessed: 4 April 2018).
- Evoy, C.D., Nagel, M.S., DeSchrive, T.D. and Brown, M.T. (2005) Facility Age and Attendance in Major League Baseball. *Sport Management Review*, 8, pp. 19–41.
- Ferguson, D.G., Stewart, K.G., Jones, J.C.H. and Le Dressay, A. (1991) The Pricing of Sports Events: Do Teams Maximize Profit? *The Journal of Industrial Economics*, 39(3), pp. 297–310.
- Flint, S.W., Plumley, D.J. and Wilson, R.J. (2014) You don't know what you're doing! The impact of managerial change on club performance in the English Premier League. *Managing Leisure*, 19(6), pp. 390–399.
- Football Association (2017) *The FA handbook: Season 2017/18*. London: The Football Association.
- Football League (2015) *Football League to be re-named the English Football League*. Available at: <https://www.efl.com/news/2015/november/football-league-to-be-re-named-the-english-football-league/> (Accessed: 4 April 2018).
- Football League (n.d. a) *Standings*. Available at: <https://www.efl.com/clubs-and-competitions/sky-bet-championship/league-table/> (Accessed: 4 April 2018).
- Football League (n.d. b) *Standings*. Available at: <https://www.efl.com/clubs-and-competitions/sky-bet-league-one/league-table/> (Accessed: 4 April 2018).
- Football League (n.d. c) *Standings*. Available at: <https://www.efl.com/clubs-and-competitions/sky-bet-league-two/league-table/> (Accessed: 4 April 2018).
- Football Yearbook* (See Rollin, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999; Rollin and Rollin, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012; Anderson, 2013, 2014, 2015, 2016)
- Forker, J. (2005) Discussion of Accounting, Valuation and Duration of Football Player Contracts. *Journal of Business Finance & Accounting*, 32(3–4), pp. 587–598.
- Forrest, D. and Simmons, R. (2006) New Issues in Attendance Demand: The Case of the English Football League. *Journal of Sports Economics*, 7(3), pp. 247–266.
- Fort, R. and Quirk, J. (1995) Cross-Subsidization, Incentives, and Outcomes in Professional Team Sports Leagues. *Journal of Economic Literature*, 33(3), pp. 1265–1299.

- Frick, B. (2007) The football players' labor market: Empirical evidence from the major European leagues. *Scottish Journal of Political Economy*, 54(3), pp. 422–446.
- Frick, B. (2013) 'Team wage bills and sporting performance: Evidence from (major and minor) European football leagues', in Rodríguez, P., Késenne, S. and García, J. (eds.) *The Econometrics of Sport*. Cheltenham: Edward Elgar, pp. 63–80.
- Friedman, M. (1962) *Capitalism and Freedom*. Chicago, IL: University of Chicago Press.
- Funk, D.C. and James, J.D. (2006) Consumer loyalty: The meaning of attachment in the development of sport team allegiance. *Journal of Sport Management*, 20(2), pp. 189–217.
- Galariotis, E., Germain, C. and Zopounidis, C. (2017) A combined methodology for the concurrent evaluation of the business, financial and sports performance of football clubs: the case of France. *Annals of Operations Research*, 266(1–2), pp. 589–612.
- Galbraith, J. (1973) *Designing Complex Organisations*. Reading, MA: Addison-Wesley.
- Garcia-del-Barrio, P. and Szymanski, S. (2009) Goal! Profit Maximization Versus Win Maximization in Soccer. *Review of Industrial Organization*, 34(1), pp. 45–68.
- Gardiner, S., O'Leary, J., Welch, R., Boyes, S. and Naidoo, U. (2012) *Sports law*. 4th edn. Abingdon, Oxon: Routledge.
- Garrahan, M. (2002a) Man City close to £44m cash injection. *Financial Times*, 14 August, p. 17.
- Garrahan, M. (2002b) Just the ticket for financing football: Manchester City is just one of a number of clubs using securitisation deals based on future match sales to attract the much-needed investment not available in the depressed equity market, says Matthew Garrahan. *Financial Times*, 19 August, p. 23.
- Garrahan, M. (2003) Irish duo consider representation on Man United's board. *Financial Times*, 11 October, p. 2.
- Garrahan, M. and O'Connor, A. (2000) Granada Media buys stake in Arsenal. *Financial Times*, 8 September, p. 21.
- Gerrard, B. (2004) 'Media Ownership of Teams: The Latest Stage in the Commercialisation of Team Sports', in Slack, T. (ed.) *The Commercialisation of Sport*. Abingdon, Oxon: Routledge, pp. 247–266.

- Gerrard, B. (2005) A Resource-Utilization Model of Organizational Efficiency in Professional Sports Teams. *Journal of Sport Management*, 19(2), pp. 143–169.
- Gerrard, B. (2006) 'Financial innovation in professional team sports: the case of English Premiership soccer', in Andreff, W. and Szymanski, S. (eds.) *Handbook on the Economics of Sport*. Cheltenham: Edward Elgar, pp. 709–718.
- Gershon, R.A. (2016) 'Deregulation, Privatization and the Changing Global Media Environment', in Boyd-Barrett, O. (ed.) *Communications Media, Globalization, and Empire*. New Barnet, Herts: John Libbey Publishing, pp. 185-205.
- Grant, R.M. (1991) The Resource-Based Theory of Competitive Advantage: Implications for Strategy Formulation. *California Management Review*, 33(3), pp. 114–135.
- Grant, R.M. (1996) Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17(Winter Special Issue), pp. 109–122.
- Greenfield, S. and Osborn, G. (2000) *Law and sport in contemporary society*. Abingdon, Oxon: Routledge.
- Gujarati, D.N. (2003) *Basic Econometrics*. 4th edn. New York, NY: McGraw-Hill.
- Hair Jr, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2010) *Multivariate Data Analysis: A Global Perspective*. 7th edn. Upper Saddle River, NJ: Pearson Education.
- Hakes, J. and Sauer, R. (2006) An economic evaluation of the *Moneyball* hypothesis. *Journal of Economic Perspectives*, 20(3), pp. 173–185.
- Hall, S., Szymanski, S. and Zimbalist, A.S. (2002) Testing Causality Between Team Performance and Payroll. *Journal of Sports Economics*, 3(2), pp. 149–168.
- Hansen, M., Perry, L.T. and Reese, S. (2004) A Bayesian operationalization of the resource-based view. *Strategic Management Journal*, 25(13), pp. 1279–1295.
- Hart, I. (2005) The biggest contract. *Economist*, 375(8428), pp. 69–71.
- Hart, R.A., Hutton, J. and Sharot, T. (1975) A Statistical Analysis of Association Football Attendances. *Applied Statistics*, 24(1), pp. 17–27.

- Helleu, B. (2017) 'The other field of play: Football on social media', in Chanavat, N., Desbordes, M. and Lorgnier, N. (eds.) *Routledge Handbook of Football Marketing*. Abingdon, Oxon: Routledge, pp. 166–183.
- Henderson, R. and Mitchell, W. (1997) The interactions of organizational and competitive influences on strategy and performance. *Strategic Management Journal*, 18(Summer Special Issue), pp. 5–14.
- Hoehan, T. and Szymanski, S. (1999) The Americanisation of European football. *Economic Policy*, 14(28), pp. 205–240.
- Hoehn, T. (2006) 'Governance and governing bodies in sport', in Andreff, W. and Szymanski, S. (eds.) *Handbook on the Economics of Sport*. Cheltenham: Edward Elgar, pp. 227–240.
- Holcomb, T., Holmes Jr, R.M. and Connelly, B.L. (2009) Making the most of what you have: Managerial ability as a source of resource value creation. *Strategic Management Journal*, 30(5). pp. 457–485.
- Hoye, R., Smith, A.C.T., Nicholson, M., Stewart, B. and Stewart, B. (2018) *Sport Management: Principles and Applications*. 5th edn. Abingdon, Oxon: Routledge.
- Hughes, M., Hughes, P., Mellahi, K. and Guermat, C. (2010) Short-term versus Long-term Impact of Managers: Evidence from the Football Industry. *British Journal of Management*, 21(2), pp. 571–589.
- Hunt, S.D. (1997) Resource-Advantage Theory: An Evolutionary Theory of Competitive Firm Behavior. *Journal of Economic Issues*, 31(1), pp.59–77.
- Hunt, S.D. and Morgan, R.M. (1997) Resource-Advantage Theory: A Snake Swallowing Its Tail or a General Theory of Competition? *Journal of Marketing*, 61(4), pp. 74–82.
- Hunt, S.D. Morgan, R.M. (1996) The Resource-Advantage Theory of Competition: Dynamics, Path Dependencies, and Evolutionary Dimensions. *Journal of Marketing*, 60(4), pp. 107–114.
- ICANN (2018) *Showing results for: manutd.com*. Available at:
<https://whois.icann.org/en/lookup?name=manutd.com> (Accessed: 4 April 2018).
- Irwin, R.L., Zwick, D. and Sutton, W.A. (1999) Assessing organizational attributes contributing to marketing excellence in American professional sport franchises. *Journal of Consumer Marketing*, 16(6) pp. 603–615.
- James, M. (2017) *Sport Law*. 3rd edn. London: Palgrave.

- Jane, W-J., San, G. and Ou, Y-P. (2009) The Causality between Salary Structures and Team Performance: A Panel Analysis in a Professional Baseball League. *International Journal of Sport Finance*, 4(2), pp. 136–150.
- Johnson, G. (1992) Managing Strategic Change – Strategy, Culture and Action. *Long Range Planning*, 25(1), pp. 28–36.
- Késenne, S. (1996) League management in professional team sports with win maximizing clubs. *European Journal for Sports Management*, 2(2), pp. 14–22.
- Késenne, S. (2005) Revenue sharing and competitive balance: Does the invariance proposition hold? *Journal of Sports Economics*, 6(1), pp. 98–106.
- Késenne, S. (2006a) 'The objective function of a team', in Andreff, W. and Szymanski, S. (eds.) *Handbook on the Economics of Sport*. Cheltenham: Edward Elgar, pp. 601–609.
- Késenne, S. (2006b) The Win Maximization Model Reconsidered Flexible Talent Supply and Efficiency Wages. *Journal of Sports Economics*, 7(4), pp. 416–427.
- Késenne, S. (2007) The peculiar international economics of professional football in Europe. *Scottish Journal of Political Economy*, 54(3), pp. 388–399.
- Késenne, S. (2014) *The Economic Theory of Professional Team Sports: An Analytical Treatment*. 2nd edn. Cheltenham: Edward Elgar.
- Kipphoff, J. and Owen, D. (2003) Lineker leads bid to save Leicester City. *Financial Times*, 22 October, p. 22.
- KPMG (2017) *Football Clubs' Valuation: The European Elite 2017*. KPMG Advisory.
- Koenigstorfer, J., Groeppel-Klein, A. and Kunkel, T. (2010) The Attractiveness of National and International Football Leagues: Perspectives of Fans of "Star Clubs" and "Underdogs". *European Sport Management Quarterly*, 10(2), pp. 127–163.
- Kringstad, M., Solberg, H. A., and Jakobsen, T. G. (2018). Does live broadcasting reduce stadium attendance? The case of Norwegian football. *Sport, Business and Management: An International Journal*, 8(1), pp. 67–81.
- Kuper, S. (1997a) Leicester heads for the market. *Financial Times*, 11 July, p. 20.
- Kuper, S. (1997b) Caspian buys Leeds' ground. *Financial Times*, 17 December, p. 26.

- Kuper, S. and Szymanski, S. (2012) *Soccernomics: Why Transfers Fail, Why Spain Rule the World and Other Curious Football Phenomena Explained*. London: Harper Collins Publishers.
- Lago, U., Simmons, R. and Szymanski, S. (2006). The Financial Crisis in European Football: An Introduction. *Journal of Sports Economics*, 7(1), pp. 3–12.
- Lawrence, P.R. and Lorsch, J.W. (1967) Differentiation and Integration in Complex Organizations. *Administrative Science Quarterly*, 12(1) pp. 1–47.
- League Managers Association (n.d.) Managers by club. Available from:
www.leaguemanagers.com/managers/managers-by-club/ (Accessed: 4 April 2018).
- Leicester City (2010) *Leicester City Football Club Limited: Annual report and financial statements for the year ended 31 May 2010*. Leicester: Leicester City Football Club Limited.
- Lippman, S.A. and Rumelt, R.P. (2003) A bargaining perspective on resource advantage. *Strategic Management Journal*, 24(11), pp.1069–1086.
- Luft, J. (1984) *Group Processes: An Introduction to Group Dynamics*. 2nd edn. Palo Alto, CA: Mayfield Publishing Company.
- Lussier, R.N. and Kimball, D.C. (2014) *Applied sport management skills*. 2nd edn. Champaign, IL: Human Kinetics.
- Madden, P. (2012a) Fan welfare maximization as a club objective in a professional sports league. *European Economic Review*, 56(3), pp. 560–78.
- Madden, P. (2012b) Welfare Economics of "Financial Fair Play" in a Sports League With Benefactor Owners. *Journal of Sports Economics*, 16(2), pp. 159–184.
- Madden, P. and Robinson, T. (2012). Supporter influence on club governance in a sports league: A "utility maximization" model. *Scottish Journal of Political Economy*, 59(4), pp. 339–60.
- Makadok, R. (2001) Toward a synthesis of the resource-based and dynamic-capability views of rent creation. *Strategic Management Journal*, 22(5), pp. 387–401.
- Manchester United (1997) *Annual report and accounts for the year ended 31 July 1997*. Manchester: Manchester United PLC.
- Manchester United (1998) *Annual report 1998*. Manchester: Manchester United PLC.

- Manchester United (1999) *Annual report 1999*. Manchester: Manchester United PLC.
- Manchester United (2000) *Annual report 2000*. Manchester: Manchester United PLC.
- Manchester United (2001) *Annual report 2001*. Manchester: Manchester United PLC.
- Manchester United (2003) *Annual report 2003*. Manchester: Manchester United PLC.
- Miles, M.B. and Huberman, A.M. (1994) *Qualitative Data Analysis: An Expanded Sourcebook*. 2nd edn. Thousand Oaks, CA: Sage Publications.
- Miller, D. and Friesen, P.H. (1984) A longitudinal study of the corporate lifecycle. *Organization Studies*, 30(10), pp. 1161–1183.
- Milliken F.J. (1987) Three Types of Perceived Uncertainty about the Environment: State, Effect, and Response. *Academy of Management Review*, 12(1), pp. 133–143.
- Milne, M. (2016) *The Transformation of Television Sport: New Methods, New Rules*. Basingstoke, Palgrave Macmillan.
- Mintzberg, H. (1973) Strategy formulation as a historical process. *International Studies of Management & Organization*, 7(2), pp. 28–40.
- Mintzberg, H. (1978) Patterns in strategy formation. *Management Science*, 24(9), pp. 934–948.
- Moliterno, T.P. and Wiersema, M.F. (2007) Firm performance, rent appropriation, and the strategic resource divestment capability. *Strategic Management Journal*, 28(11), pp. 1065–1087.
- Moore, G. (2008) Money talks as Briatore calls the shots at QPR. *The Independent*, 1 November, p. 8.
- Moore, G. (2013) Increasingly, the manager is a short-term 'department head', which means failure is not forever as the sack is losing its stigma. *The Independent*, 21 December, p. 10.
- Morrow, S. (1999) *The New Business of Football: Accountability and Finance in Football*. Basingstoke, Hampshire: Macmillan Press.
- Mullin, N.B.J., Hardy, S. and Sutton, W.A. (2014) *Sport Marketing*. 4th edn. Champaign, IL: Human Kinetics.
- Murad, A., Fildes, N. and Ram, A. (2018) Amazon buys Premier League rights in fresh challenge to broadcasters. *Financial Times*, 8 June, p. 13.

- Naman, J.L. and Slevin, D.P. (1993) Entrepreneurship and the Concept of Fit: A Model and Empirical Tests. *Strategic Management Journal*, 14(2), pp. 137–153.
- Ndofor, H.A., Sirmon, D.G. and He, X. (2011) Firm resources, competitive actions and performance: Investigating a mediated model with evidence from the in-vitro diagnostics industry. *Strategic Management Journal*, 32(6), pp. 640–657.
- Neale, W.C. (1964) The Peculiar Economics of Professional Sports: A Contribution to the Theory of the Firm in Sporting Competition and in Market Competition. *The Quarterly Journal of Economics*, 78(1), pp. 1–14.
- Noll, R.G. (1974) 'Attendance and Price Setting', in Noll, R.G. (ed.) *Government and the Sports Business: Papers prepared for a conference of experts, with an introduction and summary*. Washington, DC: The Brookings Institution, pp. 115–157.
- Noll, R.G. and Zimbalist, A. (1997) "'Build the Stadium – Create the Jobs!'", in Noll, R.G. and Zimbalist, A. (eds.) *Sports, Jobs, and Taxes*. Washington, DC: Brookings Institution, pp. 1–54.
- Office for National Statistics (2017) *UK National Accounts, The Blue Book: 2017*. Available at: <https://www.ons.gov.uk/economy/grossdomesticproductgdp/compendium/unitedkingdomnationalaccountssthebluebook/2017> (Accessed: 4 April 2018).
- Office for National Statistics (n.d.) *England: Detailed information on the administrative structure within England*. Available at: <https://www.ons.gov.uk/methodology/geography/ukgeographies/administrativegeography/england> (Accessed: 4 April 2018).
- Okner, B.A. (1974) 'Subsidies of Stadiums and Arenas', in Noll, R.G. (ed.) *Government and the Sports Business: Papers prepared for a conference of experts, with an introduction and summary*. Washington, DC: The Brookings Institution, pp. 325–347.
- Owen, D. (2001) Watford shoots for Aim with £5m funding target. *Financial Times*, 29 June, p. 24.
- Paine, F.T. and Anderson, C.R. (1977) Contingencies affecting strategy formulation and effectiveness: An empirical study. *Journal of Management Studies*, 14(2), pp. 147–158.
- Parsons, S. and Rohde, N. (2015) The hot hand fallacy re-examined: New evidence from the English Premier League. *Applied Economics*, 47(4), pp. 346–357.

- Peteraf, M.A. and Bergen, M.E. (2003) Scanning dynamic competitive landscapes: A market-based and resource-based framework. *Strategic Management Journal*, 24(2), pp. 1027–1041.
- Pilbeam, K. (2018) *Finance & financial markets*. 4th edn. London: Palgrave.
- Pinnuck, M. and Potter, B. (2006) Impact of on-field football success on the off-field financial performance of AFL football clubs. *Accounting and Finance*, 46(3), pp. 499–517.
- Popplewell, J. (1985) *Committee of Inquiry into Crowd Safety and Control at Sports Grounds: Interim Report*. London: Her Majesty's Stationery Office.
- Popplewell, J. (1986) *Committee of Inquiry into Crowd Safety and Control at Sports Grounds: Interim Report*. London: Her Majesty's Stationery Office.
- Powell, T.C. (2003) Strategy without Ontology. *Strategic Management Journal*, 24, pp. 285–291.
- Premier League (2017) *Handbook: Season 2017/18*. London: The Football Association Premier League.
- Premier League (n.d. a) *History*. Available at: <https://www.premierleague.com/history> (Accessed: 4 April 2018).
- Premier League (n.d. b) *Tables*. Available at: <https://www.premierleague.com/tables> (Accessed: 4 April 2018.)
- Quinn, K.G., Bursik, P.B., Borick, C.P. and Raethz, L. (2003) Do New Digs Mean More Wins? *Journal of Sports Economics*, 4(3), pp. 167–182.
- Quirk, J. and Fort, R. (1999) *Hard Ball: The Abuse of Power in Pro Team Sports*. Princeton, NJ: Princeton University Press.
- Quirk, J. and Fort, R.D. (1992) *Pay Dirt: The Business of Professional Team Sports*. Princeton, NJ: Princeton University Press.
- Rascher, D.A. (1997) 'A model of a professional sports league', in Hendricks, W. (ed.) *Advances in the economics of sport: Vol. 2*. Greenwich, CT / London: JAI Press, pp. 27–76.
- Remenyi, D., Williams, B., Money, A. and Swartz, E. (1998) *Doing Research in Business and Management: An Introduction to Process and Method*. London: Sage Publications.
- Rollin, G. (1996) *Rothmans Football Yearbook 1996–97*. 27th edn. London: Headline Book Publishing.
- Rollin, G. (1997) *Rothmans Football Yearbook 1997–98*. 28th edn. London: Headline Book Publishing.
- Rollin, G. (1998) *Rothmans Football Yearbook 1998–99*. 29th edn. London: Headline Book Publishing.

- Rollin, G. and Rollin, J. (1999) *Rothmans Football Yearbook 1999–2000*. 30th edn. London: Headline Book Publishing.
- Rollin, G. and Rollin, J. (2000) *Rothmans Football Yearbook 2000–2001*. 31st edn. London: Headline Book Publishing.
- Rollin, G. and Rollin, J. (2001) *Rothmans Football Yearbook 2001–2002*. 32nd edn. London: Headline Book Publishing.
- Rollin, G. and Rollin, J. (2002) *Rothmans Football Yearbook 2002–2003*. 33rd edn. London: Headline Book Publishing.
- Rollin, G. and Rollin, J. (2003) *Sky Sports Football Yearbook 2003–2004*. 34th edn. London: Headline Book Publishing.
- Rollin, G. and Rollin, J. (2004) *Sky Sports Football Yearbook 2004–2005*. 35th edn. London: Headline Book Publishing.
- Rollin, G. and Rollin, J. (2005) *Sky Sports Football Yearbook 2005–2006*. 36th edn. London: Headline Book Publishing.
- Rollin, G. and Rollin, J. (2006) *Sky Sports Football Yearbook 2006–2007*. 37th edn. London: Headline Book Publishing.
- Rollin, G. and Rollin, J. (2007) *Sky Sports Football Yearbook 2007–2008*. 38th edn. London: Headline Book Publishing.
- Rollin, G. and Rollin, J. (2008) *Sky Sports Football Yearbook 2008–2009*. 39th edn. London: Headline Book Publishing.
- Rollin, G. and Rollin, J. (2009) *Sky Sports Football Yearbook 2009–2010*. 40th edn. London: Headline Publishing Group.
- Rollin, G. and Rollin, J. (2010) *Sky Sports Football Yearbook 2010–2011*. 41st edn. London: Headline Publishing Group.
- Rollin, G. and Rollin, J. (2011) *Sky Sports Football Yearbook 2011–2012*. 42nd edn. London: Headline Publishing Group.

- Rollin, G. and Rollin, J. (2012) *Sky Sports Football Yearbook 2012–2013*. 43rd edn. London: Headline Publishing Group.
- Rollin, J. (1992) *Rothmans Football Yearbook 1992–93*. 23rd edn. London: Headline Book Publishing.
- Rollin, J. (1993) *Rothmans Football Yearbook 1993–94*. 24th edn. London: Headline Book Publishing.
- Rollin, J. (1994) *Rothmans Football Yearbook 1994–95*. 25th edn. London: Headline Book Publishing.
- Rollin, J. (1995) *Rothmans Football Yearbook 1995–96*. 26th edn. London: Headline Book Publishing.
- Rottenberg, S. (1956) The Baseball Players' Labor Market. *Journal of Political Economy*, 64(3), pp. 242–258.
- Rumelt, R.P. (1984) 'Towards a Strategic Theory of the Firm', in Lamb, R.B. (ed.) *Competitive Strategic Management*. Englewood Cliffs, NJ: Prentice Hall, pp. 556–570.
- Rumelt, R.P. (1987) 'Theory, strategy and entrepreneurship', in Teece, D. (ed.) *The Competitive Challenge: Strategies for Industrial Innovation and Renewal*. Cambridge, Massachusetts: Ballinger Publishing Company, pp. 137–158.
- Schwarz, E.C., Hall, S.A. and Shibli, S. (2010) *Sport facility operations management: A global perspective*. Abingdon, Oxfordshire: Routledge.
- Scully, G.W. (1974) Pay and Performance in Major League Baseball. *American Economic Review*, 64(6), pp. 915–930.
- Scully, G.W. (1989) *The business of Major League Baseball*. Chicago, IL: The University of Chicago Press.
- Scully, G.W. (1992) 'Coaching quality, turnover, and longevity in professional team sports', in Scully, G.W. (ed.) *Advances in the economics of sport: Vol. 1*. Greenwich, CT. / London: JAI Press, pp. 53–65.
- Scully, G.W. (1995) *The market structure of sports*. Chicago, IL: The University of Chicago Press.
- Sirmon, D.G., Gove, S. and Hitt, M.A. (2008) Resource Management in Dyadic Competitive Rivalry: The Effects of Resource Bundling and Deployment. *Academy of Management Journal*, 51(5), pp. 919–935.
- Sirmon, D.G. and Hitt, M.A. (2003) Managing resources: Linking unique resources, management and wealth creation in family firms. *Entrepreneurship Theory and Practice*, 27(4), pp. 339–358.
- Sirmon, D.G., Hitt, M.A. and Ireland, R.D. (2007) Managing firm resources in dynamic environments to create value: Looking inside the black box. *Academy of Management Review*, 32(1), pp. 272–292.

- Sirmon, D.G., Hitt, M.A., Arregle, J-L. and Campbell, J.T. (2010) The Dynamic Interplay of Capability Strengths and Weaknesses: Investigating the Bases of Temporary Competitive Advantage. *Strategic Management Journal*, 31(13), pp. 1386–1409.
- Sloane, P.J. (1969) The labour market in professional football. *British Journal of Industrial Relations*, 7(2), pp. 181–199.
- Sloane, P.J. (1971) The economics of professional football: The football club as a utility maximiser. *Scottish Journal of Political Economy*, 18(2), pp. 121–146.
- Sloane, P.J. (2006) 'The European model of sport', in Andreff, W. and Szymanski, S. (eds.) *Handbook on the Economics of Sport*. Cheltenham: Edward Elgar, pp. 299–303.
- Sloane, P.J. (2015) The economics of professional football revisited. *Scottish Journal of Political Economy*, 62(1), pp. 1–7.
- Sport England (n.d.) *Sports that we recognise*. Available at: <https://www.sportengland.org/our-work/national-governing-bodies/sports-that-we-recognise/> (Accessed: 4 April 2018).
- Sports Ground Safety Authority (2013) *About Us*. Available at: www.safetyatsportsgrounds.org.uk/about-us (Accessed: 4 April 2018).
- Sports Grounds Safety Authority (2018) *Guide to Safety at Sports Grounds 'Green Guide'*. Available at: <https://sgsa.org.uk/greenguide/> (Accessed: 1 November 2018).
- STOXX (n.d. a) *STOXX Europe 50*. Available at: <https://www.stoxx.com/index-details?symbol=SX5GR> (Accessed: 4 April 2018).
- STOXX (n.d. b) *STOXX Europe Football*. Available at: <https://www.stoxx.com/index-details?symbol=FCTR> (Accessed: 4 April 2018).
- Szymanski, S. (2003) The Economic Design of Sporting Contests. *Journal of Economic Literature*, 41(4), pp. 1137–1187.
- Szymanski, S. (2008) A Theory of the Evolution of Modern Sport. *Journal of Sport History*, 35(1), pp. 1–32.
- Szymanski, S. (2013) 'Wages, transfers and the variation of team performance in the English Premier League', in Rodríguez, P., Késenne, S. and García, J. (eds.) *The Econometrics of Sport*. Cheltenham: Edward Elgar, pp. 53–62.

- Szymanski, S. (2015) *Money and Soccer: A Soccernomics Guide*. New York, NY: Nation Books.
- Szymanski, S. and Kuypers, T. (1999) *Winners and Losers*. London: Penguin Books.
- Tabachnick, B.G. and Fidell, L.S. (2007) *Using Multivariate Statistics*. 5th edn. Boston, MA: Pearson Education.
- Taylor, L.J. (1989a) *The Hillsborough Stadium Disaster: Interim Report*. London: Her Majesty's Stationery Office.
- Taylor, L.J. (1989b) *The Hillsborough Stadium Disaster: Final Report*. London: Her Majesty's Stationery Office.
- Teece, D.J., Pisano, G. and Shuen, A. (1997) Dynamic Capabilities and Strategic Management. *Strategic Management Journal*, 18(7), pp. 509–533.
- The Observer (2016) Everton confirm sale of 49.9% of club to former Arsenal shareholder Farhad Moshiri. *The Observer*, 27 February, p. 1.
- The Telegraph (2017) *Every Premier League club's fans mapped - how local is your team's support?* Available at: <https://www.telegraph.co.uk/football/2017/08/17/every-premier-league-clubs-fans-mapped-local-teams-support/> (Accessed: 4 April 2018).
- Thompson, J.D. (1967) *Organizations in action: Social science bases of administrative theory*. New York, NY: McGraw-Hill.
- Threlfall-Sykes, D. (2017) *Restructuring of Academy at Huddersfield Town*. Available at: <https://www.htafc.com/news/2017/september/restructuring-of-academy-at-huddersfield-town2/> (Accessed: 4 April 2018).
- Tottenham Hotspur (2012) *Annual report and financial statements for the year ended 30 June 2012*. London: Tottenham Hotspur Limited.
- Touche Ross (1994) *Survey of Football Club Accounts*. Manchester: Touche Ross & Co.
- Touche Ross (1995) *Survey of Football Club Accounts*. Manchester: Touche Ross & Co.
- UEFA (2013) *Added bonus for UEFA Europa League winners*. Available at: <https://www.uefa.com/insideuefa/about-uefa/executive-committee/news/newsid=1956131.html> (Accessed: 4 April 2018).
- UEFA (2017) *Financial fair play*. Available at: www.uefa.com/insideuefa/protecting-the-game/club-licensing-and-financial-fair-play/index.html (Accessed: 4 April 2018).

- UEFA (n.d.) *History*. Available at: <http://www.uefa.com/uefachampionsleague/history/index.html> (Accessed: 4 April 2018).
- Venkatraman, N. (1989) The Concept of Fit in Strategy Research: Toward Verbal and Statistical Correspondence. *Academy of Management Review*, 14(3), pp. 423–444.
- Visit Britain (2015) *Foresight – issue 141: Football tourism scores for Britain*. London: British Tourist Authority.
- Vrooman, J. (1995) A General Theory of Professional Sports Leagues. *Southern Economic Journal*, 61(4), pp. 971–990.
- Vrooman, J. (1997) A Unified Theory of Capital and Labor Markets in Major League Baseball. *Southern Economic Journal*, 63(3), pp. 594–619.
- Vrooman, J. (2000) The economics of American sports leagues. *Scottish Journal of Political Economy*, 47(4), pp. 364–398.
- Vrooman, J. (2007a) The economics of sport: Editor's introduction. *Scottish Journal of Political Economy*, 54(3), pp. 309–313.
- Vrooman, J. (2007b) Theory of the beautiful game: The unification of European football. *Scottish Journal of Political Economy*, 54(3), pp. 314–354.
- Vrooman, J. (2013) 'Two to tango: Optimum competitive balance in professional sports leagues', in Rodríguez, P., Késenne, S. and García, J. (eds.) *The Econometrics of Sport*. Cheltenham: Edward Elgar, pp. 3–34.
- Vrooman, J. (2015) Sportsman leagues. *Scottish Journal of Political Economy*, 62(1), pp. 90–115.
- Wakefield, K.L. and Sloan, H.J. (1995) The Effects of Team Loyalty and Selected Stadium Factors on Spectator Attendance. *Journal of Sport Management*, 9(2), pp. 153–172.
- Wernerfelt, B. (1984) A Resource-based View of the Firm. *Strategic Management Journal*, 5(2), pp. 171–180.
- Wheatley, L. (1972) *Report of the Inquiry into Crowd Safety at Sports Grounds*. London: Her Majesty's Stationery Office.
- Whetten, D.A. (1989) What Constitutes a Theoretical Contribution? *Academy of Management Review*, 14(4), pp. 490–495.
- Wilson, J. (2006) Leeds need to rise before parachute folds. *Financial Times*, 20 May, p. 12.

Wilson, R. (2011) *Managing sport finance*. Abingdon, Oxon: Routledge.

Yin, R.K. (2009) *Case Study Research: Design and Methods*. 4th edn. Thousand Oaks, CA: Sage Publications.

Zimbalist, A. (1992) *Baseball And Billions: A Probing Look Inside The Big Business Of Our National Pastime*.
New York, NY: Basic Books.

Zimbalist, A. (2003) Sport as business. *Oxford Review of Economic Policy*, 19(4), pp. 503–511.