The Effect of Human Resource Turnover on Shareholder Wealth: Evidence from the UK Football Industry

Maria Fotaki, Raphael Markellos and Maria Mania

Athens University of Economics and Business

January 2007

Abstract. Empirical research over the past three decades has given inconclusive evidence regarding the relationship between changes in top management and firm performance. In this paper we attempt to shed further light on the turnover-performance linkage by looking also at the effects of changes in other key ingredients of the human capital mix. We frame our analysis within the Resource-Based View (RBV) of the firm, according to which decisions about the acquisition and dismissal of significant and distinctive resources should positively affect the potential for sustainable competitive advantage in the long term. However, in the short term, the RBV posits an inverse relationship when the costs of critical human resources are perceived to exceed their marginal productivity. In our empirical analysis, we select to study listed clubs from the UK football soccer industry. The professional sports industry is well suited for our purposes since it is labor-intensive, and, human capital turnover is highly regulated, monitored and accounted for. Our results give support to the RBV since both the hiring of coaches and the acquisition of players has a negative impact on stock returns around the date of the event. On the other hand, we find that the departure of coaches, the sale of players and the return of players from a loan have a significant positive effect on stock returns.

Keywords	: Human resources turnover, Resource-based View of the Firm, Football industry, Event study

JEL Classification : M51, L83, G14, C23

1. Introduction

Global developments have rendered economic activity far more knowledge intensive in recent years. In this new era, it has become evident that the ability to recognize and manage intangible assets constitutes a major source of competitive advantage. The basic idea that human capital has economically significant effects on firm bottomline has its origins in the so-called Resource-based View (RBV) of the firm (Becker and Gerhart, 1996; Wernerfelt, 1995, *inter alia*). According to this perspective, a focus on specific human resources may better explain differences in performance across firms. In particular, the acquisition and dismissal of significant and distinctive resources affects the potential for sustainable competitive advantage. Accordingly, firms and management scholars have become increasingly aware of the need to measure human capital consequences. Despite the fact that much theoretical and practical research has been undertaken to measure links between human capital and performance, success has been somewhat limited. Most of the literature has concentrated on investigating the effects of changes in top management and has provided a wealth of mixed empirical evidence. The limitations stem from the very nature of human capital. Human resources represent skills, knowledge, problem solving, decision-making, learning, which are notoriously difficult to isolate and value in monetary terms. As Wernerfelt (1995) characteristically notes, human resources remain an amorphous heap to most of us.

The present paper extends the sparse empirical literature with respect to the human resource turnover-performance linkage and the RBV of the firm (see Hitt *et al*., 2001). The contribution is twofold. First, rather than concentrating only on top management changes, we also examine the impact on firm performance of turnover in other key elements of the human capital. Second, we investigate the effect of events related to other employment relationships and conditions than those that have been studied previously. Following a longstanding tradition in the management literature, we focus our analysis in the sports industry. More specifically, we study the effect of team manager and player turnover on shareholder wealth using data for 15 listed soccer clubs in the UK for the period 1997-2004. The UK soccer industry offers a variety of advantages since it is labor-intensive and largely commercialized, and, human capital is highly regulated, monitored and accounted for. Besides sample homogeneity and the existence of high quality data, the professional sports industry

has also the advantage of high informational efficiency with respect to human resource turnover events. In addition to events related to the acquisition and sale of players, we also look into the effect that player loans have on club stock prices. This has interesting implications since loans can be broadly related to the practice of employer secondment and rotation that is common in some organizations nowadays. In the empirical part we undertake an event study analysis using mean-adjusted, risk-adjusted return and a panel regression approach, respectively. The first two approaches yield somewhat conflicting results under a questionable set of assumptions regarding the behavior of the data. The panel regression results are more robust and support the RBV of the firm in that the turnover in coaches and players is found to have a significant effect on stock prices. More specifically, we find that hiring (departure of) a new coach and selling (buying) a player has a significant negative (positive) effect on stock returns around the date of the event. However, when a player returns to a team, after gaining experience on loan to another club, there is a significant positive impact on stock returns.

The remainder of the paper is organized as following. The next section undertakes a brief literature review. Section 3 describes the theoretical foundations and hypotheses under consideration. Section 4 outlines the methodology used along with the empirical results. The final section discusses the results and concludes the paper.

2. Literature Review: Managerial Turnover and Performance

A significant amount of academic research over the past three decades has focused on studying the effect of top management turnover on shareholder wealth. This probably stems from the existence of relevant data and the fact that top managers often receive much media attention and are considered to influence significantly firm value. Notwithstanding, the evidence put forward from this literature has been far from conclusive.

On the one hand, positivist agency theory demonstrates postulates that a management change following poor performance should have positive wealth effects for shareholders. This is because managerial turnover is perceived to be one of the most popular corporate governance tools used by internal monitoring mechanisms to limit agent opportunism (Fama, 1980; Fama and Jensen, 1983). Bonnier and Bruner

(1981) reported gains for shareholders of distressed firms on the announcement date and the day before the change. They argued that the origin of the successor, the title and power of the predecessor, the firm size and interaction effects between the formers produce a wide range of effects. Furtado and Rozeff (1987) found that turnover of top managerial positions has a significant positive impact on shareholder wealth. Weisbach (1988) attributed positive wealth effects to enhanced board oversight, which stems from the existence of independent non-executive directors in the boardroom. On the other hand, it has been also argued that management change has a disruptive and negative effect on firm performance. For example, Dedman and Lin (2002) showed that management succession has adverse effects on firm performance, especially when CEOs are dismissed or leave to take up another job. Warner *et al.* (1988) indicated that the probability of a top management change is inversely related to stock price performance but no significant wealth effects occur at the day of the announcement. A third line of thought regards managerial turnover as a scapegoat process. In this respect, Reinganum (1985) found no significant market reaction to management change, except for the case of external appointments in small firms, in which the successor's announcement date is the same with the predecessor's announcement date.

Although the literature has not reached yet a plateau of conclusive evidence, it has provided useful insights into the mechanics of the process. As Warner *et al.* (1988) have argued, the excess return at the event date following a management change is the sum of an information effect, which conveys valuable information about a firm's prior performance, and a real effect, which assesses the usefulness of the change for shareholders. The final result on performance is, therefore, dependent on the relative magnitude of the two individual effects. Moreover, the exact market reaction is heavily dependent on the organizational context of the management change and the particular characteristics of the firms under study.

An interesting strand of literature on the management turnover-performance association has concentrated in the sports industry. More specifically, starting from Grusky (1963), a number of studies have attempted to draw managerial implications by investigating the impact of coach turnover on sporty performance (eg. see the papers reviewed by Audas *et al.*, 2001). Much like the research attempts in other firms, the empirical evidence has been mixed. Grusky (1963) and Gamson and Scotch (1964), put forward three basic explanations of the relationship between coach

turnover and team performance. Firstly, the "common sense" theory postulates that managers are likely to be replaced when a team is not performing well. Performance will improve only if a successful replacement is hired. Secondly, the "vicious circle" theory postulates that poor performance leads to changes in management which have long-lasting disruptive effects that lead to further management turnover and faltering performance. Thirdly, the "ritual scapegoating" theory dictates that new managers tend to have no impact on team performance since it is the quality of the team that matters mostly. Firing the coach is just motion to appease fans and media, "exorcise" poor field performance, and, even perhaps deflect attention from other problems.

3. Theoretical Framework & Hypotheses

Ricardo stated in 1817 that rents can be achieved by owing valuable resources that are scarce. The RBV of the firm, drawing upon this basic idea, puts emphasis on resource endowments in order to explain differences in corporate performance across firms. According to this perspective, selective human capital accumulation drives the potential for competitive advantage. Penrose (1959) perceived the organization as a bundle of resources and argued that it is the heterogeneity of the productive services, stemming from its resources, which gives each firm its unique character. The value potential of resources is directly linked to their specific characteristics. Barney (1991) demonstrated that it is the intangible, valuable, unique, idiosyncratic, inimitable and non-substitutable resources that constitute the source of sustainable competitive advantage for a firm. Therefore, decisions about the acquisition and dismissal of valuable and distinctive resources may affect the potential of a firm to generate profits. From a financial perspective, acquisitions and divestitures of assets can be perceived as attempts to change the resource endowments of a firm and achieve economies of scale and scope. The basic idea, as discussed by Teece (1984) is that investment decisions on assets should be based on their ability to generate "quasi-rents". The latter represent the positive difference between asset marginal productivity and marginal cost, respectively. The Penrose effect, as discussed by Starbuck (1965), postulates that the acquisition of top management executives increases the growth potential of the firm while, at the same time, the training of new managers incurs large start-up costs to the firms. Moreover, costs of critical human resources in the short-run usually exceed their marginal productivity and the value potential of human

resources is fully realized in the long-run. While critical resources are at the crux of value creation according to the RBV, they also represent costs to firms, making it difficult to assess their final ability to generate profits. In particular, although the RBV supports positive wealth effects for firms that invest in critical human resources, these effects are better realized in the long-run, when the characteristics-specific value of human resources is revealed. In the short term, the large-start up costs and the uncertain value potential imply a negative relationship between investments in human capital and performance. In the short run, marginal costs exceed marginal productivity, while in the long run their difference is positive. Therefore, as argued by Hitt *et al.* (2001), we should anticipate a curvilinear relationship between human resource turnover and firm performance that depends on the interaction between these two effects.

In our analysis, we select to study listed UK football clubs that participate either in the English or the Scottish Premiership. As Wright *et al.* (1995) pointed out, the sports industry is well suited for the purposes of our analysis since it involves a human capital pool which may not be easily imitated or replaced and can contribute significantly to firm performance. In particular, the UK football industry offers a number of advantages for our study:

    i.   It is human capital intensive. The success of a team depends principally on its coach and players. Moreover, it costs money but not time for football clubs to change their resource endowments.

   ii.   It is an exceptional industry in that human capital is valued competitively and monitored in a direct and regulated basis. Players are treated as balance-sheet items and are measured in monetary terms.

  iii.   Data on the hiring and firing of coaches, the acquisition, selling and lending of players is publicly available

  iv.   Listed clubs possess similar organizational structures and goals and produce a homogeneous product using similar technologies.

We consider coaches and team players as the key elements of the human capital of a team in our study. The coach is the leading figure in sport clubs and can be broadly thought of as the CEO. His decisions are crucial for sporty performance and the subsequent ranking of the team. In addition to coaching, preparing, motivating and maintaining team morale, the coach is additionally responsible for an array of

decisions (e.g. purchase and sale of players to reconstitute squads, team selection, match tactics and in-game substitutions), that not only affect the outcome of individual games but also eventual seasonal outcomes. His duty is to transform offensive and defensive skills of the team into victories. The players are the second key ingredient of the human capital pool in a team and are critically related to performance. Moreover, they constitute the most important and most expensive assets of football clubs.

As mentioned previously, the evidence with respect to manager turnover and sporty performance is inconclusive in the literature. In particular, studies by in UK football suggest that coach turnover has on a negative impact in the short term on team performance (Audas *et al.*, 1997, 2001). However, to our knowledge, the literature has not examined the effect of coach and player turnover on stock returns. It is expected that some causality runs between short-term performance in the field and shareholder wealth. The two will be related since the former leads to higher sponsoring revenues, higher prices on broadcasting rights, increased attendance and higher revenues from merchandising. However, sports performance can be thought of as a short term metric when compared to the stock price which should incorporate expectations about future performance in perpetuity. In addition to looking at coach turnover and the acquisitions and sales of players, we also examine the impact that player loans and contract terminations have on stock prices, respectively. Loans constitute a very interesting employment practice with relatively small financial implications and are often used to build up experience in junior players. Their study may lead to wider implications since they can be broadly related to the practice of secondment and rotation that is used by many companies.

In our analysis we control for firm characteristics, since we focus on a single industry. Furthermore, we control for the origin of the successor and the disposition of the predecessor, since in football, when a coach leaves a team, he usually goes to another team of the same division. Thus, it is rather unlikely to have outside offers for coaching positions, since vacancies are covered with coaches from inside the division. We do not differentiate between involuntary and voluntary coach turnover in our analysis. As has been often argued in the literature, distinctions between quits and layoffs is unclear due to the fact that when an employee expects to be fired the fear of the associated stigma motivates him to leave voluntarily. Evidence with respect to management turnover in UK football and sporty performance suggests that the impact

of this distinction is not likely to be significant (see Audas *et al.*, 2001). Since the performance on the field is likely to also impact on shareholder wealth (eg., see Dobson and Goddard, 2001), we control for match outcome in our analysis.

Framed within the RBV, we can now formulate the following hypotheses in order to be empirically evaluated:

H1. *Coach hiring (departure) is negatively (positively) related to to shareholder wealth.*

H2. *Player acquisition (sale) is negatively (positively) related to to shareholder wealth.*

H3. *Player lending is positively related to shareholder wealth.*

H4. *Player contract expiration is unrelated to shareholder wealth.*

The inverse relationship implied by the first two hypotheses is motivated by according to RBV, the marginal cost of a new coach or player is likely to exceed the profit potential when first employed. On the other hand, departures concern human resources that are not critical and are unlikely to contribute a source of sustainable competitive advantage for a team. The positive relationship in the third hypothesis concerns the fact that the marginal cost associated with training or supporting a player are not incurred by the team. Moreover, upon return, the player will have gained valuable experience. The lack of association in the final hypothesis stems from the fact that contract expirations are costless and concern players whose residual value and marginal productivity is likely to be very small.

4. Empirical Results

Data on human resource turnover and share prices of 15 UK football teams during a seven-season period (i.e., April 14th 1997 through May 28th 2004) are used. Stock prices are acquired from *Datastream* while turnover and sporty performance statistics are acquired from the website *www.soccerbase.com*. All clubs participate either in the English or Scottish Premiership ensuring high publicity of events, are listed in the London Stock Exchange, either in the LSE or in the Alternative Investment Market and have at least seven seasons of continuous trading. For the period under

investigation, all clubs, except for Manchester United, exhibited negative annualized returns ranging between about -6% to -38%.

Table 1. Turnover and control events for listed UK soccer clubs, 14/4/97-28/5/04

Team	CHIRE	CFIRE	PBUY	PSELL	PLOAN	PRET	PREL	WIN	LOSE	DRAW	Total
Aston Villa	4	4	33	51	46	40	6	128	112	88	512
Birmimghan City	2	2	33	41	38	35	23	144	97	82	497
Celtic	5	4	25	37	28	21	12	221	47	38	438
Charlton Athletic	0	0	38	40	40	41	27	120	103	79	488
Heart of Midlothian	2	2	29	36	36	29	15	115	84	64	412
Leeds United	6	6	27	46	50	47	23	163	114	84	566
Manchester United	0	0	19	39	62	56	10	251	59	115	611
Millwal Holdings	6	5	40	33	26	17	10	137	141	117	532
Newcastle United	3	3	50	60	62	50	18	156	102	90	594
Preston North End	3	3	31	31	34	29	19	154	90	78	472
Southampton	7	7	61	63	53	49	19	105	127	79	570
Sunderland	6	6	46	52	52	50	27	134	103	84	560
Sheffield United	2	2	37	56	74	70	17	132	116	74	580
Tottenham Hotspur	6	6	36	54	67	6	15	126	120	72	508
W. Bromwich Albion	5	5	35	32	33	30	12	84	98	69	403
Total	57	55	540	671	701	570	253	2,170	1,513	1,213	7,743

We consider the following human resource turnover events: the hiring (*CHIRE*) and firing (*CFIRE*) of the coach, the acquisition (*PBUY*) and the selling (*PSELL*) a player, the loan of a player to another team (*PLOAN*), the return of a player to the team after a loan (*PRET*), and, the release of a player due to the expiration of his contract (*PREL*). Moreover, in order to control for the impact of weekly sporty results on shareholder wealth, we take into consideration victory announcements (*WIN*), defeat announcements (*LOSE*) and draw announcements (*DRAW*). We identify as event date the day at which the change took place, otherwise the next working day closest to the event.

As shown in Table 1, we have a total of 112 events of coach turnover, 2,735 events of player turnover and 4,896 events of sporty performance announcements. In particular, Manchester United has never changed its coach, Sir Alex Ferguson and Charlton Athletic has only changed its coach, Mr. Steve Gritt, once in 1995. Since no coach turnover is documented for these teams during the seven-season period, they are are omitted when testing *Hypothesis 1*. With respect to player turnover, the most often occurring events are related to the lending of players to other teams (701) and their return back (570). As far as match results announcements is concerned, the most

often occurring event is *WIN* (2,170 or 44% of all matches), something that is expected since the data includes some of the largest of most successful clubs in UK football.

To conduct our analysis, we employed a standard event-study methodology (see MacKinley, 1997) augmented by panel data regression analysis. Abnormal returns (AR) are measured using both a "Mean Adjusted" and "Risk-Adjusted" approach. The event window is set at ±20 days around event days. A brief outline of the methodology along with relevant empirical results is given in the remainder of this section.

Mean Adjusted Returns are the event period returns minus a constant μ_i, which represents the average or normally expected return during the estimation period:

$$AR_{i,t} = R_{i,t} - \mu_i,$$

Average Abnormal Returns (*AAR*) and Cumulative Average Abnormal Returns (*CAR*) for each team were calculated over the event window. Aggregation across securities and across time was conducted by calculating the Cross Sectional Average Abnormal Returns (*CSAAR*) and the Cross Sectional Cumulative Average Abnormal Returns (*CSCAR*), respectively. *CSAARs* and *CSCARs* are then tested for their distributional properties using a classical *t*-statistic approach and the results are shown in Table 2 and depicted in Figures 1 and 2.

The results indicate that the hiring of a new coach is penalized by an immediate stock price decrease of about 1%. However, it yields a positive and significant AR of 1.2% the tenth day after the event, which is then eroded leading to a negative *CAR* of 1% over the 20 days following the event. The firing of the coach is rewarded by the market by an immediate share price increase of 0.2%, although insignificant. However, the *CFIRE* event generates a loss in the subsequent 19 days, as indicated by the negative *CARs* of 2% at the end of the event window. The share prices of clubs which acquired a new player increase by a average of 0.01 % in the first trading day after the acquisition, while they experience a 0.6% increase in the subsequent 20 days. However, the only significant *ARs* are at the 4th and the 12th day after the event.

Table 2. CSAARs and CSCARs – Mean Adjusted Abnormal Returns

t	CHIRE CSAAR	CSCAR	CFIRE CSAAR	CSCAR	PBUY CSAAR	CSCAR	PSELL CSAAR	CSCAR	PLOAN CSAAR	CSCAR	PRET CSAAR	CSCAR	PREL CSAAR	CSCAR
-20	-0.28%	-0.28%	-0.07%	-0.07%	-0.06%	-0.06%	0.04%	0.04%	0.03%	0.03%	-0.09%	-0.09%	-0.12%	-0.12%
-19	0.06%	-0.22%	0.01%	-0.06%	-0.10%	-0.16%	0.09%	0.13%	0.20%	0.22%	-0.05%	-0.14%	0.01%	-0.11%
-18	0.05%	-0.17%	0.13%	0.07%	-0.21%	-0.37%	**0.12%**	0.25%	0.12%	0.35%	-0.08%	-0.22%	-0.16%	-0.27%
-17	-0.16%	-0.34%	-0.17%	-0.10%	0.03%	-0.34%	0.12%	0.38%	-0.03%	0.32%	0.01%	-0.21%	-0.06%	-0.33%
-16	0.20%	-0.14%	0.18%	0.07%	0.08%	-0.26%	-0.08%	0.30%	0.11%	0.43%	0.05%	-0.16%	-0.23%	-0.55%
-15	-0.05%	-0.19%	0.31%	0.39%	0.00%	-0.26%	0.07%	0.37%	0.03%	0.46%	0.07%	-0.09%	0.02%	-0.53%
-14	-0.57%	-0.76%	-0.60%	-0.22%	0.07%	-0.19%	0.04%	0.40%	0.08%	0.54%	-0.05%	-0.14%	0.00%	-0.54%
-13	-0.27%	-1.03%	-0.38%	-0.60%	0.08%	-0.12%	-0.09%	0.32%	0.20%	0.74%	0.06%	-0.08%	-0.02%	-0.56%
-12	-0.33%	-1.36%	-0.71%	-1.31%	0.06%	-0.06%	-0.01%	0.30%	-0.09%	0.65%	-0.03%	-0.11%	-0.27%	-0.82%
-11	**-0.55%**	-1.91%	**-0.65%**	-1.95%	-0.03%	-0.09%	0.07%	0.38%	**0.37%**	1.02%	0.42%	0.31%	0.01%	-0.81%
-10	**0.34%**	-1.57%	0.21%	-1.75%	0.15%	0.07%	0.06%	0.44%	0.10%	1.12%	**0.16%**	0.47%	0.01%	-0.80%
-9	0.17%	-1.39%	0.12%	-1.62%	-0.06%	0.01%	-0.06%	0.38%	**0.15%**	1.27%	0.11%	0.58%	0.18%	-0.62%
-8	-0.52%	-1.92%	-0.22%	-1.84%	**-0.19%**	-0.18%	0.07%	0.45%	0.09%	1.36%	-0.26%	0.32%	-0.14%	-0.76%
-7	-0.04%	-1.96%	0.01%	-1.83%	**0.19%**	0.01%	0.04%	0.49%	0.07%	1.43%	0.13%	0.45%	-0.14%	-0.90%
-6	0.01%	-1.94%	-0.76%	-2.59%	-0.11%	-0.09%	**0.29%**	0.78%	0.02%	1.45%	0.09%	0.54%	-0.01%	-0.92%
-5	-0.22%	-2.17%	-0.57%	-3.16%	**0.18%**	0.08%	**0.16%**	0.94%	0.05%	1.50%	-0.10%	0.44%	-0.06%	-0.98%
-4	-0.65%	-2.82%	-0.11%	-3.27%	-0.05%	0.03%	0.12%	1.07%	0.05%	1.55%	-0.13%	0.31%	0.18%	-0.80%
-3	-0.19%	-3.01%	0.06%	-3.22%	0.08%	0.11%	0.03%	1.09%	0.05%	1.60%	-0.22%	0.09%	0.21%	-0.59%
-2	-0.33%	-3.34%	-0.59%	-3.80%	-0.08%	0.03%	**0.16%**	1.25%	0.11%	1.71%	**0.18%**	0.27%	-0.23%	-0.82%
-1	0.43%	-2.90%	0.03%	-3.77%	-0.08%	-0.05%	-0.01%	1.24%	0.06%	1.77%	-0.06%	0.21%	-0.17%	-0.99%
0	0.70%	-2.20%	0.61%	-3.16%	0.10%	0.05%	-0.10%	1.15%	0.11%	1.89%	0.04%	0.25%	-0.09%	-1.09%
+1	0.06%	-2.14%	0.24%	-2.92%	0.01%	0.06%	0.10%	1.24%	-0.05%	1.83%	**0.19%**	0.44%	0.24%	-0.85%
+2	-0.92%	-3.06%	0.35%	-2.57%	0.09%	0.15%	0.09%	1.33%	**-0.18%**	1.66%	**0.20%**	0.64%	**0.20%**	-0.65%
+3	0.53%	-2.53%	0.35%	-2.23%	0.06%	0.21%	**0.14%**	1.47%	0.03%	1.69%	-0.07%	0.57%	0.10%	-0.55%
+4	0.20%	-2.34%	-0.52%	-2.74%	**-0.23%**	-0.02%	0.10%	1.57%	0.00%	1.68%	0.03%	0.60%	0.01%	-0.54%
+5	-0.20%	-2.53%	-0.13%	-2.87%	0.07%	0.05%	0.10%	1.66%	0.21%	1.89%	-0.04%	0.56%	-0.05%	-0.59%
+6	0.57%	-1.97%	0.91%	-1.96%	0.09%	0.15%	0.09%	1.75%	-0.07%	1.82%	-0.10%	0.46%	-0.14%	-0.73%
+7	-0.12%	-2.09%	-0.41%	-2.37%	0.08%	0.23%	0.19%	1.94%	0.01%	1.83%	0.09%	0.56%	0.15%	-0.58%
+8	-0.71%	-2.80%	-0.59%	-2.96%	0.05%	0.28%	-0.04%	1.90%	**0.12%**	1.95%	0.08%	0.64%	0.16%	-0.41%
+9	-0.12%	-2.92%	-0.18%	-3.14%	0.13%	0.40%	0.03%	1.93%	-0.07%	1.87%	0.03%	0.67%	-0.03%	-0.45%
+10	**1.09%**	-1.83%	0.70%	-2.44%	0.11%	0.51%	-0.02%	1.91%	0.03%	1.91%	0.11%	0.78%	0.03%	-0.41%
+11	0.21%	-1.62%	0.34%	-2.09%	0.01%	0.52%	-0.02%	1.89%	0.09%	1.99%	0.07%	0.85%	0.06%	-0.35%
+12	-0.40%	-2.02%	-0.21%	-2.30%	**0.17%**	0.69%	**-0.18%**	1.71%	-0.02%	1.98%	0.24%	1.09%	-0.10%	-0.44%
+13	-0.13%	-2.15%	-0.11%	-2.41%	0.02%	0.72%	0.05%	1.76%	**0.16%**	2.14%	0.10%	1.19%	0.15%	-0.29%
+14	0.62%	-1.53%	0.76%	-1.66%	0.04%	0.76%	0.13%	1.89%	0.14%	2.28%	-0.04%	1.15%	-0.14%	-0.44%
+15	-0.10%	-1.63%	-0.01%	-1.67%	-0.09%	0.67%	0.08%	1.97%	0.07%	2.35%	-0.02%	1.13%	-0.19%	-0.63%
+16	0.16%	-1.48%	0.25%	-1.42%	-0.10%	0.56%	-0.08%	1.88%	0.02%	2.37%	0.17%	1.30%	0.11%	-0.52%
+17	-0.35%	-1.82%	-0.41%	-1.82%	0.01%	0.58%	-0.08%	1.81%	-0.07%	2.29%	-0.16%	1.13%	-0.05%	-0.57%
+18	0.02%	-1.80%	0.16%	-1.66%	0.00%	0.57%	0.09%	1.89%	0.00%	2.30%	0.08%	1.21%	**0.23%**	-0.34%
+19	-0.72%	-2.52%	-0.12%	-1.78%	-0.07%	0.50%	0.03%	1.92%	0.06%	2.36%	0.11%	1.32%	0.04%	-0.31%
+20	0.11%	-2.41%	-0.23%	-2.01%	0.12%	0.63%	-0.02%	1.90%	0.02%	2.37%	0.02%	1.34%	0.20%	-0.10%

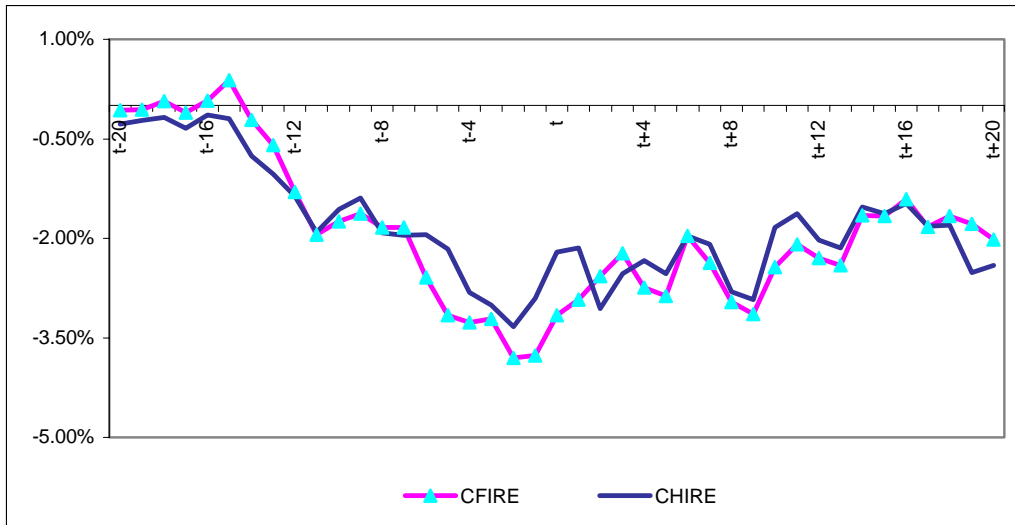*Bold percentages denote significance at the 5% level.*

Figure 1. . *CSCARs*: Mean-Adjusted Abnormal Returns for Coach Turnover events
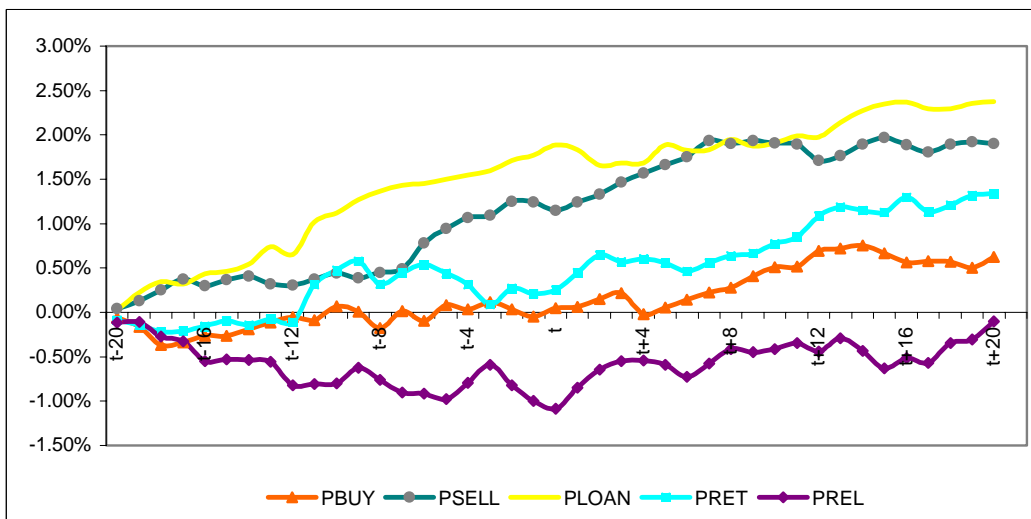

Figure 2. *CSCARs*: Mean-Adjusted Abnormal Returns for Player Turnover events

The sale of a player is rewarded by the market by a 0.1% increase in share prices the third day after the event (statistically significant) and by a positive *CAR* of almost 2% over the subsequent 20 days (statistically insignificant). The lending of a player to another team on a loan is disciplined by a negative and significant *AR* of 0.1 % in the subsequent two days. However, the lending of a player seems eventually to be positively perceived by the market, as the *CAR* approximate almost 2.4% at the end of the event window (however, insignificant). The return of a player to the club after his lending on a loan triggers positive *ARs* in the subsequent two days, which are

statistically significant. *CARs* at the end of the event window amount to 1.3%, although insignificant. However, the player most probably has acquired better skills and knowledge, and this is capitalized as market value of the firm. The release of a player due to the expiration of his contract leads to a positive share price increase of 0.2% in the second day after the release (statistically significant). However, *CARs* around the event day, although insignificant, are negative. Eventually, the *CAR* at the end of the event window is slightly positive, indicating that a release is rather an indifferent event for investors.

In conclusion, although the two events comprising the coach turnover trigger positive share price reaction the next trading day after the event, they lead to price declines in the subsequent 20 days. In contrast, the shares of football clubs having experienced the sale of a player increase during the event window in average 1.2%, indicating a positive, although insignificant, market reaction. The largest wealth effects at the end of the event window are associated with the sale and the lending of a player. Moreover, while we would anticipate a greater market reaction in terms of *ARs'*, variance around the event date for *PBUY* and *PSELL*, the *PRET* and *PREL* events create the highest volatility in *ARs*.

Risk Adjusted Returns using the market model are the prediction errors of the following regression:

$$E\left(R_{i,t}\right) = a_i + b_i \cdot E\left(R_{M,t}\right) + e_{i,t}$$

or,

$$e_{i,t} = AR_{i,t} = R_{i,t} - a_i - b_i \cdot R_{M,t}$$

Market model parameters were estimated over the entire time series of the data using the FTSE-All Share Index as a proxy for the market return. The event window is again ±20 days around the event date. Since stock prices suffer from thin trading, we employed Dimson adjusted betas. Abnormal Returns, computed with the Market model, were found to be significantly different from zero, except for Aston Villa. *CAARs* and *CCARs* for all human resources turnover events are presented Table 3 and depicted in Figures 3 and 4.

Table 3. CSAARs and CSCARs – Risk Adjusted Abnormal Returns

	CHIRE		CFIRE		PBUY		PSELL		PLOAN		PRET		PREL	
t	*CSAAR*	*CSCAR*	*CSAAR*	*CSCAR*	*CSAAR*	*CSCAR*	*CSAAR*	*CSCAR*	*CSAAR*	*CSCAR*	*CSAAR*	*CSCAR*	*CSAAR*	*CSCAR*
-20	1.54%	1.54%	1.29%	1.29%	1.54%	1.54%	1.62%	1.62%	1.42%	1.42%	1.53%	1.53%	1.71%	1.71%
-19	1.86%	3.40%	1.76%	3.05%	1.53%	3.07%	1.64%	3.26%	1.55%	2.98%	1.48%	3.01%	1.40%	3.12%
-18	1.86%	5.26%	2.10%	5.15%	1.42%	4.49%	1.72%	4.97%	1.69%	4.66%	1.53%	4.54%	1.46%	4.58%
-17	1.95%	7.22%	1.77%	6.92%	1.27%	5.75%	1.55%	6.53%	1.64%	6.31%	1.41%	5.95%	1.39%	5.97%
-16	1.93%	9.15%	1.57%	8.49%	1.45%	7.21%	1.62%	8.15%	1.48%	7.79%	1.45%	7.41%	1.68%	7.65%
-15	1.69%	10.84%	1.97%	10.46%	1.57%	8.78%	1.40%	9.55%	1.61%	9.40%	1.54%	8.94%	1.42%	9.08%
-14	1.29%	12.13%	1.28%	11.74%	1.66%	10.43%	1.70%	11.25%	1.62%	11.01%	1.47%	10.41%	1.58%	10.66%
-13	1.62%	13.75%	1.31%	13.05%	1.58%	12.02%	1.38%	12.62%	1.60%	12.61%	1.56%	11.97%	1.57%	12.24%
-12	1.49%	15.24%	0.88%	13.93%	1.52%	13.54%	1.48%	14.11%	1.74%	14.35%	1.57%	13.54%	1.56%	13.80%
-11	1.22%	16.47%	1.41%	15.34%	1.48%	15.02%	1.56%	15.67%	1.42%	15.77%	1.76%	15.31%	1.36%	15.16%
-10	2.17%	18.64%	2.30%	17.64%	1.54%	16.56%	1.58%	17.25%	1.82%	17.59%	1.76%	17.07%	1.70%	16.86%
-9	2.18%	20.82%	1.78%	19.42%	1.76%	18.31%	1.66%	18.90%	1.65%	19.23%	1.69%	18.75%	1.58%	18.43%
-8	1.17%	21.98%	1.26%	20.68%	1.57%	19.88%	1.52%	20.42%	1.66%	20.89%	1.35%	20.10%	1.79%	20.23%
-7	1.45%	23.43%	1.28%	21.95%	1.42%	21.30%	1.65%	22.07%	1.61%	22.50%	1.57%	21.67%	1.45%	21.68%
-6	1.68%	25.11%	0.91%	22.87%	1.72%	23.02%	1.58%	23.65%	1.67%	24.17%	1.63%	23.30%	1.30%	22.98%
-5	1.66%	26.77%	1.11%	23.97%	1.37%	24.39%	1.73%	25.38%	1.55%	25.72%	1.57%	24.87%	1.43%	24.41%
-4	1.30%	28.07%	1.52%	25.50%	1.68%	26.07%	1.73%	27.11%	1.61%	27.33%	1.34%	26.21%	1.55%	25.96%
-3	1.58%	29.65%	1.61%	27.10%	1.52%	27.59%	1.70%	28.80%	1.63%	28.96%	1.35%	27.55%	1.83%	27.79%
-2	1.47%	31.12%	1.27%	28.38%	1.57%	29.16%	1.70%	30.50%	1.58%	30.54%	1.36%	28.91%	1.66%	29.44%
-1	2.35%	33.47%	1.84%	30.22%	1.47%	30.63%	1.69%	32.19%	1.68%	32.22%	1.67%	30.59%	1.48%	30.92%
0	2.16%	35.63%	2.36%	32.57%	1.20%	31.83%	1.24%	33.43%	1.58%	33.80%	1.36%	31.95%	1.25%	32.17%
+1	1.69%	37.32%	2.06%	34.64%	1.71%	33.54%	1.45%	34.88%	1.73%	35.53%	1.53%	33.48%	1.58%	33.75%
+2	0.56%	37.88%	1.84%	36.48%	1.57%	35.11%	1.64%	36.52%	1.48%	37.02%	1.74%	35.23%	1.72%	35.47%
+3	2.39%	40.27%	1.71%	38.19%	1.62%	36.72%	1.58%	38.10%	1.31%	38.32%	1.67%	36.90%	1.67%	37.14%
+4	1.99%	42.27%	1.06%	39.25%	1.44%	38.16%	1.59%	39.69%	1.60%	39.93%	1.48%	38.37%	1.51%	38.65%
+5	1.47%	43.74%	1.14%	40.39%	1.33%	39.49%	1.67%	41.36%	1.56%	41.49%	1.47%	39.85%	1.49%	40.14%
+6	1.94%	45.68%	2.52%	42.91%	1.67%	41.16%	1.66%	43.02%	1.72%	43.21%	1.57%	41.42%	1.64%	41.78%
+7	1.81%	47.48%	1.19%	44.10%	1.76%	42.92%	1.76%	44.78%	1.46%	44.66%	1.43%	42.85%	1.37%	43.15%
+8	1.01%	48.49%	0.93%	45.03%	1.65%	44.56%	1.79%	46.57%	1.53%	46.20%	1.66%	44.52%	1.66%	44.81%
+9	1.69%	50.18%	1.79%	46.82%	1.73%	46.29%	1.62%	48.19%	1.59%	47.79%	1.70%	46.21%	1.70%	46.51%
+10	2.83%	53.00%	2.17%	48.99%	1.54%	47.82%	1.45%	49.64%	1.44%	49.23%	1.52%	47.73%	1.42%	47.93%
+11	2.05%	55.05%	2.32%	51.31%	1.56%	49.38%	1.44%	51.08%	1.59%	50.82%	1.58%	49.32%	1.48%	49.41%
+12	1.44%	56.50%	1.31%	52.62%	1.49%	50.87%	1.62%	52.71%	1.67%	52.49%	1.43%	50.75%	1.60%	51.02%
+13	1.51%	58.00%	1.56%	54.18%	1.85%	52.72%	1.43%	54.14%	1.49%	53.98%	1.85%	52.61%	1.51%	52.53%
+14	2.05%	60.05%	2.27%	56.44%	1.59%	54.32%	1.57%	55.71%	1.67%	55.66%	1.74%	54.35%	1.74%	54.26%
+15	1.56%	61.60%	1.70%	58.14%	1.54%	55.86%	1.64%	57.35%	1.74%	57.40%	1.46%	55.80%	1.27%	55.54%
+16	1.62%	63.23%	1.70%	59.85%	1.48%	57.34%	1.76%	59.11%	1.61%	59.00%	1.37%	57.17%	1.41%	56.94%
+17	1.33%	64.55%	1.20%	61.05%	1.38%	58.72%	1.40%	60.51%	1.63%	60.64%	1.82%	58.99%	1.57%	58.52%
+18	1.91%	66.46%	1.87%	62.91%	1.55%	60.27%	1.51%	62.02%	1.43%	62.07%	1.25%	60.23%	1.49%	60.01%
+19	1.10%	67.57%	1.13%	64.05%	1.56%	61.83%	1.60%	63.62%	1.49%	63.55%	1.56%	61.80%	1.66%	61.67%
+20	1.73%	69.30%	1.28%	65.32%	1.50%	63.33%	1.60%	65.22%	1.56%	65.11%	1.61%	63.41%	1.52%	63.19%

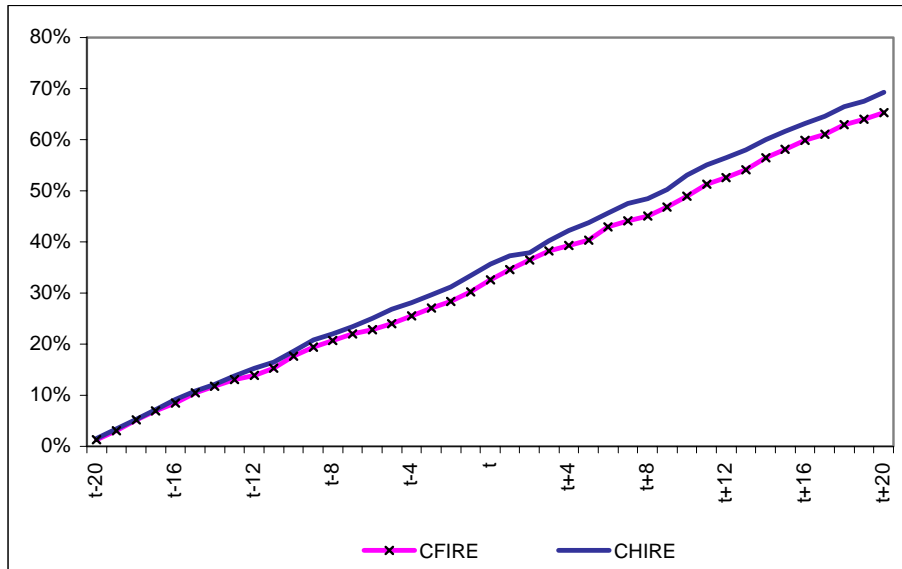*Bold percentages denote significance at the 5% level.*

Figure 3. CS*CARs*: Risk-Adjusted Abnormal Returns, Coach Turnover events
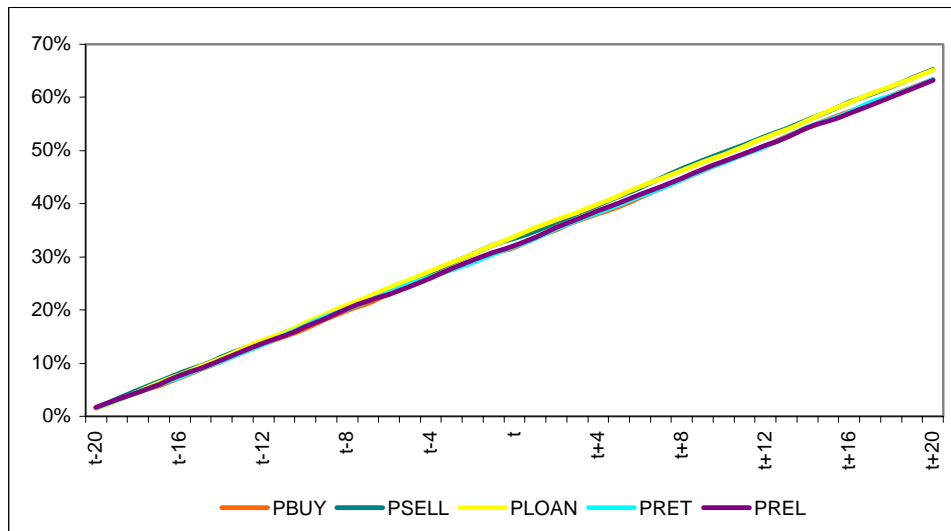

Figure 4: CSCARs: Risk-Adjusted Abnormal Returns, Player Turnover events

All ARs associated with the *HIRE* event are positive and statistically significant throughout the event window, except for the second trading day after the event, where AR amounts only 0.5% and is statistically insignificant. Eventually, the market seems to reward the hiring of the coach, since the *CAR* is 69% at the end of the event window and statistically significant. Moreover, we could argue that the market desires a change in the top, since more lags are significant before the event than afterwards. Almost all daily *ARs*, subsequent to the firing of the coach are positive and

statistically significant, while the *CAR* on the 20th trading day after the event equals 65%, indicating that the firing decision is favored by the market. Again, all *CAR* are statistically significant. A player's acquisition triggers positive price reactions and the *CAR* in the subsequent 20 days after the event goes up to 63%. Again, all ARs and *CARs* are significant at at the 95% confidence level. Only, Aston Villa's and Manchester United's investors do not take into heart such a change. Similarly to the previous event, the sale of a player to another team prior to the expiration of his contract leads to significant share price increases of approximately 1%, whereas near the event date we observe a small drop. The *CAR* of the subsequent 20 days finishes up to 65% (again all *CARs* are statistically significant). The lending of a player to another team leads to return increases of around 1.5% and to a *CAR* of around 65% in the subsequent 19 days. Again, all *ARs* and *CARs* are statistically significant. On the event date, there is a small peak observed, however, it is eroded in the following three days. The return of the player to the former team results again in positive *ARs* of 1.5% and in a *CAR* of 63% at the end of the event window. Although *ARs*, following a player's release, decline in the subsequent two days, however, they move around 1.2% and are statistically significant. *CARs* finish up to 63%, all being significant. Overall, as far as the method of Risk adjusted *ARs* is concerned, all human resources related changes are perceived positively by the market. All events trigger significant positive returns around the event day, and in the subsequent 19 days *CARs* climb up to significantly high levels. Compared to the Mean Adjusted *ARs*, peaks in Risk Adjusted *ARs* are flattened and breakthroughs are smaller. Moreover, variances of *ARs* increase around the event date.

However, results from both the "Mean Adjusted" and "Risk-Adjusted" returns event analysis suffer from a number of limitations. Firstly, serial correlations in stock returns due to thin trading are likely to induce a bias in the returns. Despite the fact that we employ monthly returns and Dimson-adjusted betas to estimate ARs, as Henderson (1990) points out, the aforementioned procedure does not eliminate the autocorrelation in event-study residuals, and does not improve the power of event-studies in simulation studies. Secondly, since prediction errors are estimated over an estimation window, where the market is distressed there will be a correlation between residuals and market returns. Conditional expectations of returns will then be misspecified, which is induced into the ARs estimation. Finally, event clustering poses the biggest limitation that further stresses the need for more sophisticated

models. When events occur at or near the same time, there exists cross-correlation between residuals for the different teams. In our sample, events suffer from clustering, both through events within the same team and through teams for the same event. Events related to coach turnover and player transfers usually happen either in the beginning or at the end of the season. In early studies, cross correlation due to clustering is cured by the modification of the standard parametric test statistic. Current research puts emphasis on the employment of sophisticated regression models that incorporate the contemporaneous covariance in the regression coefficients.

In order to overcome the limitations of the previous two approaches, we employed Panel Data Analysis (PDA) to test again our main hypotheses. The advantage of this method is that it controls both for event clustering within and across teams and unobserved heterogeneity. In particular, we added a dummy variable for each firm and a dummy variable for each event parameter and estimated a Fixed Effects model, using generalized least squares regression. Dummy variables were transformed in several shapes to match different event windows. Specifically, we examine event windows of ±01, ±02, ±05, ±10 and ±20 days around the event. In particular, we estimated the folowing Fixed Effects model using the Within-Estimator.

$$R_{i,t} = \beta_o + \beta_1 \cdot R_{M,t} + \sum_{j=1}^{k} \gamma_j \cdot D_{j,t} + \left(V_{i,t} - U_i\right)$$

Where $D_{j,t}$ is the dummy variable related to each one of the k events. U_i is the fixed effect constant and $V_{i,t}$: is the error term for each club, respectively. We examined event windows of ±01, ±02, ±05, ±10 and ±20 days around the event and the results are given in Table 4.

The results show that the market return accounts for the most variation in share price returns. Both coach turnover related events are significant, indicating that firm performance is significantly related to coach turnover. In particular, the hiring of a new coach has a significant negative wealth effect of 0.2% at the ±5 event day around the hiring announcement, while the firing of the coach leads to a stock return increase of 0.13% at the ±10 day around the event date. Both these results concur with the first hypothesis under consideration. With respect to player turnover events, the

acquisition of a new player triggers a return decrease of 0.058% five working days prior and after the announcement, whereas the sell-off announcement leads to a return increase of 0.056% in the same days, both being statistically significant. This inverse relationship between the investment or divestment in players and shareholder wealth is consistent with the second hypothesis that has been formulated. The lending of a player to another team has a positive, although insignificant impact of 0.042% on returns in the ±20 event day. The wealth effect associated with the return of a player after being lent is also positive (0.09%) and statistically significant at the ±5 event day around the announcement. Again we find support for the third hypothesis under consideration with respect to player loans. Finally, the release of a player at the end of his contract is perceived positively by the market (0.03% increase in returns), although the increase is statistically insignificant. This results complies with the final hypothesis under study. As far as the control variables related to sporty outcome effects, only victories are favored by the market, while losses as well as draws are penalized by subsequent return declines. However, only losses have a statistically significant effect on the first day following the match results.

Table 4. Fixed effects panel regression results

Variable	t	Coefficient	Std. Error	t-Statistic
Constant		-0.001020	0.000225	-4.533824
$R_{M,t}$		0.048766	0.011305	4.313858
CHIRE	+5	-0.002008	0.000692	-2.903247
CFIRE	+10	0.001310	0.000564	2.323881
PBUY	+5	-0.000584	0.000280	-2.085790
PSELL	+5	0.000556	0.000242	2.298442
PLOAN	+20	0.000418	0.000234	1.783967
PRET	+5	0.000901	0.000289	3.118882
PREL	+20	0.000350	0.000232	1.508259
WIN	+1	9.75E-06	0.000283	0.034510
LOSE	+1	-0.000626	0.000301	-2.078404
DRAW	+1	-0.000340	0.000224	-1.517420

White diagonal standard errors and covariance matrix are used

5. Conclusions and Implications

The results in this paper demonstrate that human resources are strongly associated with firm performance. Using data from the UK football industry we show that coach and player turnover have a significant impact on stock returns around the date of the events. In accordance with the RBV and the findings of previous studies (see, among others, Hitt *et al.*, 2001) we find that the departure of a coach and the sale of a player has a positive effect on stock returns. These results lend also support to the research that has reported a positive impact of management turnover on shareholder wealth. On the other hand, the hiring of a coach and the acquisition of players tend to have the opposite effect. An interesting finding was that the practice of player loans to other teams is positively perceived by shareholders. Finally, the expiration of a player contract we found to have not significant effect on stock returns.

It is instructive to view the results reported on player turnover with respect to the literature in corporate finance related to asset turnover. Soccer players incorporate a significant asset not only in terms of competitive advantage but also in monetary terms relative to the value of the firm. Overall, the literature has shown that asset purchases and sales tend to lead to create positive abnormal returns for buyers and sellers, respectively (eg., see Andrade *et al.*, 2001). Our results are only partially consistent with these findings since we report a negative effect of human resource purchases on shareholder wealth in the case of players.

References

Andrade, G., Mitchell, M. and E. Stafford (2001), 'New evidence and perspective on mergers', *Journal of Economic Perspectives*, Vol. 15, pp. 103–120.

Audas, R., Dobson, S. and J. Goddard (2001), 'Impact of Managerial Change on Team Performance in Professional Sports', *Journal of Economics and Business*, Vol. 54, pp. 633-650.

Audas, R., Dobson, S., and J. Goddard (1997), 'Team performance and managerial change in the English Football League', *Economic Affairs*, Vol. 17, pp. 30–36.

Barney, J. (1991), 'Firm resources and sustained competitive advantage', *Journal of Management*, Vol. 17, pp. 99-120

Becker, B. and B. Gerhart (1996), 'The Impact of Human Resource Management on Organizational Performance: Progress and Prospects', *The Academy of Management Journal*, Vol. 39, No. 4, pp. 779-801.

Bonnier, K. A. and R. F. Bruner (1989), 'An Analysis of Stock Price Reaction of Management Change in Distressed Firms', *Journal of Accounting And Economics*, Vol. 11, pp. 95-106.

Dedman, E. and S.W.-J. Lin (2002) 'Shareholder wealth effects of CEO departures: evidence from the UK', *Journal of Corporate Finance*, Vol. 8, No. 1, pp. 81-104.

Dobson, S., and J. Goddard, (2001), *The economics of football*. Cambridge: Cambridge University Press.

Fama, E.F. (1980), 'Agency problems and the theory of the firm', Joumal of Political Economy, Vol. 88, pp. 288-307.

Fama, E.F. and M.C. Jensen (1983), 'Separation of ownership and control', Journal of Law and Economics, Vol. 26, pp. 301-325.

Furtado, E. P., Michael, H. and S. Rozeff (1987), 'The Wealth Effects of Company Initiated Management Changes', *Journal of Financial Economics*, Vol. 18, pp. 147-160.

Gamson, W. A. and N. A. Scotch (1964), 'Scapegoating in baseball', *American Journal of Sociology*, Vol. 70, pp. 69–72.

Grusky, O. (1963), 'Managerial Succession and Organizational Effectiveness', *American Journal of Sociology*, Vol. 69, pp. 21-31.

Henderson, G. V. (1990), 'Problems and Solutions in Conducting Event Studies', *The Journal of Risk and Insurance*, Vol. 57, No. 2, pp.282-306.

Hitt, M. A., Bierman, L., Shimizu, K. and R. Kochhar (2001), 'Direct and Moderating Effects of Human Capital on Strategy and Performance in Professional Service Firms: A Resource-Based Perspective', *The Academy of Management Journal*, Vol. 44, No. 1, pp. 13-28.

MacKinlay, A. C. (1997), 'Event Studies in Economics and Finance', *Journal of Economic Literature*, Vol. 35, pp. 13-39.

Penrose, E.T. (1959), *The theory of the growth of the firm*, New York: Wiley.

Reinganum, M. R. (1985), 'The Effect of Executive Succession on Shareholder Wealth', *Administrative Science Quarterly*, Vol. 30, No. 1, pp. 46-60.

Starbuck, W. H. (1965), 'Organizational Growth and Development', in J. March (ed.), Handbook of Organizations, Rand McNally, Chicago, IL, pp. 451-533.

Teece D. J. (1984), 'Economic Analysis and Strategic Management', California Management Review, Vol. 25, pp. 87-110.

Warner, J. B., Watts R. L. and K. H. Wruck (1988), 'Stock Prices and Top Management Changes', *Journal of Financial Economics*, Vol. 20, pp. 461-492.

Weisbach, M. S. (1988), 'Outside Directors and CEO Turnover', *Journal of Financial Economics*, Vol. 20, pp. 431-460.

Wernerfelt, B. (1995), 'A Resource-Based View of the Firm: Ten Years After', *Strategic Management Journal*, Vol. 16, No. 3, pp. 171-174.

Wright, P. M., Smart, D. L. and G. C. McMaham (1995), 'Matches between Human Resources and Strategy among NCAA Basketball Teams', *The Academy of Management Journal*, Vol. 38, No. 4, pp.1052-1074.