Human resources turnover as an asset acquisition, accumulation and divesture process[*]

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This paper sheds light on the drivers and consequences of turnover in human resources within a firm. Our perspective is novel and borrows elements from the corporate finance literature and the Resource-Based View of the firm which deal with the purchase, sale and improvement of assets. The analysis employs an event study using daily panel data from a group of listed clubs in the UK soccer industry. Our results suggest asymmetric wealth effects of human resources turnover: the acquisition of soccer players is associated with negative abnormal club stock returns while player sales and loans have an opposite effect.

Keywords: Asset acquisition and divesture, Human resources turnover, Football industry, Event study

JEL Classification: G3, J24, L83, G14, C33

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1. Introduction

The ability of a firm to recognize and manage its intangible assets constitutes a major source of competitive advantage and success. Within the global knowledge economy, it is human resources which constitute the most important and critical of all the intangibles within organizations. Accordingly, firms and management scholars have become increasingly aware of the need to evaluate human resources and their effects within organizations. These efforts are limited by the very nature of human resources which represent skills, knowledge, personal attributes, problem solving, decision-making and learning, all of which are notoriously difficult to isolate, define and measure. Notwithstanding, the literature has shown that various aspects of human resources can be associated with superior performance at both the employee and the firm level.[1] Unfortunately, researchers have not agreed yet upon why exactly firms continuously change their human capital and, more importantly, what are the wealth effects of this turnover process. Our paper is an effort in this direction.

We attempt to enrich the literature by adopting a novel theoretical perspective coupled with a comprehensive empirical study. In particular, we consider that the drivers and consequences of human resources turnover are relevant to those underlying the more general process of corporate asset divesture, acquisition and accumulation. In building our research framework we borrow ideas and theories from the literature in corporate finance and the Resource-Based View (RBV) of the firm, respectively. Following a longstanding tradition amongst management researchers since Grusky (1963), we use data from the professional sports industry in our empirical analysis. Rather than concentrating as previous studies only on changes in top management, our dataset allows us to investigate other critical elements of the human capital mix. Specifically, we study 15 UK listed football clubs in order to assess the effect on shareholder wealth of the purchase, sale and lending of players. In examining our hypotheses we undertake an

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[1] See, for example, the arguments and papers cited by Davidson, Worrell and Fox (1996), Panayotopoulou, Bourantas & Papalexandris (2003), and Pfeffer (1996). Most empirical research has concentrated on the effect of human resource aspects that can be easily measured, such as formal education, training, labor quality, managerial skills, satisfaction, eg., see Edmans (2007), Griliches and Regev (1995), Hitt, Bierman, Shimizu & Kochhar (2001), Lynch and Black (1995) and Ton and Huckman (2008). Research on the effects of human capital on equity value has been very limited (see Abdel-khalik, 2003, *inter alia*).

event study using a panel regression approach which controls for market and sporty performance along with coach turnover. Our methodology is robust to commonly encountered econometric problems in event studies with respect to heteroscedasticity, autocorrelation and cross-sectional dependence. Overall, the empirical results indicate that the acquisition of soccer players is associated with negative abnormal club stock returns around the date of the event while player sales and loans have the opposite effect.

Our paper makes a number of important contributions. First, in the context of the corporate finance literature, our findings imply that wealth creation may not be the prime objective behind the human resources turnover in the firms studied and that nonsynergetic-theory explanations, eg., management empire building, entrenchment and hubris, may be more appropriate. Second, it is shown explicitly for the first time that investors may have a significant reaction to specific changes in human resources, even when these are outside the top echelon. Third, from a RBV perspective, our results suggest that shareholders may have a myopic behavior with respect to critical human resources and may consider them as overpriced in the strategic factor markets for sports labor. Fourth, in line with RBV theorists, we confirm empirically for the first time that human resource training and improvement, in our case through player loans, is positively perceived by shareholders. Finally, from an accounting viewpoint, our findings validate some recent regulatory changes in accounting standards suggesting that player transfer fees should be capitalized and amortized rather than expensed.

The remainder of the paper is organized as follows. The next section discusses some of the relevant literature and frames our hypotheses. Section 3 describes the dataset and methodology used along with the empirical results. The final section concludes the paper.

2. Causes and effects of turnover in human resources

The literature examining the links between human resources turnover and firm performance is vast, spanning across fields such as economics, management, strategy, psychology, sociology, etc. In this section we provide a selective overview of this literature in order to motivate our perspective and derive our hypotheses.

The first source of motivation for our perspective in the present paper originates in the corporate finance literature. In particular, we view turnover in human resources as part of the more general process within a firm for asset acquisition and divesture. The idea of human resources as a corporate asset which can be valued using financial concepts and tools is certainly not new (see, for example, Weisbrod, 1961). From a strictly accounting perspective, there is a significant interest nowadays in measuring and reporting human resources along with other intangible assets (see Lajili & Zéghal, 2006). This is highly justified in today's knowledge economies where human resources are becoming increasingly important compared to physical assets (see Pfeffer, 1996; Zingales, 2000). However, the treatment of human resources as an asset *per se* has not received attention yet by financial researchers in the corporate finance literature. Research has concentrated up to now on voluntarily or involuntary divestures of corporate divisions or of specific business units. In particular, it has studied the motives and effects of actions such as, for example, sell-offs, spin-offs, equity carve-outs and management buyouts (MBOs). In our context, laying-off (hiring) an employee can be considered in analogy to the divestment (acquisition) of a tangible corporate asset. In some industries, such as professional sports, such divestments of human resources are typically voluntary for a firm and are done in exchange for some payment in the form of cash and securities.

The research on voluntary, intercorporate asset divestures and acquisitions can be placed within the much broader and extensive literature on mergers and acquisitions (M&As, for reviews see Jarrell, Brickley & Netter, 1988, and, Jensen & Ruback, 1983; an extensive meta-analysis of 93 empirical studies is King, Dalton, Daily & Covin,

2004). Although these two issues have been treated separately in the literature, with an emphasis on M&As, some authors have analyzed both as part of an overall market for firm assets (eg., see Maksimovic & Phillips, 2001). In general, the reasons behind the purchase or sale can be grouped under the so-called nonsynergetic and synergetic theories, respectively (see, for example, Mulherin & Boone, 2000). In the first group, restructuring is thought to be the undertaken for reasons other than wealth creation and stems from managerial motives such as, for example, empire building, entrenchment and hubris (see Roll, 1986; Jensen, 1986; Shleifer & Vishny, 1989). These theories predict that acquisitions and divestures have an asymmetric effect on the wealth of participating firms. Specifically, divesting firms gain wealth by better specialization and agency cost reduction while acquiring firms loose wealth by loosening focus and management protection, respectively. Synergistic theories argue that restructuring aims at wealth creation and is due to reasons such as shifts in technology and the efficient size of the firm, changes in transaction costs of specialized assets and the emergence of profit opportunities as the economy evolves (see, for example, Bradley, Desai & Kim, 1988; Coase 1937; Klein, Crawford & Alchian, 1978). These theories postulate that the "synergies" between transacting firms will symmetrically create wealth for both divesting and acquitting firms. A handful of studies have concentrated on explaining the reasons underlying the decision of a firm to buy or sell a specific asset. Most of these assume that firms are driven by efficient investment considerations and under the previous classification would be characterized as synergetic theories. More specifically, as discussed by Schlingemann, Stulz and Walkling (2002), these explanations can be grouped in three main categories. Focusing explanations put more weight on the efforts of the firm to reduce diversification and concentrate on core activities (see Berger & Ofek, 1999; John & Ofek, 1995). Efficiency explanations suggest that this decision is the result of efforts to allocate assets to those firms that can operate them in the most efficient manner (see Hite, Owers & Rogers, 1987; Jain, 1985; Maksimovic & Phillips, 2001). Finally, it has been also proposed that the divesture of assets is undertaken in order to reduce the financial leverage and credit pressure within a firm (see Afshar, Taffler & Sundarsanam, 1992; Lang, Poulsen & Stulz, 1995; Lasfer, Sudarsanam & Taffler, 1996; Shleifer &Vishny, 1997).

In the present paper we shall attempt to explain the changes in human resources on the basis of non-synergetic theories. The first reason for this is that the majority of empirical research, especially in the M&A literature, show that acquisitions are associated with negative, or at best insignificant, abnormal returns for the acquiring firms (see King et al., 2004). The second reason is that the motivations behind synergetic theories, e.g., changes in technology, firm efficient size and transaction costs, do not seem to be relevant in the case of human resources turnover. The asymmetric shareholder wealth effects predicted by the favored non-synergetic theories lead to two testable hypotheses:

H1. Acquisition of human resources decreases shareholder wealth.

H2. Divestment of human resources increases shareholder wealth.

The effects of human resource acquisition and divestment have been extensively discussed at a theoretical level in the literature related to the RBV. As within the corporate finance literature, insightful explanations exist for both positive and asymmetric effects on shareholder wealth and firm performance. However, as will be outlined in the remainder of the section, the RBV literature allows us also to form an additional hypothesis concerning the effect of human resource accumulation or improvement.

The RBV approach places emphasis on resource endowments, and especially on intangible ones, e.g., human capital, skills, capabilities, in order to explain differences in corporate performance across firms. For example, Barney (1991) argued that it is the intangible, valuable, unique, idiosyncratic, inimitable and non-substitutable resources that constitute the source of sustainable competitive advantage for a firm. Within this line of reasoning, human resource systems, as bundles of practices, policies and decisions, can be strategic assets and therefore can create value, as they cannot be easily imitated due to their causal ambiguity and path dependency. However, it is also possible that due to repeated shortfalls in the production process, the dysfunctional side of human resources

unfold so that core capabilities turn into core rigidities. Irrespective of the hypothesized effect of human resources under the RBV, empirical studies in this area have been very sparse, probably due to the lack of necessary data.

In direct relevance to our paper, authors such as Sirmon, Hitt and Ireland (2007), among others, have claimed that value creation does not only require the possession of valuable and distinctive resources but also the restructuring - acquiring, accumulating and divesting - of a firm's portfolio of resources so that these are reallocated more efficiently. In other words, the architecture of human resources management practices is built on "make-or buy" decisions (see Lepak & Snell, 1999; Miles & Snow, 1984). Acquiring or buying refers to the purchasing of resources from so-called strategic factor markets (see Barney, 1986). These resources include, for example, commodity-like goods, intangibles and sets of tangible and intangible assets which are obtained via mergers and acquisitions. The wealth effect of acquisition depends largely on the price paid for the resource. Some authors have argued that factor markets are efficient and give rise to prices which reflect true values, meaning that the acquisition will have a marginal wealth effect if any (Barney, 1986). Others have argued that these markets cannot always accurately price resources, especially intangible ones, so that opportunities may exist which lead to increases in wealth for some transacting party (Denrell, Fang & Winter, 2003). Divesting involves shedding of those firm resources that are unlikely to contribute towards developing, expanding or preserving some competitive advantage. This could include, for example, liquidation of some fixed asset, spinning off a business line or laying off employees.

The most interesting aspect of the RBV for the purposes of the present paper is the treatment of accumulating (improvement or making) human resources. For example, Hitt, Bierman, Shimizu and Kochhar (2001) argue that the acquisition of human resources may have a curvilinear (U-shaped) effect on firm performance if this investment involves substantial costs which at an early stage are higher than the benefits. As acquired human resources are improved, for example through training, and become integrated within the organization, they start to bring increasingly higher returns which overcome the costs. Accumulating refers to the internal development of resources, eg.,

the development of intellectual capital through training. As Huselid (1995) points out, human capital development though the provision of formal and informal training, such as learning-by-doing, basic skills development, coaching, mentoring etc. has direct positive influence on firm performance as it enhances individual employee skills and motivation. Since, accumulation is likely to increase a firm's potential for value creation (see Huselid, 1995; Lepak & Snell, 1999; Sirmon et al., 2007, inter alia),[2] the final hypothesis in our paper is the following:

H3. Accumulation of human resources increases shareholder wealth.

3. Empirical application

In our empirical analysis, we employ data from listed UK football clubs that participate either in the English or the Scottish Premiership. The professional sports industry is well suited for the purposes of our study, since it involves a human capital pool which may not be easily imitated or replaced and can contribute significantly to firm performance (Wright, Smart & McMaham, 1995). In particular, the UK football industry offers a number of advantages for our study:[3]

  i. It is a labor-intensive, mature, homogeneous and largely commercialized industry. The success of a team depends principally on its coach and players. Moreover, it costs money and time for football clubs to change their resource endowments. Controlling for firm characteristics is not necessary since we focus on a single industry.

  ii. It is an exceptional industry in that human capital is valued competitively and monitored in a direct and regulated basis on a liquid market. Liquidity is important since it means that there is no 'liquidity discount' and that assets are priced efficiently (see Schlingemann, Stulz & Walkling, 2002). Players are treated as balance-sheet items, they are valued in monetary terms and they constitute the

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[2] The positive impact of training on shareholder wealth has been implicitly discussed in the literature by Lajili and Zéghal (2006).
[3] For a comprehensive discussion of the football industry see Dobson and Goddard (2001). An up-to-date overview of the football labour market is given by Frick (2007).

most expensive asset of football clubs (see Amir & Livne, 2005). The so-called transfer system under which the buying and selling of players is possible was first introduced to English football in 1891. Ever since, it has operated with variations throughout the world (see the 'Regulations governing the status and Transfer of Football Players' by FIFA).

iii. Turnover in players receives wide publicity and relevant data is readily available.

On the basis of the above we expect a strong informational efficiency with respect to human resources turnover. Football players are the key ingredient of the human capital pool in a football team and are also critically related to performance on the field. For the purposes of our paper, the following human resource turnover events will be considered:

- *Acquisition of a Player* (*PIN*)*, Divestment of a Player through Sale (POUT) and Release of a Player due to the expiration of his contract (PREL).* Turnover in players prior to the end of an employment contract is voluntary for a club and is accompanied by an often significant cash payment, i.e., clubs purchase and sell players in exchange for a payment as they would do with any other asset.

- *Loan of a Player (PLOUT) and Return of a Player back from loan (PLIN).* Loans of players between clubs constitute an interesting and widespread training practice. These loans have relatively small financial implications and are used to build up experience in junior players which cannot be used in the team. They can be broadly considered in analogy to resource accumulation or improvement and to popular human resource management practices such as employer secondment, dispatching and rotation.

Some preliminary evidence exists by Amir and Livne (2005) on the effect of turnover events in sports team players on club performance and wealth. However, our paper takes a completely different perspective and offers a substantial extension both in scope and depth. Specifically, the authors found that aggregate club investments in players are positively associated on an annual basis with share prices for UK football clubs. The authors find no association between these investments and accounting performance

measures. Our paper is a significant extension since we study individual turnover events using daily data. Moreover, as suggested by the discussion from Forker (2005), we undertake an event study and address the problems related to the lack of controls for fixed effects across time.

In our analysis we shall also control for events of coach turnover and sports performance since these may also have an important effect on wealth and performance. Firstly, the coach constitutes the second basic ingredient of the human capital mix in a football team and can be broadly thought of as representing the top executive manager.[4] His decisions are crucial for sporty performance and the subsequent ranking of the team. Since we do not have detailed data on the specific reasons behind changes in team coaches, we will group them all under the same category (*Hiring of Coach, CIN*). This may not be that problematic since it has been argued in the literature that the distinction between quits and layoffs is unclear, e.g., when an employee expects to be fired, the fear of the associated stigma may motivate him to leave voluntarily. Moreover, some empirical evidence exists suggesting that this distinction may not be that important in the case of coach turnover in UK football (see Audas, Dobson & Goddard, 2002). A number of previous studies have examined empirically the links between coach turnover and sports performance with mixed results (e.g., see Audas et al., 2002; Bruinshoofd & ter Weel, 2003; Tena & Forest, 2007). Although some causality can be expected to run between performance on the field and shareholder wealth (see Pinnuck & Potter, 2006), the specific effect that turnover in coaches may have on club stock prices has not yet been studied. Secondly, since the performance on the field has also been found to affect shareholder wealth (rational explanations of this link are discussed by, for example, Dobson & Goddard, 2001; Palomino, Renneboog & Zhang, 2009; Stadtmann, 2006; for a

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[4] This analogy has been noted by Fama (1980, p. 292), among others, in explaining the effectiveness of the managerial labor market in disciplining managers: "*The manager of a firm, like the coach of any team, may not suffer any immediate gain or loss in current wages from the current performance of his team, but the success or failure of the team impacts his future wages, and this gives the manager a stake in the success of the team*". It is interesting to point out here that most of the research on human resources turnover and its links to firm performance has concentrated on the role of top management (for a review see Brickley, 2003; a recent application is Brookman & Thistle, 2009). The emphasis on this particular type of resource stems probably from the abundance of detailed data. Also, top managers often receive much media attention and are considered to significantly influence firm value. A variety of theories have been proposed in order to explain the causes and effects of turnover in the top managers within a firm. However, and despite over four decades of research, evidence is still largely inconclusive.

behavioral explanation see Edmans, Garcia & Norli, 2007), we control for match outcome in our analysis. Specifically, we take into consideration announcements for victory, defeat and draw (*WIN*, *LOSE,* and *DRAW*, respectively).

The data used in the present paper concern the 15 UK football teams which were listed during the seven-season period from May 7th 1997 to June 1st 2004. Daily club stock closing prices adjusted for dividends were acquired from *Datastream*. Prices for the FTSE All Shares index (FTA) were also collected as a proxy for the market portfolio. Data on the nine events mentioned previously were acquired from the website www.soccerbase.com. We identify as event date the day at which the change took place, otherwise the next working day closest to the event. Data was also collected with respect to the transfer fees for the acquisition and sale of each player for the period under study (*PINREV* and *POUTREV*, respectively). 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%.

Insert Table 1 about here

As shown in Table 1, we have a total of 51 events for coach turnover, 2,774 events for player turnover and 4,793 events for sporty performance announcements. Two clubs, Manchester United and Charlton Athletic, did not change their coaches throughout the period under study. With respect to player turnover, the most often occurring events are related to the lending of players to other teams (680) and their return back (601). As far as match results announcements are concerned, the most often occurring event is *WIN* (2,167 or 45.3% of all matches)*,* something that is expected since the data includes some of the largest of most successful clubs in UK football. Finally, player acquisition costs exceed sale revenues by over £267 million in total. Only for 5 clubs do player turnover revenues exceed costs. Two clubs stand out in terms of investments in new players: Newcastle United with £128.2 million (z-score = 2.11) and Manchester United with £103.9 million (z-score = 1.49).

In order to examine the impact of the turnover in human resources on stock prices, an event-study was undertaken. Traditional approaches that are based on "Mean Adjusted" and "Risk-Adjusted" returns were not used since they are known to suffer from a number of severe limitations. Firstly, serial correlations in stock returns due to thin trading are likely to induce a bias in the returns. Despite the fact that adjusted betas can be used to estimate abnormal returns, 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 will be induced into the abnormal returns estimation. Finally, event clustering poses the biggest limitation that further stresses the need for more sophisticated models. When events occur around the same point in time, residuals over time and between teams may not be cross-sectionally (spatially) independent. If this spatial dependence is not taken into account, the estimates of the standard errors will be mispecified (see Driscoll & Kraay, 1998; Hoechle, 2007). Traditional event study approaches try to handle spatial dependence by modification of the standard parametric test statistic.

Given the nature of our data and the abovementioned limitations of traditional event-study methodologies, a panel regression approach was considered (for a description see Pynnönen, 2005). First, we estimated a fixed within-effect panel regression model of returns (r) for each club. This configuration was used in order to control for possible fixed, unobserved individual characteristics reflecting heterogeneity across clubs. Given that the number of fixed effect dummies to be computed was large, we used the within-effect model, which employs deviations from group means. The form of the regression estimated is the following:

$$r_{i,t} = a + \mu_i + \beta \cdot m_t + \gamma_1 \cdot D_{WIN,\tau_1} + \gamma_2 \cdot D_{LOSE,\tau_1} + \gamma_3 \cdot D_{DRAW,\tau_1} + \gamma_4 \cdot D_{CIN,\tau_2}$$
$$+ \gamma_5 \cdot D_{PIN,\tau_2} + \gamma_6 \cdot D_{POUT,\tau_2} + \gamma_7 \cdot D_{PREL,\tau_2} + \gamma_8 \cdot D_{PLIN,\tau_2} + \gamma_9 \cdot D_{PLOUT,\tau_2} + v_{i,t} \tag{1}$$

where $i=1, 2,..., 15$ is the number of clubs, $t=1, 2, ..., 1,844$ is the number of days for each club stock, α is the constant, μ_i is the fixed-effects coefficient for team i and β is the beta coefficient on the *FTSA* market index returns m_t. For each one of the nine events under study a dummy variable D is created which takes the value of 1 over the event window τ and zero otherwise. Event window size was set to 5 days after match result announcements (τ_1). For the coach and player turnover events the window (τ_2) was set at ±20 days around the event dates in order to capture the possibility that information may be known or expected prior to the official announcement, e.g., due to leakage, rumors, etc. Finally, the regression error term is $v_{i,t} \sim IID(0, \sigma_v^2)$. The abnormal average marginal return for each one of the nine events is reflected in the coefficients $\gamma_1, \gamma_2..., \gamma_9$, respectively. Within this setup, an event has a significant impact on stock returns if the corresponding γ coefficient is found to be statistically different than zero.

In order to test the presence of cross-sectional dependence in the residuals of the fixed effect model, Pesaran's (2004) CD test was undertaken. The null hypothesis, i.e., that residuals are cross-sectionally independent, was rejected at the 95% confidence level for all models considered (CD test statistic = 23.01, p < 0.01). To test the hypothesis that all fixed effect coefficients are zero, we performed an *F*-test, which did not reject the null hypothesis at the 95% confidence level. An insignificant *F*-statistic was obtained with a value of 1.00 (critical $F_{14, 27635, 95\%}$ = 1.65, p=0.44). Therefore, we concluded that an OLS pooled model may be more appropriate. On the basis of these results, we estimated a pooled regression model using Driscoll-Kraay (1998) standard errors in order to control for spatial correlation between clubs. The standard errors in this model are robust to heteroscedasticity, autocorrelation and to cross-sectional dependence, even when the time dimension is large.

Insert Table 2 about here

The event regression estimation outcome is presented in Table 2. A highly significant *F*-statistic was obtained with a value of 14.68 ($F_{10,14, 95\%}$ = 2.60, p< 0.01). As expected, the results show that the market return accounts for a large portion in the variation of stock returns. The beta coefficient is positive but has a small value due to the

fact that we are using daily data (see Markellos & Mills, 2003). Using lagged market returns did not significantly change the results. In line with previous findings in the literature (see Edmans et al., 2007; Palomino et al., 2009) we find that only victories are favored by the market, while losses and draws are penalized by subsequent return declines. However, only victories and losses have a statistically significant effect on returns for the first five days following the match. Coach changes tend to be followed by positive abnormal returns, although the effect is not statistically significant. Turning now to the other human resource turnover events, we can observe that player sales seem to be accompanied by positive abnormal returns with high statistical significance. The opposite effect was observed for the acquisition of players although the relevant coefficient was significant now only at the 8% level.[5] The release of a player at the end of his contract had no significant effect. It is interesting that the departure of players on a loan to another team (*PLOUT*) is associated with significantly positive abnormal returns. However, the return of a player from a loan (*PLIN*) is not significantly related to stock returns. Finally, it can be mentioned that we experimented with alternative event window sizes and reached at comparable results in terms of the sign and statistical significance of the coefficients estimated.

Within the context of the previous literature and our perspective, a number of useful interpretations can be drawn from our empirical results. First, coach turnover does not appear to have any statistically significant effect on the shareholder wealth of the football clubs under study. This result is consistent with some of the previous findings in the CEO turnover literature, which regards managerial change simply as a kind of "ritual scapegoating" process which has no significant impact. In this respect, Reinganum (1985), for example, 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. To the extent that football clubs are focused rather than diversified firms, our results are also in line with the view of Berry, Bizjak, Lemmon and Naveen (2006) who show that CEO turnover, succession patterns and effects vary with firm complexity. This is explained by

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[5] The size of the transfer fee was not found to significantly affect the results with respect to the turnover of players. Results are available upon request from the authors.

the fact that manager replacement costs are relatively small in focused firms because a large pool of potential candidates exists or because entrenchment is more unlikely. This in turn implies that replacements can be made easily and without substantial success costs so that subsequent performance will not be significantly affected. Second, it appears that player divestures have a significant positive impact on a shareholder wealth around the announcement date. An opposite, yet less significant effect can be observed when a firm acquires a player. This asymmetric impact points towards a non-synergetic explanation of the human resources turnover process. For example, coaches may pursue their own personal goals and ambitions rather than the maximisation of shareholder wealth. Moreover, it could be that shareholders perceive that there is an information asymmetry in the team restructuring process and that the acquiring team is in a disadvantageous position at judging critical properties of a player such as, for example, sports form, physical condition, team spirit, injuries, etc. As a result, the sale of a player could appear to be a negative signal for potential buyers. One could imagine that similar information asymmetries could arise in the process of intangible asset turnover for any firm. This is due to the fact that intangibles are inherently difficult to measure and evaluate. Our results with respect to the asymmetric impact of the acquisition and divesture of players are in line with the majority of empirical findings in the M&A literature. However, the results are in contrast with the findings from the literature dealing with the purchase and sale of corporate assets. More specifically, we observe positive wealth effects only for the divesting firm. Turning now to the RBV perspective, the proposition of Sirmon et al. (2007) with respect to the positive impact of human resource acquisition is not fully confirmed in our sample. However, we find empirical support for the other two propositions with respect to divesture and accumulation, respectively. A possible explanation for this inconsistency could be that shareholders consider that markets for coaches and players are not fully efficient and that these markets tend to overprice the actual value of the underlying assets. Moreover, as argued by Hitt et al. (2001) it could be that the acquisition of human resources has a curvilinear effect on performance. In this sense, investors may be myopic and take into account only the short-term negative impact on performance and ignore any long term net gains. Finally, the results in this paper are in line with the recent regulatory changes in accounting standards (eg., *FRS 10, IAS 38,*

SFAS 142) which require that player transfer fees should be capitalized and amortized rather than expensed. The fact that we observe statistically significant abnormal returns during the "player acquisition" event window means that this is considered as an event with long-term consequences on firm value. This is partly inconsistent with Amir and Livne (2005) who found using annual data that although aggregate investment in players is positively related to shareholder wealth, it is uncorrelated to club accounting performance beyond a two year period.

4. Conclusions

In this paper we considered turnover in human resources as part of the overall process for corporate asset divesture, acquisition and accumulation. Our empirical analysis used data from the UK football industry and focused on the impact on club stock prices of changes in players. In line with the corporate finance literature, we found that shareholders react significantly to changes in human resources. Specifically, sales (acquisitions) of players have a positive (negative) effect on stock prices after the announcement period. These findings are largely in line with the M&A literature and point towards nonsynergetic theories in explaining the motives behind human resources turnover in our sample. Our results, offer partial support to RBV propositions since we find that only human resource divesture and accumulation have a positive wealth effect. The negative effect of acquisition can be explained if we assume that shareholders consider that strategic factor markets for sports labor overprice assets. Another explanation is that shareholders are myopic and believe that new employees have a curvilinear effect on firm performance which is negative at early stages.

Our empirical analysis demonstrates clearly that investors care significantly about the announcements of restructuring in the human resources of the firm. We showed that useful arguments and perspectives can be borrowed from the extensive relevant literature on corporate finance and the RBV. Despite the advantages of analyzing specifically the sports industry, more research is necessary in order to see if comparable results can be obtained in other industries or on the basis of alternative firm performance metrics,

respectively. Moreover, along the lines of Clayton, Hartzell and Rosenberg (2005), it would be instructive to investigate the impact of human resources turnover on stock price volatility. These will be the objectives of future research.

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Table 1

Turnover and control events for listed UK soccer clubs (07/05/97–01/06/04)

Teams	CIN	PIN	POUT	PLOUT	PLIN	PREL	WIN	LOSE	DRAW	Total	PINCOST	POUTREV
Aston Villa	4	33	51	46	40	6	129	112	86	507	74.1	38.6
Birmimghan City	2	33	41	38	35	24	144	98	83	498	27.3	3.4
Celtic	3	25	37	28	21	12	221	47	37	431	51.1	13.5
Charlton Athletic	0	38	40	40	41	27	119	101	78	484	32.0	19.5
Heart of Midlothian	2	29	36	36	29	15	115	84	63	409	1.6	6.2
Leeds United	4	27	47	50	48	18	149	110	76	529	73.5	90.0
Manchester United	0	19	39	62	55	15	240	73	85	588	103.9	56.8
Millwal Holdings	5	40	33	26	17	26	150	111	85	493	2.0	4.8
Newcastle United	2	50	60	62	50	18	154	102	88	586	128.2	64.3
Preston North End	3	30	30	33	28	14	142	96	75	451	5.7	9.5
Sheffield United	7	61	63	53	48	37	152	109	99	629	6.8	13.3
Southampton	6	46	52	52	50	24	104	123	69	526	35.9	30.9
Sunderland	2	37	56	74	70	17	140	99	82	577	46.9	35.7
Tottenham Hotspur	6	38	55	47	40	15	125	120	71	517	80.0	18.4
West Bromwich Albion	5	35	32	33	29	12	83	96	68	393	15.5	12.4
Total	51	541	672	680	601	280	2,167	1,481	1,145	7,618	684.5	417.3

This table shows the number of turnover events by team and in total for the period under study. The turnover events are defined as follows: *CIN*: Hiring of coach; *PIN*: Player acquisition, *POUT*: Player sale, *PLOUT*: Loan of a player, *PLIN*: Player return back from loan, *PREL*: Player release; *WIN*: Victory, *LOSE*: Defeat, *DRAW*: Draw; *PINREV*: Cost of player acquisition (in millions of sterling), *POUTREV*: Player sale revenues (in millions of sterling).

Table 2

Pooled OLS results using Driscoll-Kraay (1998) standard errors

Variable	Event Window	Coefficient (%)
a		-0.16***
m_t		11.29***
D_{WIN}	+5	0.23***
D_{LOSE}	+5	-0.22***
D_{DRAW}	+5	-0.04
D_{CIN}	± 20	0.06
D_{PIN}	± 20	-0.06*
D_{POUT}	± 20	0.09**
D_{PREL}	± 20	-0.02
D_{PLIN}	± 20	-0.01
D_{PLOUT}	± 20	0.08**

This table presents the results of the following regression:

$$r_{i,t} = a + \beta \cdot m_t + \gamma_1 \cdot D_{WIN,\tau_1} + \gamma_2 \cdot D_{LOSE,\tau_1} + \gamma_3 \cdot D_{DRAW,\tau_1} + \gamma_4 \cdot D_{CIN,\tau_2}$$
$$+\gamma_5 \cdot D_{PIN,\tau_2} + \gamma_6 \cdot D_{POUT,\tau_2} + \gamma_7 \cdot D_{PREL,\tau_2} + \gamma_8 \cdot D_{PLIN,\tau_2} + \gamma_9 \cdot D_{PLOUT,\tau_2} + v_{i,t}$$

where $i=1, 2,..., 15$ is the number of clubs, $t=1, 2, ..., 1,844$ is the number of days for each club stock, α is the constant, β is the beta coefficient on the *FTSA* market index returns m_t. For each one of the nine events under study a dummy variable D is created which takes the value of 1 over the event window τ and zero otherwise. Event window size was set to 5 days after match result announcements (τ_1). For the coach and player turnover events the window size was set at ±20 days around the event dates (τ_2). The abnormal average marginal return for each one of the nine events is reflected in the coefficients $\gamma_1, \gamma_2..., \gamma_9$, respectively. *, **, *** denote significance at the 10%, 5% and 1% level, respectively.