

DEPARTMENT OF ECONOMICS

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of Belgian Football clubs**

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RESEARCH PAPER 2007-028
DECEMBER 2007

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D/2007/1169/028

Comparing management performances of Belgian Football clubs

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Abstract

In this empirical exercise, we try to compare the management performances of 13 Belgian first-division football clubs, based on a limited panel data set over the last 8 seasons. A simple model is constructed and the estimation of its reduced form can reveal something about the relative performances in terms of the clubs' general management. By estimating the structural-form equations, we also try to decompose this general management performance into more specific management qualities.

1. Introduction

Over the last decade, Belgian football is suffering, both on a national and on a club level. For the first time in many decades, the Belgian national team did not qualify for the World cup and the UEFA cup. The team did not participate at the World cup 2006 in Germany and was absent at Euro 2004 in Portugal and will not be present at Euro 2008 in Austria and Switzerland. Fortunately, the Belgian football federation was the co-organizer of Euro 2000 together with the Netherlands, so that both countries were

qualified without playing the qualification rounds. Also for the first time in many years, there was no Belgian club qualifying for the UEFA Champions League in 2006-2007.

Many reasons have been put forward to explain this debacle. The Bosman verdict of the European Court of Justice in 1995 seems to be the main scapegoat. It is not so much the abolition of the transfer system, but rather the opening of the European player market by abolishing the so-called 3+2 rule, limiting the number of foreign players that could be fielded, which has had a major impact. Opening the European player market, and leaving the European product market closed, is asking for trouble (see Kesenne, 2007). All former top clubs in the small European countries have experienced an exodus of all their best players to the large countries such as England, Spain, Italy and Germany, a process has been enforced by the media rights explosion in these countries. This obviously weakens the playing qualities of the teams, and can also explain the weak performances of the national team. With a few exceptions, many Belgian players in the foreign teams end up on the bench or the B-team, losing their competitive edge.

In our opinion, things went wrong after 1995 because of the slow move of the football clubs, as well as the Belgian football federation (KBVB), to professional management. Belgian football clubs faced serious financial problems after the Bosman verdict because club managers offered and paid higher player salaries when there was no money for any general salary increase. Beside this short-sighted management reaction, also the general neglect and the low quality of youth training and -formation are to blame. After Bosman, and the abolition of the transfer system, many club managers considered it useless to spend money on youth training because if a promising young player shows up, he will be hired by a larger and better paying club without any compensation. Instead they turned to the transfer market and tried to attract many low-paid foreign players. What they overlooked is that, if one out of ten young players runs off, there are still nine to stay and to strengthen the team.

In this contribution, we concentrate on management performances. We try to compare the management performances of the Belgian first division teams. Is Anderlecht, by far the richest Belgian club, a well-managed club compared with its Belgian competitors; does the club perform according to its potential? This analysis does not pretend to conclude anything regarding the absolute quality of Belgian club management.

2. The Model

In many applications, the total season budget, or the total season revenue, of a club is considered as the most relevant indicator of its potential playing strength. In a liberalized player market, a rich club can attract the best players by offering the highest salaries. If one compares the average season budgets of the Belgian first-division teams and the number of point in the final ranking over a period of 8 years, one finds a correlation coefficient of 0.90. The OLS estimation of the linear relationship between these two variables, with the t-values in parentheses, results in:

$$\text{Wins} = 35.7 + 1.8 \text{ Revenue} \quad R^2 = 0.81 \quad n = 13 \quad (1)$$

(13.1) (6.9)

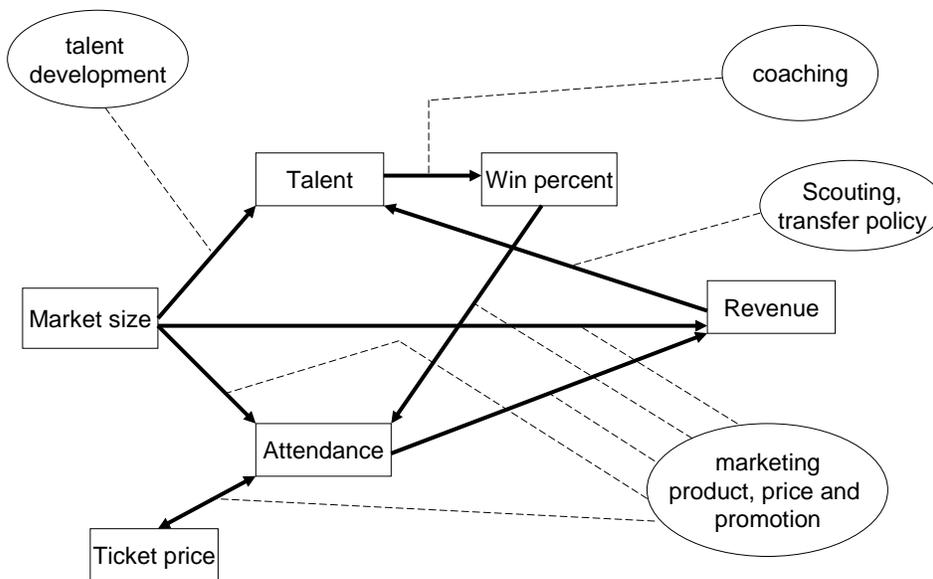
The residuals of this estimation result can reveal which clubs are doing better than average in terms of winning given the size of their budget, assuming that the budget of a club is an indicator of the potential talents they can afford. Some teams are clearly performing better than expected given the size of their budget than others. The assumption is that these deviations are caused by the differences in management performance. The striking result of this first estimate was that in the ranking Brugge ended on top and Anderlecht ended 11th or almost last.

However, analyzing management performances, the size of the budget of a club cannot be considered as an exogenous variable, it is also one of the results of the quality of club management. So, we start from a more general model to derive and compare the management qualities of the clubs. The simple model tries to describe the main relationship of the industry. It starts from the size of the local market of a club as the main determinant of the strength of a team. All empirical results show that the market size, or the drawing potential of both players and supporters, is the main determinant of a club's budget and its winning record (see Noll, 1974; Quirk and Fort, 1992, Szymanski, 2003). So, the market size has a positive impact on both the playing talents and the season attendances of a club. But the relationship between these variables is affected by the club's management performances, such as their talent development programs, their

pricing policy and promotion efforts. These and the following relationships, with its associated management functions, are presented in figure 1.

Obviously, the talents of a club will affect their winning percentage, but this can be enhanced by the coaching quality. Another important result from the empirical research is the winning percentage is an important determinant of stadium attendances. Also the level of the ticket price can be expected to have a negative effect on stadium attendances. If prices can be set by the club as a local monopolist, the ratio of the stadium capacity (supply) and the average match attendances (demand) affect the optimal price. Again, the marketing policy of the club managers does affect these relationships.

Figure 1. Basic model



Stadium attendance seems to be a good predictor of the total budget of the league. For Belgium, we found a correlation coefficient of 0.91 between season attendance and season revenue of a club. Indeed, all other club revenue sources, beside gate receipts, such as sponsorship and other commercial revenue, as well as media rights, can be expected to be correlated with the popularity of the team. Beside its indirect effect on

revenue, the size of the market can also directly affect the opportunities of a team to raise all sorts of commercial revenue.

Finally, the total budget or season revenue of a club will allow the team managers to room the national and international player market. Because huge transfer fees and salaries are paid for attracting the best players, size of the budget will have an impact on the playing talents of the team. This relationship will clearly be affected by the quality of the scouting and transfer policy of the managers.

Due to a lack of reliable data for Belgian football, we had to simplify this model considerably. One of the problems is to measure talent. If one assumes that the player talent market is efficient, the total payroll can be a proxy for the total playing talent of a team. However, data on payrolls or the clubs' wage-turnover ratios are not available in Belgium. So we have to skip the relationship between market size and talent and jump from market size to winning percentage. Skipping talent, season revenue will also affect the winning percentage directly. We also left out the ticket pricing policy because the stadium capacity utilization in Belgian's first division is on average only 60%. Moreover, most empirical research shows the price elasticity to be very small and/or insignificant. So the model we have estimated consists of only 3 equations:

$$a = f_1(m, w) \tag{2}$$

$$w = f_2(m, r) \tag{3}$$

$$r = f_3(a, m) + cl_{-1} \tag{4}$$

where a is season attendances, m is the local market size, w is the season winning percentage, r is the season revenue and cl_{-1} is the money received by playing in the UEFA Champions League (UCL). This last variable is added as an exogenous variable because Belgian teams can qualify for the UCL and earn a lot of money compared with the size of their budget. The lag is justified by the fact that the UCL money is paid at the end of the season. The money from participating at the UEFA Cup is left out here, because no significant amounts of money are left over after subtracting the additional costs of participation. The marketing efforts of the club managers can increase

attendances in equation (2), and the clubs' budgets in equation (4). The relationship between the explanatory variables and the winning percentage in equation (3) is affected by the management qualities in terms of talent scouting, youth development and coaching.

The model is clearly a simultaneous model; the three equations are identified, so both the reduced and the structural form parameters of the model can be estimated.

3. The data

We have estimated this model with Belgian panel data for 8 seasons, from season 2000-2001 until 2006-2007, and the 13 clubs that have been in first division during that period. We started in 2000 because we wanted to give the teams the time to adjust to the new market situation after the Bosman verdict and the introduction of the License System of the Belgian football federation, mainly checking if clubs have paid their debts.

The market size of a team, or the drawing potential for spectators and playing talent, was approached by the population in town adjusted for presence of another top team in town.

The total season revenue of a club is given by the newspapers' and magazines' rough estimation of the club's total budget. These data are known to be rather unreliable but that is all there is.

The season winning percentage is measured by the number of points in the final ranking. This is better than using the winning percentage itself because of the possibilities of ties in football. Because spectators prefer one win to two ties, the point system grants 3 points to a win and 1 point to a tie.

The attendance figures are the average number of spectators per game, based on the estimations of sports journalists, who know the size of the stadium. Again these figures are not always very reliable. In table 1, some basic statistics are presented for these data. One can observe huge difference in market sizes and club revenues.

Table 1. Statistics

	MEAN	ST.D	MIN	MAX
MARKET SIZE (x 1000)	136	131	33	500
REVENUE (in million Euro)	8.5	6.25	2.3	29
WIN PERCENT (points)	51	15	14	83
AVERAGE NR OF SPECTATORS	11506	6874	4247	25329

Table 2. Correlation matrix

	MARKET	REVENUE	WIN PERC	ATTEND
MARKET SIZE	1.00			
REVENUE	0.66	1.00		
WIN PERCENT	0.52	0.72	1.00	
ATTENDANCE	0.54	0.91	0.73	1.00

In table 2, the correlation matrix of these 4 variables is given. If the correlation between attendance and club revenue is as high as 0.91,, the correlation coefficient between market size and winning percentage not higher than 0.52. This is remarkable and calls for some further investigation and a comparison between the clubs' management performances.

4. Estimation results

Assuming that the final objective of Belgian football clubs is to maximize the winning percentage, rather than to maximize season profits, the most relevant reduced-form equation to compare the qualities of general club management is the one explaining the winning percentage as a function of all predetermined variables in the model, that is:

$$w = w(m, cl_{-1}) \quad (5)$$

Based on a panel data set consisting of 13 first-division clubs and 8 seasons (2000 - 2007), a random-effects model is estimated. The random-effects model is more suitable than the fixed-effects model if the number of teams is larger than the number of time periods. We also assume that the random effects are independent of the explanatory variables. The predetermined variables are assumed to have a common effect in all clubs, because they measure the average effect of these variables on the winning percentage. The linear model that is estimated is then:

$$w_{it} = \alpha_i + \beta m_{it} + \gamma cl_{i,t-1} + \varepsilon_{it}$$

$$\text{with : } \alpha_i = \alpha + \mu_i \quad (6)$$

$$\text{so : } w_{it} = \alpha + \beta m_{it} + \gamma cl_{i,t-1} + (\mu_i + \varepsilon_{it})$$

Because the error term is serially correlated, the model is estimated with Generalized Least Squares (GLS). The results are given in table 3. The market size has a positive and significant effect on wins, but surprisingly, the Champions League money earned by a

few clubs over these years, (Anderlecht, Club Brugge and Genk) has had no significant effect on their performances in the national competition.

More important here are the estimated random effects, which are ranked according to size in table 3. Two clubs stand out compared with the rest, Club Brugge en Genk. Anderlecht, by far the richest club in Belgium, is only 4th in the ranking. Comparably, the club with the smallest budget, Westerlo, is doing remarkably well. The poorest managers can be found in Charleloi and Beveren.

The estimated random effects in the reduced form only indicate the differences in general management performance, that is: all management functions together, and does not reveal anything about the disaggregated management functions that are listed in figure 1. One might be interested where things have gone wrong for Anderlecht, the richest club which has always claimed to be the best managed club in the country. This can partly be detected by estimating the structural-form equations.

Table 3. Reduced-form estimation

Dependent variable: winning percentage

Variable	Coefficient	t-Statistic
C	42.82	11.53
Market	0.06	3.25
Champ. League	- 0.47	- 0.72
Random effects: measuring general management quality		
Brugge	17.8	
Genk	11.7	
Standard	5.5	
Anderlecht	2.7	
Lokeren	1.7	
Westerlo	1.4	
Mouscron	0.2	
Gent	- 1.0	
Lierse	- 3.9	
St-Truiden	- 4.1	
GBA	- 9.0	
Charleroi	- 10.3	
Beveren	- 12.8	

Unweighted Statistics including Random Effects
R-squared: 0.66 DW: 1.86 Number of obs: 104

The quality of the clubs' marketing policy can be detected by looking at the structural-form equations for attendances and revenue. They were comparable to the results found in the reduced form and are not presented here. The structural-form equation for the winning percentage reveals more about another important management quality. As mentioned above, the random effects in equation (3) indicate how well a club is managed in terms of talent scouting, youth training and coaching. These results are presented in table 4. From this, it turns out that Anderlecht has been doing a poor job, because it ranks only 9th and is performing worse than average in first division. This does not come as a surprise for most football adepts. Over the last decade, Anderlecht has attracted and bought many expensive players on the transfer market who did not perform. They have also hired and fired many coaches, sometimes 3 in one season, whereas many empirical studies have shown that changing coaches mid-season is ineffective and a waste of money (see Koning, 2003).

Table 4. Structural-form estimation

Dependent variable: winning percentage		
Variable	Coefficient	t-Statistic
C	37.4	13.51
Market	0.02	0.95
Revenue	1.36	4.24
Random effects: measuring talent scouting, youth training and coaching		
Brugge	8.3	
Gent	4.3	
Lokeren	3.1	
Westerlo	2.5	
Standard	1.3	
Genk	1.1	
Mouscron	- 1.2	
GBA	- 1.5	
Anderlecht	- 1.8	
St-Truiden	- 2.0	
Charleroi	- 2.6	
Lierse	- 3.5	
Beveren	- 7.9	
Unweighted Statistics including Random Effects		
R-squared: 0.64	DW: 1.93	Number of obs: 104

5. Conclusions

One of the conclusions from this oversimplified analysis is that the 4 richest football clubs in Belgium are also the best-managed clubs. However, one can see that Brugge and Genk are clearly outperforming Anderlecht, which is by far the club with the largest market and budget. Also, a few clubs with very small markets, such as Lokeren and Westerlo, are performing quite well. The main weakness of Anderlecht is its performance in training, coaching, scouting and transfer policy. With less money, its main competitor Brugge has done a much better job between 2000 and 2007.

Obviously, more research is necessary to derive robust conclusions, more variables have to enter the analysis to correct for their impact on the playing performances of teams. However, there is a dramatic lack of data, information and openness of the Belgian football clubs, and even the data that are available are unreliable. But, if one cannot turn the wind one must turn the mill-sails.

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