Recovering performance in the short term after coach succession in Spanish basketball organisations.

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Abstract

Research papers on succession processes in sport organisations have usually shown contradictory results. Several factors can explain the different effects on performance after changes, so the purpose of this paper is to obtain a better understanding of coach changes and their impacts on short-term performance. For this purpose, we use OLS (with Stata) to analyse panel data from a longitudinal sample of 15 years (from the 1997-98 season to the 2011-12 season) of Spanish professional basketball organisations, examining all changes in head coaches that occurred during the teams' competitive seasons using the variables of coach experience or human capital changes within the organisation after the change of coach to determine the repercussions of these changes on performance. The results, with $p<0.05$, support two hypotheses: H2, the possibility of short-term improved performance in organisations after a coach change; and H3, if a coach change is accompanied by more profound changes in human capital (players) the result is worse performance. These results are not contradictory because they indicate that it is possible to recover performance in the short term, but if managers make too many changes at the same time, the team cannot coordinate itself to recover its performance. For organisations, this observation is important because organisations can change key leaders when performance is low but must consider that a large number of simultaneous changes are overly risky because this increases instability and disruption.

Keywords: coach succession, short term, performance, additional personnel changes, Spanish basketball

Practice Points

To which field of practice area(s) in coaching is your contribution directly relevant?

This study contributes to the sport management context through the influence of coach succession on organisation performance in the short term. In addition, the study analyses how additional changes for players impact this performance.

What do you see as the primary contribution your submission makes to coaching practice?

In the context of European professional sport, the primary contribution to coaching practice is the revelation that teams can recover sport performance in the short term after succession, with coaches requiring only sufficient time in the same season to improve previous performance, but that complementary changes to the team roster can hinder this recovery in the short term.

What are its tangible implications for practitioners?

The implication for practitioners is that managers and other stakeholders should be patient. Coach replacement is unexpected, and such change should be made with consideration of the stage of the season during which it occurs because time is needed for real performance recovery. This patience includes avoiding the implementation of many changes at once. Such succession processes with simultaneous roster changes are considerably disruptive by including many changes to the team roster (coach and players) that require more adaption time, which is not always available during the season and which directly increases the negative results for the organisation during that season. In a competitive format in which poor performance leads to relegation to a lower division, the risk is too high.

Introduction

Research on succession management has inspired a great number of empirical works on the effects of succession on sports organisations, generating two types of conclusions (Giambatista, Rowe, & Riaz, 2005; Theberge & Loy, 1976). Professional sport is a useful domain of study because the goals of sport organisations are clearer than those of traditional companies (Koning, 2003); the measurements of the success of leaders are less ambiguous (Brady, Bolchover, & Sturgess, 2008); competitors possess similar structures, goals and industry limitations (Audas, Dobson, & Goddard, 2002); and the pressure from external agents, such as media and fans expecting good performance, and the same regulatory framework with centralised supervision have resulted in better generalisation of the results obtained (Rowe, Canella, Rankin, & Gorman, 2005).

A good coach with strong leadership skills is fundamental for a team's success, but changes in these coaches are critical processes that impact organisational performance. Empirical evidence has led to three theories that explain the relationship between a coach change and organisational performance: the scapegoating, vicious circle and common sense theories (Greiner, Cummings, & Bhambri, 2002).

The uncertain results of changes shown by empirical research do not practically imply that a coach change during a season is a rare event (Allen, Panian & Lotz, 1979). Organisations seek performance improvements in the short term due to the important sport and economic implications of their performance. Recent works have analysed the short-term impacts of changes during the season in which they occur (Balduck, Buelens & Philippaerts, 2010; Hugues, Hugues, Mellani, & Guermat, 2010), leading us to a series of research questions:

- Does performance improve as a function of the characteristics of the new coach?

- Is time a factor that positively impacts performance, and does this relationship hold true for the short term (within the same season)?

- If the change is accompanied by further changes that affect the makeup of the team (players), does team performance improve more quickly or does it worsen, creating a vicious circle of poor performance?

To answer these questions, in section 2, we perform a literature review and present our research hypotheses. In sections 3 and 4, we conduct statistical analysis of the different hypotheses using a longitudinal sample of teams from the Spanish Basketball Clubs Association league (from 1997-1998 to 2011-2012). Finally, we discuss the results and provide conclusions for this paper.

Theoretical framework and hypotheses

Research studies have analysed the importance of team coaches in achieving good results in various competitive sports, such as basketball (Fizel & D´itri, 1999, Giambatista, 2004), hockey (Audas, Goddard, & Rowe, 2006), baseball (Curtis, Loy & Hillen, 1986; Fabianic, 1994) and football (Audas et al., 2002; Bruinshoofd & Ter Weel, 2003; De Paola & Scoppa, 2008; Koning, 2003). Maintaining adequate sports performance is essential for the marketing and finance of sports organisations because there is a direct relationship between sports results and the acquisition of new income through ticket sales, commercial rights and sponsorship (González-Gómez, Picazo-Tadeo, & García-Rubio, 2011; Madichie, 2009).

In sports, coach succession has generally been linked to the coaching level due to the coach's direct relationship with organisational performance (Fizel & D´Itri, 1999; Hugues et al., 2010). Coaches, as organisational managers, perform key tasks for improving the

performances of the teams they lead. They are responsible for individual, collective and strategic abilities, and they motivate, plan and lead the team to realise the team's full performance potential.

Coaches assume the directive, leadership and affective aspects of the teams they manage. In sport organisations there are different levels of managers with different key roles. Chief executives usually focus on strategic objectives, such as finance and promotion, and sport organisations have sufficient complexity that chief executives do not participate (or moderate) in sports decisions. At the second level, technical directors or managers (in English soccer) make decisions about hiring, team structure, and team technique, but they do not coach the team. According to research, coaches are better targets of empirical analysis than managers at other levels because coaches focus exclusively on team performance, establishing clear, real and specific goals (Giambatista, 2004).

What happens after a coach succession in sports organisations?

Coaches attempt to obtain better performance of the groups they manage, but if this performance does not reach the expected level, the coach's position is among the most vulnerable in sports organisations and coach changes are considered in the hope that the arrival of a new coach will improve team performance.

Although life cycle theory establishes that longer tenures have positive impacts on performance, showing an inverted-U curve (Hambrick & Fukutomi, 1991), reality shows that it is difficult to fulfil the complete life cycles discussed in the empirical research, which range between 6 and 11 years (Giambatista, 2004). Sometimes, sports executives do not have the time or patience for medium-/long-term performance according to the life cycle theory. Furthermore, the pressure to obtain immediate short-term results, exerted by competitors and

stakeholders (d´Addona & Kind, 2014; Koning, 2003; Maxcy, 2013), leads to layoffs due to short-term performance, with different implications.

This empirical research has led to three theories explaining the relationship between manager changes and organisational performance (Greiner et al., 2002). First, the *scapegoating theory* states that a manager change does not affect performance (Sakano & Lewin, 1999). Managers are substituted as a ritual, showing that executives make decisions to improve performance. In reality, managers are rarely truly responsible for poor performance: they do not make deliberate decisions towards this outcome; thus, with a scapegoat, sport executives protect their own positions by firing another manager without solving the existing organisational weakness (Balduck, Buelens & Philippaerts, 2010; Gamson & Scotch, 1964; Khanna & Poulsen, 1995). Second, the *vicious circle theory* states that manager changes result in lower performance because they violate already established processes and activities and bring instability, which negatively affects results (Grusky, 1963). The disruptive nature of change is exacerbated by the loss of specific knowledge, which damages short- and medium-term performance (Giambatista, 2004; Greiner et al., 2002). Third, the *common sense theory* states that results do improve after such a change because the new manager is capable of solving the problems of poor performance and reversing the situation (Bruinshoofd & Ter Weel, 2003; Kesner & Sebora, 1994). Table 1 shows a selection of the main succession studies in the context of sport and the different results obtained, explaining the three above theories.

Insert Table 1 here

Although the evidence has shown contradictory effects of manager changes on performance, top managers continue to fire and hire new managers during the season. The time frames within professional sports, particularly in the European context, are short because being the last team in the classification results in a loss of category, which can result in significant losses of sponsorship income, television broadcasting rights, ticket revenue or human capital (d´Addona & Kind, 2014; Maxcy, 2013). Following poor performance during one season, organisations attempt to improve rapidly. Their options are limited: hiring or replacing players; changing the coach or executive director; or hoping that improvement will occur through the daily learning of players, allowing for improved performance. Additionally, the time frame of the change is important because the indications for making changes differ between the beginning of the season and the end, especially in the short term (Hugues et al., 2010).

The purpose of changing coaches during the season, although such change is unexpected and not planned, is to improve the results during the current season. Therefore, the time at which the change occurs during the season must be analysed, and we should evaluate performance in the season in which the coach is hired.

Therefore, for coaching replacements during the season, the question should not be *does a change of coach improve the performance of the team?* Instead, it should be *will the change of coach improve team performance in the same season as the change?*

Coach succession destroys intellectual capital and requires a new process of learning by a coach with developed skills (Kor, 2003). The new coach should first have deep knowledge of the resources, employees, organisational weaknesses and facilitators or obstacles to change and should recover performance in the season during which the change occurs (Audas et al., 2002; Canella & Rowe, 1995; Hughes et al., 2010).

Sport coaches, whether active or not, tend to be in contact with their environments. Inactive coaches are alert and learn about their environments, although they do not participate in them, because they must develop new strategies and facilitate transformative changes that can rapidly solve performance problems (Romanelli & Tushman, 1994; Virany, Tushman, & Romanelli, 1992). Such coaches base their work on the extent of their knowledge, as well as on the experience they have accumulated during their careers as team coaches. Upon confronting unexpectedly poor performance, top executives search for a coach with a profile indicating the capacity to improve the team's poor performance. Experience that has been accumulated in leading teams provides background knowledge of the situations, problems and people that these coaches have managed and provides information that helps achieve the organisation's goal of recovering performance as early as possible in the season the coach is hired (Giambatista, 2004).

H1: The experience of the substituting coach positively influences team performance after a coach change.

Effects of coach succession: When we can recover adequate performance?

As we have mentioned, time is a key factor in the change process. All substitutions lead to a process of disruption and require time for the development of new abilities and relationships between the coach and the team, allowing, in turn, for better performance (Kor, 2003); thus, the effects of changing the coach at the start, in the middle or close to the end of the season differ.

Coach changes disrupt performance and create instability in the short term (Grusky, 1963, Brown, 1982). Thus, new coaches might be incapable of developing new alternative strategies and identifying new behaviours and resources due to the deteriorated performance. At some point, this identification and strategy-development process is finished and

performance is improved; however, the most important question is when this improvement will occur. Initially, evaluation periods exceeding 12 months were used in sports organisations, so improvement would not be evaluated until the following season (Giambatista et al., 2005; Henderson, Miller, & Hambrick, 2006; Miller & Shamsie, 2001). Time allows coaches to orchestrate a plan, nurture the team and win support for developing new initiatives and transformational changes (Hope Hailey & Balogun, 2002; Simsek, 2007). When new coaches are provided time to implement strategic changes, we can assume that performance will improve with the amount of time the coach has dedicated to the team, in both the long term and the short term.

In recent sports organisations research, performance has been found to improve within three months of a change because this is a sufficient duration during which to align the interests of the group with the new coach and to create a new system that helps improve performance (Audas et al. 2002; Brady et al., 2008), so part of the discussion regards how much time teams need to become prepared and to recover their performance (Hugues et al., 2010). These shrinking evaluation times are fundamental in the context of professional sports, in which coach life cycles are very short: less than 1.38 years in football (Bridgewater, 2010) and 2.13 years for coaches in professional basketball (our study). Better preparation of coaches, a constant state of alertness, better relationships with the environment and the better capacities and qualities of team members have accelerated these improvement processes, resulting in shorter time frames for improvement during the season of change, thus benefitting organisations, coaches and players.

H2: The number of games played under a substitute coach positively influences team performance.

Calling for a revolution in sports organisations

Organisational disruption and instability impact the effects of change over the very short term, but the effects are subsequently altered as new coaches learn the organisations and adapt to future scenarios. Sometimes, this disruptive process is aggravated. Executive directors, given the pressure to improve results, also decide to change the members of teams, hiring and firing players. Sponsors, media, and fans "call for a revolution" to attempt to solve all of the problems of poor performance, and they believe that by doing so, the recovery of performance will occur sooner.

Nevertheless, if changing only the coach is disruptive and requires time to address the real underlying causes of poor results, creating making greater changes in the same season makes it even more difficult to recover performance because the increased organisational disruption and instability can generate a vicious circle of decline. Changing players and the coach simultaneously prolongs the negative, disruptive effect, which leads to more than a short-term effect because excessive changes require completely new structures and resources, which require starting the learning process from the beginning (Hughes et al., 2010).

Long tenures increase a coach's degree of knowledge of the organisation, technical resources, and the human capital available, allowing for the identification of more opportunities for improvement (Kor, 2003; Rowe et al., 2005). However, the time needed to recover performance is increased if there are also changes to a team's roster in an attempt to obtain cohesion of talents; however, a single season does not offer sufficient time for such recovery, so the organisation enters a vicious circle of low performance.

H3: Changing players after a coach change negatively impacts team performance during the same season.

Methods and results

Sample

The sample was obtained from the database of the Spanish professional basketball league (ACB). The league has recorded official data since the 1997-1998 season. Thus, the sample comprised the years during which the league recorded data: from the 1997-1998 season to the 2011-2012 season. The sample consisted of 128 observations from 15 seasons for the teams that underwent at least one coach change during the season (see table 2). Changes to interim coaches who led 1 or 2 games while a new coach was being hired were excluded. In the sample, we considered only the data of teams that changed coaches because the complete sample (teams without changes) introduced elements that masked the true impact of coach changes on performance (Fizel & D´Itri, 1999). We used coaches in our study of succession because coaches are responsible for leading and training teams, for strategy and for team performance.

Given the open nature of European competitions compared to other leagues, the teams can be relegated to playing in lower divisions while others are promoted, so we found a highly heterogeneous sample of teams: 28 organisations that played at least one season in the ACB from the 1997-1998 season to the 2011-2012 season, of which 9 teams played in all of the analysed seasons and one club played in only one season during the analysed seasons. Each season included the participation of 18 teams.

Insert Table 2 here

Variables description

The following variables were observed in the referenced sample:

- A team's win percentage in each season, *W*;
- The coach starting the season, *F* (a dummy that equals 1 if the coach started the season and 0 otherwise);
- The number of player changes, measured as the sum of incoming and outgoing transfers conducted during the season, *C;*
- The number of games led by the coach each season, *P*; and
- Coach experience, *E* (measured as a dummy with a value of 1 if the coach has coached more than 100 games in his or her career and has a win percentage greater than 50% and 0 otherwise).

We should emphasise that during the period between 1997-1998 and 2011-2012 seasons, there were a total of 64 dismissals or 4.267 dismissals per season (see Table 2). We considered only the teams in which the coach was replaced at least once, with a performance of 39.96% wins per season and team. Furthermore, the mean number of player changes (incoming and outgoing) was 6.117 per season and team, and each coach managed a mean of 16.648 games (Table 3). Finally, half of all of the coaches started the season, and the other half were substitute coaches; only 29.68% of the total coaches had led more than 100 games in their careers and had a win percentage greater than 50%.

Insert Table 3 here

Table 4 shows the mean values of the W, C and P variables as functions of whether the coach started the season and whether he or she is a coach with experience or not. We also demonstrate the confidence interval (at the 95% level), which is calculated to determine whether these mean values are significantly different from a statistical point of view and, if they are, to determine which has the highest value.

Insert Table 4 here

Thus, we can conclude the following:

- The win percentage was greater for substitute coaches (45.6%) than for those who started the season (34.2%).
- The number of player changes was less after a coach change (2.73) than between seasons (9.5).
- The mean number of games led during the season was similar for substitute coaches and for replaced coaches, i.e., the changes are, on average, made in mid-season (each season, with the exception of playoffs, had a duration of 34 games).
- Coaches with experience coached more games per season than coaches without experience (18.66 vs 15.8); as shown in Table 5 (which shows the mean number of games coached in each case), coaches with experience were dismissed after a longer period and the change was made earlier if the substitute coach was well known.
- The mean number of players replaced and the win percentage did not differ as functions of the coach's experience.

Insert Table 5 here

Results

Data analysis

We propose an econometric model that will allow us to test the proposed hypotheses: the experience of the substitute coach positively influences team performance after the change (H1); the number of games led by a substitute coach positively influences team performance (H2); and changing players after replacing the coach negatively impacts team performance during the same season (H3).

To evaluate these hypotheses, we consider the win percentage, *W*, as a dependent variable and the remainder of the variables (*F*, *C*, *P* and *E*) as independent. Furthermore, to include the substitute coach effect, we also consider the interactions between variable *F* and *C*, *P* and *E* as independent variables.

This consideration allows us to determine whether the effects of each of the three independent variables (number of player changes, number of games led by the coach each season and coach experience) in winning percentage depend on whether the coach starts or does not start the season. This consideration allows us to evaluate the above hypotheses.

We should note that in the model to be analysed, we consider that there should be no independent term because it is interpreted as the value of the dependent variable when all of the independent values equal zero. Given that *P* cannot equal zero, this consideration would make no sense.

Therefore, the model considered is:

$$W_t = \beta_1 F_t + \beta_2 C_t + \alpha_1 (F_t \times C_t) + \beta_3 P_t + \alpha_2 (F_t \times P_t) + \beta_4 E_t + \alpha_3 (F_t \times E_t) + u_t.$$

If we calculate, for example, the marginal effect of C on W (the remainder is performed analogously), we obtain $\beta_2 + \alpha_1$ if the coach started the season and β_2 otherwise. Therefore:

- If $\alpha_1 < 0$, the marginal effect of C on W is greater among those coaches who do not start the season.
- If $\alpha_1 > 0$, the marginal effect of C on W is less among those coaches who do not start the season.
- If $\alpha_1 = 0$, the marginal effect of C on W does not depend on F.

By fitting the previous model by ordinary least squares (OLS), we obtain the estimates shown in Table 4. The values marked with an asterisk indicate that they are significantly (at a 5% level of significance) non-zero, i.e., the variations of the corresponding variables influence the dependent variable.

Insert Table 6 here

Because the model is valid from a statistical point of view, we can proceed to the analysis of the obtained conclusions.

- The coefficient corresponding to interaction with experience, F·*E*, is not significant. The experience of a substitute coach does not influence team performance, which does not support H1.

- The negative sign of the estimated coefficient of interaction with variable *P, -0.0211,* indicates that the number of games coached by the substitute coach positively influences the win percentage, i.e., the greater the number of games led by the substitute coach, the better the team's win percentage will be, supporting H2.
- The positive sign of the estimated coefficient of interaction with variable *C, 0.0311,* indicates that the number of player changes made after the coach change negatively influences the team's win percentage, i.e., the greater the number of player changes made after dismissing a coach, the lower the win percentage will be, supporting H3.

Findings

Of the three research hypotheses developed, two were supported by empirical research. In H1, we related the experience of the coach, measured as the number of games coached and the performance over his or her career, as a factor that could positively influence team performance improvements during the same season. The results do not support this hypothesis; thus, we must continue investigating the possibilities offered by the type and characteristics of coaches and their links with the rest of the technical staff.

The results support H2 and H3, providing very interesting details. The results prove that recovery does not occur immediately after the change and that time is necessary for the effects of the new coach to be noted during the same season, and such improvement is the reason for the change. Thus, by supporting H2, our findings are in agreement with various aspects of the life cycle theory of Hambrick and Fukutomi (1991) carrying it to the short term because the longer the tenure is, the greater the likelihood of a positive result; our findings also in agreement with aspects of the common sense theory because performance improves if the necessary time is afforded through a sufficient number of games played.

H3 presents one factor that influences the results of change based on the suggestion of a new coach or the decision of the board, which also make roster changes after the change of coach. In such cases, the change is much more disruptive because not only must the coach adapt to and learn about the organisation, but the new team members must also become acquainted with each other, learn the team's system, adapt to one another and to the new coach, and create new relationships. Thus, if roster changes are made subsequent to a coach change, the performance of the team will worsen, consistent with the propositions of the vicious circle theory.

The results reinforce the various theories and show the level of complexity of change processes, particularly when we measure impact over the very short term (the season in which the change is made).

Conclusions

This paper presents results that are consistent with the scientific literature that analyses the impact of sports coaches on the performance of teams, and the results increase the existing understanding of a question with diverse interpretations, i.e., the recovery or non-recovery of performance after coach changes.

There is a trend in professional sports towards shorter coach tenures in organisations. The dismissal of a coach precipitates deeper problems in performance because the new coach does not understand the weaknesses of the organisation. Making changes with a sufficient amount of time remaining in the season will yield better results, even during the same season.

The results show that managers and all other stakeholders should be patient. Replacing coaches is unexpected and should occur with consideration of the stage of the season during

which the change is made. Although there can be illusory effects due to the arrival of a new coach (Hugues et al., 2010), time is needed for real performance recovery. However, there is risk associated with making many changes at once. The succession process is considerably disruptive, and making roster changes subsequent to the coach change requires greater adaption time, which is not always available during the season in which the change is made, thus directly increasing the negative results for the organisation during that season. In a competitive format in which poor performance leads to relegation to a lower division, the risk is too high.

Obviously, this paper has some limitations. The paper considers only one specific European competition environment (ACB); thus, studies of other economically and socially important competition environments in Europe are needed to enrich the conclusions obtained.

The non-support of H1 suggests the need to research coach or technical staff characteristics that can affect results, e.g., distinguishing whether the coach is an internal or external substitute or searching for methods of measuring coach experience. In this paper, we used only one performance measurement (win percentage), but there are other measurements, such as the TER or TENDEX index rating systems, that could help us determine possible team improvements.

We have assumed, as in the considerable existing literature that all of the teams have the same goal of winning games and that not meeting this purpose is the main reason for dismissal (Koning, 2003). However, we have not mentioned expectations of results or playing quality, which can accelerate or delay this process. We must perform research to create models of the expectations of various stakeholders, which will help us better understand these succession processes.

Future research must elucidate the exact time necessary to specify whether a change has an effect and whether the improvement constitutes achieving the goals established at the start of the season because the new coach does not have sufficient time to create new specific knowledge or to change the existing trend of poor results.

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Table 1: Sports coach change-performance relationship

Relation coach change/performance (theory)	Industry sport	References	Some implications short/long term
Negative relation (Vicious circle)	MLB	Grusky (1963)	
	British soccer	Audas et al. (2002)	For 3 months
	Dutch soccer	Kor (2003)	
	NBA	Giambatista (2004)	
	Spanish soccer	González-Gómez et al (2011)	
	British Premier League Soccer	Hughes et al (2010)	Long term performance
No impact (Ritual scapegoating)	NFL	Brown (1982)	
	MLB, NFL, NBA	McTeer et al. (1995)	Short term improve, Long term not
	Dutch soccer	Kor (2003)	
	NHL	Rowe et al. (2006)	Short term effect unclear
	English soccer	Hughes et al. (2010)	Short term
Positive (Common sense)	Dutch soccer	Bruinshoofd and Ter Weel (2003)	Teams no change improves faster
	Spanish soccer	Tena and Forrest (2007)	In short term

Source: Hugues et al. (2010)

Table 2: Coach changes in ACB since the 1997-1998 season to 2011-2012

	Total changes	Mean	Mode	Maximum	Minimun
Coach changes in season	64	4,27	4	7	2

Table 3: Descriptive analysis of the sample data

Variable	W	C	P
Mean	0'3996	6'117	16'648
Standard deviation	0'1969	4'9733	6'3774
Variation coefficient	0'4929	0'813	0'383
Minimum	0	0	2
Maximum	1	17	32
Asymmetry	0'5367	0'4748	0'02694
Kurtosis	-0'2646	-0'8803	-0'8985

Table 4: Inference on the sample

Variable	F = 0	F = 1	Interval	E = 0	E = 1	Interval
W	0'456	0'342	(0'0475, 0'18)	0'387	0'429	(-0'117, 0'033)
C	16'91	16'39	(-1'72, 2'75)	15'8	18'66	(-5'25, -0'46)
P	2'73	9'5	(-8'04, -5'48)	5'88	6'68	(-2'71, 1'1)

Table 5: Average number of games coached as a function of *E* and *F*.

	E = 0	E = 1
F = 1	15'79	17'62
F = 0	15'81	19'94

Table 6: Econometric model by OLS

Variable	Estimated coefficient	Estimated standard deviation
F	0'180743	0'0968059
C	-0'0311226*	0'0110333
F·C	0'0311614*	0'0124784
P	0'0295046*	0'00251377
F·P	-0'0211188*	0'00486637
E	-0'0417972	0'061396
F·E	0'11539	0'0829874
	R^2 = 0'7954	$F_{7,121}$ = 67'23