



BBR - Brazilian Business Review

E-ISSN: 1807-734X

bbronline@bbronline.com.br

FUCAPE Business School

Brasil

Mellaci, Márcio; Petrokas, Leandro Augusto; Famá, Rubens
Analysis of the impact of sports sponsorship by Banco Panamericano: an event study
BBR - Brazilian Business Review, núm. 1, 2012, pp. 102-119
FUCAPE Business School
Vitória, Brasil

Available in: <http://www.redalyc.org/articulo.oa?id=123040843005>

- How to cite
- Complete issue
- More information about this article
- Journal's homepage in redalyc.org

redalyc.org

Scientific Information System

Network of Scientific Journals from Latin America, the Caribbean, Spain and Portugal

Non-profit academic project, developed under the open access initiative

Analysis of the impact of sports sponsorship by Banco Panamericano: an event study

Márcio Mellaci[†]

Pontifícia Universidade Católica – SP

Leandro Augusto Petrokas^α

Centro Universitário das Faculdades Metropolitanas Unidas

Rubens Famá[‡]

Pontifícia Universidade Católica - SP

ABSTRACT

This work provides evidence of the impact of decisions by companies to invest in publicity on soccer jerseys and the reflection of such investments on their stock price, based on the efficient market hypothesis (Fama, 1970). Employing the event study method, we carried out an exploratory study of the performance of the preferred shares of Banco Panamericano (BPNM4), which are listed on the BM&FBovespa. The event analyzed is the announcement on April 23, 2009 of an agreement to sponsor the Corinthians professional soccer team in the last games of the São Paulo state championship competition that year. We investigated the abnormal returns of the bank's preferred shares based on the model of Campbell, Lo & Mackinlay (1997). After calculating the normal and abnormal returns, we tested the homogeneity of the variances and normality of the data before applying parametric t-tests. Upon validation, we carried out tests of the means for the abnormal returns within the event window, before and after the announcement. The results provide support for the semi-strong market efficiency hypothesis, since the shares presented abnormal performance in the days after disclosure of the sponsorship.

Keywords: Sports; investment; sponsorship; panamerican bank.

*Author for correspondence:

[†]. Masters in Business Administration at PUC/SP.

Affiliation: Professor of the Graduate Program of FGV/SP.

Address: Rua José Rocha, 217, Jardim Vera Cruz/ SBC/SP.

E-mail: mmellaci@ig.com.br

mmellaci@barilla.com.br

Telephone: (11) 4343-6304

^α Masters in Business Administration from PUC/SP

Affiliation: Professor at Centro Universitário das Faculdades Metropolitanas Unidas.

Address: Avenida Liberdade, 899. São Paulo - SP

E-mail: leandro.petrokas@fmu.br

Telephone: (11) 3346-6200

[‡] PhD in Administration from USP/SP.

Affiliation: Professor at PUC/SP.
Address: Rua Min Godoi, 969 Perdizes - São Paulo/SP.

E-mail: rfama@usp.br

Telephone: (11) 3841-8152

Note from the Editor: This article was accepted by Bruno Funchal.



This article has a [Creative Commons License - Attribution 3.0 Not Adapted](https://creativecommons.org/licenses/by/3.0/).

1. INTRODUCTION

Advertising and publicity are terms often used indistinctly to designate the same activity, that of directing commercial messages to consumers (Normanha Filho, 2002). One way of doing this is to sponsor sports events and teams. The expectation is that this will generate positive results by increasing a company's brand exposure and enhancing its image in a market segment. One way of achieving this, employed in many sports around the world, is by placing brand names and logos on team uniforms or jerseys.

The main purpose of this article is to investigate the impact of the decision by Banco Panamericano, announced on April 23, 2009, to sponsor the professional soccer team of Sport Clube Corinthians Paulista by paying to place the bank's name and logo on the team's jerseys, and the reflections of this investment on its stock performance. The aim is to verify, by means of the event study technique, the existence of statistically significant abnormal returns of the preferred shares of Banco Panamericano (BPNM4) on the São Paulo Stock Exchange (BM&FBovespa) in the period around the announcement.

In Brazil, soccer, or *futebol* if you will, has for at least the past 60 years been an activity of huge social importance, with consequences that transcend the playing field. The publicity market for the sport in the country is worth billions of reais (Brazil's currency, the real, plural reais) a year (Gastaldo, 2002).

Besides the huge interest in this sport, reflected in the intense national and international media coverage, in 2014 Brazil will host the FIFA World Cup, one of the world's most important sports events. This event historically has attracted tens of thousands of foreign tourists to the host country, requiring considerable investments in infrastructure and providing big opportunities for advertising and publicity.

Publicity and advertising provide an important source of revenue for Brazil's professional football clubs to invest in the development of players and training infrastructure. The historical pattern has been for the best young players, after establishing themselves in Brazil, to go overseas to play, where the salaries are higher [suggested additions for foreign readers]. However, in recent years, Brazil's currency has been strong, making it more expensive for foreign teams to pay the transfer fees and less attractive for Brazilian players to leave. It has also prompted many expatriate Brazilian players to return

home while still at the peak of their prowess rather than only in the waning days of their careers.

An example of this is Ronaldo, a member of Brazil's World Cup champion teams in 1994 and 2002, who was contracted by Sport Clube Corinthians Paulista for the 2009 and 2010 seasons. Considering that Corinthians is one of the country's most popular teams based on number of fans, combined with the contracting of Ronaldo and the fact the team was classified for the finals of the São Paulo state championship in 2009, Banco Panamericano decided to become a sponsor, in return for the right to put its name and logo on the team jersey for the final two playoff games of the 2009 state campaign (scheduled for April 26 and May 2, 2009).

The aim of this study is to assess the impact of the disclosure of this sponsorship investment by Banco Panamericano on the bank's stock performance. Since the theme of market efficiency is one of the most intensely analyzed in the financial literature and the shortage of articles related to sports sponsorship by companies, it is opportune to examine the impact of the announcement of this investment by Banco Panamericano.

2. THEORETICAL FOUNDATION

2.1 Market Efficiency

With all the available information, investors decide how much to invest and in which assets, always considering their individual preferences. When a new relevant fact or development is announced, the stock market evaluates its consequences and reacts variously by investing or divesting.

In this respect, one of the most researched themes, considered by many experts to be controversial, is the market's efficiency in pricing assets. A market in which stock prices completely reflect the available information is called efficient (Fama, 1970). The central pillar of the efficient market hypothesis (EMH) is that the impacts of relevant events are reflected rapidly in stock prices. However, the existence of participants that obtain returns higher than the market average shows that the market is not fully efficient (Fama, 1970; 1991).

In an efficient capital market, prices should immediately reflect the available information and should be highly sensitive to new information, of the following types: overall economic situation, behavior of the market and perspectives of the individual firm

issuing the security. Academic studies such as those of McConnel & Muscarella (1985) and Fama & Lucchese (2007) suggest that the disclosure of news regarding firms' investment decisions is perceived as relevant and has an impact on the returns on these firms' shares.

According to Ross, Westerfield & Jaffe (2002), the following conditions tend to produce financial markets in perfect competition, or perfect markets:

- absence of transaction costs on stock trading;
- free access to financial markets;
- availability of all information; and
- absence of participants able to exercise significant influence on market prices.

According to the traditional classification suggested by Roberts (1967) and structured by Fama (1970), there are three levels of market efficiency, or three forms of the efficient market hypothesis: weak, semi-strong and strong efficiency.

Weak efficiency occurs when the market completely incorporates all past publicly available information in prices, this being the easiest type of information to obtain. In turn, semi-strong efficiency occurs in a market where prices both reflect all publicly available information and where prices instantly change to reflect new public information. It is assumed in this case that there is no way to obtain abnormal returns based on information that has become public. Finally, strong efficiency is present in a market where prices reflect all information, both public and private (insider information). This version of the efficient market hypothesis assumes that even agents with insider information do not have the capacity to obtain abnormal returns because prices adjust as fast as information becomes available.

2.2 Behavioral Finance

This current of thinking has been gaining space in the area of finance since the article published by the psychologists Kahneman and Tversky (1979:263). In it they presented a critique of expected utility theory as a descriptive model of decision making under risk. Their paper cast doubt on the efficient market hypothesis and gave rise to the concept of behavioral finance.

To start the definition of the theme, it is important to mention the study of Costa (2008:88-90), in which he advocates the concept of an emerging new current of financial thought. He believes that modern financial science is passing through a revolution, since its main paradigm, the EMH, is under crisis, which can result in the emergence of a new paradigm based on behavioral finance or chaos theory. Behavioral finance seeks to explain and understand the financial decisions of agents and the behavior of the market by means of concepts present in economics, psychology and sociology. Its proponents argue it is able to explain the many empirical failings of traditional financial theories.

Unlike the efficient market hypothesis, behavioral finance does not explain financial behavior solely on the idea of risk. There are two types of explanations in behavioral finance for the behavior of economic agents: cognitive bias (in decision making) and learning limits.

Biases in the cognitive process refer to all the processes inherent to human nature, such as the set of mental processes in thinking and perception. In other words, it represents the way human nature limits the perception of a problem and the making of a decision about it. These cannot be eliminated. Limits on learning are the natural human limits that keep an individual from reducing errors by learning from them. The ability to reduce errors is related to external experiences during life and can be reduced over time (Milanez, 2003:18-23)

According to El-Erian (2008:80), our behavior and capacity for making decisions are guided by the union of different neurological systems, which at some moment can be subject to internal tension and conflicting results. This prevents humans from being solely motivated by unlimited rationality. This idea is at the heart of behavioral finance.

For Santos & Santos (2005:108-109) there is a dichotomy between the concept of rational thinking by investors in the market, which is a standardized technique of action, and the new currents of thinking, according to which reality cannot be determined since the high complexity of the relations among individuals does not allow investors to analyze the entire set of information available to reach a purely rational investment decision.

In defense of behavioral finance, Costa (2008:90) argues that in this field the elements that contradict rationality are not irrelevant, since they can produce notable deviations in market behavior. While the efficient market hypothesis holds that there are

indications that argue against total rationality, these deviations are not large enough to affect the overall behavior of the market.

Proponents of behavioral finance, besides doubting the unlimited rationality of the human being, try to understand the emotions and cognitive limits that can influence agents in their investing decisions and to identify how these factors impact the financial market's performance.

While behavioral finance may be a future trend, we believe that the efficient market hypothesis still has much to offer. As such, here we seek to demonstrate the existence of semi-strong efficiency, by utilizing the event study technique.

3. METHODOLOGY

According to Campbell, Lo & MacKinlay (1997), the event study technique is a method that tries to measure the impact of a specific event on the value of a determined company or asset. As such, it is possible to identify the presence or absence of an effect caused by the event by comparing the variation of the asset's price in the intervals just before and just after the event. The method described by Campbell, Lo & MacKinlay (1997), which Fama (1991) had previously affirmed was adequate to test semi-strong market efficiency, has been widely used in academic studies to assess the existence of abnormal returns resulting from new information regarding an asset.

According to Corrado (2009), the event study technique is becoming very common for capital market research, with a growing number of articles in specialized publications. It consists of examining the influence of specific events on firms' performance by investigating the reflections of the event of interest on the returns provided by the shares of one or more firms (Soares, Rostagno & Soares, 2002).

Therefore, an event study employs a model of stock return considered as standard, to measure the so-called normal return, which is taken as the stock's return if the event had not occurred. Then to identify the presence of abnormal behavior in periods near the event in question, the difference is calculated between the expected return furnished by the model and the return observed in the period under analysis. In other words, the focus is on determining the abnormal returns in the days just after or on the date of the announcement of an event in comparison with the behavior just before the disclosure. This abnormal return is considered a deviation from the returns of the stocks *ex ante* not conditional on the event (KloECKner, 1995). When the variance of the returns increases soon after the date

of disclosure of the event, this indicates that the information was relevant. Campbell, Lo & Mackinlay (1997) describe the procedures of an event study, as shown in Figure 1:

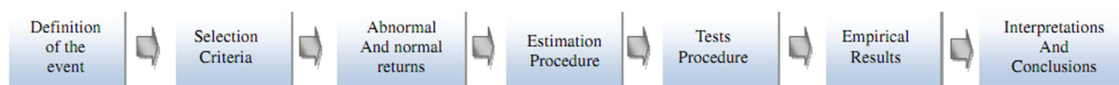


Figure 1: Steps in an event study

Source: Adapted from Campbell, Lo & MacKinlay (1997).

We should initially mention that we considered and discarded the possibility that some other event besides the sponsorship decision influenced the stock returns of the bank in question. This confirmation was obtained from the site of the BM&FBovespa, according to which the Brazilian Securities Commission (*Comissão de Valores Mobiliários*, or CVM) sent a letter to Banco Panamericano on May 6, 2009 asking for information that could explain the increase in the number of trades, volume of trading and increase in the price of its preferred shares in the period between April 20 and May 6, 2009. On May 7th, the bank's investor relations officer, Wilson Roberto de Aro, sent a reply to the CVM stating he was unaware of any reason for the increase in price and trading volume in the referred period (BM&FBovespa, 2009).

After calculating the normal and abnormal returns and conducting tests of homogeneity of the variances and normality of the data, we performed parametric t-tests to validate the results. Based on this validation, we carried out tests of the means of the abnormal returns within the event window bracketing the event in time.

3.1 Definition of the event

The event was the announcement of the sponsorship agreement between Banco Panamericano and Sport Clube Corinthians Paulista, entitling the bank to place its name and logo on the team's jerseys for the final two games of the São Paulo state soccer championship (*Campeonato Paulista de Futebol*) for 2009, which took place on April 4 and May 3, 2009.

This agreement was announced on April 23, 2009, through news stories widely carried in the media, such as *Folha de São Paulo* newspaper, in its digital version (Folha de São Paulo, 2009).

3.2 Selection criteria

The sample was composed of the preferred shares of Banco Panamericano (ticker BPNM4). We chose the BM&FBovespa index (Ibovespa) as the market proxy. It is composed of a weighted average of the return of the most-traded shares in the Brazilian market. We obtained these numbers from the Yahoo Finance site (2011), using the adjusted closing value.

3.3 Normal and abnormal returns

An event study consists of evaluating the behavior of the variable of interest starting with a specific event. The main idea is to calculate whether the event generated any deviation from the expected result. This deviation from the otherwise expected result is known as the abnormal return (AR). This statistical method is widely used in finance, not only by analysts and investors, but also by accountants, lawyers and other professionals to estimate the impact of the disclosure of certain information on stock prices.

According to Campbell, Lo & MacKinlay (1997, p. 151), to assess the event's impact it is necessary to measure the difference between the abnormal returns, which are the real ex post returns observed in the event window, and the normal returns, that is, the returns that would have occurred had the event not happened in the period.

The observed stock return and the market index were obtained by means of continuous capitalization (logarithmic), which according to Soares, Rostagno & Soares (2002, pp. 5-6), transforms the distribution of returns into something near the normal symmetrical distribution around zero, satisfying the prerequisites necessary for parametric tests.

The normal returns, those that would have occurred had the event not occurred, also known as the expected returns, were obtained by the market model, which establishes a linear relationship, by the ordinary least squares method, between the asset's observed return and an index that represents the market as a whole. Therefore, we obtained the normal returns from the result of a regression between the observed returns of the preferred shares of Banco Panamericano and the return of the Ibovespa within the estimation window.

The expected returns were obtained from the following equation 1:

$$E(R_i) = \alpha_i + \beta_i R_m \quad (1)$$

Where: R_{it} is the observed return of stock i in period t ; R_{mt} is the observed return of the market index in period t , with this term being considered the estimator for $E(R_{mt})$; and α_i and β_i are the ordinary least squares to be estimated.

We used the following equations to calculate alpha 2 and beta 3:

$$\alpha_i = E(\overline{R_i}) - \beta_i E(\overline{R_m}) \quad (2)$$

$$\beta_i = \frac{Cov(R_{it}, R_{mt})}{Var(R_{mt})} \quad (3)$$

After obtaining the normal returns – those expected without the event – we then computed the abnormal returns, represented by the difference between observed and expected returns, according to the equation below:

$$AR_{it} = R_{it} - E(R_{it}) \quad (4)$$

Where: AR_{it} , R_{it} and $E(R_{it})$ are, respectively, the abnormal return, the observed return and the expected return, all on date t .

3.4 Estimation procedure

The next step entailed defining the event windows. This definition involves a certain level of subjectivity and arbitrariness by the researcher and depends on the event of interest and the research objectives. This window should include periods considered relevant for verification of abnormalities in the price behavior but should neither be too long, to avoid the risk of covering other events that could skew the results, nor too short, which would risk not capturing the price abnormality. In general, the analysis of the period before the event (date 0) aims to identify indications of the use of insider information while that of the subsequent period aims to find evidence of the speed and precision of the adjustment of prices to the new information released to the market.

We chose as the estimation window the period between day [-60] and day [-6], since the estimation and event windows cannot overlap so as not to alter the normal returns

(Campbell, Lo & MacKinley, 1997, p. 158). Our event window stretched from 5 days before to 5 days after the event, thus covering 11 days. Finally, our window for comparison before the event was day [-20] to [-1] and the posterior window was day [+1] to [+20].

3.5 Testing procedure

3.5.1 Normality test

Before applying the parametric t-test it is necessary to confirm that the data are normally distributed (Stevenson, 1981). Table 1 below presents the results of the Kolmogorov-Smirnov test for normality (z-score) for the comparison window [-20, + 20]. We ran this test with the SPSS version 17 program.

Table 1: Test of normality for the comparison window

(Kolmogorov-Smirnov - z)	p-value
0.622	0.833

Source: Prepared by the authors.

The p-value of the result is above the significance threshold adopted (95%), so it is not possible to reject the null hypothesis that the data have a normal distribution, thus validating the use of parametric tests.

3.5.2 Homogeneity test

Before performing the parametric t-test, it is necessary to confirm the homogeneity of the variances of the data (Stevenson, 1981). Table 2 below reports the results of the Levene test for the comparison window [-20, + 20], with the data separated by the date of the event. We also used the SPSS version 17 program for this test.

Table 2: Test of homogeneity of the variances for the comparison window

F (Levene test)	p-value
0.057	0.812

Source: Prepared by the authors.

As before, the p-value is above the significance level adopted (95%), so it is not possible to reject the null hypotheses that the variances are homogeneous.

3.5.3 Hypotheses to be tested

To enable analysis of the event's effect, we accrued the abnormal returns between the first and last day of the event window, as well as within the ex ante and ex post comparison windows, to form the cumulative abnormal return (CAR), which is given by:

$$CAR_i(t_1, t_2) = \sum_{t=t_1}^{t_2} AR_i \quad (5)$$

Where: $CAR_i(t_1, t_2)$ is the cumulative abnormal return of stock i between dates t_1 and t_2 .

We formulated two hypotheses for testing. The first was:

H0: The mean of the cumulative abnormal returns within the event window is equal to zero, indicating there were no statistically significant abnormal returns.

$$\overline{CAR}_{(window)} = 0 \quad (6)$$

The alternative hypothesis in this case was:

H1: The mean of the cumulative abnormal returns within the event window is not equal to zero, indicating there were statistically significant abnormal returns.

$$\overline{CAR}_{(window)} \neq 0 \quad (7)$$

This procedure was also used by Costa & Fama (2007) and by Santos et al. (2010).

The first hypothesis, if rejected, indicates that the market behaved efficiently in the semi-strong form in relation to the disclosure of the event analyzed.

The second hypothesis tested was:

H0: The mean of the cumulative abnormal returns before the event is statistically equal to the mean of the cumulative abnormal returns after the event.

$$\overline{CAR}_{(anterior)} = \overline{CAR}_{(posterior)} \quad (8)$$

In this case, the alternative hypothesis was:

H1: The mean of the cumulative abnormal returns before the event is statistically different than the mean of the cumulative abnormal returns after the event.

$$\overline{CAR}_{(anterior)} \neq \overline{CAR}_{(posterior)} \quad (9)$$

The second hypothesis evaluates whether there was an increase or decrease in the company's stock price after the event.

If the average for the subsequent period is statistically different and higher than that in the prior period, the hypothesis of increase stock price is confirmed. In the contrary case, it can be concluded that the stock price declined due to the event.

4. ANALYSIS OF THE RESULTS

In this section we present the results of the statistical analysis for the hypotheses tested.

4.1 Analysis of the behavior of the cumulative abnormal returns

Table 3 presents the results of the comparison window, demonstrating the abnormal return (AR) and cumulative abnormal return (CAR).

Table 3: Results by window under analysis

Event Window	Relative Days	Abnormal Return (AR)	Cumulative Abnormal Return (CAR)
W I N D O W	[-20]	0.022	0.022
	[-19]	-0.023	-0.001
	[-18]	0.035	0.034
	[-17]	0.015	0.049
	[-16]	-0.002	0.047
	[-15]	0.009	0.056
	[-14]	0.026	0.082
O F	[-13]	-0.013	0.069
	[-12]	0.010	0.079
	[-11]	0.109	0.188
	[-10]	-0.029	0.159
	[-9]	0.050	0.209
	[-8]	0.019	0.227

C O M P A R I S O N	[-7]	0.029	0.256
	[-6]	-0.046	0.219
	[-5]	0.025	0.236
	[-4]	-0.021	0.215
	[-3]	0.063	0.278
	[-2]	-0.060	0.218
	[-1]	0.018	0.237
	[0]	0.010	0.246
	[+1]	0.022	0.268
	[+2]	-0.042	0.225
	[+3]	0.023	0.258
	[+4]	-0.047	0.201
	[+5]	0.006	0.208
	[+6]	-0.036	0.172
	[+7]	0.044	0.216
	[+8]	0.079	0.294
	[+9]	0.012	0.306
	[+10]	-0.013	0.293
	[+11]	0.003	0.297
	[+12]	-0.101	0.196
	[+13]	-0.001	0.195
	[+14]	0.030	0.225
	[+15]	-0.012	0.213
	[+16]	0.025	0.188
	[+17]	0.008	0.196
	[+18]	0.023	0.219
	[+19]	0.014	0.233
	[+20]	0.057	0.290

Source: Prepared by the authors.

Table 4 presents the cumulative abnormal returns within the event window.

Table 4: Comparison of the returns before and after the event

Event Window	Relative Days	Abnormal Return (AR)	Cumulative Abnormal Return (CAR)
E V E N T	[-5]	0.025	0.025
	[-4]	-0.021	0.005
	[-3]	0.063	0.068
	[-2]	-0.060	0.008
	[-1]	0.018	0.026
	[0]	0.010	0.036
	[+1]	0.022	0.057
	[+2]	-0.042	0.015
	[+3]	0.023	0.038
	[+4]	-0.047	-0.009
	[+5]	0.006	-0.003

Source: Prepared by the authors.

With respect to the cumulative abnormal return (CAR_t), the results indicate there was an abnormal market reaction during the entire period analyzed, with the highlight being the reaction in the days before the event [-3] and [-2], when the price rose more than 6%, and on the next day, when the price fell almost as much, reverting to the original level. In turn, in the period after the event there were significant declines of more than 4%, on days [+2] and [+4]. Finally, the cumulative return in window [-5, +5] showed a decline in the abnormal return of 0.271%. The P-value significance for the results was lower than 5%.

Figure 2 allows visualization and better interpretation of the results, showing the cumulative abnormal returns in the event window. As can be noted, there were also cumulative abnormal returns generated before the official announcement of the sponsorship, which suggests the possibility the news leaked out beforehand.

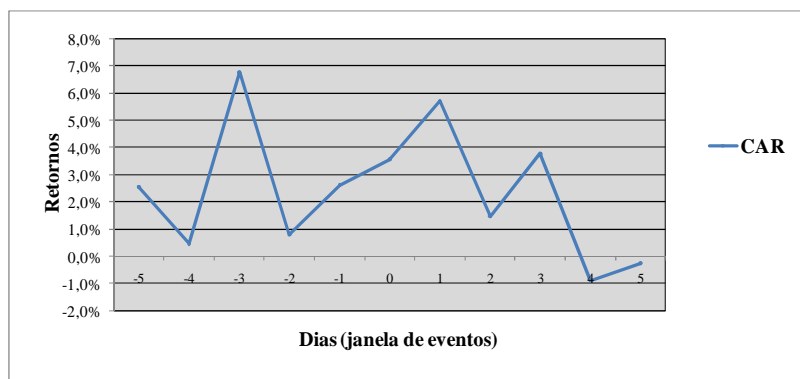


Figure 2: Cumulative abnormal returns in the event window:
Source: Prepared by the authors.

4.2 Test of the mean within the event window

Table 5 presents the results of the statistical test of the first hypothesis, which checks the mean cumulative abnormal returns inside the event window.

Table 5: Result of the statistical test of the mean within the event window

No. of observations	Mean of the cumulative abnormal returns in the event window	t-test	p-value	Interpretation
11	0.0241	3.299	0.008	Reject H0

Source: Prepared by the authors.

According to this test, the null hypothesis is rejected, since there are indications of the presence of a positive and statistically significant cumulative abnormal return in the event window at the significance level adopted ($p\text{-value} < 0.05$). This result corroborates the semi-strong efficient market hypothesis, according to which new information is rapidly incorporated in asset prices.

4.3 Test of comparison of means of the windows

Table 6 presents the result of the statistical test of the second hypothesis formulated, which involves the mean of the cumulative abnormal returns after the event.

Table 6: Result of the statistical test comparing the ex ante and ex post means

	Ex ante window	Ex post window
Mean	0.1435	0.2341
Variance	0.0086	0.0017
Observations	20	20
Pearson's correlation	-0.1313	
T-statistic	-3.789	
P-value	0.0012	

Source: Prepared by the authors.

The test result indicates that the two means are statistically different at the significance level adopted ($p\text{-value} < 0.05$), so the null hypothesis is rejected. The fact that the average of the cumulative abnormal returns in the comparison window after the event is significantly higher (63%) indicates there was an increase in the bank's stock value.

5. FINAL CONSIDERATIONS

In this study we sought to assess the impact on the preferred shares of Banco Panamericano because of the announcement on April 23, 2009 of an agreement to sponsor the professional soccer team of Sport Clube Corinthians Paulista. According to that agreement, the bank had the right to put its name and logo prominently on the team jerseys for the two final games of the São Paulo state championship playoffs in 2009.

According to the semi-strong efficient market hypothesis, and in view of the repercussion of the selected event, the expectation would be for the announcement of the sponsorship to have generated abnormal returns in the event window and a significant positive change in the stock price.

By means of an event study, we found the presence of statistically significant abnormal returns in the event window, an indication that the market acted efficiently in the semi-strong sense, by incorporating the new information in the stock price.

The other test conducted, comparing the cumulative abnormal returns in the 20 days after the event with those in the 20 days before it, confirmed the hypothesis of a positive change in the value of the shares.

We reiterate that on May 6, 2009, the Brazilian Securities Commission (CVM) sent a letter to Banco Panamericano on May 6, 2009 asking for information that could explain the increase in the number of trades, volume of trading and increase in the price of its preferred shares in the period between April 20 and May 6, 2009. On May 7th, the bank's investor relations officer, Wilson Roberto de Aro, sent a reply to the CVM stating he was unaware of any reason for the increase in price and trading volume in the referred period (BM&FBovespa, 2009).

We stress that the results found here cannot be generalized and could have been different if we had adopted different premises, such as the size of the windows or the statistical tests employed.

Due to the high popularity of soccer in Brazil and the dearth of articles on the influence of the sport on the results of companies that sponsor clubs, we recommend studying other similar events involving sports investment decisions, as well as the effects on the clubs themselves of events such as the retirement of a marquee player or winning an important title, or even of scandals involving players.

REFERENCES

- BOLSA DE VALORES DE SÃO PAULO. **Comunicado ao mercado esclarecimentos sobre consultas CVM/BOVESPA**. Disponível em: <http://www.bmfbovespa.com.br/empresas/consbov/ArquivoComCabecalho.asp?motivo=&protocolo=201601&funcao=visualizar&site=B>. Acesso em: 1 out. 2009.
- CAMPBELL, J. Y.; LO, A. W.; MACKINLAY, A. C. **The econometrics of financial markets**. 2. ed. New Jersey: Princeton University Press, 1997.
- CORRADO, C. J. **Event studies**: a methodology review. Disponível em: <http://ssrn.com/abstract=1441581>. Acesso em: 4 abr. 2010.
- COSTA, T. A. **Novas finanças**: um estudo sobre a fragilidade da hipótese de mercados eficientes. 2008. 125 f. Dissertação (Mestrado em Administração) – Programa de Pós-Graduação em Administração, Pontifícia Universidade Católica de São Paulo, São Paulo, 2008.
- COSTA, T. A.; FAMÁ, R. A influência da governança corporativa nos retornos das ações: uma evidência da eficiência semiforte. In: SEMINÁRIOS EM ADMINISTRAÇÃO FEA-USP, 10., 2007, São Paulo. **Anais...** São Paulo: SEMEAD, 2007.
- EL-ERIAN, Mohamed A. **Mercados em colisão**: como entender a crise e traçar estratégias para uma era de mudança na economia global. São Paulo: Ediouro, 2008.
- FAMA, E. F. Efficient capital markets: a review of theory and empirical work. **The Journal of Finance**, v. 25, n. 2, p. 383-417, maio 1970.
- FAMA, E. F. Efficient capital markets II. **The Journal of Finance**, v. 46, n. 5, p. 1575-1618, dez. 1991.
- FOLHA DE SÃO PAULO ON LINE. Disponível em: <http://www1.folha.uol.com.br/folha/esporte/ult92u555267.shtml>. Acesso em: 2 maio 2010.
- GASTALDO, E. **Pátrias, chuteiras e propaganda**: o brasileiro na publicidade da copa do mundo. São Leopoldo: Unisinos, 2002.
- KAHNEMAN, D.; TVERSKY, A. Prospect theory: an analysis of decision under risk. **Econometrica**, n. 47, n. 2, p. 263-292, 1979.

KLOECKNER, G. O. Estudos de evento: a análise de um método. In: ENCONTRO NACIONAL DOS PROGRAMAS DE PÓS-GRADUAÇÃO EM ADMINISTRAÇÃO, 19, 1995, João Pessoa. Anais... João Pessoa: ANPAD, 1995. p. 261-270.

LUCCHESI, E. P.; FAMÁ, Rubens. A reação do mercado de capitais brasileiro às decisões de investimentos das empresas: um estudo empírico de evento. **Revista de Administração da USP**, v. 42, n. 2, p. 249-260, abr./jun. 2007.

McCONNEL, J. J.; MUSCARELLA, C. J. Corporate capital expenditure decisions and the market value of the firm. **Journal of Financial Economics**, v, 14, n. 3, p. 399-422, set. 1985.

MILANEZ, D. Y. **Finanças comportamentais no brasil**. 2003. 53 f. Dissertação (Mestrado em Economia das Instituições e do Desenvolvimento) – Faculdade de Economia, Administração e Contabilidade, Universidade de São Paulo, São Paulo, 2003.

NORMANHA FILHO, M. A. **A propaganda não é a alma do negócio, o marketing sim: uma abordagem terminológica e conceitual**. 2002. 121 f. Dissertação (Mestrado em Administração em Serviços) – Centro Universitário Ibero-Americano, São Paulo, 2002.

ROBERTS, H. Statistical versus clinical prediction of the stock market. In: CONFERENCE OF SECURITIES PRICE ANALYSIS, Chicago, May 1967. Unpublished Work.

ROSS, S. A.; WESTERFIELD, R. W.; JAFFE, J. **Administração financeira**. São Paulo: Atlas, 2002.

SANTOS, J. O.; SANTOS, J. A. R. Mercado de capitais: racionalidade versus emoções. **Revista de Contabilidade e Finanças**, n. 37, p. 103-110, jan./abr. 2005.

SANTOS, J. O. et al. Análise do impacto da crise subprime no retorno das ações ordinárias de empresas do setor da construção civil – um estudo de caso confrontando o desempenho de empresas brasileiras e americanas. In: SEMINÁRIOS EM ADMINISTRAÇÃO, 13., 2010, São Paulo. **Anais...** São Paulo: SEMEAD- FEA-USP, 2010.

SOARES, R. O.; ROSTAGNO, L. M.; SOARES, K. T. C. Estudo de evento: o método e as formas de cálculo do retorno anormal. In: ENCONTRO NACIONAL DOS PROGRAMAS DE PÓS-GRADUAÇÃO EM ADMINISTRAÇÃO, 26., 2002, Salvador. **Anais...** Salvador: ANPAD, 2002.

STEVENSON, W. J. **Estatística aplicada à administração**. São Paulo: Harbra, 1981.