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**Effects of Mergers and Acquisitions on Shareholder
Wealth: Event Study for Latin American Airlines**

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Effects of Mergers and Acquisitions on Shareholder Wealth: Event Study for Latin American Airlines*

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Abstract

This study analyzes the effect of changes in corporate control on the way shareholders benefit from the announcements of selling and buying airlines, thus contributing to the literature on mergers and acquisitions (M&As) in emerging markets. Using a methodology of event study, including GARCH and OLS models, we find evidence that some selling companies obtain abnormal returns that are statistically significant after the announcement of the M&A. However, when the merger is not strategic, the companies present statistically significant negative abnormal returns. The results are not conclusive when analyzing the effect on the value of the buying companies.

Keywords: Mergers and acquisitions, Event study, Airlines, Latin America

JEL classification: G14, G34, L21

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I. INTRODUCTION

With the use of mergers and acquisitions (M&As), airlines from many economies at the global level have sought to upgrade their capacity for commercialization, stay on the market, expand to new markets, and reduce costs to survive in an increasingly competitive market (Zhang and Aldridge 1997; Clougherty 2002; Merkert and Morrell 2012; Ryerson and Kim 2014). Similarly, the volume of M&A announcements in the airline market¹ in Latin American economies has experienced significant growth in recent years. According to information from the Datastream database, in the 1990s, only 21 announcements were reported, while between 2000 and 2013, there were 72 announcements, with a growth of 242.9%. Thus, as a strategy to face the challenges of a globalized market, M&As have played a fundamental role in countries' economic growth.

Given that M&As are complex phenomena, both in their reasons and results, they have been studied from various perspectives. Some works have mainly focused on examining the economic and financial implications (Shleifer and Vishny 1986; Shleifer and Vishny 2003; Rossy and Volpin 2004; Di Giovanni 2005; Ovtchinnikov 2013) and incentives for administrative management and corporate governance in M&A operations (Roll 1986; Jensen 1986; Kosnik and Shapiro 1997; Starks and Wei 2013). There have also been event studies on market reactions following M&A announcements (Eckbo 1983; Eckbo and Langohr 1989; Bhagat et al. 2005). Alternatively, various authors have taken interest in the long-term behavior of company performance after an M&A operation (Jensen and Ruback 1983; Cosh and Guest 2001; Bradley and Sundaram 2004; Daniliuc et al. 2014).

Generally, the majority of studies concerning M&As have been conducted in the markets of the United States, the United Kingdom, Europe, and Asia². Pioneering studies in Latin America on the subject of M&As have been conducted by Fuenzalida et al. (2006), who identified the existence of abnormal returns in the value of purchased companies as a result of the announcement of a public offer of acquisition in these countries; by Pablo (2009), who studied the determinants of transnational M&As in Latin American countries; and by Vasco

¹ SIC Codes 4512 (Air transportation, scheduled), 4513 (Air courier services), and 4522 (Air transportation, nonscheduled)

²For more on the economics of corporate governance and mergers, *see* Martynova and Renneboog (2008) and Gugler and Yurtoglu (2008).

et al. (2014), who studied the influence of corporate governance on translational M&A activity in Latin American countries.

The objective of this study is to analyze the impact of changes in corporate control on the value of airline companies in Latin America, i.e., establishing the expectations on the way shareholders benefit from announcements in acquired and acquiring companies, thus contributing to the M&A literature in emerging markets, where there is scarce data on the subject. Given the lack of a specific theoretical framework for M&As in the airline industry, the study is focused on the general literature on M&As. Our empirical studies have examined the effects of M&As on company performance, share price, and value creation. In this context, some studies conclude that shareholders of the acquiring company earn little or nothing, with the possibility that they may even lose (Loderer and Martin 1990; Walker 2000; Moeller et al. 2005; Hackbarth and Morellec 2008; Hamza 2009, Hitt et al. 2009). By contrast, other empirical studies show that on average, shareholders of the acquired company benefit from M&A announcements or as a result of the operation, with the stock market value of the companies that merge increasing (Schwert 1996; Andrade et al. 2001; Goergen and Renneboog 2004; Campa and Hernando 2006; Kiymaz and Baker 2008). Taking into account that the results are to a large extent ambiguous, researchers have focused on explaining them from two main perspectives. The first perspective is related to rational motivations to conduct the transaction, and the second is related to irrational or behavioral motivations.

Regarding rational motivations, the determinants of M&As may be analyzed based on the neoclassical hypothesis, which suggests that the purpose of mergers between companies is to increase their efficiency in the face of changes, such as regulations, costs, and technological innovations that affect the structure of the industry or cause industrial shocks (Shleifer and Vishny 1986; Church and Ware 2000; Jovanovic and Rousseau 2002; Shleifer and Vishny 2003; Rossy and Volpin 2004). On this subject, Nelson (1959) finds that economic movements (e.g., the growth of an economy) and the business cycle are related to M&A activity. For their part, authors such as Gort (1969) and Mitchell and Mulherin (1996) argue that shocks and structural changes in industries (e.g., deregulation) require the redistribution of assets to more productive use, which justifies M&As as a way of achieving this.

According to Maksimovic and Phillips (2001), a positive demand shock in an industry increases the opportunity cost for the inefficient producer, and consequently, assets are relocated in search of greater productivity. In his study, Harford (2005) provides evidence for the start of M&A waves in an entire economy as a response to structural shocks that affect various industries simultaneously.

Meanwhile, irrational or behavioral motivations relate the appearance of M&As to distortions in the market value of companies (Shleifer and Vishny 2003; Rhodes-Kropf and Viswanathan 2004; Rossy and Volpin 2004; Gugler et al. 2012) or to the personal motivations of directors that are not in line with the interests of shareholders (Jensen 1986; Roll 1986; Shleifer and Vishny 1986; Kosnik and Shapiro 1997).

When considering the two alternatives noted above and taking into account that the fundamental purpose of an M&A is to generate synergies, empirical studies have found that rational motivations, corresponding to the neoclassical hypothesis, are those that may, to the greatest degree, provide benefits to shareholder wealth (Wang 2007; Carpenter and Sanders 2008). Meanwhile, irrational or behavioral motivations may be a response to value destruction for shareholders (Sirower 1997; Wang 2007). In this context, the value created for shareholders, derived from the merger, may be explained by the synergies in efficiency, including more efficient management, economies of scale and scope, vertical integration (Church and Ware 2000; Weston et al. 2004)³, horizontal integration, better production techniques, combining complementary resources, changing assets to more productive applications, or market power achieved (Eckbo 1983; García and Trillas 2011).

There is much consensus as investors expect a company that is being bought to be able to include in the final merger price the final benefits of the alliance. Eckbo (1983) argues that M&As generate positive abnormal returns in the selling company. Because it increases the probability of efficient collusion between rival producers, the merger generates increased commercial value for the companies through productive efficiency and the implementation of a more efficient production cost policy, apart from lower transaction costs. This is reflected in the positive abnormal returns of the purchased company on the date of the event,

³Since this may eliminate the double marginalization that emerges when two companies that are in the same production chain have great market power or complementary goods are under common control.

while the buyer has negative abnormal returns or returns close to zero on the day of the event. Similarly, the results found by Andrade et al. (2001) show that shareholders of the selling company clearly benefit from the merger, with value creation for this company accumulating by 16% on average. Meanwhile the impact of the merger on the purchasing company, on average on the share value, generates a reduction of 0.7%, but the result is not statistically significant.

Moreover, Campa and Hernando (2004) find that the value generated for investors of the selling company sees, on average, statistically significant positive cumulative abnormal returns at 9% and that these cumulative returns on the buying companies are nil. However, when distinguishing between the geographical dimensions of the sectors, it is found that industries that had previously seen strict regulation obtain lower abnormal returns than when the M&A announcement is made in non-regulated industries. Goergen and Renneboog (2004) find a positive abnormal return of 9% for selling companies after announcing the transaction. For their part, the acquiring parties obtain a positive and statistically significant effect of just 0.7%. Furthermore, the researchers also analyze whether the predominant reasons for M&As are synergies, agency problems, or managerial arrogance. The results suggest that synergies are the main motivation for offers

Based on the above literature, the proposed hypotheses about the reaction of the market to an M&A announcement in the airline industry in Latin American economies are the following:

Hypothesis 1. *After the announcement of an M&A, the shareholders of the selling company benefit by obtaining positive abnormal returns that are statistically significant.*

Hypothesis 2. *The shareholders of the buying company earn little or nothing or obtain negative abnormal returns after the announcement of the M&A.*

II. DATA AND METHODOLOGY

A. Data

The information concerning M&A announcements in the airline industry for Latin American countries in the 1996-2013 period was obtained from the Datastream database. This

database contains information on M&A activity for countries from the entire world since 1985. However, the data prior to 1996 were not included because there were no announcements in these years for publicly listed companies. The Standard Industrial Classification (SIC) codes used were 4512 (air transportation, scheduled), 4513 (air courier services), and 4522 (air transportation, nonscheduled). We excluded leveraged buyouts (LBOs), spin-offs, recapitalizations, repurchases, and privatizations⁴ from the sample. Our initial database contained 77 announcements. However, to actually capture the effect of surprise announcements, the dates were verified in Bloomberg, The Economist Intelligence Unit, and online news sources for each country comprising the definitive sample. Additionally, we excluded from the sample the announcements of airlines whose shares were not traded on the day before and after the announcement because each event consists of the day before the news, the day of the news, and the day after the news [T-1, T+1] (Eckbo 1983; Mulherin and Boone 2000; Andrade et al. 2001). Finally, after applying the defined criteria, the obtained sample is presented in Table 1, which distinguishes between events of buying and selling companies.

[\[Table 1 here\]](#)

The daily share prices for each company and the MSCI market index (Emerging Markets Index) have been taken from Bloomberg. Table 2 presents the descriptive statistics of the selected companies' performance and the MSCI for the analysis period.

[\[Table 2 here\]](#)

B. M&A activity in the Latin America Airline industry

As specified in Table 3, from 1996 to 2013, 77 M&A announcements were reported in the airline industry for the study countries. This level of activity may be the result of many factors, including the fact, as stated by the International Civil Aviation Organization (ICAO 2013), that since 1990, Latin America saw the beginnings of the implementation of a more flexible model for negotiating traffic rights. This trend was induced by the processes of

⁴Privatization is not taken into account because, despite the fact that it shares some determinants with M&A processes, studies have found that privatizations have been adopted as an instrument of economic policy (Megginson et al. 1994; Megginson and Netter 2001). In this context, government motivations are beyond the scope of this study.

deregulation occurring in the United States and Europe, where the open skies model was being adopted. We can see that the countries with the highest M&A activity in the region are Brazil, with a 32.47% share, followed by Mexico with 22.08%, Argentina and Colombia with 10.39% each, Peru with 6.29%, and Chile with 3.90%, with the rest of the countries seeing an activity of less than 3%.

At the aggregate level, from 1996, we observe a growing trend in terms of M&A activity interrupted in 2002. According to the report presented by the Economic Commission for Latin America and the Caribbean (CEPAL 2002), financial turmoil linked to falling global stock markets and the uncertainty created by the 9/11 attacks in the United States apparently affected world economies, particularly the Latin American markets, due to the reduction of foreign direct investment flows from the United States and Europe. To this must be added the instability already generated by regional financial crises in Brazil in 1999 and Argentina in 2001, which seem to have induced less M&A dynamism. As of 2010, the growth of M&A announcements was 113.67%, showing signs of recovery after the financial crisis of 2009.

[Table 3 here]

Examining other characteristics of the announcements, as shown in Table 4, we find that in the study period, 61.04% of announcements were made by national buyers and 20.78% by buyers from Latin American countries. A total of 7.79% of the M&A announcements have come from European countries⁵, 6.49% from the United States, and the rest from other world regions. When observing the annual behavior, this proportion remains relatively stable, especially over the last decade.

[Table 4 here]

⁵Mainly from Russia, Portugal, the United Kingdom, France, and Poland. The arrangement for the promotion and reciprocal protection of investment between countries may be a factor that promotes foreign investment in various industries. For example, Brazil has been the object of foreign investment in airlines from Portugal, with which it has this type of agreement, and the same is true for Bolivia and Great Britain as well as Argentina and France. For information on agreements, see http://www.sice.oas.org/Investment/main_s.asp.

Additionally, 46.75% of the M&A announcements are made between companies operating in the same industry (targeting)⁶, while the rest correspond to other objectives, such as diversification or vertical integration. Finally, when reviewing the payment method, we find that for the entire set of M&A announcements with disclosed negotiation details, the main payment method is cash. Table 5 offers more details about the disclosed information.

[Table 5 here]

C. Methodology

One of the most frequently used methodologies for assessing both corporate events and the effects of regulation changes in various industries has been “event studies”. These studies are used to examine the returns of a company during the “event window” to determine whether this performance is abnormally positive or negative. The event window is defined as the length of time it takes to seek the reaction of the average price—what the researcher identifies as “news” received by investors. News represents new information perceived by investors, which may change the expected value of the affected companies and simultaneously cause abnormal returns (Lamdin 2001)⁷.

The theoretical basis of this methodology is the semi-strong version of the efficient market hypothesis. This hypothesis holds that the mean price of a company reflects at any time its best estimate based on available information on the market of future liquidity flows discounted for this company (Cox and Portes 1998; Markiel 2003), assuming that all publicly available information is incorporated into the average price⁸, as agents transmit messages with this new information in the market, which becomes publicly available and incorporated into the average price, and therefore, the price provides the best estimate for the change in a company’s market value as a result of unexpected announcements.

⁶We define targeting as the M&As between companies where the first two digits of the SIC code coincide, Martynova and Renneboog (2006).

⁷To broaden this methodology, see Campbell et al. (1997), Mackinlay (1997), Binder (1998), Kothari and Warner (2006), and Aktas et al. (2007).

⁸Ederington and Lee (1995) find that news announcements on macroeconomic variables are completely absorbed by the markets in fifteen minutes and that the majority of the reaction in mean prices happens within forty seconds from the news announcement. Nevertheless, news on mergers and acquisitions must be analyzed in depth by investors and takes more time to be absorbed by the market, but in any case this occurs on the day of the news.

The most widely used model for estimating the normal performance of returns and predicting the expected value of the returns of company j in period t , not conditioned by event ($E(R_{jt} / X_{jt})$), is the market model where the X_{jt} do not include the event. This model is represented by equation (1) (Fama et al. 1969; Campbell et al. 1997).

$$R_{j,t} = \alpha_j + \beta_j R_{m,t} + \varepsilon_{j,t} \quad (1)$$

$$\text{with } E(\varepsilon_{j,t}) = 0 \text{ and } \text{Var}(\varepsilon_{j,t}) = \sigma^2_{\varepsilon_j}$$

where R_{jt} is the performance of company j in period t , $R_{m,t}$ is the performance of the company portfolio, α_j and β_j are the parameters, and ε_{jt} is the error term.

The same model has been used to measure the performance of abnormal returns, including a dummy to capture the effect of the news, as shown in equation (2). This is the methodology used in our study.

$$R_{j,t} = \alpha_j + \beta_j R_{m,t} + \gamma_j D_{j,t} + \varepsilon_{j,t} \quad (2)$$

where the coefficient γ_j captures the abnormal return of action j in the date of event t , directly estimated in the regression.

To improve the power of the estimates as suggested by Campbell et al. (1997)⁹, the events of abnormal returns in the event window can also be aggregated. If we consider T_1 to be the first observation in the event window and T_2 to be the second, then the aggregation of abnormal returns would be the accumulations $CAR(T_1, T_2)$, equation (3).

$$CAR(T_1, T_2) = \sum_{t=T_1}^{T_2} AR_t \quad (3)$$

Under the null hypothesis, accumulated abnormal returns have a normal distribution with a mean of zero and a variance of sigma (Campbell et al. 1997). When there is more than one

⁹The event window, when it is one single event, is given by the observations relative to the day prior to the event, the day of the event, and the subsequent day. When there are various events of the same nature, as is the case of an M&A, observations are grouped as in the previous case but considering all the M&A of the company.

event, i.e., a series, this may be aggregated into a series of sub-events, as shown by Figure 1. In this study, we group the events by company for the study period.

[Figure 1 here]

The approach displayed in Figure 1 improves the obtained estimates by adding events of the same nature throughout time, thus increasing the size of the event window. This methodology has been used by Trillas (2001) in a case study of the free cash flow theory, by Bel and Trillas (2005) in a study of collusion in the privatization of the telecommunications sector and by Dnes and Seaton (1999) to study the effects of regulating regional electricity companies in the United Kingdom. The main disadvantage when sub-events from the window typically consist of three observations (as daily data are used) is that the significance test of abnormal returns is inadequate for such a small sample and thus has little power (Campbell et al. 1997).

However, as stated by Savickas (2003)¹⁰, an appropriate approach to estimate volatility for the conditional process of the variance, which controls for the impact of unrelated events in the estimate of window AR , may be represented by equation (4) in the following way:

$$R_{j,t} = \alpha_j + \beta_j R_{m,t} + \gamma_j D_{j,t} + \eta_{j,t} \quad (4)$$

$$\eta_{j,t} \approx N(0, h_{j,t})$$

$$h_{j,t} = a_j + b_j h_{j,t-1} + c_j \eta_{j,t-1}^2 + d_j D_{j,t}$$

where $h_{j,t}$ is the conditional variance of the variation in time and a_j, b_j, c_j, d_j are the GARCH specification coefficients (1,1). $D_{j,t}$ is a dummy that equals 1 for the date of the event for company j and 0 in another case. γ_j captures the coefficient of abnormal return on the date of the announcement. The conditional variance $h_{j,t}$ provides a natural estimator of variance AR .

¹⁰Following the seminal contributions of Engle (1982), who specifies the behavior of the conditional variation in the time of the variance of returns, and Bollerslev (1986), who generalizes the ARMA model with the use of a GARCH model.

To control for the effect of variation in time of the conditional volatility, GARCH models offer a good alternative for the estimation method. Since the contribution of Bollerslev (1986), this approach has become an important tool in econometric estimations with financial data. The fundamental reason why is that when taking the GARCH approach, the volatility of the returns process, and with this the increases in the variance when there are induced events, may be explicitly modeled (Savickas 2003).

III. EMPIRICAL RESULTS

A. *Effect on the value of selling companies*

Table 6 shows the accumulated returns CAR for selling companies. Here we see the following results. The airlines Consorcio Aeroméxico SAB de CV from Mexico and Gol Linhas Aéreas Inteligentes SA and TAM Linhas Aéreas SA from Brazil have positive abnormal returns that are statistically significant at 1%, estimated with the GARCH methodology. These results range from 2.1% to 8.5%, which are similar when estimating with OLS. However, as may be expected, estimating with GARCH improves their significance because, for example, Gol Linhas Aéreas Inteligentes SA using OLS has a significance level of 5%, while with GARCH, it is 1%. These results are in line with prior studies (Eckbo 1983; Bradley et al. 1988; Schwert 1996; Andrade et al. 2001; Goergen and Renneboog 2004; Campa and Hernando 2006; Kiyamaz and Baker 2008; García et al. 2012) and support hypothesis 1 from this study.

[Table 6 here]

Other important results of this research are as follows: it is not enough for the company to be the selling party to achieve positive abnormal returns, it is also necessary for the integration to be strategic and for the integration to create synergies in value creation (Sirover 1997). This is the case of the airline Varig SA from Brazil, which experienced a statistically significant negative abnormal return of -2.7% (see Table 6). According to Bloomberg news, its sale was due to a restructuring process brought on by bankruptcy. In this case, it is important to note that for the study period, this company was in a restructuring process, which may justify the results. Some important events for this airline include the following: on 8 June 2006, an offer from the investment fund Multilog was

announced for the purchase of Varig SA airlines, which had previously announced its bankruptcy, having previously been the largest airline in Brazil. This offer amounted to US\$800 million and was financed with bank loans and bond issues. On the same date, it was announced that the judge presiding over the restructuring was analyzing a proposal from a group of employees, pilots, and flight attendants, offering US\$449 million for this airline, out of which US\$125 million was debt owed to employees. Initially, the employees managed to seal the purchase on 20 June 2006. Subsequently, on 28 March 2007, Gol Linhas Aereas Inteligentes SA acquired this airline to rescue it from bankruptcy.

Furthermore, as established by Kosnik and Shapiro (1997), mergers may be justified by personal reasons that do not create value for the selling company or where the goals of the directors are not aligned with those of the shareholders (Jensen 1986). This is reflected by the results for the companies LAN Airlines SA from Chile and Grupo Aeroméxico SAB de CV from Mexico; the results are not statistically significant. Regarding the former, the announcement of the sale of LAN Airlines SA on 25 March 2009 owed more to political necessity than to strategic integration, as Sebastián Piñera, who held 27% of the company shares, had presidential aspirations, according to news obtained from Bloomberg. For its part, on 10 August 2011, the airline Delta announced an investment of US\$65 million in Grupo Aeroméxico SAB de CV, destined towards the purchase of equity held by the company in the treasury (Reuters 2011), which does not necessarily imply a move in market price¹¹.

B. Effect on the value of buying companies

Table 7 reports the results obtained from the GARCH and OLS estimates for acquiring companies; they do not differ from prior empirical evidence (Loderer and Martin 1990; Walker 2000; Moeller et al. 2005; Hackbarth and Morellec 2008; Hamza 2009; Hitt et al. 2009). Thus, we confirm hypothesis 2 of this study. The airline Avianca SA from Colombia and the airlines TAM Linhas Aéreas SA and Varig SA, both from Brazil, did not see statistically significant abnormal changes in the return to shareholders after the announcement of M&As. For their part, Gol Linhas Aéreas Inteligentes SA from

¹¹We should clarify that for the estimates of LAN Airlines SA and Grupo Aeroméxico SAB de CV we only have one event each.

Brazil and LAN Airlines SA from Chile did experience statistically significant positive abnormal returns of 1.4% and 2.0%, respectively.

[Table 7 here]

IV. CONCLUSIONS

In the present study, we examine the M&A activity of the Latin American airline industry, which has not been the focus of much research, in the period 1996-2013. Using GARCH and OLS models, we show that some selling companies obtain statistically significant abnormal returns after the announcement of M&As. However, when the merger is not strategic, companies present statistically significant negative abnormal returns. For their part, the results are not conclusive when analyzing the effect on the value of buying companies.

We expect the results of this study to increase the understanding of the dynamics of corporate finance in the region; we also expect the results to be supporting material both for scholars interested in the subject of M&As and for decision makers in companies. It is important to be clear about the context in which negotiations and company performance take place within the functioning of the industry at the national and international level and the effect that these negotiations and this performance have for value creation in companies.

Given the data limitations for the analyzed region, we recommend future studies for analyzing the effect on company value, according to the integration strategy employed (horizontal, vertical, or diversification). We also recommend analyzing some companies that had only recently started to be publicly traded or had a small number of events when conducting our research and investigating the effect of the changes of corporate control on their returns. Similarly, the long-term behavior of airline performance after M&As should also be researched.

Another important subject that should be examined is related to the impact of M&A on the performance of the closest competitors to the selling company because, as established by Eckbo (1983) and Garcia and Trillas (2011), when companies operate in concentrated industries, competitors see statistically significant positive abnormal returns,

while in companies from competitive industries, there is no impact on the returns of competitors. Additionally, the following question is important: What makes the expansion of some companies a success while others fail? Jensen (1993) establishes that companies in mature sectors, with not much perspective for growth in their traditional markets but with abundant financial resources, may have incentives to expand beyond their optimal boundaries.

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Table 1 M&A events in the airline industry in Latin American countries

Panel A: Selling companies events			
Selling Company	Date	Country	Buying company
Consorcio Aeromexico SAB de CV	07/10/1999	Mexico	Seeking Buyer
	26/04/2010	Mexico	Aimia Inc
Gol Linhas Aereas Inteligentes SA	19/09/2007	Brazil	Fundo Asas
	07/12/2011	Brazil	Delta airlines
	10/09/2012	Brazil	Qatar Airways QSC
Grupo Aeromexico SAB de CV	10/08/2011	Mexico	Delta Air Lines Inc
LAN Airlines SA	25/03/2009	Chile	Costa verde Aeronautica
TAM Linhas Aereas SA	22/10/2009	Brazil	TAP-Transportes Aereos
	13/08/2010	Brazil	LAN Airlines SA
Varig SA	11/11/2004	Brazil	TAP-Transportes Aereos Portugueses SGPS SA
	08/06/2006	Brazil	NV Participacoes
	19/07/2006	Brazil	VARIG LOG
	28/03/2007	Brazil	Gol Linhas Aereas Inteligentes SA
Panel B: Buying companies events			
Buying company	Date	Country	Selling Company
Avianca SA	29/06/2012	Colombia	AeroGal
Gol Linhas Aereas Inteligentes SA	28/03/2007	Brazil	Varig SA
	11/07/2011	Brazil	WEBJET Linhas Aereas SA
	07/12/2011	Brazil	Passaredo Transportes Aereos
LAN Airlines SA	23/08/1995	Chile	Ladeco
	27/06/1997	Chile	San Alberto SA
	20/12/2000	Chile	Aerotransportes Mas de Carga SA de CV
	06/12/2001	Chile	Aerolinhas Brasileiras SA
	02/03/2005	Chile	Southern Winds SA
	06/05/2010	Chile	AerOasis SA
	13/08/2010	Chile	TAM SA
TAM Linhas Aereas SA	27/10/2010	Chile	Aerovias de Integracion
	11/03/2009	Brazil	Pantanal Linas Aereas SA
Varig SA	14/07/2010	Brazil	Tam Milor Taxi Aereo Representacoes Marcas e Patentes SA
	06/02/2003	Brazil	TAM SA

This table presents the M&A announcements for airlines in Latin American countries from the years 1996-2013. In panel A, we show the events for selling companies by date, country, and acquiring company. In panel B, we show the events for buying companies by date, country, and selling company. The following deals are excluded from the sample: a) leveraged buyouts (LBOs), spin-offs, recapitalizations, repurchases, and privatizations.

Table 2 Descriptive statistics of daily performance of the sample

Company	N	Mean	St. Dev.	Min	Max
Avianca SA	690	-0.04%	1.55%	-13.70%	7.00%
Consortio Aeromexico SAB de CV	1876	0.15%	3.68%	-41.83%	28.77%
Grupo Aeromexico SAB de CV	709	-0.08%	1.46%	-8.64%	10.54%
Gol Linhas Aereas Inteligentes SA	2485	-0.04%	3.26%	-24.36%	21.77%
LAN Airlines SA	4373	0.09%	2.29%	-28.22%	29.30%
TAM Linhas Aereas SA	1894	0.08%	3.17%	-13.93%	39.77%
Varig SA	3177	0.03%	12.22%	-415.50%	417.05%
MSCI Emerging Markets Index	6261	0.02%	1.17%	-9.99%	10.07%

This table shows the descriptive statistics of daily performance in the 1996-2013 period for the companies from Latin America selected for the study. We also observe the statistics for the Emerging Market Index (MSCI).

Table 3 Number of M&A announcements in the airline industry in Latin American countries

Country	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total	%
Argentina						4			2	1			1						8	10.39%
Bolivia											1								1	1.30%
Brazil	1	1		2	1			1			3	2	2	2	2	4	3	1	25	32.47%
Chile		1	1													1			3	3.90%
Colombia						1			1			1	1	1	3				8	10.39%
Costa Rica															1				1	1.30%
Dominican Rep								1											1	1.30%
Ecuador									1					1			1		3	3.90%
El Salvador														1					1	1.30%
Mexico	2			1	2					1		3	1		5		2		17	22.08%
Paraguay	1														1				2	2.60%
Peru			1											1	1	2			5	6.49%
Venezuela	1		1																2	2.60%
Total	5	2	3	3	3	5	0	2	4	2	4	6	5	6	13	7	6	1	77	100.00%

This table reports the number of M&A announcements by year in Latin American countries, as reported by Datastream, in the 1996-2013 period. The following deals are excluded from the sample: a) leveraged buyouts (LBOs), spin-offs, recapitalizations, repurchases, and privatizations.

Table 4 Number of M&A announcements in the airline industry in Latin American countries, depending on the country of origin of the buyer

M&A type	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total	%
National	4	2	1	1	1	3		2		1	3	5	5	2	8	6	2	1	47	61.04%
Regional	1		1				1		4	1				2	4		2		16	20.78%
Transnational				1		1					1			2			1		6	7.79%
Europe				1		1					1			2			1		6	7.79%
USA				1		1						1				1	1		5	6.49%
Others					1	1									1				3	3.90%
Total	5	2	3	3	3	5	0	2	4	2	4	6	5	6	13	7	6	1	77	100.00%

This table reports the number of M&A announcements by year in Latin American countries, as reported by Datastream, in the 1996-2013 period, depending on the country of origin of the buyer. The following deals are excluded from the sample: a) leveraged buyouts (LBOs), spin-offs, recapitalizations, repurchases, and privatizations.

Table 5 Number of M&A announcements per strategy (targeting vs. diversification) and payment method

M&A type	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total	%
Targeting	2	2	3	1		2		2	1	1	1	3	3	5	5	3	2		36	46.75%
Diversification	3			2	3	3			3	1	3	3	2	1	8	4	4	1	41	53.25%
Payment in cash								1	1	1	1			1	2	1	1		9	11.69%
Payment with shares	2														1				3	3.90%
Payment with shares and cash												1							1	1.30%
Not specified	3	2	3	3	3	5		1	3	1	3	5	5	5	10	6	5	1	64	83.12%
Total	5	2	3	3	3	5	0	2	4	2	4	6	5	6	13	7	6	1	77	100.00%

This table reports the number of M&A announcements by year in Latin American countries, as reported by Datastream, by the type of deal. In the first classification, “Targeting” refers to deals within the same industry given by the first two digits of the SIC code of the buying and selling company, “Diversification” refers to other deals. The second classification is based on payment method: cash, shares, shares and cash, or not specified. The following deals are excluded from the sample: a) leveraged buyouts (LBOs), spin-offs, recapitalizations, repurchases, and privatizations.

Table 6 Abnormal returns of the selling companies

Airlines	GARCH		OLS	
	Dummy	Market	Dummy	Market
Consortio Aeromexico SAB de CV	0.0849*** (0.00)	0.406*** (0.00)	0.0822*** (0.00)	0.423*** (0.00)
Gol Linhas Aereas Inteligentes SA	0.0207*** (0.01)	0.641*** (0.00)	0.0217** (0.04)	0.620*** (0.00)
Grupo Aeromexico SAB de CV	0.0127 (0.76)	0.356*** (0.00)	0.0132 (0.10)	0.380*** (0.00)
LAN Airlines SA	0.00731 (0.88)	0.435*** (0.00)	0.00696 (0.59)	0.425*** (0.00)
TAM Linhas Aereas SA	0.0636*** (0.00)	0.654*** (0.00)	0.0581*** (0.00)	0.650*** (0.00)
Varig SA	-0.0271*** (0.01)	0.525*** (0.00)	-0.121*** (0.00)	0.581*** (0.00)

This table reports the abnormal returns using GARCH and OLS estimates for the selling companies in the group of Latin American countries in the 1996-2013 period. The following deals are excluded from the sample: a) leveraged buyouts (LBOs), spin-offs, recapitalizations, repurchases, and privatizations. The p-values are in brackets. *, **, and *** represent significance at 10%, 5%, and 1%, respectively.

Table 7 Abnormal returns of the buying companies

Airlines	GARCH		OLS	
	Dummy	Market	Dummy	Market
Avianca SA	0.00555 (0.71)	0.270*** (0.00)	0.00656 (0.46)	0.276*** (0.00)
Gol Linhas Aereas Inteligentes SA	0.0145* (0.08)	0.659*** (0.00)	0.0157 (0.14)	0.625*** (0.00)
LAN Airlines SA	0.0202*** (0.00)	0.426*** (0.00)	0.0190*** (0.00)	0.427*** (0.00)
TAM Linhas Aereas SA	0.00276 (0.85)	0.653*** (0.00)	0.00409 (0.74)	0.649*** (0.00)
Varig SA	-0.0416 (0.36)	0.560*** (0.00)	0.0580 (0.41)	0.583*** (0.00)

This table reports the abnormal returns using GARCH and OLS estimates for the buying companies in the group of Latin American countries in the 1996-2013 period. The following deals are excluded from the sample: a) leveraged buyouts (LBOs), spin-offs, recapitalizations, repurchases, and privatizations. The p-values are in brackets. *, **, and *** represent significance at 10%, 5%, and 1%, respectively.

Figure 1 Window estimate with event grouping for more than one event in (3)

