Documentos de trabajo

Economía y Finanzas

Centro de Investigación Económicas y Financieras

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

Cortés, Lina M.; García, John J.; Agudelo, David

cief

Centro de Investigaciones
Económicas y Financieras
Universidad EAFIT

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

Lina M. Cortés[†]   John J. García[‡]   David Agudelo[§]

January, 2015

Abstract

This study analyzes the effectof changes in corporate controlon the way shareholdersbenefit from the announcements of selling and buying airlines, thus contributing to the literature on mergers and acquisitions (M&As) in emerging markets. Using a methodologyof event study, including GARCH and OLS models, we find evidence that some selling companies obtain abnormal returns that are statisticallysignificant after the announcement of the M&A. However, when the merger is not strategic, the companies present statisticallysignificant negative abnormal returns. The resultsare not conclusive when analyzing the effecton the valueof the buying companies.

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

JEL classification: G14, G34, L21

I.   INTRODUCTION

With the use of mergers and acquisitions (M&As),airlinesfrom many economies at the global level have sought to upgrade their capacity for commercialization, stay on the market, expand to new markets,andreduce costs tosurvive 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 market[1]in Latin American economies has experienced significant growth in recent years. According to information from the Datastream database, in the 1990s,only21 announcements were reported, while between 2000 and 2013,there were72 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 thatM&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 managementandcorporategovernance in M&A operations (Roll 1986; Jensen 1986; Kosnik and Shapiro 1997; Starks and Wei 2013). There have also been event studies on marketreactionsfollowing 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 concerningM&As have been conducted in the marketsof the United States, the United Kingdom, Europe,and Asia[2]. Pioneering studies in Latin Americaon the subject of M&As have been conducted by Fuenzalida et al. (2006), who identified the existence of abnormal returnsin the valueof purchased companiesas a result of the announcementof a public offerof acquisitionin these countries;by Pablo (2009),who studied the determinants of transnational M&As in Latin American countries;andby Vasco

---

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

[2]For 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 governanceon translational M&A activity in Latin American countries.

The objective of this studyis to analyze the impactof changes in corporate controlon the valueof airline companiesin Latin America, i.e.,establishing the expectations on the way shareholdersbenefit from announcementsin acquired and acquiring companies, thus contributing to the M&A literature in emerging markets, where there is scarcedataon 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,andvalue creation. In this context, some studiesconclude that shareholdersof the acquiring companyearn little or nothing, with the possibility that they may even lose (Loderer and Martin 1990; Walker 2000; Moeller et al. 2005;Hackbarth andMorellec 2008; Hamza 2009, Hitt et al. 2009). By contrast, other empirical studiesshow that on average,shareholdersof the acquired companybenefit from M&A announcementsor as a result of the operation, with the stock market valueof the companiesthat 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 resultsare 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,andthe second is relatedto irrational or behavioral motivations.

Regarding rational motivations, the determinantsof M&As may be analyzed based on the neoclassical hypothesis, which suggests that the purpose of mergers between companiesis to increase their efficiencyin the face ofchanges, such as regulations, costs,andtechnological innovationsthat affect the structure of the industry or cause industrial shocks (Shleifer and Vishny 1986; Church and Ware 2000;Jovanovicand 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) andthe business cycle are related to M&A activity. For their part, authors such as Gort (1969) and Mitchell and Mulherin (1996) argue that shocks andstructural 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 inefficientproducer, andconsequently, assetsare relocated in search of greater productivity. In his study, Harford (2005) provides evidence for the start of M&A waves in an entire economyas a response to structural shocks that affect various industriessimultaneously.

Meanwhile, irrational or behavioral motivationsrelate the appearance of M&As to distortions in the market valueof 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 notedaboveandtaking into account that the fundamental purpose of an M&A is to generate synergies, empirical studieshave 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 valuedestruction for shareholders (Sirower 1997; Wang 2007). In this context, the valuecreated for shareholders, derived from the merger, may be explained by the synergies in efficiency, including more efficient management, economies of scale andscope, vertical integration (Church and Ware 2000; Weston et al. 2004)[3], horizontal integration, better production techniques, combining complimentary resources, changing assetsto more productiveapplications, 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 returnsin the selling company.Because it increases the probability of efficient collusion between rival producers, the merger generates increased commercial valuefor the companiesthrough productive efficiency and the implementation of a more efficient production cost policy, apart from lower transaction costs. This is reflected in the positive abnormal returnsof the purchased companyon 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 complimentary goods are under common control.

while the buyer has negative abnormal returnsor returns close to zero on the day of the event. Similarly, the resultsfound by Andrade et al. (2001) show that shareholders of the selling companyclearly benefit from the merger, withvaluecreation for this companyaccumulatingby16 % on average. Meanwhile the impactof 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 valuegenerated for investors of the selling companysees, on average, statisticallysignificant positive cumulative abnormal returnsat 9% andthat these cumulative returns on the buying companiesare nil. However, when distinguishing between the geographical dimensions of the sectors, it is found thatindustriesthat had previously seen strict regulation obtain lower abnormal returns than when the M&A announcementis made in non-regulated industries. Goergen and Renneboog (2004) find a positive abnormal returnof 9% for selling companiesafter announcing the transaction. For their part, the acquiring parties obtain a positive and statistically significant effectof just 0.7%. Furthermore, the researchers also analyze whether the predominant reasons for M&As are synergies, agency problems, or managerial arrogance. The resultssuggest that synergiesare the main motivation for offers

Based on the above literature, the proposed hypotheses about the reaction of the marketto anM&A announcement in the airline industryin Latin American economiesare the following:

Hypothesis 1. *After the announcementof an M&A, the shareholdersof the selling companybenefit by obtaining positive abnormal returnsthat are statistically significant.*

Hypothesis 2. *The shareholdersof the buying companyearn littleor nothing or obtain negative abnormal returnsafter the announcementof theM&A.*

II.   DATA ANDMETHODOLOGY
A. Data

The information concerningM&A announcementsin the airline industryfor Latin American countriesin the 1996-2013 period was obtained from the Datastream database. This

databasecontains information on M&A activity for countriesfrom the entire world since 1985. However, the dataprior to 1996 were not includedbecause there were no announcementsin these years for publicly listed companies. The Standard Industrial Classification (SIC) codesused were 4512 (air transportation, scheduled), 4513 (air courier services),and 4522 (air transportation, nonscheduled). We excludedleveraged buyouts (LBOs), spin-offs, recapitalizations, repurchases,andprivatizations[4] from the sample. Our initial databasecontained 77 announcements. However,toactually capture the effectof surprise announcements, the dates were verified in Bloomberg, The Economist Intelligence Unit, and online news sources for each countrycomprising the definitive sample. Additionally, we excluded from the samplethe announcementsof airlineswhose shares were not traded on the day before andafter the announcement because each eventconsists of the day before the news, the day of the news,andthe 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 eventsof buying andselling companies.

[Table 1 here]

The daily share prices for each companyandthe MSCImarket index (Emerging Markets Index)have been taken from Bloomberg. Table 2 presents the descriptive statistics of the selected companies'performance andthe MSCIfor the analysis period.

[Table 2 here]

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

As specified in Table3, from 1996 to 2013, 77 M&A announcementswere reported in the airline industryfor 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 since1990,Latin Americasaw the beginnings of the implementation of a more flexible modelfor negotiating traffic rights. This trend was induced by the processes of

---

[4]Privatization 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 StatesandEurope,where the open skies model was being adopted. We can see that the countrieswith the highest M&A activity in the region are Brazil,with a 32.47% share, followed by Mexicowith 22.08%, Argentina and Colombia with 10.39%each, Peruwith 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 activityinterrupted 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 andthe uncertainty created by the 9/11 attacks in the United Statesapparently affected world economies,particularly the Latin American markets,due to the reduction of foreign direct investment flows from the United StatesandEurope. To this must be added the instability already generated by regional financial crises in Brazilin 1999 and Argentina in 2001, which seem to have induced less M&A dynamism. As of 2010,the growth of M&A announcementswas 113.67%, showing signs of recovery after the financialcrisis 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 announcementswere made by national buyers and20.78% by buyers from Latin American countries. A total of 7.79% of the M&A announcementshave come from European countries[5], 6.49% from the United States,andthe rest from other world regions. When observing the annual behavior, this proportion remains relatively stable,especially over the last decade.

[Table 4 here]

---

[5]Mainly 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, Brazilhas been the object of foreign investmentin airlinesfrom Portugal, with which it has this type of agreement, and the same is true for Bolivia and Great Britainas 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 announcementsare made between companiesoperating 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 announcementswith disclosed negotiation details, the main payment method is cash. Table 5offers more details about the disclosed information.

[Table5here]

C. Methodology

One of the most frequently used methodologiesforassessingboth corporate eventsandthe effectsof regulation changes in various industrieshas been "event studies". These studies are used to examine the returns of a companyduring the "event window"to determine whether this performance is abnormally positive or negative. The event window is defined as the length of time it takesto 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 valueof the affected companiesandsimultaneously cause abnormal returns (Lamdin 2001)[7].

The theoretical basis of this methodologyis the semi-strong version of the efficient market hypothesis. This hypothesisholds that the mean price of a companyreflects at any time its best estimate based on available information on the marketof future liquidity flows discounted for this company (Cox and Portes 1998; Markiel 2003), assuming that all publicly available information is incorporated into the average price[8], as agents transmit messages with this new information in the market, which becomes publicly available and incorporated into the average price,andtherefore,the price provides the best estimate for the change in a company's market value as a result of unexpected announcements.

---

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

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

[8] Ederington 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 usedmodelfor estimating the normal performanceof returns andpredicting the expected value of the returns of company j in period t, not conditioned by event $(E(R_{jt} / X_{jt}))$, is the market modelwhere the X_{jt} do not include the event. This modelis represented by equation (1) (Fama et al. 1969; Campbell et al. 1997).

$$R_{j,t} = \alpha_j + \beta_j R_{m,t} + \varepsilon_{j,t} \tag{1}$$

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

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

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

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

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

Toimprove the power of the estimatesas suggested by Campbell et al. (1997)[9], the events of abnormal returnsin the event windowcan also be aggregated. If we consider T_1 to be the first observation in the event windowand T_2 to be the second, then the aggregationofabnormal returnswould be the accumulations $CAR(T_1, T_2)$,equation (3).

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

Under the nullhypothesis, accumulatedabnormal returnshave a normal distribution with a mean of zero anda variance of sigma (Campbell et al. 1997). When there is more than one

---

[9]Theevent 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 casebut considering all the M&Asof 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 eventsby companyfor the study period.

<div align="center">[Figure 1 here]</div>

The approach displayed inFigure 1 improves the obtained estimates by adding events of the same nature throughout time, thus increasing the size of the event window. This methodologyhas been used by Trillas (2001) in a case studyof the free cash flow theory,by Bel and Trillas (2005) in a studyof collusion in the privatization of the telecommunicationssector andby Dnes and Seaton (1999) to study the effectsof regulating regional electricity companies in the United Kingdom. The main disadvantage when sub-events from the window typicallyconsist of three observations (as daily data are used)is that the significancetest of abnormal returnsis inadequate for such a small sampleand 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 impactof unrelated events in the estimate of window AR, may be represented by equation (4) in the following way:

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

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

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

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

---

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

To control for the effectof variation in time of the conditional volatility, GARCHmodels offer a good alternative for the estimationmethod. 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 GARCHapproach, the volatility of the returns process,andwith this the increases in the variance when there are induced events, may be explicitly modeled(Savickas 2003).

III. EMPIRICAL RESULTS

A. Effectson the valueof 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 fromMexicoand Gol Linhas Aéreas Inteligentes SA and TAM Linhas Aéreas SA fromBrazilhave positive abnormal returnsthat are statistically significant at 1%, estimated with the GARCH methodology. These resultsrange from 2.1% to 8.5%, which are similar when estimating with OLS. However, as may be expected, estimating with GARCHimproves their significancebecause, for example, Gol Linhas Aéreas Inteligentes SA usingOLS has a significance levelof 5%,while with GARCH,it is 1%.These resultsare 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; Kiymaz and Baker 2008; García et al. 2012)andsupport hypothesis 1 from this study.

[Table 6 here]

Other important resultsof this research are as follows: it is not enough for the companiesto be the selling party to achieve positive abnormal returns,it is alsonecessary for the integration to be strategic andfor the integration to create synergiesin valuecreation (Sirower 1997). This is the case of the airline Varig SAfrom Brazil, which experienced a statistically significant negative abnormal returnof -2.7% (see Table 6). According to Bloombergnews, 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, whichmayjustify 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 airlineinBrazil. 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 therestructuring was analyzing a proposal from a group of employees, pilots,andflight 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 valuefor the selling companyor where the goals of the directors are not aligned with those of the shareholders (Jensen 1986). This is reflected by the resultsfor the companiesLAN Airlines SAfrom Chileand Grupo Aeroméxico SAB de CVfrom Mexico; the results are not statistically significant. Regarding the former, the announcementof 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 companyin the treasury (Reuters 2011), which does not necessarily imply a move in market price[11].

B. *Effectson the valueof buying companies*

Table 7 reports the resultsobtained 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 andMorellec 2008; Hamza 2009;Hitt et al. 2009). Thus, we confirmhypothesis 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 shareholdersafter the announcementof M&As. For their part, Gol Linhas Aéreas Inteligentes SA from

---

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

BrazilandLAN Airlines SA from Chile did experience statistically significant positive abnormal returnsof 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 companiesobtain statistically significant abnormal returnsafter the announcementof M&As. However, when the merger is not strategic, companiespresent statistically significant negative abnormal returns. For their part, the resultsare not conclusivewhen analyzing the effecton the valueof buying companies.

We expect the resultsof this studyto 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 andcompany performance take place within the functioning of theindustryat the national and international level andthe effectthat these negotiations and this performance have for valuecreation in companies.

Given the datalimitations for the analyzed region, we recommend future studiesfor analyzing the effecton company value, according to the integrationstrategy employed (horizontal, vertical,or diversification).We also recommend analyzing some companiesthat had only recently started to be publicly traded or had a small number of eventswhen conducting our researchand investigatingthe effectof the changes of corporate controlon 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 impactof M&Ason the performance of the closest competitors to the selling companybecause, as established by Eckbo (1983) and GarciaandTrillas (2011), when companiesoperate in concentratedindustries,competitors see statistically significant positive abnormal returns,

while in companiesfrom competitive industries,there is no impacton the returns of competitors.Additionally, the followingquestion is important: What makes the expansion of some companiesa success while others fail? Jensen (1993) establishes that companiesin mature sectors, with not much perspective for growth in their traditional marketsbut with abundant financial resources, may have incentives to expandbeyond their optimal boundaries.

REFERENCES

Aktas, N., E. Debodt, and J. G. Cousin (2007), 'Event Studies with a Contaminated Estimation Period', *Journal of Corporate Finance*, 13, 129-45.

Andrade, G., M. Mitchell and E. Stafford (2001), 'New Evidence and Perspectives on Mergers', *Journal of Economics Perspectives*, 15, 103-20.

Bel, G., and F. Trillas (2005), 'Privatization, Corporate Control and Regulatory Reform: The Case of Telefónica', *Telecommunications Policy*, 29, 25-51.

Bhagat, S., M. Dong, D. Hirshleifer, and R. Noah (2005), 'Do Tender Offers Create Value? New Methods and Evidence', *Journal of Financial Economics*, 76, 70-81.

Binder, J. J. (1998), 'The Event Study Methodology since 1969', *Review of Quantitative Finance and Accounting*, 11, 111-37.

Bollerslev, T. (1986), 'Generalized Autoregressive Conditional Heteroskedasticity', *Journal of Econometrics*, 31, 307-27.

Bradley, M., A. Desai, and E.M. Kim (1988), 'Synergistic Gains from Corporate Acquisitions and Their Division Between the Stockholders of Target and Acquiring Firms', *Journal of Financial Economics*, 21, 3-40.

Bradley, M., and A. Sundaram (2004), 'Do Acquisitions Drive Performance or Does Performance Drive Acquisitions?', Working Paper, Duke University Durham.

Campa, J.M., and I. Hernando (2004), 'Shareholder Value Creation in European M&As', *European Financial Management*, 10, 47-81.

Campa, J. M., and I. Hernando (2006), 'M&A Performance in the European Financial Industry', *Journal of Banking and Finance*, 30, 3367-92.

Campbell, J.Y., A.W. Lo, and A.C. MacKinlay (1997), *The Econometrics of Financial Markets*. Princeton, NJ: PrincetonUniversity Press.

Carpenter, M.A., and W.G. Sanders (2008), *Strategic Management: A Dynamic Perspective, Concepts*.Upper Saddle River, NJ: Pearson Prentice Hall.

CEPAL (2002), *Estudio Económico de América Latina y el Caribe, 2001-2002, 311*.Santiago, Chile: CEPAL.

Church, J., and R. Ware (2000), *Industrial Organization: AStrategic Approach*. Boston:Irwin-McGraw-Hill.

Clougherty, J.A. (2002), 'US Domestic Airline Mergers: The Neglected International Determinants', *International Journal of Industrial Organization*, 20, 557-76.

Cosh, A., and P. Guest (2001), 'The Long Run Performance of Hostile Takeovers: UK Evidence', Working Paper, Centre for Business Research.

Cox, A. J., and J. Portes (1998), 'Mergers in Regulated Industries: The Uses and Abuses of Event Studies', *Journal of Regulatory Economics*, 14, 281-304.

Daniliuc, S., C. Bilson, and G. Shailer (2014), 'The Interaction of Post-Acquisition Integration and Acquisition Focus in Relation to Long-Run Performance', *International Review of Finance*, 14, 587-612.

Di Giovanni, J. (2005), 'What Drive Capital Flows? The Case of Cross-Border M&A Activity and Financial Deeping'*, Journal of International Economics*, 65, 127-49.

Dnes, A. W., and J. Seaton (1999), 'The Regulation of Electricity: Results from an Event Study', *Applied Economics*, 31, 609-18.

Eckbo, B. (1983), 'Horizontal Mergers, Collusion, and Stockholder Wealth', *Journal of Financial Economics*, 11, 241-73.

Eckbo, B., and H. Langohr (1989), 'Information Disclosure, Method of Payment, and Takeover Premiums: Public and Private Tender Offers in France', *Journal of Financial Economics*, 24, 363-403.

Ederington, L.H., and J.H. Lee (1995), 'The Short-Run Dynamics of the Price Adjustment to New Information', *The Journal of Financial and Quantitative Analysis*, 30, 1117-34.

Engle, R. (1982), 'Autoregressive Conditional Heteroskedasticity with Estimates of the Variance of UK Inflation', *Econométrica*, 50, 987-1008.

Fama, E.F., L. Fisher, M. Jensen, and R. Roll (1969), 'The Adjustment of Stock Prices to New Information', *International Economic Review*, 10, 1-21.

Fuenzalida, D., S. Mongrut, M. Nash, and J. Tapia (2006), 'Tender Offers in South America: Are Abnormal Returns Really High?',*Estudios Gerenciales*, 22, 13-36.

García, J., L. Gutierrez, and F. Trillas (2012), 'Reforma Regulatoria Energética en Europa: Impacto de los Cambios de Control Corporativo Sobre el Valor de las Empresas' [Regulatory Energy Reform in Europe: Impact of Changes in Corporate Control on Company Value]*, Revista Desarrollo y Sociedad*, 70, 7-49.

García, J., and F. Trillas (2011), 'Control Corporativo y Riqueza de los Accionistas en el Sector Eléctrico Europeo (2000-2007)', [Corporate Control and Share Holder Wealth in the European Electrical Sector], *Revista de Economía Institucional*, 13, 297-319.

Goergen, M., and L. Renneboog (2004), 'Shareholder Wealth Effects of European Domestic and Cross-Border Takeover Bids', *European Financial Management*, 10, 9-45.

Gort, M. (1969), 'An Economic Disturbance Theory of Mergers', *Quarterly Journal of Economics*, 83, 623-42.

Gugler, K., D.C. Mueller, and M. Weichselbaumer (2012), 'The Determinants of Merger waves: An International Perspective', *International Journal of Industrial Organization*, 30, 1-15.

Gugler, K., and B. Yurtoglu (2008), *The Economics of Corporate Governance and Mergers*. Vienna: Edward Elgar.

Hackbarth, D., and E. Morellec (2008), 'Stock Returns in Mergers and Acquisitions', *The Journal of Finance*, 63, 1213-52.

Hamza, T. (2009), 'Determinants of Short-Term Value Creation for the Bidder: Evidence from France', *Journal of Management and Governance*, 15, 157-86.

Harford, J. (2005), 'What Drives Merger Waves?', *Journal of Financial Economics*, 77, 561-603.

Hitt, M.A., D. King, H. Krishnan, M. Makri, M. Schijven, K. Shimizu, and H. Zhu (2009), 'Mergers and Acquisitions: Overcoming Pitfalls, Building Synergy, and Creating Value', *Business Horizons*, 52, 523-9.

ICAO (2013), 'Alianzas Estratégicas de la Región Latinoamericana', [Strategic Aliances in the Latin American Region],*Conferencia Mundial de Transporte Aéreo, Nota de Estudio*, Montreal.

Jensen, M. (1986), 'Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers', *The American Economic Review*, 76, 323-9.

Jensen, M. (1993), 'The Modern Industrial Revolution and the Challenge to Internal Control Systems', *Journal of Finance*, 48, 831-80.

Jensen, M., and R. Ruback (1983), 'The Market for Corporate Control: The Scientific Evidence', *Journal of Financial Economics*, 11, 5-50.

Jovanovic, B., and P.L. Rousseau (2002), 'The Q-Theory of Mergers', *American Economic Review*, 92, 198-204.

Kiymaz, H., and H.K. Baker (2008), 'Short-Term Performance, Industry Effects, and Motives: Evidence from Large M&As', *Quarterly Journal of Finance and Accounting*, 47, 17-44.

Kosnik, R., and D. Shapiro (1997), 'Agency Conflicts between Investment Banks and Corporate Clients in Merger and Acquisition Transactions: Causes and Remedies', *Academy of Management Executive*, 11, 7-20.

Kothari, S., and J. Warner (2006), 'Econometrics of Event Studies', in B. Espen Eckbo (ed), *Handbook of Empirical Corporate Finance*. Amsterdam: North-Holland.

Lamdin, D. (2001), 'Implementing and Interpreting Event Studies of Regulatory Changes', *Journal of Economics and Business*, 53, 171-83.

Loderer, C., and K. Martin (1990), 'Corporate Acquisitions by Listed Firms: The Experience of a Comprehensive Sample', *Financial Management*, 19, 17-33.

MacKinlay, A.C. (1997), 'Event Studies in Economics and Finance', *Journal of Economic Literature*, 35, 13-39.

Maksimovic, V., and G. Phillips (2001), 'The Market for Corporate Assets: Who Engages in Mergers and Asset Sales and Are There Efficiency Gains?', *The Journal of Finance*, 56, 2019-65.

Markiel, B. (2003), 'The Efficient Market Hypothesis and Its Critics', *Journal of Economic Perspectives*, 17, 59-82.

Martynova, M., and L. Renneboog, (2006), 'Mergers and Acquisitions in Europe', Working Paper, Center for Economic Research, Tilburg University ECGI – Finance.

Martynova, M., and L. Renneboog, (2008), 'A Century of Corporate Takeovers: What Have We Learned and Where Do We Stand?', *Journal of Banking and Finance*, 32, 2148-77.

Megginson, W., R. Nash, and M.V. Randerborgh (1994), 'The Financial and Operating Performance of Newly Privatized Firms: An International Analysis', *The Journal of Finance*, 49, 403-52.

Megginson, W., and J. Netter (2001), 'From the State to Market: A Survey of Empirical Studies on Privatization', *Journal of Economic Literature*, 39, 321-89.

Merkert, R., and P.S. Morrell (2012), 'Mergers and Acquisitions in Aviation – Management and Economic Perspectives on the Size of Airlines', *Transportation Research Part E*, 48, 853-62.

Mitchell, M., and J. Mulherin (1996), 'The Impact of Industry Shocks on Takeover and Restructuring Activity', *Journal of Financial Economics*, 41, 193-229.

Moeller, S.B., F. Schlingemann, and R.M. Stulz (2005), 'Wealth Destruction on a Massive Scale? A Study of Acquiring-Firm Returns in the Recent Merger Wave', *The Journal of Finance*, 60, 757-82.

Mulherin J. H., and A.L. Boone (2000), 'Comparing Acquisitions and Divestitures', *Journal of Corporate Finance*, 6, 117-39.

Nelson, R. (1959), *Merger Movements in American Industry, 1895–1954*. Princeton, NJ: Princeton University Press.

Ovtchinnikov, A.V. (2013), 'Merges Waves Following Industry Deregulation', *Journal of Corporate Finance,* 21, 51-76.

Pablo, E. (2009), 'Determinants of Cross-Border M&As in Latin America', *Journal of Business Research*, 62, 861-7.

Reuters (2011), 'Delta Comprará 3.5 pct de Aeroméxico por 65 Mln Dlr', Available at http://lta.reuters.com/article/domesticNews/idLTASIE7790OD20110810

Rhodes-Kropf, M., and S. Viswanathan (2004), 'Market Valuation and Merger Waves', *Journal of Finance*, 59, 2685-718.

Roll, R. (1986), 'The Hubris Hypothesis of Corporate Takeovers', *Journal of Business*, 59, 197-216.

Rossy, S., and P.F. Volpin (2004), 'Cross-Country Determinants of Mergers and Acquisitions', *Journal of Financial Economics*, 74, 277-304.

Ryerson, M.S., and H. Kim (2014), 'The Impact of Airline Mergers and Hub Reorganization on Aviation Fuel Consumption', *Journal of Cleaner Production*, 85, 395-407.

Savickas, R. (2003), 'Event-Induced Volatility and Tests for Abnormal Performance', *Journal of Financial Research*, 16, 165-78.

Schwert G.W. (1996), 'Markup Pricing in Mergers and Acquisitions', *Journal of Financial Economics*, 41, 153-92.

Shleifer, A., and R.W. Vishny (1986), 'Large Shareholders and Corporate Control', *Journal of Political Economy*, 94, 461-88.

Shleifer, A., and R.W. Vishny (2003), 'Stock Market Driven Acquisitions', *Journal of Financial Economics*, 70, 295-311.

Sirower, M.L. (1997), *The Synergy Trap: How Companies Lose the Acquisition Game*.New York: The Free Press.

Starks, L.T., and K.D. Wei (2013), 'Cross-Border Mergers and Differences in Corporate Governance', *International Review of Finance*, 13, 265-97.

Trillas, F. (2001), 'The Takeover of Enersis: The Control of Privatized Utilities', *Utilities Policy*, 10, 25-45.

Vasco, M., L.M. Cortés, S. Gaitán, and I.A. Durán (2014), 'Fusiones y Adquisiciones en Latinoamérica, Gobierno Corporativo y Modelo Gravitacional'*,Journal of Economics Finance and Administrative Science*, 19, 108-17.

Walker, M.M. (2000), 'Corporate Takeovers, Strategic Objectives, and Acquiring-Firm Shareholder Wealth', *Financial Management*, 29, 53-66.

Wang, J. (2007), 'The Macro Determinants of M&A Timing in China', *International Journal of Business and Management*, 3, 141-6.

Weston, J.F., M.L. Mitchell, J.H. Mulherin (2004), *Takeovers, Restructuring and Corporate Governance*, 4th edn. Upper Saddle River NJ: Pearson Prentice Hall.

Zhang, A., and D. Aldridge (1997), 'Effects of Merger and Foreign Alliance: An Event Study of the Canadian Airline Industry', *Trampn Res.-E (Logistics and Transpn Rev),* 33, 29-42.

Table 1 M&A events in the airline industryin 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	Aerolinheas Brasileiras SA
	02/03/2005	Chile	Southern Winds SA
	06/05/2010	Chile	AerOasis SA
	13/08/2010	Chile	TAM SA
	27/10/2010	Chile	Aerovias de Integracion
TAM Linhas Aereas SA	11/03/2009	Brazil	Pantanal Linas Aereas SA
	14/07/2010	Brazil	Tam Milor Taxi Aereo Representacoes Marcas e Patentes SA
Varig SA	06/02/2003	Brazil	TAM SA

Thistablepresents the M&A announcementsfor airlinesin Latin American countriesfrom the years 1996-2013. In panel A,we show the eventsfor selling companiesby date, country,andacquiring company. In panel B,we show the eventsfor buying companiesby date, country,andselling 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%
Consorcio 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%

Thistableshows the descriptivestatistics of daily performancein the 1996-2013 periodfor the companiesfrom Latin Americaselected 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	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%**

Thistablereports the number of M&A announcementsby 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 returnsof the selling companies

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

Thistablereports the abnormal returnsusing GARCH and OLS estimates for the selling companiesin the group of Latin American countriesin the 1996-2013 period. The following deals are excluded from the sample: a) leveraged buyouts (LBOs), spin-offs, recapitalizations, repurchases,andprivatizations. The p-values are in brackets. *, **,and *** represent significance at 10%, 5%,and 1%,respectively.

Table 7 Abnormal returnsof the buying companies

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

Sub-event window

T_1 |————— | | —— | | ————| T_2

Event window