The Role of Country Risk for M&A Activity in Latin America

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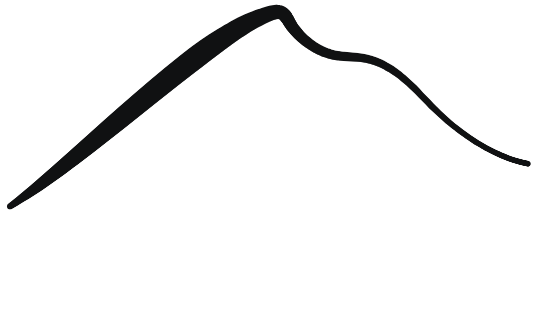

Outline

I. List of Abbreviations

CAPM	Capital Asset Pricing Model
CPI	Consumer Price Index
CRA	(Bloomberg) Country Risk Assessment
DALAHO	Datenlabor Hohenheim
EIU	Economist Intelligence Unit
FDI	Foreign Direct Investment
FIAB	Federación Iberoamericana de Bolsas
GDP	Gross Domestic Product
IMA	International Merger Database
IMF	International Monetary Fund
M&A	Mergers and Acquisitions
OLS	Ordinary Least Squares
R&D	Research and Development
US	United States
US-$	United States Dollar
UZH	University of Zurich
WGI	Worldwide Governance Indicators

II. List of Tables

1. Introduction

In the course of rapid liberalisation efforts and the growth of foreign direct investment (FDI), Latin America experienced skyrocketing increases in mergers and acquisitions (M&A) during the last two decades.[1] In the last years, however, takeover activity in the region has calmed down. Since 2014, the number of mergers[2] in the region has fallen by more than one third. While a regional trend cannot be neglected, M&A figures diverge strongly across the Latin American hemisphere. Some countries continue to show much merger activity, while in others takeovers practically do not happen anymore. Indeed, the region has sent conflicting signals within the last years, in economic terms as well as politically. While the crisis in the region's formerly richest country Venezuela exacerbates continuously, several countries brought market-friendly governments into charge, among them Argentina and Brazil. Latin America nowadays experiences expropriations and market liberal reforms simultaneously. This does not only show the political divergences within a culturally relatively homogeneous region: Latin America seems also predestinated to analyse country risk and its impact on investment flows through M&A.

Country risk has proven to be an important figure in international trade and foreign investment. Several studies have found evidence that its effect on stock returns exceeds risk factors related to the specific industry. Following Madura et al. (1997, p. 12), country risk is the most relevant variable in explaining disparate returns across markets, while Erb et al. (1995) quantify its explanatory power to over 40% of the variation in expected returns. Nonetheless, its arbitrary determination bears problems. Many country risk components are vague and vulnerable towards subjective bias, which impedes reliable forecasts and introduces intrinsic uncertainty. For the foreign investor, this perceived uncertainty increases with higher risk levels, which are associated to higher shadow costs of information. These add to the information incompleteness that crossborder M&A exhibit. Based on asymmetric information, country specific risks may be valuated differently between a foreign acquirer and the local seller. This misvaluation circumvents the finding of a common price. Usually, high country risk would not necessarily exclude countries from the potential portfolio of risk-seeking investors, given a respective risk premium in the form of a reduced target price. Misvaluation due to asymmetric information, however, might very well effectuate a deal failure. Whenever seller's offer and buyer's reservation price diverge too far, deals might simply not happen. The literature on "deal breaking" in M&A so far has considered the cancellation of announced deals during the negotiations. This thesis, in contrast, tries to shed light on a second possible case which earlier research has not considered. Investors may already anticipate a higher probability of deal failure in countries with high country risk and not participate in M&A auctions at all. Thereby, country risk might contribute to explain the cross-country disparity of M&A activity in Latin America.

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[1] 16,377 words.

[2] As is common in the literature, the phrases "mergers and acquisitions" (M&A), "merger", "acquisition" and "takeover" are used synonymously in this thesis.

This thesis fills this research gap by combining the concept of asymmetric information with an econometric analysis regarding M&A activity in Latin America. Chapter 2 constructs the research setting by means of a literature review which provides information about the concept of informational asymmetry and seeks to confine country risk. Due to a lack of consistent country risk theory, this theoretical framework brings together different definitions of country risk and describes the difficulties regarding its measurement. Afterwards, the role of risk for M&A decision making is specified, before Chapter 3 accounts for the relationship of country risk and asymmetric information. Building on this, the first hypothesis is constructed, which assumes country risk to cause misvaluation through information asymmetry and hence to make the absence of M&A deals more likely. This subsequently could reduce the overall M&A intensity in a country, for which the second hypothesis accounts.

These hypotheses are tested using an econometric approach that investigates the impact of country risk on M&A activity based on a sample of 2,046 M&A deals in Latin America between 2013 and 2017, provided by the International Merger Database (IMA) of *Thomson Reuters*. Particular attention is paid to cross-border deals that involve one Latin American and one foreign (i.e. non-regional) partner in order to maintain reference to the field of international investment. Country risk is provided by *Bloomberg* Country Risk Assessment (CRA). It presents country risk both as an aggregated measure and split up into its financial, economic and political components. The econometric part takes place on two stages: first, a logistic regression analyses the effect of country risk on the probability that M&A take place in a specific country, at all. Afterwards, a Tobit model is used to explain the impact of country risk on the level of M&A intensity. This model tackles the research question by means of two different M&A intensity measures: on the country level, 152 country-quarter observations are related to the number of M&A deals in a country. On the sectoral level, 456 country-quarter-sector observations are confronted to an intensity measure that derives from the transaction values. By this, the present thesis is able to make statements about the role of country risk on several stages, investigating both the likelihood that a country welcomes M&A and the amount of investment, which in turn is examined both as the number of mergers and the sum of investment inflows.

2. Asymmetric information through country risk - a theoretical framework

2.1 Foreign investment by cross-border M&A

FDI and its country specific determinants have been studied by a large body of research. Frenkel et al. (2003) investigate the determinants of FDI level and destination, considering host as well as home country factors. Hayakawa et al. (2012) analyse the effect of political and financial country risk on FDI, Kolstad and Villanger (2007) with a focus on the services sector, whereas LaPorta et al. (2008) consider the impact of legal origins on FDI activity. Bengoa and Sanchez-Robles (2002) analyse the effect of economic freedom, while Gómez-Mera et al. (2014) highlight the motivations behind FDI in emerging markets and consider also firms within their survey, that explicitly decided against such FDI or have not even taken it into account. Most of these papers refer to FDI in general, which is typically assumed to occur by green field investment. Here, a foreign parent company expands its operations to another country from the ground up, for instance by constructing a production plant or a distributional platform.

An alternative expansion strategy for international investors are cross-border mergers and acquisitions (M&A), where the foreign company buys an existing local target company. Compared to greenfield operations, M&A bear some decisive advantages. As the target company in the host country by its nature already exists, an acquisition is much faster to realise than the bureaucratically cumbersome process to start a business or construct a plant. Moreover, the fact that a return on investment in research and development (R&D) projects typically requires long time horizons, favours acquisitions as an attractive and often less risky alternative (Jemison et al. 1996, p. 733). The target firm might contain valuable assets that do not have to be explored in the unknown market first. Doukas and Travlos (1988) present evidence that abnormal returns are greater when firms expand into new industries and new geographic markets. Additionally, takeovers often come along with the objective to increase the target's efficiency or to generate operational or financial synergies between both firms. Such synergies can be realised for example through cutbacks in investments formerly undertaken as "duplicates", which generate economies of scale, or by using tax advantages (Devos et al., 2008, p. 1193).

While same as green field investment, foreign investment by means of takeovers has been studied regarding a variety of different determinants, relatively few efforts have been made to explicitly study M&A activity in emerging markets. Pereiro (2001) approximates M&A activity in Latin America by introducing unsystematic and local risk factors into the Capital Asset Pricing Model (CAPM). Pablo (2009, p. 867) analyses the determinants of cross-border M&A deals in Latin America with specific attention to macroeconomic figures and investor protection conditions. His results provide evidence that better macroeconomic indicators and investor protection rule correspond to a higher number of M&A transactions in that country, both for target and acquirer companies. Doukas and Travlos (1988, pp. 1171-1173) find higher abnormal returns in target countries that are less developed than the acquirer's origin. Chari et al. (2009, p. 1769) study stock price movements of foreign acquirers after the acquisition of emerging market targets. They report higher announcement returns, the higher the asymmetry between target and buyer country is. Foreign investment through M&A, however, does not only consist of abnormal returns, gains and synergies, but is also confronted with additional costs and risks (Boeh, 2011, p. 570) that arise from information asymmetry. This concept will be presented in the following chapter.

2.2 Asymmetric information as a dealbreaker

In his often quoted “simple capital market equilibrium with incomplete information“, Merton (1987) corrects the assumption of frictionless markets with full information by a financial model that accounts for the information incompleteness that markets typically contain. He develops the concept of “shadow costs of information“ investors are confronted with whenever they are not aware of the full set of information of a certain security. This changes the expected return of the security, not only from the investor’s perspective, but also affecting the firm about whose securities the investor is not aware. For Merton, the market value of a firm is always lower in the event of incomplete information, which he introduces like an additional discount rate into his model. Shadow costs of information in this case can be interpreted like a loss of profit which the investor could have realised, if he had had knowledge about the specific security. Nonetheless, these shadow costs should not be reduced to opportunity costs due to a lack of knowledge about the security’s existence. Shadow costs might also arise from firm properties an investor does not know about, although he is indeed investing in the respective firm. This leads to asymmetric information between the investor and the firm’s management being aware of these properties.

As such proverbial “skeletons in the closet“, shadow costs of information can be easily related to M&A deals, where an acquirer does not necessarilly has full information about the target firm. This makes the valuation of the target’s resources more difficult and hence complicates the agreement on a common price. During the process of due diligence, detailed and reliable information has to be collected – though even then, delicate knowledge often remains unrevealed due to information asymmetries between both transaction sides. Millon and Thakor (1985) characterise informational asymmetry by the existence of “insiders“ that have more precise information about the true value of the firm than “outsiders“ - a distinction that can easily be applied to foreign acquirers and domestic sellers and / or the target management.

Such asymmetry is higher in the presence of one-sided unfamiliarity with the local market of the target, by which cross-border takeovers are typically characterised. The problem of shadow costs is strengthened through the existence of moral hazard, which hinders the direct transportation of information (Leland and Pyle, 1977). The seller side has an evident incentive to trivialise existing weaknesses and risks in order to increase the sale price. Buyers thus incur the risk to pay exaggerated prices for overvalued targets. On the other side, a rational acquirer already assumes such moral hazard. By introducing it into his own valuation, he seeks to minimise the risk of overpayment. But at the same time, his own calculation bears the tendency to undercut the true value of the target significantly. This potentially avoids a price agreement and ends up in deal failure. Thus, moral hazard can end up both in the failure of atttractive opportunities or, to speak with Akerlof (1970), the acquisition of “lemons” in the course of adverse selection (Reuer, 2015, p. 15).

As an example, Silva Sales and Fundão Zanini (2017, p. 473) mention the so called “window dressing“ before the metaphorical “wedding“ of two firms that engage in M&A. This term describes dubious adjustments to the financial statement if the target management wants to draw an exaggerated picture to potential buyers. When these hidden liabilities are disclosed during the process of due diligence, they might effectuate a deal failure. It is thus not surprising, that the authors find merger talks to collapse often right between the deal valuation and structuring stages. In their survey about M&A deals in Brazil, they identify further “deal breakers“, which can lead to cancellation and are associated especially to cross-border M&A. These are the lack of (financial) information, cultural differences or unrealistic expectations regarding the target value which impede the finding of a common price. Regarding financial information, international takeovers are exposed to at least different, if not, as in many emerging markets, inferior reporting and accounting standards. Cultural differences bear difficulties to examine the true state of a target firm. This further raises the existing uncertainty resulting from asymmetric information by setting limits to the transmission and comprehension of information (Lim et al., 2016, p. 565). The deal breaking potential of cultural differences, however, is not limited to trivial misconceptions, but ranges from different risk perceptions up to ethical aspects, regarding the tolerance of legally questionable “informalities“. Such practices, often conducted in order to avoid taxes or bureaucracy, can cause deal failure especially in emerging markets, as foreign investors might be more sensitive regarding ethical and legal limitations (Silva Sales and Fundão Zanini, 2017, pp. 474-476).

Such deal breakers can easily be seen in the light of shadow costs of information: investors are exposed to an inferior knowledge of the foreign country and its cultural or financial standards than compared to their home country. Therefore, shadow costs arise. Johanson and Vahlne (1977, p. 24) mention a “psychic distance“ between the two parties, which results from several cross-country differences and impedes the transfer of information. Although the technological progress since then has eased information transfer significantly, cultural gaps remain also in the era of globalisation. Markides and Ittner (1994, p. 348) find evidence that socio-cultural differences between acquirer and target country affect integration and coordination costs in cross-border M&A. Zaheer (1995, p. 341) highlights the “liability of foreignness“ through costs arising from the lack of familiarity with the foreign environment, differences in culture, politics or the country’s economic situation. Foreign acquirers have limited capability to evaluate the target county, which represents an information asymmetry in comparison to the domestic seller.

Lim et al. (2016) examine the relationship of national cultural distance and premiums paid for targets during cross-border M&A. They challenge an existing “illusion of symmetry“ (Shenkar, 2001, p. 523) regarding cultural differences and introduced the possibility that one and the same cultural distance between two countries might be estimated differently among both deal sides. Their results suggest that such perception differentials lead to different expectations about potential synergies in the course of the merger. Not only the “true” cultural distance itself thus enters into their pricing equation (which determines the target premium), but also a correction factor that accounts for the “perceived“ distance which might deviate from the actual distance.

Such gaps between the actual and the perceived level of an economic phenomenon can be assumed to exist also regarding country specific risks. These are likely to be evaluated differently between a local seller and the foreign buyer who considers risk ratings by his bank or a tool like *Bloomberg CRA*. The higher these risks levels are stated to be, the more uncomfortable the investor might feel in view of the partially unknown risks which are “hidden” in the country. This is already closely related to the research question that aims to highlight the role of country specific risks on deal failure and consequently reduced M&A intensity. Country risk partially involves legal and cultural aspects such as analysed by Lim et al. (2016), but goes far beyond. The following chapter seeks to confine the term in more detail.

2.3 Confining country risk

In addition to risk factors a company is exposed to in its home market already, foreign investment bears also risks that are widely summarised as “country risk“. As Madura et al. (1997, p. 12) show, the risk-return relationship specified for individual stocks by the CAPM cannot be traduced straightforward to entire markets. Higher returns in some of the markets they analyse are not significantly related to the systematic risk of these markets, but are dependent on country specific risk. The most obvious risk related to cross-border business is probably foreign exchange risk, which describes the sensitivity of the domestic currency value of assets or liabilities to changes in exchange rates. It can be measured by the standard deviation of the changes in domestic currency values of an asset attributable to unanticipated changes in exchange rates to a third currency. (Muller 2017)

However, not all components of country risk are that easy to compute as foreign exchange risk. While statistical methods allow measuring several risk exposures up to a very precise extent, an exact determination of country risk is difficult. As Meldrum (2000, p. 1) states, the terminology of “risk“ usually implies a “well-defined event drawn from a large sample of observations“, which allows building a statistical function that can be applied to probability analysis. Meldrum located the typical “events“ underlying many country risk components closer to uncertainties than to statistical risks, which condemns country risk analysts to rely on theoretical foundations and subjective judgements, instead of probabilistic functions. The lack of a consistent country risk theory with a clear definition of country risk makes things even more difficult (Bouchet et al. 2003). This controversy begins with the few “mathematics“ country risk theory involves necessarily; a determination of the upside boundaries of the respective risk. Nordal (2001, p. 199) indicates that a general use of the risk terminology would include both upside potential and downside risk, measurable by the variance in return. Following this interpretation, country risk would then better be labeled as “country effects in return on investments“ (ibid.) or as "performance variance“ (Bouchet et al., 2003, p. 10). Apart from the mathematical implications of a two-sided risk consideration, many authors have indicated that a downside risk approach fits better to practical issues. Investors may predominantly be worried about “potential financial losses due to problems arising from macro-economic or political events in a country” (Calverley, 1985, p. 3) and “the risk of a shortfall in the expected return of a cross-border investment“ (Meldrum, 2000, p.1), and not about confining gains which investors anyway prefer to be arbitrarily high. While investors are thus interested in minimal downside risk exposure, they are seeking maximal upside risk sensibility (Bouchet et al., 2003, p. 11). As their risk preference differs dramatically between downside and upside risk, an isolated perspective of either bears practical advantages. Risk theory usually captures risk as a chance of loss, induced by “any event or action that may adversely affect an organization‘s ability to achieve its objectives and execute its strategies“ (McNeil et al., 2015, p. 3).

Despite that methodological issue, many authors have contributed to outlining the thematical range of country risk and provide definitional efforts that, though not harmonised, in many aspects are not far from each other. For Meldrum (2000, p. 1), country risk includes “risks arising from a variety of national differences in economic structures, policies, socio-political institutions, geography and currencies“ with the potential to reduce the expected return of a cross-border investment. In contrast to such risks that all business bears, country risk poses an additional risk that does not prevail in domestic transactions. Verma and Soydemir (2006) define country risk as "unique risk faced by foreign investors when investing in that specific country as compared to the alternative of investing in other countries". For Nordal (2001), country risk is that part of investment risk that is caused by the location within national borders itself. Bouchet et al. (2003, p. ix) define country risk as a "complex combination of macroeconomic policy, structural and institutional weakness, bad governance, and regional contagion wrapped in a paradigm of high levels of trade, capital and information flows".

In the absence of an unique country risk theory, the definitions of country risk are as broad as its subdivision into different components. Meldrum (2000, pp. 2-3) divides country risk into six main categories. While "economic risk" accounts for potential changes in the fundamental economic policy of a country, "transfer risk" covers the risk of restrictions to capital movements. "Exchange rate risk" describes uncertainty through unexpected changes in the currency regime. "Location or neighbourhood risk" is assigned to the risk of spillover effects and contagion, while "sovereign risk" accounts for refusal or incapability of a government to pay back its loan obligations or engage in potential debt renegotiations. Last but not least, Meldrum highlights "political risk" to cover changes in political institutions, reaching from political conflicts in the firm's environment to firm expropriations.

Nordal (2001) distinguishes between three dimensions of country risk. Complementary to economic and political risk, he introduces "commercial risk" which refers to the business and investments of the firm and the fulfilment of its contracts with local trade partners. Calverley (1985) summarises major (exchange rate) devaluations, recessions or shifts in the economic policy of a country, as well as civil unrest and discriminatory policies against foreign companies as "generalised country risk". In contrast, sovereign risk and transfer risk both relate to the government's sovereign debt and are more relevant for the banking sector than for firms engaging in FDI. While sovereign risk addresses a government's potential incapability to meet its debt obligations, transfer risk in Calverley's analysis refers to a lack of foreign exchange available to make the foreign currency remittance, which is necessary to service the debt.

As country risk data is often published by banks, which pay attention especially to the risk of sovereign default, the definitions of country risk and sovereign risk are not always separated precisely in the literature. This applies even stronger to country risk and political risk, which by some authors, such as Root (1972), are used analogously. Political risk entered into the academic discourse straight after the experiences made by foreign investors in Cuba who suffered from expropriation policies in the wake of Fidel Castro's rise to power (Bouchet et al. 2003, p. 9), so one could go as far as stating that this terminology was born in Latin America. For Bouchet et al., political risk concerns any potential or actual change in the political system, civil or external war and also includes democratic evolutions that may disrupt the foreign business, for instance by nationalisation policies. Apart from governmental stability, Busse and Hefeker (2006) investigate also the level of corruption, military influence in politics, religious and ethnic tensions, the quality of legal systems or bureaucracy and the democratic accountability of the government. The relationship between democracy and FDI attraction is subject to controversial discussions with contradictory findings. Jensen (2008) and Gómez-Mera et al. (2014) highlight that political risk can be reduced through democratic standards, as democratic institutions constrain the governmental ability to violate contracts or expropriate multinational firms.

Contrariwise, Tuman and Emmert (2004) and partially also Oneal (1994) find evidence for a positive effect of authoritarian military regimes for FDI in Latin America. Biglaiser and Staats (2010) state that not the existence of elections itself, but the investment security and property rights enforcement guaranteed by efficient court systems are decisive for foreign investors.

In the present thesis, country risk is perceived as the unit of all risks that are specific to the country of interest. Furthermore, the subdivision of country risk components of *Bloomberg Country Risk Assessment* (CRA) is used, which distinguishes financial risk, economic risk and political risk. Financial risk accounts for credit and interest rate risk, equity and banking sector risk as well as foreign exchange risk. Economic risk captures several figures of economic activity, sovereign and fiscal risk and risks related to the external balance of a country. *Bloomberg*'s political risk score integrates different components of government risk, among them corruption and regulatory quality, and the ease of doing or starting business activities. The aggregated country risk score summarises these three risk scores to one joint measure, additionally. For all of the four scores, *Bloomberg* translates country specific risks into a numerical score between 0 and 100, where a higher country risk score implies a lower underlying country risk. The utilised country risk measure therefore is a classical risk rating – with all of the respective strengths and weaknesses. In the Appendix, Table 5 provides an intuition for the risk levels of the analysed countris.

2.4 Country risk ratings

Besides the large number of different definitions of country risk in the literature, also the measurement of country risk is subject to dichotomy. This does not limit to the fact that Bloomberg applies a numerical score, while e.g. the "big three" credit rating agencies, *Moody's, Fitch* and *Standard & Poors*, range countries alphabetically between AAA to D. In general, the description of risk sources and their assessment as variables lacks a comparable scientific justification (Bouchet et al., 2003, p. 12). As at least some components of country risk represent "soft information" (Petersen, 2004), country specific risks cannot entirely be captured by a numerical or alphabetical figure. The respective ratings and scores are therefore exposed to a certain factor vagueness and prone to subjectively biased judgements. This further increases shadow costs of information.

Nonetheless, these ratings provide a helpful guideline and ranking for investors. Erb et al. (1995, pp. 76-77) test country credit ratings and could confirm their meaningful correlation to future equity returns and market volatility. In their analysis, ratings can explain more than 40% of cross-sectional variation in expected returns. In a second analysis, Erb et al. (1996) confirm their findings vice versa by modelling country risk as a function of the country's credit rating. They verify ratings to be mainly influenced by political risk, inflation, exchange rate fluctuations and exchange controls as well as sensitivity to economic viabilities at an industrial, national and global level.

Kaminsky and Schmukler (2002) investigate country risk measures from another point of view. Instead of interpreting correlations between ratings and economic figures as a confirmation of their predictive power or measuring country risk themselves, they investigate spillover effects that country ratings might exercise intrinsically on economic figures, among them country risk itself. They find evidence for the impact of rating changes on contagion or spillover effects, and even stronger in emerging markets and within specific world regions. This effect is reinforced through ratings that are based on regional generalisation and undifferentiated information (Aschinger, 2001, p. 315). In this case, country risk ratings miss their target to provide guidelines for investors and instead increase the amount of shadow costs. If such generalisation is noticed anyway, it further complicates decision making in the presence of country specific risks.

2.5 Decision making under country risk

Corruption in Brazil, defaults in Argentina, expropriations in Venezuela or even civil war, as experienced for decades in Colombia: in its most drastic forms, country risk appears as a scenario that every rational investor should avoid at every cost. Why would investors seek for investment opportunities in current high-risk countries, where investors do not only incur the risk of gradual losses, but might face sudden and unexpected total losses?

At first glance, this doubt seems to be backed empirically. In their nobel prize honoured "Prospect theory", Kahneman and Tversky (1979) identify a common risk aversion with respect to positive events. Accordingly, small and safe gains would be preferred to large, but unsure gains, whereas the latter can easily be assigned to risky emerging market investments with high returns. More specifically regarding FDI, the so-called "home bias" is a widely discussed issue in the literature. French and Poterba (1991) find evidence that investors expect domestic returns to be systematically higher than those achieved through international diversification. While the estimates for domestic returns are biased by substantial optimism, returns abroad, even those of investments not situated in emerging markets, are widely seen pessimistically. These discrepancies cannot be explained neither by transaction costs, nor by tax differences or other institutional constraints. The authors instead mention a risk premium demand by foreign investors, simply due to a lack of knowledge about the foreign market. Such risk premia might account for example for legal restrictions, underdeveloped capital markets or exchange rate controls, typical uncertainties summarised within country risk. Also Bouchet et al. (2003, p. 157) identify an "accrued perception of risk" and highlight currency risk in the shape of possible exchange rate fluctuations. Kwok and Reeb (2000) present supporting evidence by testing an "upstream-downstream hypothesis". By subdividing countries into different risk classes, they find FDI to increase overall firm risk, when it was exercised "downstream", which means from a developed country to an emerging market, due to the different country risk components. In the reverse "upstream" case, foreign investors from emerging market firms decrease overall risk by investing in a developed market with lower country risk than their home country. Therefore, investors might prefer to focus on the domestic market in order to avoid additional risk outgoing from an increased volatility of foreign assets expressed in domestic currency (following Bouchet et al.) or increased overall firm risk through "downstreaming" according to Kwok and Reeb.

Home bias and related concepts, however, explain only one side of the coin, whose opposite side even the "Prospect theory" mentions. The risk aversion Kahneman and Tversky (1979) assume to exist with regard to gains, does not hold for losses, following their theory. Here, individuals prefer unsure, but high losses against safe, but low losses. Accordingly, investors might be attracted by investment opportunities in high risk countries, where the potential loss is high, for example due to nationalisation policies. This refers not solely to the financial tautology that higher risks are likely to come along with higher returns, as explained by the CAPM. Harvey (1994) studies equity markets in several emerging markets, among them also the Latin American states Argentina, Brazil, Chile, Colombia, Mexico and Venezuela which are, *inter alia*, later analysed in this thesis. In contrast to the common perception, that huge expected returns are always associated with highly volatile markets, he identifies only low exposure to commonly used risk factors. As emerging markets equity returns are only weakly correlated with those of developed markets, Harvey discusses the chance for foreign investors to lower their portfolio risk by participating in precisely these volatile emerging markets. Striking about his findings is not the slightly higher return, once emerging markets are added to the portfolio, but the significantly lower standard deviation, i.e. the portfolio volatility. Another of Harvey's results may appear counterintuitive, too: in contrast to developed markets, emerging market returns prove to be not less, but more predictable. This predictability is not, as in case of developed markets, conditional on any larger correlation to US or world market returns, but in contrast genuine, based on the strong influence of local information variables on returns. Harvey attributes this local impact to the widespread segmentation of emerging markets towards world capital markets. These results are confirmed by Bouchet et al. (2003, p. 157), who mention "additional diversification gains" especially in very risky emerging markets: Individually, assets in emerging markets bear huge risks, which places them far right of the efficient frontier within the classical return-risk-graph. Hence, the expected returns on average do not compensate for the risks these assets are exposed to. Once included into a global portfolio, however, these countries move the efficient frontier to the left, which enables firms to improve their risk-return tradeoff significantly by geographical diversification.

The risk-return-relationship is the approach chosen by most academic papers to investigate the role of risk in foreign investment. Jemison et al. (1996) examine risk beyond this, embedding it into a M&A process perspective that covers the entire acquisition from the target selection up to the integration of the acquired target. In their analysis, a special focus is set on the *ex-ante*-uncertainty before the commitment. For the responsible managers, the acquisition decision carries a high level of risk far beyond the financial or country specific risks related to the target itself. As such, the authors highlight the speed of decision making, the restricted use of information and participation as well as the unique character of any acquisition. All this impedes routine and predictability and thus represents an intrinsic risk factor. Outgoing from the usual distinction between risk-seeking and risk-averse individuals, Jemison et al. (1996) forecast a behavioural difference also with respect to decision criteria. They expect risk-averse decision makers to rely mainly on indicators of past performance, as these indicators can be quantified easily, and less on indicators based on future projections. As risk seekers tolerate also higher level of uncertainty and focus more on opportunities, they range decision criteria in a reverse order. Thus, the more risk averse a decision maker is, the more strongly an increased criteria vagueness will lead to decreases in criteria weighting. Applying this theory to country risk components, risk averse buyers would not only tend to prefer lower to higher country risk. They would assess an inferior weight to the vague and highly subjective components of country risk, as for example political risk. Instead they might base their decision predominantly on precisely quantifiable risk measures, among them foreign exchange or interest rate risk.

3. Misvaluation due to country risk – the hypotheses

According to the outlined consideration how country specific risks could influence the decision making of investors, country risk might have an ambiguous effect on foreign investment and hence M&A activity. Risk-averse and home-biased investors might feel discouraged to buy targets in countries with a high country risk. Considering French and Poterba's (1991) finding of a significant risk premium even for developed foreign countries like Japan, the risk premium for emerging markets and among them, those with highest risk levels, should accordingly be larger. More risk-seeking investors, in contrast, could favour the opportunity of geographical risk diversification by acquiring targets from even highly risky emerging markets that show few correlation to domestic securities. Based on this, it seems difficult to predict any unidirectional trend in the impact of country risk, as it depends on the proportional size of the two investor groups. Country risk then would just be a risk as any other and simply attributable in a classical risk-return-approach or by local applications of the CAPM, such as shown by Lessard (1996), Pereiro (2001) and Damodaran (2003).

A distorting influence of country risk in comparison to other risks, however, might lie in the shadow costs of information that are associated with it. A country risk score summarises a variety of different factors that a foreign investor cannot completely review. The investor bears full "foreignness liability" (Zaheer, 1995) and relies on a group of risk values, whose appropriateness the investor is unable to verify or investigate himself. Against that point, one could argue that investors neither would recompute the values of other economic figures, such as data published by the central bank, or recount population numbers in order to verify the potential market size. Country risk, however, summarises different risk factors to which individual firms are exposed to a strongly varying extent (Damodaran, 2003, p. 18). Even the availability of more precise risk measures, such as the division into financial, economic and political risk provided by *Bloomberg*, does not eliminate this problem completely, as these categories still summarise several different influences. Additionally, country risk cannot be computed as easily as other economic figures. In the absence of a uniform theory and a homogeneous computation method, it is vulnerable towards subjective bias and personal judgement. Even ignoring the melting pot character of country risk scores as a mix of several risks, information provided by these ratings bears the uncertainty of estimation bias. Country risk ratings are helpful to give investors a broad intuition about the country of interest, but are hardly capable to bridge the entire information asymmetry that foreign buyer and local seller encounter when engaging in M&A talks. This vagueness further increases the shadow costs of information that foreign investment already contains. It adds to phenomena like psychic distance, cultural differences and regional generalisation (Aschinger, 2001, p. 315). The bulk of shadow and incomplete information also reflects in the price suggestion of the foreign investor, compared to the reservation price of its counterparty. Country specific risks may be estimated differently between a foreign acquirer and the local seller or target manager. In the following, this effect will be demonstrated by modifying the approach of Lim et al. (2016, pp. 544-545) which captured the impact of true and perceived cultural distance on the target premium. This distinction between the actual and the perceived level is applied to country risk and the shadow costs of information induced by the uncertainty about the true risks of a country. Note that the target price is adressed merely to demonstrate how local seller and foreign acquirer systematically end up with different prices in their valuation, which is perceived as misvaluation and a potential source of a deal failure. The following price notation is not introduced as subject of later econometric approaches. Assume the following relationship between country risk (or any of its components) on the target price in a cross-border acquisition, if buyer and seller have the same amount of information at their disposal:

$$P = c - b * CR \tag{1}$$

where P represents the target price and CR the target's country risk, whereas c and b denote the constant and the slope parameter, respectively. The higher the amount of country risk, the lower the price both sides agree on, which happens easily as buyer and seller here have the same information about the true country risk. In reality, however, the relationship between foreign acquirer and local seller side is typically characterised by asymmetric information in favour of the local seller. The following equation seeks to capture this asymmetry through the introduction of shadow costs, C_S:

$$P = c - b_1 CR - b_2 CR * C_S - b_3 C_S \tag{2}$$

where C_S is a binary variable that is equal to "1" for the foreign acquirer and equal to "0" for the domestic seller, as only the first mentioned incurs shadow costs of information. The negative impact of these shadow costs of information expands in the event of higher country risk, for which the product $b_2 CR * C_S$ accounts. Shadow costs here represent a factor that makes the perceived country risk higher than it actually is, as the "liability of foreignness" increases uncertainty. Thus, seller and buyer demand different prices, where the seller's offer equals the 1st equation without incuring any additional costs due to informational asymmetry. The foreign acquirer, in contrast, is exposed to shadow costs of information which subtract from the original equation and lower his reservation price, because the binary variable takes the value of "1".

$$P_{Seller} = c - b_1 CR > P_{Buyer} = c - b_1 CR - b_2 CR * C_S - b_3 C_S \tag{3}$$

As the buyer's shadow costs of information, by their nature as costs, subtract from his reservation price, the following relationship can be assumed to hold true in every case:

$$P_{Seller} > P_{Buyer} \tag{4}$$

Initially, this term might appear trivial, as sellers in daily life quite often try to demand higher prices than buyers are willing to pay. Relationship (4), however, enters additionally to these common "bazaar" economics. It explains valuations that are outgoing from completely different assumptions and perceptions about the true risk associated to the target firm's home country. This can be assumed to be a driving source for misvaluations and hence, deal failures. In their investor survey, Silva and Sales (2017) report remarkably higher prices paid by foreign acquirers for Brazilian targets compared to local bid competitors. Not every potential buyer, however, might be willing to pay exaggerated target prices above their valuation result. To which extent ever the own valuation bases on country specific risks, home bias or other factors, they already capture the individually perceived country risk of the potential buyer. Sellers' offer prices, however, could exceed these results by far. The seller might be able to estimate the true country risk much better, therefore he applies a lower discount for country risk. Another option might be a more risk taking or optimistic perspective due to cultural influences (Silva Sales and Fundão Zanini, 2017, pp. 474-475) or an attempt to exploit the acquirer's unfamiliarity with the country. For whatever reason the price asymmetry may happen, it potentially leads to a deal failure.

Deal failures are typically recognised only, when public announcements are not followed by a successful deal closure. By means of an anonymous survey across transaction professionals, Silva Sales and Fundão Zanini (2017) analyse M&A deals that failed during the negotiation phase. The present thesis seeks to draw a larger picture. Instead of considering individual transactions, the total amount of cross-border M&A deals per country is summed up. Thanks to this focus on a "macro" level, it is possible to address M&A activity as a whole. By this, not only failed negotiations or announcements without deal closure can be captured in order to analyse deal breaking, but also deals that for some reason did not occur at all. If they were not executed because of country-specific risks, this should be related to subsequently lower M&A activity in a country. Merton (1987, p. 488) supposes that doubts about informational asymmetries might be a relevant inhibition for some investors, which makes them refrain from investing at all in certain securities. Accordingly, this thesis assumes that one reason for the absence of M&A lies in country specific risks. Although Silva Sales and Fundão Zanini (2017) cannot find evidence for economic, political and market risks being determinants of deal failures in negotiations, this thesis assumes that high country risk can discourage risk averse investors from taking into account targets from the respective country, and this before starting any offer bid or negotiation. The shadow costs associated with high country risk values might make these investors literally stay "in the shadow". Beyond traditional academic discussions about the assessment of country risk and the required expected returns of an acquisition, country risk itself might hence be a source of misvaluation and subsequently of the failure or absence of M&A deals. It can thus be deducted the following two hypotheses:

Hypothesis 1:

"The higher country specific risks, the lower the probability for M&A to take place in the respective country."

and, theoretically closely related to this, but in econometric terms a separate hypothesis to be tested:

Hypothesis 2:

"The higher country specific risks, the lower the M&A intensity in the respective country."

where M&A intensity represents a relative term that normalises M&A activity in order to maintain cross-country comparability: the number of M&A deals per quarter, for example, is normalised with the number of listed firms, whereas an alternative M&A activity measure like the aggregated transaction value per quarter is normalised with a related financial figure.

After having outlined the theoretical set-up of the thesis, the next chapters will be structured as follows. First, the M&A database of *Thomson Reuters* is discussed, before the disposable country risk dataset, provided by *Bloomberg Country Risk Assessment*, will be presented in more detail and considering the underlying risk components. Thereafter, the precise methodology of the econometric approach will be explained, investigating the relationship between country risk and M&A in the eight countries of investigation. The results are later discussed thoroughly in order to introduce the undiscovered aspect of country-risk driven misvaluation into the research on M&A deals in emerging markets.

4. Data

4.1 Mergers and acquisitions in Latin America

In a contemporaneous definition, Latin America encompasses the former colonies of the Spanish and Portuguese empires, representing 19 independent countries and Puerto Rico, nowadays an unincorporated territory of the United States. Basically all of these countries have registered cross-border takeover activity during the last decades, even traditionally closed economies as Cuba. Nonetheless, to guarantee a certain level of comparability, this thesis does not analyse all Latin American economies and their M&A activity. Smaller economies are often subject to specific investment strategies, whose differences cannot readily be related to country risk. The most prominent example is Panama, which has become a synonym for the attraction of off-shore investments in Latin America with the prevalent aim of tax saving. Though Panama at the meantime offers an investor-welcoming economic situation, country risk here cannot easily be isolated from this specific investment strategy. A focus is therefore set on eight larger economies, these are Argentina, Brazil, Chile, Colombia, Ecuador, Peru and Venezuela. Together, they account for almost 81% of all mergers and acquisitions in Latin America during the investigated time interval. This selection allows for comparability, without evening out economic and political disparities from the sample that are useful for further investigations regarding the impact of country specific risks.

The sample consists of 2,046 mergers and acquisitions announced during the five-year period from 2013 to 2017 in these eight countries. It is obtained from the *Thomson Reuters* IMA database, which is filtered in order to meet the following criteria: the deals are publicly announced and are allowed to differ among completion status, as not the completion itself is addressed, but the decision whether and to what extent to invest in a country. The target firm lies in one of the eight countries mentioned above, whereas acquirer firms necessarily lie outside the Latin American hemisphere. Thus, only cross-border deals are depicted that represent an example for FDI into the Latin American markets and where acquirers are exposed to country specific information asymmetries through shadow costs, as highlighted in the theoretical framework. These mergers are itemised into their respective target countries and their quarter, whereas the date of announcement is considered. Every observation thus depicts the number of cross-border M&A deals announced during a specific quarter between 2013 and 2017 in one of the eight countries of interest. Despite their cultural and geographical proximity, the Latin American countries are not homogeneous. Therefore, a perspective purely focussed on the number of M&A deals per quarter and country would ignore size differences that to some extent might explain investment flows. Therefore, data from the sample has to be normalised across the eight countries by building a “M&A intensity” figure.

$$i_1 = \frac{No.\ M\&A}{No.\ Listed\ Firms} \tag{5}$$

In equation (5), i_1 represents the M&A intensity which is constructed by the number of announced takeovers during a specific quarter in a country *(No. M&A)* divided by the number of listed firms on the country’s equity stock exchange *(No. Listed Firms).* Listed firms data is obtained from the World Bank, whereas missing values could be located at the national equity stock markets’ websites and *Federación Iberoamericana de Bolsas* (FIAB). The resulting M&A intensity figure is relatively intuitive, as it highlights the relative number of investors that decide to buy a target from the specific country. To get an overview about the M&A

activity per country in absolute numbers and as an intensity figure, consider Table 3 in the Appendix.

Additionally to the country level, the sample is increased by differentiating the disposable data further. By itself, the IMA database would facilitate a next step to itemise the sample across industries, as the sample subdivides the group of transactions into 55 different industries. These industries could for instance be summarised into the Fama-French 10 industries separately, as Lim et al. (2016, p. 22) practiced. Unfortunately, the study is exposed to a huge lack of data especially for the smaller countries within the sample. Industrial itemisation is incomplete and often covers merely core industries which differ across the sample. The "least common denominator", for which relative data for normalisation purposes is available across all eight countries, is thus a subdivision into the three traditional sectors of the economy: agriculture, industry and services. Chapter V.2 (Appendix) presents how the sample's 55 industries were allocated across these three sectors. The consideration of sectors multiplies the previous sample by three which raises the number of observations to 456. Therefore, the sample is referred to as "larger sample". It should be noted that the division into sectors does not aim to analyse differences across the three sectors. Instead, this step is applied in order to raise the explanatory power of the sample by increasing the number of observations based on the disposable information. On the sectoral level, another M&A intensity measure is built. Information about the stock market listings of the different sectors is incomplete, as some of the countries do not publish the list of firms represented on the equity stock market for previous years, which impedes the assignment of firm listings to different economic sectors. The alternative would be to normalise sectoral M&A data with a country-level figure (e.g. the total number of listed firms again), which does not seem very accurate. Instead, it is made a virtue out of necessity and the "lack" of data is used to apply an alternative measure of M&A intensity that considers the aggregated transaction value. It sums up the transaction values in the different sectors of a country during a specific quarter. Unfortunately, only part of the transactions in the *Thomson Reuters* IMA database is published with precise financial information. The sector level sample therefore considers only those 766 M&A deals whose transaction value in million US dollars (US-$) is published in the IMA database.

As the figure of interest is no firm number anymore, but a financial value, it also has to be normalised with a financial figure. The economic figure of first choice would be the equity market capitalisation. Indeed, FIAB's annual reports provide market capitalisation segregated by economic sectors. The respective table, however, reveals to lack representativeness already after a superficial view. Chile's mining sector, the country's main industry accounting for around 20% of the Chilean mergers in the IMA database, is said to represent 0% of the country's market capitalisation, considering both foreign and domestic companies. The respective targets are thus not represented on the national stock exchange, some of them demonstrably because they are listed on foreign stock exchanges. Though Chile can be seen as an outstandingly unsegmented country within the sample, this might only represent the famous "tip of the iceberg" with also other Latin companies being (cross-)listed on foreign stock exchanges. The use of market capitalisation separated across the different industries thus would induce a falsifying impact on the analysis, which in extreme cases like mentioned above, even reaches to distorting divisions by "0". Because of this circumstance, the sectoral data is normalised by the sectoral contribution to the country's GDP in million US-$, instead. Data depicting the three sectors in percentage of GDP are obtained from the *World Bank* (2013-2016) and *Statista* (2017) and can be multiplied by GDP in current US-$ prices, for which the *International Monetary Fund* (IMF) provides data. This allows for complete and representative normalisation at the sectoral level following the alternative intensity measure i_2:

$$i_2 = \frac{\sum Transaction\,Values}{Sector\,in\,\%\,of\,GDP \times GDP} \qquad (6)$$

Table 4 in the Appendix summarises statistics about M&A in transaction value and by the second intensity measure.

4.2 Bloomberg Country Risk Assessment

As measure for country risk and its financial, economic and political components, the *Bloomberg Country Risk Assessment* spreadsheet is used. It provides historical risk profiles and relative risk scores for several different countries, among them also the Latin American economies of interest. Bloomberg's risk scores are based on a scale between 0 and 100, where higher scores indicate a lower risk profile. The model calculates risk comparatively across a peer group of 81 countries based on 29 consistently measured model inputs. The underlying data is converted into billions of US-$ and percent of GDP, while indicators which are not normally distributed are logistically transformated. The calculation applies a normalised weighted percent-rank model to ensure transparency. For each input figure, the mean and standard deviation are calculated across the peer group. Countries are then scored by the number of standard deviations from the mean, whereas normal distribution is assumed. The scores are measured by percentile rank relative to the peer group and calculated both on an aggregated country risk level and individually for financial, economic and political risk. Hence, the aggregated country risk score can be seen as a "summary" of the three risk components and provides a striking overview over a country's entire risk situation.

Hereby, Bloomberg's financial risk score depicts credit and interest rate risk, risks related to equity and the banking sector and foreign exchange risk. Credit and interest rate risk is set up by considering five-year-credit default swaps, the three-month deposit rate as well as yield and duration of a local sovereign bond index. For many of the Latin American emerging economies, this bond index, however, lacks data. Risk related to equity and the banking sector is measured by the percentage price change of an equity index, its returns on global average and a consideration of the banking risk score published by the *Economist Intelligence Unit* (EIU). Bloomberg's foreign exchange risk measure considers a forecast of next period's exchange rate (in percent change), historical and implied three month-volatility and both the real and the real effective exchange rate.

Bloomberg's economic risk score addresses three groups of factors: the country's general economic activity, its sovereign and fiscal risk and its external balance including the exposure towards foreign risks. The economic activity factor consists of general macroeconomic variables such as the unemployment rate, the consumer price index (CPI) and the gross domestic product (GDP) in percentage change, per capita and as a next period forecast. Sovereign and fiscal risks are measured by the country's current budget surplus or deficit and its external debt, both in percent of GDP. The external balance comprises monetary economic data such as the country's current account, imports and exports, (the change of) currency reserves, the amount of FDI and foreign claims on the country of interest.

The political risk score of Bloomberg's mainly resorts to third party's risk scores. Again, the EIU risk score is considered regarding its political risk measure, whereas government risk reverts to the *Worldwide Governance Indicators* (WGI) of the Worldbank. These are a country's control of corruption, government effectiveness, regulatory quality and the rule of law. Additionally, a country's business environment is included into the political risk measure, which is subdivided into the country's global ranks regarding the "ease of doing business" and "starting a business". Bloomberg provides its actualised risk scores for country risk, financial risk and economic risk on a quarterly base, whereas the scores are published by the end of each quarter. Political risk, in contrast, is provided on an annual base. (Bloomberg) To provide an intuition about country risk and its three risk components, Table 5 depicts summary statistics of the risk data.

4.3 Moderator variables

In the econometric models presented in the next chapter, M&A data is set into relation with the country risk data in order to determine the impact of latter on M&A activity. The decision whether to buy a target from a specific country and how much M&A intensity the country in the following shows, however, might not merely depend on country specific risks. To control for exogenous effects that are not included in the present risk indicators, later regressions also include additional variables that can be added as independent variables. Regarding such control or moderator variables, the analysis of country risk via econometric regressions bears a decisive difficulty in comparison to other macroeconomic variables. As a joint measure that unifies financial, economic and political risks which themselves consist of several different factors, the search for such control variables is cumbersome. Many typical control variables widespreadly used in econometrics are out of question, as their inclusion into the regression would produce multicollinearity. The exchange rate for example seems an interesting control aspect, as a persistent devaluation might reduce the target price significantly, if the transaction is paid by means of local currency. But as exchange rate volatility is already depicted in the financial risk measure, a control for the exchange rate is likely to cause a multicollinearity bias instead of contributing to further explanatory power. One moderator variable that seems applicable to control for, however, accounts for the country's business cycle as potential trigger for merger waves (Harford, 2004). The moderator variable "C: Business Cycle" is depicted by the country's real GDP growth rate, the respective data is provided by the IMF as annual percent change. A second additional variable considers the overall global risk situation as driver for market sentiment on an international level. Although the country risk rating of a specific Latin American economy might seem comfortable for any M&A activity, investors might refrain from any takeover because of a difficult economic situation on a global level, such as experienced in the aftermath of the last financial crisis. Damodaran (2018) separates the country specific premium from the total risk premium of a country and derives the implied premium for mature markets of the S&P 500. This allows to deduct a global risk premium that is equal for each country. This annually updated figure is considered as "C: Global" to control for worldwide economic cycles. The last control relates to the question to which extent the country of investigation is anyway integrated into international trade. Countries with integrated markets typically also attract more foreign direct investment. Therefore, target companies from these countries should be more appealing to foreign buyers than those from segmented markets. For the moderator variable "C: Trade", balance of payments data of exports and imports of goods and services (in current US-$) is summed up for each country and then expressed in percent of the cross-country average of the very same sum. The underlying data is provided by the *World Bank*, with the exception of 2017 data, which had to be collected from the national central banks and their balance of payments publications, themselves.

5. Methodology

In order to test for the hypotheses introduced in Chapter 3, the M&A database and the disposable risk scores are set into context. A typical OLS regression, however, does not suit this purpose. Following Hypothesis 1, asymmetric information caused by country specific risks could make investors refrain from a M&A deal that would actually seem interesting by its firm characteristics. Shadow costs of information related to risks at a country level would outweigh the firm specific advantages and avoid the investor's engagement. In countries that are exposed to extremely high country risk (expressed by low country risk scores), the number of M&A deals and hence the M&A intensity in general, might reach down to "0". Limited to the respective quarter, the country is thus "out of question". This is exactly what can be observed over most of the quarters of interest in Venezuela, and, to a lower extent, also in Ecuador. Together, they represent a fourth of the sample. Therefore, one should take into account the possibility that not only some individual investors might refrain from an acquisition due to country risk, but basically all investors. Consequently, not a single acquisition will take place. As Mora (2018) shows, OLS regressions face truncation problems in the event of "censoring", when dependent variables can only take non-negative values and therefore show a clustering at the value "0". In this case, OLS regressions are unable to predict the true effect of the independent variables on the dependent variable and provide inconsistent coefficient estimates. This is also the case in the present thesis, as M&A intensity cannot take a negative value. There cannot exist a negative number of M&A deals (for i_1), and neither the theoretical possibility of negative transaction values seems realistic (for i_2), so the denominator of the dependent variable is always non-negative. The lowest possible value it can take is "0" in the event of a quarter without any merger activity in some country.

This problem is addressed by splitting up the analysis into two different econometric models. At first, a logistic regression verifies whether a higher score of country specific risks, which stands for a lower risk level, does effectuate positively the likelihood of engaging anyway into an acquisition of a target placed in a country. If this holds true, the reverse conclusion could be deducted, that country risk itself hence negatively affects this likelihood, which would confirm Hypothesis 1. Beyond this binary analysis, a Tobit model seeks to quantify the impact of country risk and its components on M&A activity. Here, a positive effect of the risk score (or a negative of the risk itself) on M&A intensity would confirm Hypothesis 2.

5.1 Merger or not? A logistic regression

The use of the logistic regression opens a statistical way to discuss the question, whether any mergers take place in a country or not, and how country specific risks do influence this probability. It analyses a respective binary variable which takes the value "0" for quarters, in which the specific country has not registered any takeover, whereas any, even small, M&A activity is represented by "1". The probability for y being equal to "1" follows the subsequent function:

$$P(y = 1) = \frac{1}{1+e^{-z}} \tag{7}$$

where *P(y = 1)* is the probability that $y = 1$, *e* is Euler's number as base of the natural logarithm and *z* stands for the "logit", which itself represents a linear regression model for the independent variables:

$$z = \beta_0 + \beta_1 \text{ Country Risk} + \varepsilon \tag{8}$$

Here, β_0 describes a constant, β_1 represents the slope parameter that is multiplied with the specific risk rating and ε an error term. For further tests of the individual impact of different country specific risks, the country risk rating is replaced by the respective risk rating, whereas the analysis of several risk components at once infers from the following regression:

$$z = \beta_0 + \beta_1 \text{ Financial Risk} + \beta_2 \text{ Economic Risk} + \beta_3 \text{ Political Risk } + \varepsilon_i \quad (9)$$

where β_2 and β_3 follow the methodological role of β_1 in Term (9). The optional use of moderator variables applies to the same logic as if additional risk components would be added to the equation. The object of prediction thus is not the value of the dependent variable, but the effect on the probability that y equals "1", which accounts for the appearance of M&A activity in a country. The sign interpretation remains unchanged to the OLS. A positive coefficient hence indicates a positive effect of the independent variable on the probability that M&A take place in a specific country-quarter-combination, whereas a negative coefficient signals that the variable reduces this probability. A further substantial interpretation is possible considering the so called "odds ratios", where odds can be compared to their equivalents in gambling. They relate the probability of a M&A event to the probability that no M&A take place.

$$Odds = \frac{P(y=1)}{P(y=0)} = \frac{P(M\&A)}{1-P(M\&A)} \quad (10)$$

Meanwhile, the "odds ratio" entails the following relationship between two of such odds:

$$Exp.(\beta) = \frac{odds\ after\ R\ increased\ by\ 1\ unit}{odds\ before\ R\ increased\ by\ 1\ unit} \quad (11)$$

which in turn effectuates that "odds after" equals the product of Exp (β) with "odds before" – a trivial relationship that facilitates the interpretation during the next chapter. As it would be the case in a conventional linear regression, also such logistic regression addresses the impact of independent variables on the dependent variable which is the binary variable "Merger or not". The independent variables of the following model are the different risk scores, represented by "R" in equation (11). (UZH)

The relationship between the binary variable and the risk score(s) is applied with a "delay" of one time period (in other words, one quarter), as Bloomberg's quarterly country risk data is published by the end of each quarter. It therefore provides a "backwards" analysis that equips investors with past risk descriptions in order to proxy risks that may occur in the upcoming period. The risk rating of quarter *q* thus is related to a binary variable that expresses the existence of mergers in *q+1*. This reduces the number of observations from 160 to 152, as due to the lack of country risk ratings beyond the presented time horizon, the first quarter of the M&A sample of all eight countries cannot be related to any risk value. Hence, acquisitions announced in the first quarter of 2013 are not considered.

5.2 The level of M&A intensity - a Tobit model

The second step of the analysis seeks to quantify the effects on the M&A intensity itself by means of a Tobit model[3]. As before, the underlying data is investigated first at a country level, afterwards at a sector level, relating the M&A intensity per country during a specific quarter with the risk rating of the previous quarter. The Tobit model accounts for the left-censoring at y = 0 by applying a mixture between linear and binary regression, which individually both do not suit completely: if for all observations it could be stated that y > 0, a linear regression would be appropriate, whereas the differentiation between $y > 0$ and $y = 0$ would be tackled by a binary model, such as explained above. By means of an OLS regression, only two possibilities would remain, which both would lead to inconsistent and biased estimates: a "censored linear regression" addressing all observations but replacing those where $y = 0$, as well as a "truncated linear regression" that merely employs positive observations, where $y > 0$. A Tobit model instead introduces the intermediate step of a "latent" variable y_i^* which equals the dependent variable y_i and has to be separated into the two cases described above:

$$y_i = \begin{cases} y_i^* > 0 \\ y_i^* \leq 0 \end{cases} \tag{12}$$

Here, y_i^* represents a conventional linear regression model and can, adapted to the research question, be identified as:

$$y_i^* = i_{1,2} = \beta_0 + \beta_1 \text{ Country Risk} + \varepsilon_i \tag{13}$$

β_0, β_1 and ε can be interpreted analogously to equation (8) and $i_{1,2}$ represents the M&A intensity, dependent on the choice of intensity measure, as explained in Chapter 4.1. Hence, on the country level, the dependent variable is i_1, while i_2 is used on the sector level. As in the previous model, for further tests of the individual impact of different country risk components, the country risk rating is replaced by the respective risk rating, whereas the analysis of several risk components at once infers from the following regression:

$$y_i^* = i_{1,2} = \beta_0 + \beta_1 \text{ Financial Risk} + \beta_2 \text{ Economic Risk} + \beta_3 \text{ Political Risk } + \varepsilon_i \tag{14}$$

where β_2 and β_3 correspond to the methodological role of β_1 in term (9). The additional introduction of moderator variables follows the same procedure. (Schild, 2017; McDonald and Moffitt, 1980).

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[3] Considering the normalisation underlying the M&A intensity measure, the dependent variable is always represented by a quotient. As none of the observed quotients is higher than 1, it seems nearby to assume a two-side-censoring between 0 and 1. In this case, an interval regression would be more appropriate. But while the "left censoring" at y = 0 is evident, such "right-censoring" at y = 1 in fact does not happen. Although none of the observed dependent variables exceeds y = 1, this could happen, theoretically. At the country level, for example, the dependent variable (i_1) is constructed as the number of acquired targets in a country normalised by the number of listed firms on the country's equity stock market. Considering Colombia's stock market of approximately 70 listed firms, a hypothetical merger wave with more than 70 mergers in a quarter would provoke an intensity measure that exceeds 1 which would contradict the two-side-censoring assumed by an interval regression. Therefore, instead of an interval regression, a Tobit model is applied.

6. The impact of country risk on M&A – an econometric analysis

6.1 The effect on M&A probability - Results

The econometric analysis is two-staged between the question how country specific risk scores affect the likelihood of engaging into cross-border M&A in a country and the quantification of the different risk impacts on the level of M&A intensity. The first stage is addressed by a binary logistic regression, whose results are depicted in Table 1. The results are designed as effects on the likelihood that the response variable equals "1", which refers to the engagement in M&A deals in the specific country. Note that each of the depicted results corresponds to one separate regression, whereas the values are summarised into one table for clearness purposes. When two or more risk scores are tested within one regression, the results are discussed in the text and attached in the Appendix. The hypothesis is first tested for the country level sample (left), then for the sector level sample (right), whereas the results controlled for the moderator variables are depicted below.

Table 1 Results of the logistic regression

Merger or not	**Country level**		**Sector level**	
	ß	**Exp (ß)**	ß	**Exp (ß)**
Country Risk	0.149*** (0.038)	1.161	0.027*** (0.004)	1.027
Financial Risk	0.073*** (0.017)	1.076	0.022*** (0.004)	1.022
Economic Risk	0.089*** (0.020)	1.093	0.028*** (0.004)	1.028
Political Risk	0.356*** (0.118)	1.427	0.022*** (0.005)	1.023
Merger or not (controlled)	**Country level (controlled)**		**Sector level (controlled)**	
	ß	**Exp (ß)**	ß	**Exp (ß)**
Country Risk	0.111*** (0.042)	1.117	0.041*** (0.008)	1.042
Financial Risk	0.075*** (0.025)	1.078	0.034*** (0.004)	1.034
Economic Risk	0.064*** (0.022)	1.066	0.041*** (0.008)	1.042
Political Risk	0.165* (0.086)	1.180	0.030*** (0.007)	1.030

*Standard error in brackets. Significantly different from 0 at *** 1%, ** 5%, * 10%.*

For country risk as a joint risk score, the positive sign indicates a positive effect of a higher country risk score (which represents lower country risk) on the probability that M&A deals take place. Considering the odds ratio of 1.161 (see Table 1), it can be concluded that an increase in the country risk score by one unit increases the likelihood of M&A activity by 16.1%, which confirms the first hypothesis, significant at a 1% level. When considering Bloomberg's three risk measures altogether, the positive coefficient sign remains for all components, but statistical significance does not. This can be related to the correlation matrix which identifies a strong correlation especially between economic and political risk. The reduction of the logistic regression by one of these risk scores solves the lack of statistical significance. When economic and financial risk are investigated without political risk, economic risk regains significance at a 1% level and financial risk at least at a 10% level. While financial risk then affects the likelihood of M&A engagement by 3.5%, the economic risk score exhibits a positive impact of 7.5%. The reverse case, investigating the financial and political risk scores without economic risk, bears the same recovery effect regarding statistical significance. Remarkable is the role of political risk which affects the M&A decision by 29.1%. By analyzing the three risk scores separately, political risk also acounts for the largest effect on the probability. Significant still on a 1% level, the model predicts an increase in the political risk score by one unit to increase the probability of M&A activity to 42.7%. It is followed by economic risk (9.3% impact on the probability), whereas the lowest impact can be assigned to the financial risk score which affects the M&A probability by 7.6%. In a next step, these predictions are tested again by including the control variables. Introducing country risk controlled for the business cycle, the global risk premium and the country's trade, the positive effect between a high country risk score and the likelihood of M&A engagement is confirmed, though at the slightly lower level of 11.7%, significant at a 1% level. When controlling the effect of financial risk for the three moderator variables, its impact increases slightly to 7.8% (significant at a 5% level), while the application of controls reduces the impact of economic and political risk to 6.6% and 18%, significant at a 1% and 10% level, respectively.

The positive effect on the probability to engage in cross-border M&A persists also applying the larger sample which itemises the observations across their economic sectors. The results are depicted on the right side of Table 1. All coefficient values, and hence the risk scores' impact on the M&A likelihood, are significantly lower in this test. Considered individually and without control variables, the country risk score denotes an impact of 2.7%. This can also be observed for the financial risk score (2.2%) and its equivalents for economic (2.8%) and political risk (2.3%). This decrease can partially be explained by the sectoral structure of the sample. In all countries of investigation, the industrial sector and the services sector have replaced the agricultural sector as main contributor to the country's GDP. Although the number of acquisitions is already normalised with the GDP share of the different sectors, the agricultural observations across all countries show the largest frequency of "0"-values in the binary variable and hence account for merely sporadic M&A activity. In total, only 15 out of 766 sample targets belong to the primary sector, which makes other reasons than country risk likely to drive the absence of M&A activity in agriculture. This consequently derogates the effect of country specific risks on the probability of investigation in the sector sample. Therefore, the additional control variable "C: Agriculture" is introduced, which seeks to capture the sectoral effect. Built as a binary variable, it attaches the value "0" to agricultural observations, and the value "1" to observations from the other two sectors. To depict this sectoral effect marginally, a first run with moderator variables takes only "C: Agriculture" into account (results in the Appendix). For all risk scores, the estimated impact on the probability increases in the following: general country risk shows an impact of 5%, the financial, economic and political risk scores account for 3.5%, 5.3% and 3.8%, respectively, all significant at a 1% level. These estimates, however, by far do not reach the impacts predicted at the country-level. In a next step, the approved control variables enter (additionally to the agricultural control) into the regression, which slightly lowers the impact percentages (country risk 4.2%, financial risk 3.4%, economic risk 4.2% and political risk 3.0%). All of these results are significant at a 1% level.

6.2 The effect on the level of M&A intensity - Results

After having derived the effect of country specific risks on the probability that a country is chosen as host country for M&A activity, a more intuitive figure is needed that helps to quantify the impact of country risk on the level of M&A intensity. The Tobit model provides such results, which are depicted in Table 2. Analogous to the logistic regression before, the country level sample is investigated, initially. Its results can be found in the left of the table, whereas further tests of the sector level sample are documented in the right window.

Table 2: Results from the Tobit model

M&A intensity $i_{1,2}$	**Country level (controlled)** ß	$\frac{ß}{\emptyset\, i_1}$	$\frac{ß}{\emptyset\, i_1}\Delta R$	**Sector level (controlled)** ß	$\frac{ß}{\emptyset\, i_2}$	$\frac{ß}{\emptyset\, i_2}\Delta R$
Country Risk	0.00035* (0.0002)	0.4%	2.5%	0.00015*** (0.00002)	8.9%	51.6%
Financial Risk	0.0002 (0.0002)	-	-	0.00009*** (0.00003)	5,3%	77.8%
Economic Risk	0.0007** (0.0002)	0.86%	5.2%	0.00016*** (0.00003)	9.4%	57.4%
Political Risk	0.0001 (0.0002)	-	-	0.00012 (0.0002)	6.9%	13,8%

*Standard error in brackets. Significantly different from 0 at *** 1%, ** 5%, * 10%.*

First, country risk is considered as a separate variable. The result shows a positive and statistically highly significant (1% level) impact of a higher country risk score on M&A intensity. This holds, on a 10% level, also when controlling for the global risk situation and the country's foreign trade volume, while the control for the business cycle distorts statistical significance. The economic significance of this result, however, seems questionable at first glance. When M&A intensity increases by *ß* = 0.00035 for each point increase in the risk score, the effect seems weak. However, two aspects have to be accounted for: first of all, the M&A intensity figure takes only small values between 0 and 1 and the average M&A intensity ($\emptyset i_1$) across the country-level sample is not higher than 0.0813. The effect of country risk hence would raise the M&A intensity on average by 0.4%, which still represents a minor influence. Furthermore, however, it has to be considered that Bloomberg's risk scores typically do not change by only one or two points on the risk score. On average, country risk shows a differential of 5.8 risk points between two quarters.[4] Such change in the risk score (ΔR = 5.8) thus would effectuate a change of around 2.5 percent in the M&A intensity.

When the three country risk "components" are considered altogether, the Tobit regression assigns only to the economic risk score a positive relationship with M&A intensity, while a higher financial and political risk score (hence lower associated risks) would reduce M&A intensity. The results for these "joint" regressions can be seen on page 70 in the Appendix. What is remarkable about this result, which contradicts the second hypothesis, is its statistical

[4] This average value is computed as the differential between the country risk scores of two quarters and considers the absolute value of that change. For comparability purposes, the first quarter of each country is ignored, as the excel file otherwise would compute the differential between the first quarter of one country and the last quarter of another. This proceeding also applies to the financial and economic risk scores. As the political risk score is modified merely annually, only these changes are considered, not its constant behaviour between quarters.

significance. Both the positive coefficient of economic risk and the negative political risk coefficient are significant at a 1% level, the equally negative financial risk coefficient still at a 5% level. The coefficient signs hold both isolated and with controls for global risk and trade, although in the latter case only the scores of economic and political risk show statistical significance. A combination of financial and economic risk confirms the negative coefficient for financial risk and the positive of economic risk coefficient, significant at a 1% level.

To isolate the effects of the different risk scores from each other, the regression is applied for each risk score, separately. For the financial risk score, the model at the country level shows no statistically significant result, neither standalone nor in any of the control variable combinations. This also applies to the political risk score. Economic risk shows the oppposite case, which confirms the previous result where all risk scores are applied at once. Statistically significant at a 1% level, the model asserts a coefficient of $\beta = 0.0007$, controlled for global risk and trade. For an average economic risk rating modification of 6.1 points, this implies a 5.2% change in M&A intensity.

The model is repeated at the sector level. Here, each country is considered threefold per quarter, as each economic sector represents a single observation. Regarding only the country risk score itself, a significant (1% level) and positive coefficient of $\beta = 0.00014$ can be obtained, controlling for global risk, trade volume and the business cycle. This value appears to be remarkably smaller than before, which suggests a weaker impact. It should be reconsidered that the sectoral Tobit addresses another definition of M&A intensity which sets the aggregated transaction value per quarter into relation with the (annual) GDP contribution of the specific economic sector. M&A intensity values are in the following significantly smaller than in the previous sample, accounting for an average value of only 0.0017. On average, the coefficient thus accounts for an M&A intensity change of 8.2% per risk score point. If this is multiplied by the average risk point change of 5.8, an average rating modification would effectuate a change in the M&A intensity of 48%. This even increases to 52%, if the regression controls for peculiarities in the agricultural sector. As expected, the coefficient increases slightly to $\beta = 0.00015$, which raises the effect on M&A intensity to 8.9% per risk score point. It seems justified to apply the agricultural control also in the Tobit analysis.

Testing all country risk components at once, the financial risk score is again exposed to a lack of significance. Nonetheless, it shows no negative coefficient anymore, likewise the political risk score which proves to be statistically significant in several control combinations. The highest model significance among them is obtained by controlling only for the agricultural sector, and assigns a β-coefficient of 0.0001 to economic risk and round about half of this to political risk with $\beta = 0.00006$. This corresponds to a 5.8% change in M&A intensity per economic risk score point, and to a 3.5% change for any additional point in the political risk score.

For financial risk isolated, the sectoral Tobit regression provides a highly significant (1% level) positive coefficient, even attended by all control variables. Additionally to the statements made above regarding the appearantly “small” impact ($\beta = 0.00009$), the huge volatility of the financial risk score should be highlighted, that almost triples the changes in aggregated country risk. On average, financial risk ratings change by 14.7 points between two quarters which obviously boosts even small coefficients. While the coefficient already represents around 5.3% of the average intensity, a change of 14.7 points in this example would cause a 78% change in M&A intensity. This samewise holds for the economic risk score, which shows a remarkably higher positive coefficient (β = 0.00016), which is significant at a 1% level. This represents 9.4% of the average intensity value. The economic risk score is less volatile, its average rating shift amounts to 6.1 points, which would effectuate a 57% change in M&A intensity. Considering the amount of its coefficient, political risk ranks between financial and economic risk score (β = 0.00012). This represents a 6.9% change in M&A intensity for each point change in the political risk score. Political risk, however, is a more rigid figure which is published only annually and not on a quarterly base. Even considering only the absolute changes, once a new rating is published, political risk on average changes by merely 2.0 points in the score. An average political risk rating announcement thus is capable to change M&A intensity by around 14% which is the weakest influence among the three categories.

As can be easily derived from Table 2, the sector sample registers a much higher impact of country specific risks on M&A intensity than the country level. It should be kept in mind that both levels were investigated with different M&A intensity figures: While the country level observations were put into relation with the normalised number of M&A deals per quarter in a country, the sector level observations were related to the normalised aggregated transaction value. Country risk reveals to have a positive impact on both figures, but a much stronger on the intensity figure constructed by transaction values. The biggest difference can be observed for the financial risk score. While the intensity figure based on the number of M&A shows no significant impact of the financial risk score, its volatility turns financial risk into the main driver of the "financial" intensity measure. In contrast to the country level, statistical significance is indicated also for political risk. The only constant across both M&A figures is the economic risk score, which explains a huge part of the aggregated risk score's positive impact – both on the relative number of mergers and the relative aggregated transaction values.

6.3 Discussion

Considering all tests, the results of the logistic regression suggest to confirm the first hypothesis. Country risk positively affects the probability that a Latin American country welcomes foreign investments via M&A, which holds also when controlling for the country's business cycle and its integration into foreign trade and the global risk level.

In the smaller and country level based sample, the effects are higher than in the sector sample, and strongest for political risk. Accordingly, political risk seems to be the most important risk for investors in their decision whether to engage in FDI via M&A in a country. One possible explanation lies in the risk measurement itself. All of the three risk scores are to some extent based on subjective judgement, as economic or financial figures are translated into a range from 0 to 100. Political risk, however, exhibits a decisive difference to the other two. Most of the factors included into the financial and economic risk scores derive relatively straightforward from economic figures that are published in acknowledged and publicly available tools as the Worldbank, the IMF or central banks databases. Political risk scores, in contrast, rely on political events that represent "soft information" (Petersen, 2004). The asymmetric information expected behind high political risk thus might be significantly higher, which, following the theoretical framework, makes investors refrain from buying a target in this country. If political risk vice versa is low, the fear of asymmetric information should be lower.

Another interpretation is provided by the nature of these risks: while financial and economic risk can be assumed to follow underlying volatilities with "ups and downs" that balance in the long run, political risks are not exposed to any predictable cycles. Furthermore, losses due to political risks are linked closer to total losses which by many investors might be feared more than gradual losses: take the example of a governmental expropriation in comparison to decreasing sales due to economic risk. Also Hayakawa et al. (2012) find lower political risk to attract FDI. Following their results, impacts that are adversely related to FDI inflows are political risks such as corruption, conflicts and excess bureaucracy. All of these factors in the present sample can be currently observed e.g. in Venezuela, where practically no merger activity takes place anymore. For lower financial risk, these authors in contrast find no positive impact on FDI. This cannot be confirmed by the results which state a positive impact also for the financial and economic risk scores, though noteably lower than the coefficient of political risk, at least at the country level.

On the sector level, the results confirm those of the country level, but with much smaller effects. To some extent, this can be explained by peculiarities of the agricultural sector, which generally seems to account for little M&A activity. This creates a bulk of observations without any takeovers, where the absence of takeovers most probably is not due to country specific risks. The effect of the risk scores on the M&A decision is hence falsified. Not surprisingly, the coefficients increase significantly when one controls for the "anomaly" of the agricultural sector. Nonetheless, the effects remain far below the country level analysis. This could be interpreted in the sense that the larger sample is more representative than the former one and corrects the "overeagerly" positive result of the country-level.

The drop in coefficient values, however, could be motivated also quite contrariwise: Although the largest spikes can be reduced by the agricultural control variable, the division into sectors in the model might uncouple the M&A observations from the risk ratings. On the country level, each observation of M&A during a quarter is linked to one specific quarter rating. The sector level distributes each of these quarter ratings to three observations. To some extent, this could weaken the original relationship and distort also the size range of the different risk effects: The political risk score, formerly accounting for the strongest effect, now shows the weakest effect on the probability, reinforced perhaps through the only annual publication of political risk ratings which distributes the rating to even twelve observations. Here, further investigations seem necessary to evaluate how the different risks behave in larger samples that optimally take more countries into account. The first hypothesis can nonetheless be confirmed in both samples: a high country risk score positively affects the likelihood that a country accounts for incoming M&A deals during the respective quarter. If country risk itself is high, the likelihood to buy a target from the respective country thus decreases, which in this paper is explained by the upcoming asymmetric information. This refers to each of three three country risk components.

In the course of the Tobit model, the second hypothesis is tested which states that higher country risk lowers the M&A intensity in a country. Accordingly, the risk score would be positively correlated with the respective intensity measure. Although the output values appear negligible at first, the effect gets more eye-catching, when the coefficients are set into the context of the M&A intensity figures and when the average rating "jumps" are taken into account that quite seldomly limit on one risk point. Especially financial risk ratings exhibit a huge volatility that makes even "small" coefficients unroll huge changes in M&A intensity. On the country level, however, the second hypothesis can be confirmed only for the (joint) country risk measure and the economic risk score, whereas financial and political risk provide contradictory results with erratic behavior regarding statistical significance. An explanation might lie in the different research question. In contrast to the logistic regression, the Tobit model does not target the former *if*-question *whether* merger take place in a country. Instead, the Tobit model addresses the quantitative question *how much* M&A intensity a country assembles. This decision might depend more on the economic situation of a country and its market fluctuations, than on the level of corruption or risks relating to property rights. It is worth noting that the positive impact of the economic risk score holds also controlling for macroeconomic moderators such as the business cycle and the country's trade behaviour.

Applying the Tobit model to the sector level, the results yield much lower coefficient values, also considering the agricultural control. This derives from the different M&A intensity figure that is used. To the contrary, the effects are even higher when these coefficients are set into relation with the average M&A intensity value. This refers both to country risk and to every single of its component risks. This fully confirms the hypothesis of higher M&A intensity in the course of higher risk ratings. When the risk components are considered separately and the average changes in risk ratings are taken into account, the results provide evidence for very strong effects on M&A intensity exerted by country specific risks. This impact is strongest for financial risk, which contradicts Hayakawa et al. (2012), but also Harvey (2003) and Bouchet et al. (2003) who explain "risk seeking" behaviour of foreign investors by diversification gains. The results of the sector level suggest the opposite, as the financial risk score is positively related with the M&A intensity, not negatively. Hence, foreign acquirers are not attracted by financial risk, but prefer financial risk to be low and the score respectively high. This contradiction could be explained by an increasing caution regarding emerging markets in the aftermath of the financial crisis. Another reason might be the fact that a firm, once acquired, cannot be sold as quickly as other securities or equities – and therefore is chosen with more prudence – Harvey and Bouchet et al. did refer to investment in general, not explicitly to FDI.

The fact that the effects on the sector level for all risk scores exceed the country level (also relative to the respective intensity measure) puts the previous suggestion into question which assumed the sectoral division to uncouple risk ratings and M&A observations. It seems plausible to assume that the larger, sector sample provides more explanatory power than the smaller one, not fewer. The main difference to the country level, however, is not the number of observations, but the different intensity measure. The results on the country level suggest that the relative number of M&A in a country is mainly motivated by economic risk, whereas financial risk and political risk exhibit no significant impact on i_1. The relative aggregated transaction value, measured by i_2, viceversa is strongly influenced by financial risk, though mainly because of the high volatility of the financial risk score. Considering only the coefficient value, the economic risk score samewise shows the strongest impact to the "financial" intensity measure, i_2.

Generally, it seems questionable whether investors consider country risk ratings so shortly before the public announcement of a deal. This study analyses the relationship between the risk rating of one quarter to the M&A activity in the following quarter. As *Bloomberg* publishes these ratings at the end of a quarter, in an extreme example only one day lies between the rating publication by end of March and a deal announcement on 1st of April. On the one hand, the high volatility across the different ratings, especially for the financial risk score, make it advisable to consider country risks even in the short term right before a deal closure. A sudden devaluation, but also a political change accompanied by expropriation or armed conflicts might quickly turn an attractive deal opportunity into an investor's nightmare and, to reconsider Akerlof (1970), a lemon due to its risk environment. Nonetheless, it hardly seems realistic, that investors make their investment decision on a larger scale dependent on spontaneous rating shifts. This is why further studies on the topic should test for longer time intervals between the rating publication and the merger announcement, such as practiced for example in Erb et al. (1995). In the present study with only 19 quarters, any additional quarter of delay would have painfully reduced the number of observations and the explanatory power of the model. Therefore, further research should apply larger time series which cope more easily with a gradual reduction of observations and nonetheless ensure full availability of rating information for investors, which seems questionable in the event of only one quarter in between.

To which extent ever the present relationship between risk scores and M&A announcements holds true in reality, these ratings can be interpreted as a good proxy for the actual risk situation of a country. The present thesis, especially the Tobit regression on the sector level, demonstrates explicitly, how closely country specific risks and the intensity of FDI flows via M&A seem to interact. A superficial view on the applied data – for example comparing Chile and Venezuela – can be confirmed empirically: Though these economies are comparable in size and both account for huge natural resources, Chilean targets welcome foreign buyers on a frequent base, while Venezuela has turned into a no man's land regarding transaction activity. The results provide strong evidence that such cross-country differences can be explained by country specific risks. Relatively, these country effects appear even stronger when it is brought to mind that any purchase depends largely on the product itself, i.e. the firm. The results suggest, however, that a "comfortable" country risk situation to some extent is the background, without which a firm purchase is not even considered. These findings strongly contradict Silva Sales and Fundão Zanini (2017) who denied an impact of economic, political and social factors on deal failures: There is reason to suggest that country specific risks very well effectuate deal failures – indeed, before merger talks are opened, anyway. Targets from the respective countries get simply sorted out in the forefront of every M&A auction as investors expect deterrently high shadow costs of information.

7. Conclusion

The aim of this thesis is to fathom the relationship between country risk and M&A in Latin America. Country risk is set into context with asymmetric information, which is assumed to be a “deal breaker” in M&A negotiations and larger in the event of higher risks. While the literature so far had not postulated any direct relationship between country factors and deal failures, this paper suggests that higher country risks effectuate that the acquisition of targets in the respective countries is not even considered, and that such deals might “fail“ before potential negotiations have even started. This suggestion is tested by two statistical models: a logistic regression addresses the effect of country risk on the likelihood that countries account for mergers. Afterwards, a Tobit model quantifies the impact of country risk on the level of M&A intensity. The respective hypotheses can both be confirmed which provides empirical evidence that country risk significantly influences not only the decision whether to invest in a country, but also the M&A intensity in the respective country.

The results confirm an impression that is eye-catching already at a superficial sight on the database: Where reliable ratings such as the utilised Bloomberg risk scores are sufficiently low and the addressed risks respectively high, foreign acquirers don’t seem to reflect about diversification strategies in order to “benefit” from higher risks and corresponding returns. They refrain from buying targets from these countries, how attractive ever the firms themselves might be. Although the hypotheses can be confirmed for all risk scores, the results suggest varying effects. The decision whether to invest in a country at all seems strongly influenced by economic risk, in the country sample also by political risk. Meanwhile, the relative number of M&A deals in a country is overwhelmingly driven by economic risk. To complete the list, M&A intensity in terms of aggregated transaction values depends strongly on the financial risk of a country, though mainly due to the high volatility of financial risk, whereas economic risk shows the strongest individual impact.

Further research should try to investigate whether there is a numerical threshold, below which investors categorically exclude countries from their target search, which in a sample of only eight countries seems barely meaningful. Generally, the inclusion of more countries, also from other world regions, could enrich the present analysis to the extent whether the confirmed relationship between country risk and M&A activity is limited to the Latin American hemisphere or emerging markets. Additionally, it should be considered that the five years-period of investigation represents a relatively short period of time, as acquisitions are usually implemented in a period between half a year and three years. Here, longer time series would enable the research to investigate the relationship between risk rating and M&A announcement with longer time intervals in between. Furthermore, longer time series would provide the opportunity to monitor different business cycles and thus equip the analysis with further explanatory power. The present analysis has shed light on the period between 2013 and 2017, which is commonly classified as a period of recession in most Latin American countries. If mergers are seen as the marriage between two firms, such as Silva Sales and Fundão Zanini (2017) characterised firm transactions exemplarily, the present thesis thus described “love in the time of cholera“ (García Márquez, 1985), like the perhaps most famous book of the region is called. It will be the task of further research to test whether the strong impact of country specific risks is constant over time, or whether the results are just representative for the present recession period, where investors might be generally more alert and sensitive towards risk.

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V. Annexes

V.1 Summary statistics

Table 3: Summary Statistics - M&A per quarter (Country level sample)

Country	Variable	Mean	Median	Minimum	Maximum	Standard Deviation
Argentina	M&A (No.)	8.58	9.00	1.00	17.00	3.73
	Listed Firms	94.68	95.00	93.00	97.00	1.56
	i_1	0.09	0,.09	0.01	0.18	0.04
Brazil	M&A (No.)	46.84	46.00	21.00	70.00	11.19
	Listed Firms	343.79	345.00	335.00	352.00	6.72
	i_1	0.14	0.13	0.06	0.21	0.03
Chile	M&A (No.)	10.21	10.00	5.00	17.00	2.76
	Listed Firms	220.89	223.00	212.00	230.00	7.14
	i_1	0.05	0.04	0.02	0.08	0.01
Colombia	M&A (No.)	9.95	10.00	5.00	20.00	3.82
	Listed Firms	69.05	69.00	67.00	72.00	1.64
	i_1	0.14	0.14	0.07	0.28	0.06
Ecuador	M&A (No.)	1.26	1.00	0.00	4.00	1.12
	Listed Firms	50.00	50.00	46.00	52.00	2.10
	i_1	0.03	0.02	0.00	0.08	0.02
Mexico	M&A (No.)	22.42	23.00	14.00	35.00	5.74
	Listed Firms	138.63	138.00	136.00	141.00	2.11
	i_1	0.16	0.16	0.10	0.26	0.04
Peru	M&A (No.)	8.05	9.00	0.00	14.00	3.61
	Listed Firms	214.11	212.00	211.00	218.00	2.94
	i_1	0.04	0.04	0.00	0.07	0.02
Venezuela	M&A (No.)	0.37	0.00	0.00	2.00	0.67
	Listed Firms	40.63	40.00	37.00	46.00	3.01
	i_1	0.01	0.00	0.00	0.05	0.02
Sample	M&A (No.)	13.46	9.00	0.00	70.00	15.05
	Listed Firms	146.47	116.50	37.00	352.00	99.34
	i_1	0.08	0.06	0.00	0.28	0.06

Sources: Thomson Reuters IMA, FIAB, Worldbank

Table 4: Summary Statistics – M&A per quarter (Sector level sample)

Country	Variable	Mean	Median	Minimum	Maximum	Standard Deviation
Argentina	M&A ($)	145.3	1.8	0.0	1,327.2	310.8
	i_2	0.0006	0.0000	0.0000	0.0081	0.0014
Brazil	M&A ($)	1,094.8	466.0	0,0	8,124.3	1,714.4
	i_2	0.0019	0.0005	0.0000	0.0212	0.0036
Chile	M&A ($.)	342.8	14.4	0.0	3,381.3	682.8
	i_2	0.0038	0.0002	0.0000	0.0384	0.0079
Colombia	M&A ($.)	138.7	0.2	0.0	2,013.8	353.4
	i_2	0.0012	0.0000	0.0000	0.0219	0.0036
Ecuador	M&A ($.)	11.4	0.0	0.0	275.1	48.2
	i_2	0.0003	0.0000	0.0000	0.0084	0.0013
Mexico	M&A ($.)	551.0	111.1	0.0	2,850.2	853.0
	i_2	0.0011	0.0002	0.0000	0.0079	0.0019
Peru	M&A ($)	353.2	0.0	0.0	7,249.6	1,113.9
	i_2	0.0046	0.0000	0.0000	0.1025	0.0153
Venezuela	M&A ($)	10	0.0	0.0	500.0	93.1
	i_2	0.0002	0.0000	0.0000	0.0056	0.0010
Sample	M&A ($)	332.4	0.0	0.0	8,124.3	897.8
	i_2	0.0017	0.0000	0.0000	0.1025	0.0066

Source: ThomsonReuters IMA, IMF, Statista

Table 5: Summary Statistics - Risk Scores per country

Country	Risk Factor	Mean	Median	Minimum	Maximum	Standard Deviation
Argentina	Country Risk	39.73	39.32	19.65	63.55	11.20
	Financial Risk	38.64	38.68	15.47	64.06	16.19
	Economic Risk	39.73	39.32	19.65	63.55	11.20
	Political Risk	9.11	8.26	7.68	11.82	1.62
Brazil	Country Risk	39.62	34.99	22.13	66.79	15.17
	Financial Risk	28.53	26.81	4.95	70.01	17.80
	Economic Risk	39.62	34.99	22.13	66.79	15.17
	Political Risk	13.52	12.15	10.94	17.03	2.67
Chile	Country Risk	61.24	69.80	54.52	83.35	7.82
	Financial Risk	61.24	61.17	22.75	90.62	17.89
	Economic Risk	61.24	69.80	54.52	83.35	7.82
	Political Risk	81.25	82.25	74.70	86.75	4.79
Colombia	Country Risk	56.61	54.08	33.99	79.99	16.10
	Financial Risk	38.86	37.42	16.97	71.20	14.44
	Economic Risk	56.61	54.08	33.99	79.99	16.10
	Political Risk	31.18	30.53	28.93	33.43	1.87
Ecuador	Country Risk	15.58	13.78	4.52	32.51	9.74
	Financial Risk	38.58	37.93	22.85	55.37	9.48
	Economic Risk	15.58	13.78	4.52	32.51	9.74
	Political Risk	6.74	6.53	6.46	7.21	0.30
Mexico	Country Risk	70.34	70.78	12.69	77.80	5.45
	Financial Risk	45.41	47.87	12.69	70.70	15.40
	Economic Risk	70.34	70.78	12.69	77.80	5.45
	Political Risk	33.82	32.90	25.43	39.02	4.37
Peru	Country Risk	65.19	63.61	53.96	80.14	7.25
	Financial Risk	73.06	71.91	31.23	95.25	16.32
	Economic Risk	65.19	63.61	53.96	80.14	7.25
	Political Risk	29.45	28.33	24.58	34.54	3.95
Venezuela	Country Risk	8.13	6.66	3.07	19.76	4.27
	Financial Risk	7.63	5.97	2.70	17.04	4.51
	Economic Risk	8.13	6.66	3.07	19.76	4.27
	Political Risk	4.22	4.22	4.05	4.39	0.14

Sources: Bloomberg Country Risk Assessment

V.2 Subdivision into sectors

Services Sector:
Advertising Services; Air Transportation and Shipping; Amusement and Recreation Services; Business Services; Commercial Banks; Bank Holding Companies; Construction Firms; Credit Institutions; Educational Services; Health Services; Hotels and Casinos; Insurance; Investment &; Commodity Firms, Dealers, Exchanges; Legal Services; Miscellaneous Retail Trade; Miscellaneous Services; Other Financial; Personal Service; Printing, Publishing, and Allied Services; Public Administration; Radio and Television; Broadcasting Stations; Real Estate; Mortgage Bankers and Brokers; Repair Services; Retail Trade-Eating and Drinking Places; Retail Trade-Food Stores; Retail Trade-General Merchandise and Apparel; Retail Trade-Home Furnishings; Sanitary Services; Social Services; Telecommunications; Transportation and Shipping (except air); Wholesale Trade-Durable Goods; Wholesale Trade-Nondurable Goods.

Industrial Sector:
Aerospace and Aircraft; Chemicals and Allied Products; Communications Equipment; Computer and Office Equipment; Drugs; Electric, Gas, and Water Distribution; Electronic and Electrical Equipment Food and Kindred Products; Leather and Leather Products; Machinery; Measuring, Medical, Photo Equipment, Clocks; Metal and Metal Products; Mining; Miscellaneous Manufacturing; Motion Picture Production and Distribution; Oil and Gas; Petroleum Refining; Paper and Allied Products; Prepackaged Software; Rubber and Miscellaneous Plastic Products; Soaps, Cosmetics, and Personal-Care Products; Stone, Clay, Glass, and Concrete Products; Textile and Apparel Products; Tobacco Products; Transportation Equipment; Wood Products, Furniture, and Fixtures.

Agricultural Sector:
Agriculture, Forestry, and Fishing.

V.3 Results of the logistic regressions (Country level)

```
GET DATA
  /TYPE=XLSX
  /FILE='/Users/Lukas/Desktop/Masterthesis/Aggregated.xlsx'
  /SHEET=name 'Country'
  /CELLRANGE=FULL
  /READNAMES=ON
  /DATATYPEMIN PERCENTAGE=95.0
  /HIDDEN IGNORE=YES.
EXECUTE. DATASET NAME DataSet1 WINDOW=FRONT.
LOGISTIC REGRESSION VARIABLES Mergerornot
  /METHOD=ENTER CR
  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).
```

Case Processing Summary

Unweighted Cases		N	Percent
Selected Cases	Included in Analysis	152	94.4
	Missing Cases	9	5.6
	Total	161	100.0
Unselected Cases		0	.0
Total		161	100.0

Dependent Variable Encoding

Original Value	Internal Value
0	0
1	1

Mergerornot	Binary variable (1: merger(s), 0: no merger)
CR	Country Risk
FR	Financial Risk
ER	Economic Risk
PR	Political Risk
C: Cycle	Control for business cycle (real GDP growth rate)
C: Glob	Control for global risk premium
C: Trade	Control for trade activity of a country
C: Agric	Control for afiiliation to the agricultural sector

(0: agricultural sector, 1: services or industrial sector)

For an interpretation of the Nagelkerke “pseudo” coefficient of determination, please see

```
LOGISTIC REGRESSION
VARIABLES Mergerornot
  /METHOD=ENTER CR
  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).
```

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	45.879	1	.000
	Block	45.879	1	.000
	Model	45.879	1	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square[5]
1	72.491[a]	.261	.482

a. Estimation terminated at iteration number 8 because parameter estimates changed by less than .001.

Classification Table[a]

	Observed		Predicted: Merger or not 0	Predicted: Merger or not 1	Predicted: Percentage Correct
Step 1	Merger or not	0	13	7	65.0
		1	5	127	96.2
	Overall Percentage				92.1

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	CR	.149	.038	15.671	1	.000	1.161
	Constant	-.799	.500	2.559	1	.110	.450

a. Variable(s) entered on step 1: CR.

---

[5] For an interpretation of Nagelkerke's "pseudo" coefficient of determination, see Nagelkerke, N.J.D. (1991).

```
LOGISTIC REGRESSION
VARIABLES Mergerornot
  /METHOD=ENTER FR ER PR
  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).
```

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	49.070	3	.000
	Block	49.070	3	.000
	Model	49.070	3	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	69.301[a]	.276	.510

a. Estimation terminated at iteration number 9 because parameter estimates changed by less than .001.

Classification Table[a]

	Observed		Predicted		
			Merger or not		Percentage Correct
			0	1	
Step 1	Merger or not	0	13	7	65.0
		1	5	127	96.2
	Overall Percentage				92.1

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	FR	.029	.020	2.145	1	.143	1.029
	ER	.037	.030	1.522	1	.217	1.038
	PR	.151	.121	1.558	1	.212	1.163
	Constant	-1.595	.707	5.088	1	.024	.203

a. Variable(s) entered on step 1: FR, ER, PR.

```
LOGISTIC REGRESSION
VARIABLES Mergerornot
  /METHOD=ENTER FR ER
  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).
```

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	46.716	2	.000
	Block	46.716	2	.000
	Model	46.716	2	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	71.655[a]	.265	.489

a. Estimation terminated at iteration number 7 because parameter estimates changed by less than .001.

Classification Table[a]

	Observed		Predicted: Merger or not 0	Predicted: Merger or not 1	Predicted: Percentage Correct
Step 1	Merger or not	0	12	8	60.0
		1	5	127	96.2
	Overall Percentage				91.4

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	FR	.035	.019	3.258	1	.071	1.035
	ER	.072	.021	11.266	1	.001	1.075
	Constant	-1.226	.561	4.779	1	.029	.294

a. Variable(s) entered on step 1: FR, ER.

```
LOGISTIC REGRESSION
VARIABLES Mergerornot
  /METHOD=ENTER FR PR
  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).
```

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	47.387	2	.000
	Block	47.387	2	.000
	Model	47.387	2	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	70.984[a]	.268	.495

a. Estimation terminated at iteration number 9 because parameter estimates changed by less than .001.

Classification Table[a]

	Observed		Predicted: Merger or not 0	Predicted: Merger or not 1	Predicted: Percentage Correct
Step 1	Merger or not	0	14	6	70.0
		1	5	127	96.2
	Overall Percentage				92.8

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	FR	.033	.019	2.948	1	.086	1.033
	PR	.255	.105	5.924	1	.015	1.291
	Constant	-1.712	.745	5.285	1	.022	.181

a. Variable(s) entered on step 1: FR, PR.

```
LOGISTIC REGRESSION
VARIABLES Mergerornot
  /METHOD=ENTER PR
  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).
```

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	44.274	1	.000
	Block	44.274	1	.000
	Model	44.274	1	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	74.096[a]	.253	.467

a. Estimation terminated at iteration number 9 because parameter estimates changed by less than .001.

Classification Table[a]

	Observed		Predicted: Merger or not 0	Predicted: Merger or not 1	Predicted: Percentage Correct
Step 1	Merger or not	0	14	6	70.0
		1	5	127	96.2
	Overall Percentage				92.8

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	PR	.356	.118	9.151	1	.002	1.427
	Constant	-1.577	.821	3.689	1	.055	.207

a. Variable(s) entered on step 1: PR.

LOGISTIC REGRESSION
VARIABLES Mergerornot
/METHOD=ENTER ER
/CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	43.206	1	.000
	Block	43.206	1	.000
	Model	43.206	1	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	75.165[a]	.247	.457

a. Estimation terminated at iteration number 7 because parameter estimates changed by less than .001.

Classification Table[a]

	Observed		Predicted		
			Merger or not		Percentage Correct
			0	1	
Step 1	Merger or not	0	8	12	40.0
		1	9	123	93.2
	Overall Percentage				86.2

a. The cut value is 0.500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	ER	.089	.020	19.433	1	.000	1.093
	Constant	-.689	.459	2.260	1	.133	.502

a. Variable(s) entered on step 1: ER.

```
LOGISTIC REGRESSION
VARIABLES Mergerornot
  /METHOD=ENTER FR
  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).
```

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	28.396	1	.000
	Block	28.396	1	.000
	Model	28.396	1	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	89.975[a]	.170	.315

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Classification Table[a]

	Observed		Predicted: Merger or not 0	Predicted: Merger or not 1	Predicted: Percentage Correct
Step 1	Merger or not	0	5	15	25.0
		1	1	131	99.2
	Overall Percentage				89.5

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	FR	.073	.017	17.894	1	.000	1.076
	Constant	-.303	.460	.433	1	.510	.739

a. Variable(s) entered on step 1: FR.

```
LOGISTIC REGRESSION
VARIABLES Mergerornot
  /METHOD=ENTER CR CCycle CGlob CTrade
  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).
```

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	52.793	4	.000
	Block	52.793	4	.000
	Model	52.793	4	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	65.577[a]	.293	.542

a. Estimation terminated at iteration number 8 because parameter estimates changed by less than .001.

Classification Table[a]

Observed			Predicted: Merger or not 0	Predicted: Merger or not 1	Percentage Correct
Step 1	Merger or not	0	11	9	55.0
		1	4	128	97.0
	Overall Percentage				91.4

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	CR	.111	.042	6.863	1	.009	1.117
	C: Cycle	.042	.065	.406	1	.524	1.042
	C: Glob	.861	.780	1.217	1	.270	2.365
	C: Trade	2.036	1.206	2.851	1	.091	7.661
	Constant	-6.141	4.487	1.873	1	.171	.002

a. Variable(s) entered on step 1: CR, C: Cycle, C: Glob, C: Trade.

LOGISTIC REGRESSION
VARIABLES Mergerornot
/METHOD=ENTER FR CCycle CGlob CTrade
/CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	50.258	4	.000
	Block	50.258	4	.000
	Model	50.258	4	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	68.112[a]	.282	.520

a. Estimation terminated at iteration number 9 because parameter estimates changed by less than .001.

Classification Table[a]

	Observed		Predicted: Merger or not 0	Predicted: Merger or not 1	Percentage Correct
Step 1	Merger or not	0	10	10	50,0
		1	3	129	97,7
	Overall Percentage				91,4

a. The cut value is ,500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	FR	.075	.025	8.671	1	.003	1.078
	C: Cycle	.029	.071	.169	1	.681	1.029
	C: Glob	1.071	.780	1.887	1	.170	2.918
	C: Trade	4.896	2.114	5.363	1	.021	133.743
	Constant	-8.781	4.824	3.314	1	.069	.000

a. Variable(s) entered on step 1: FR, C: Cycle, C: Glob, C: Trade.

```
LOGISTIC REGRESSION
VARIABLES Mergerornot
  /METHOD=ENTER ER CCycle CGlob CTrade
  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).
```

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	49.181	4	.000
	Block	49.181	4	.000
	Model	49.181	4	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	69.189[a]	.276	.511

a. Estimation terminated at iteration number 8 because parameter estimates changed by less than .001.

Classification Table[a]

	Observed		Predicted: Merger or not 0	Predicted: Merger or not 1	Predicted: Percentage Correct
Step 1	Merger or not	0	11	9	55.0
		1	7	125	94.7
	Overall Percentage				89.5

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	ER	.064	.022	8.769	1	.003	1.066
	C: Cycle	.077	.062	1.545	1	.214	1.081
	C: Glob	1.067	.766	1.938	1	.164	2.907
	C: Trade	1.565	1.092	2.055	1	.152	4.784
	Constant	-6.861	4.404	2.427	1	.119	.001

a. Variable(s) entered on step 1: ER, C: Cycle, C: Glob, C: Trade.

```
LOGISTIC REGRESSION
VARIABLES Mergerornot
  /METHOD=ENTER PR CCycle CGlob CTrade
  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).
```

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	50.133	4	.000
	Block	50.133	4	.000
	Model	50.133	4	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	68.238[a]	.281	.519

a. Estimation terminated at iteration number 9 because parameter estimates changed by less than ,001.

Classification Table[a]

			Predicted		
			Merger or not		Percentage Correct
	Observed		0	1	
Step 1	Merger or not	0	11	9	55.0
		1	4	128	97.0
	Overall Percentage				91.4

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	PR	.165	.086	3.714	1	.054	1.180
	C: Cycle	.088	.060	2.120	1	.145	1.092
	C: Glob	.712	.751	.898	1	.343	2.038
	C: Trade	2.091	1.294	2.611	1	.106	8.091
	Constant	-5.073	4.264	1.416	1	.234	.006

a. Variable(s) entered on step 1: PR, C: Cycle, C: Glob, C: Trade.

V.4 Results of the logistic regression (Sector level)

```
GET DATA
  /TYPE=XLSX
  /FILE='/Users/Lukas/Desktop/Masterthesis/Aggregated.xlsx'
  /SHEET=name 'Sectoral'
  /CELLRANGE=FULL
  /READNAMES=ON
  /DATATYPEMIN PERCENTAGE=95.0
  /HIDDEN IGNORE=YES.
EXECUTE.
DATASET NAME DataSet1 WINDOW=FRONT.
LOGISTIC REGRESSION VARIABLES Mergerornot
  /METHOD=ENTER CR
  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).
```

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	456	90.5
	Missing Cases	48	9.5
	Total	504	100.0
Unselected Cases		0	.0
Total		504	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
0	0
1	1

```
LOGISTIC REGRESSION VARIABLES Mergerornot
  /METHOD=ENTER CR
  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).
```

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	40.782	1	.000
	Block	40.782	1	.000
	Model	40.782	1	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	574.279[a]	.086	.116

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Classification Table[a]

Observed			Predicted: Merger or not 0	Predicted: Merger or not 1	Predicted: Percentage Correct
Step 1	Merger or not	0	101	83	54.9
		1	64	208	76.5
	Overall Percentage				67.8

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	CR	.027	.004	36.813	1	.000	1.027
	Constant	-.529	.175	9.132	1	.003	.589

a. Variable(s) entered on step 1: CR.

```
LOGISTIC REGRESSION VARIABLES Mergerornot
  /METHOD=ENTER FR
  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).
```

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	26.826	1	.000
	Block	26.826	1	.000
	Model	26.826	1	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	588.234[a]	.057	.077

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Classification Table[a]

			Predicted		
			Merger or not		Percentage Correct
	Observed		0	1	
Step 1	Merger or not	0	66	118	35.9
		1	48	224	82.4
	Overall Percentage				63.6

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	FR	.022	.004	24.871	1	.000	1.022
	Constant	-.505	.200	6.370	1	.012	.603

a. Variable(s) entered on step 1: FR.

LOGISTIC REGRESSION
VARIABLES Mergerornot
/METHOD=ENTER ER
/CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	49.871	1	.000
	Block	49.871	1	.000
	Model	49.871	1	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	565.190[a]	.104	.140

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Classification Table[a]

			Predicted		
			Merger or not		Percentage Correct
	Observed		0	1	
Step 1	Merger or not	0	90	94	48.9
		1	48	224	82.4
	Overall Percentage				68.9

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	ER	.028	.004	45.816	1	.000	1.028
	Constant	-.859	.207	17.299	1	.000	.424

a. Variable(s) entered on step 1: ER.

```
LOGISTIC REGRESSION
VARIABLES Mergerornot
  /METHOD=ENTER PR
  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).
```

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	25.199	1	.000
	Block	25.199	1	.000
	Model	25.199	1	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	589.862[a]	.054	.073

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Classification Table[a]

	Observed		Predicted		
			Merger or not		Percentage Correct
			0	1	
Step 1	Merger or not	0	82	102	44.6
		1	20	252	92.6
	Overall Percentage				73.2

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	PR	.022	.005	21.271	1	.000	1.023
	Constant	-.159	.147	1.165	1	.280	.853

a. Variable(s) entered on step 1: PR.

```
LOGISTIC REGRESSION
VARIABLES Mergerornot
  /METHOD=ENTER CR CAgric
  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).
```

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	242.476	2	.000
	Block	242.476	2	.000
	Model	242.476	2	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	372.585[a]	.412	.557

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Classification Table[a]

	Observed		Predicted: Merger or not 0	Predicted: Merger or not 1	Predicted: Percentage Correct
Step 1	Merger or not	0	115	69	62.5
		1	25	247	90.8
	Overall Percentage				79.4

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	CR	.049	.007	50.322	1	.000	1.050
	C: Agric	3.755	.349	115.504	1	.000	42.750
	Constant	-3.706	.426	75.511	1	.000	.025

a. Variable(s) entered on step 1: CR, C: Agric.

```
LOGISTIC REGRESSION
VARIABLES Mergerornot
  /METHOD=ENTER FR CAgric
 /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).
```

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	217.311	2	.000
	Block	217.311	2	.000
	Model	217.311	2	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	397.750[a]	.379	.512

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Classification Table[a]

	Observed		Predicted: Merger or not 0	Predicted: Merger or not 1	Predicted: Percentage Correct
Step 1	Merger or not	0	120	64	65.2
		1	26	246	90.4
	Overall Percentage				80.3

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	FR	.037	.006	36.940	1	.000	1.038
	C: Agric	3.397	.303	125.464	1	.000	29.888
	Constant	-3.312	.395	70.256	1	.000	.036

a. Variable(s) entered on step 1: FR, C: Agric.

```
LOGISTIC REGRESSION
VARIABLES Mergerornot
  /METHOD=ENTER ER CAgric
  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).
```

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	257.398	2	.000
	Block	257.398	2	.000
	Model	257.398	2	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	357.663[a]	.431	.583

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Classification Table[a]

	Observed		Predicted: Merger or not 0	Predicted: Merger or not 1	Predicted: Percentage Correct
Step 1	Merger or not	0	152	32	82.6
		1	38	234	86.0
	Overall Percentage				84.6

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	ER	.051	.007	60.261	1	.000	1.053
	C: Agric	3.884	.356	119.245	1	.000	48.610
	Constant	-4.345	.469	85.929	1	.000	.013

a. Variable(s) entered on step 1: ER, C: Agric.

```
LOGISTIC REGRESSION
VARIABLES Mergerornot
  /METHOD=ENTER PR CAgric
  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).
```

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	214.903	2	.000
	Block	214.903	2	.000
	Model	214.903	2	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	400.158[a]	.376	.508

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Classification Table[a]

			Predicted		
			Merger or not		Percentage Correct
	Observed		0	1	
Step 1	Merger or not	0	111	73	60.3
		1	22	250	91.9
	Overall Percentage				79.2

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	PR	.038	.007	33.129	1	.000	1.038
	C: Agric	3.398	.308	121.803	1	.000	29.901
	Constant	-2.754	.337	66.831	1	.000	.064

a. Variable(s) entered on step 1: PR, C: Agric.

LOGISTIC REGRESSION
VARIABLES Mergerornot
/METHOD=ENTER CR CAgric CCycle CGlob CTrad
/CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	270.156	5	.000
	Block	270.156	5	.000
	Model	270.156	5	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	344.905[a]	.447	.604

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Classification Table[a]

	Observed		Predicted: Merger or not 0	Predicted: Merger or not 1	Predicted: Percentage Correct
Step 1	Merger or not	0	132	52	71.7
		1	28	244	89.7
	Overall Percentage				82.5

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	CR	.041	.008	25.916	1	.000	1.042
	C: Agric	4.086	.385	112.526	1	.000	59.502
	C: Cycle	.051	.036	2.076	1	.150	1.052
	C: Glob	.074	.335	.048	1	.826	1.076
	C: Trad	.747	.158	22.338	1	.000	2.110
	Constant	-4.787	1.966	5.929	1	.015	.008

a. Variable(s) entered on step 1: CR, C: Agric, C: Cycle, C: Glob, C: Trad.

LOGISTIC REGRESSION
VARIABLES Mergerornot
/METHOD=ENTER FR CAgric CCycle CGlob CTrad
/CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	261.446	5	.000
	Block	261.446	5	.000
	Model	261.446	5	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	353.615[a]	.436	.589

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Classification Table[a]

	Observed		Predicted: Merger or not 0	Predicted: Merger or not 1	Percentage Correct
Step 1	Merger or not	0	137	47	74.5
		1	28	244	89.7
	Overall Percentage				83.6

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	FR	.034	.008	20.080	1	.000	1.034
	C: Agric	3.871	.353	120.428	1	.000	47.971
	C: Cycle	.063	.037	2.910	1	.088	1.065
	C: Glob	.016	.333	.002	1	.961	1.016
	C: Trad	.890	.161	30.724	1	.000	2.436
	Constant	-4.451	1.946	5.234	1	.022	.012

a. Variable(s) entered on step 1: FR, C: Agric, C: Cycle, C: Glob, C: Trad.

```
LOGISTIC REGRESSION
VARIABLES Mergerornot
  /METHOD=ENTER ER CAgric CCycle CGlob CTrad
  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).
```

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	269.018	5	.000
	Block	269.018	5	.000
	Model	269.018	5	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	346.043[a]	.446	.602

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Classification Table[a]

	Observed		Predicted		
			Merger or not		Percentage Correct
			0	1	
Step 1	Merger or not	0	138	46	75.0
		1	36	236	86.8
	Overall Percentage				82.0

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	ER	.041	.008	26.596	1	.000	1.042
	C: Agric	4.015	.368	118.951	1	.000	55.416
	C: Cycle	.036	.037	.970	1	.325	1.037
	C: Glob	.149	.336	.197	1	.657	1.161
	C: Trad	.527	.162	10.553	1	.001	1.693
	Constant	-5.358	1.984	7.292	1	.007	.005

a. Variable(s) entered on step 1: ER, C: Agric, C: Cycle, C: Glob, C: Trad.

```
LOGISTIC REGRESSION
VARIABLES Mergerornot
  /METHOD=ENTER PR CAgric CCycle CGlob CTrad
  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).
```

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	259.310	5	.000
	Block	259.310	5	.000
	Model	259.310	5	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	355.750[a]	.434	.586

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Classification Table[a]

	Observed		Predicted: Merger or not 0	Predicted: Merger or not 1	Predicted: Percentage Correct
Step 1	Merger or not	0	132	52	71.7
		1	28	244	89.7
	Overall Percentage				82.5

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	PR	.030	.007	17.568	1	.000	1.030
	C: Agric	3.905	.365	114.284	1	.000	49.669
	C: Cycle	.105	.034	9.634	1	.002	1.111
	C: Glob	.130	.326	.158	1	.691	1.139
	C: Trad	.815	.158	26.668	1	.000	2.260
	Constant	-4.462	1.912	5.449	1	.020	.012

a. Variable(s) entered on step 1: PR, C: Agric, C: Cycle, C: Glob, C: Trad.

V.5 Results of the Tobit model (Country level)

using observations 1-152, standard errors based on Hessian
Dependent variable:
M&A Intensity based on the number of deals normalised by the number of listed firms

Country risk

	Coefficient	*Std. Error*	*z*	*p-value*	
const	0.0515739	0.0109138	4.726	<0.0001	***
CR	**0.00068203**	0.00024988	2.729	0.0063	***

Chi-square(1)	7.449288	p-value	0.006346
Log-likelihood	140.5945	Akaike criterion	−275.1890
Schwarz criterion	−266.1173	Hannan-Quinn	−271.5037

sigma = 0.0716197 (0.004544)
Left-censored observations: 20
Right-censored observations: 0
Test for normality of residual –
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 21.1187
with p-value = 2.59491e-05

Country risk (controlled)

	Coefficient	*Std. Error*	*z*	*p-value*	
const	−0.0149964	0.0650294	−0.2306	0.8176	
CR	**0.00034802**	0.00019840	1.754	0.0794	*
CGlob	0.00683623	0.0112351	0.6085	0.5429	
CTrade	0.0405866	0.00448448	9.050	<0.0001	***

Chi-square(3)	91.60824	p-value	9.89e-20
Log-likelihood	173.2246	Akaike criterion	−336.4492
Schwarz criterion	−321.3298	Hannan-Quinn	−330.3071

sigma = 0.0561734 (0.00355994)
Left-censored observations: 20
Right-censored observations: 0
Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 21.5032
with p-value = 2.1411e-05

Financial Risk, Economic Risk and Political Risk

	Coefficient	*Std. Error*	*z*	*p-value*	
const	0.0250218	0.0122587	2.041	0.0412	**
FR	**−0.000673**	0.0002667	−2.525	0.0116	**
ER	**0.0023259**	0.0003084	7.541	<0.0001	***
PR	**−0.001043**	0.0002976	−3.507	0.0005	***

Chi-square(3)	58.80332	p-value	1.06e-12
Log-likelihood	162.5745	Akaike criterion	−315.1491
Schwarz criterion	−300.0297	Hannan-Quinn	−309.0070

sigma = 0.0612207 (0.00387393)
Left-censored observations: 20
Right-censored observations: 0
Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 3.79649
with p-value = 0.149832

Financial Risk, Economic Risk and Political Risk (Controlled)

	Coefficient	*Std. Error*	*z*	*p-value*	
const	−0.053251	0.0624382	−0.8529	0.3937	
FR	−0.000307	0.0002397	−1.281	0.2004	
ER	**0.0013533**	0.0003076	4.399	<0.0001	***
PR	**−0.000620**	0.0002662	−2.331	0.0198	**
CGlob	0.0116105	0.0107025	1.085	0.2780	
CTrade	0.0310589	0.0048232	6.440	<0.0001	***

Chi-square(5)	118.4729	p-value	6.61e-24
Log-likelihood	181.5922	Akaike criterion	−349.1844
Schwarz criterion	−328.0173	Hannan-Quinn	−340.5856

sigma = 0.053045 (0.0033569)
Left-censored observations: 20
Right-censored observations: 0
Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 13.6876
with p-value = 0.00106603

Financial risk and economic risk

	Coefficient	*Std. Error*	*z*	*p-value*	
const	0.0317412	0.0125750	2.524	0.0116	**
FR	**−0.000810**	0.0002756	−2.940	0.0033	***
ER	**0.0017018**	0.0002602	6.540	<0.0001	***

Chi-square(2)	43.38962	p-value	3.78e-10
Log-likelihood	156.6801	Akaike criterion	−305.3601
Schwarz criterion	−293.2646	Hannan-Quinn	−300.4465

sigma = 0.0640088 (0.00405054)
Left-censored observations: 20
Right-censored observations: 0
Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 8.66202
with p-value = 0.0131542

Financial risk and Political Risk

	Coefficient	*Std. Error*	*z*	*p-value*	
const	0.0646423	0.0126576	5.107	<0.0001	***
FR	7.8172e-05	0.0002953	0.2648	0.7912	
PR	0.0003133	0.0002843	1.102	0.2704	

Chi-square(2)	2.018723	p-value	0.364452
Log-likelihood	137.8696	Akaike criterion	−267.7393
Schwarz criterion	−255.6438	Hannan-Quinn	−262.8257

sigma = 0.0725627 (0.004617)
Left-censored observations: 20
Right-censored observations: 0
Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 11.2754
with p-value = 0.00356096

Financial risk

	Coefficient	*Std. Error*	*z*	*p-value*	
const	0.0664225	0.0125696	5.284	<0.0001	***
FR	0.0002345	0.0002604	0.9007	0.3678	

Chi-square(1)	0.811240	p-value	0.367754
Log-likelihood	137.2624	Akaike criterion	−268.5248
Schwarz criterion	−259.4532	Hannan-Quinn	−264.8396

sigma = 0.0727565 (0.0046307)
Left-censored observations: 20
Right-censored observations: 0
Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 6.76221
with p-value = 0.0340099

Financial risk (controlled)

	Coefficient	*Std. Error*	*z*	*p-value*	
const	−0.007382	0.0651289	−0.1133	0.9098	
FR	0.0002122	0.0002025	1.048	0.2947	
CGlob	0.0059179	0.0112589	0.5256	0.5992	
CTrade	0.0418891	0.0044578	9.397	<0.0001	***

Chi-square(3)	89.12669	p-value	3.37e-19
Log-likelihood	172.2266	Akaike criterion	−334.4532
Schwarz criterion	−319.3338	Hannan-Quinn	−328.3111

sigma = 0.0563967 (0.00357887)
Left-censored observations: 20
Right-censored observations: 0
Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 16.9658
with p-value = 0.000206973

Economic risk

	Coefficient	*Std. Error*	*z*	*p-value*	
const	0.0161896	0.0120620	1.342	0.1795	
ER	**0.0012956**	0.0002266	5.716	<0.0001	***

Chi-square(1)	32.67707		p-value	1.09e-08
Log-likelihood	152.5451		Akaike criterion	−299.0901
Schwarz criterion	−290.0185		Hannan-Quinn	−295.4049

sigma = 0.0665139 (0.00419446)
Left-censored observations: 20
Right-censored observations: 0
Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 21.7147
with p-value = 1.92626e-05

Economic risk (controlled)

	Coefficient	*Std. Error*	*z*	*p-value*	
const	−0.0465428	0.0643151	−0.7237	0.4693	
ER	**0.00070581**	0.00019933	3.541	0.0004	***
CGlob	0.00966220	0.0110110	0.8775	0.3802	
CTrade	0.0358527	0.00461620	7.767	<0.0001	***

Chi-square(3)	104.8449		p-value	1.41e-22
Log-likelihood	177.9300		Akaike criterion	−345.8601
Schwarz criterion	−330.7407		Hannan-Quinn	−339.7181

sigma = 0.0547359 (0.00345658)
Left-censored observations: 20
Right-censored observations: 0
Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 25.7424
with p-value = 2.57098e-06

Political Risk

	Coefficient	*Std. Error*	*z*	*p-value*	
const	0.0669893	0.0090088	7.436	<0.0001	***
PR	0.0003492	0.0002499	1.397	0.1623	

Chi-square(1)	1.952666	p-value	0.162300
Log-likelihood	137.8345	Akaike criterion	−269.6691
Schwarz criterion	−260.5974	Hannan-Quinn	−265.9839

sigma = 0.0725163 (0.00460885)
Left-censored observations: 20
Right-censored observations: 0
Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 9.56165
with p-value = 0.0083891

Political Risk (Controlled)

	Coefficient	*Std. Error*	*z*	*p-value*	
const	−0.0051442	0.0648759	−0.07929	0.9368	
PR	0.00018555	0.00019486	0.9522	0.3410	
CGlob	0.00629549	0.0112560	0.5593	0.5760	
CTrade	0.0415028	0.00445860	9.308	<0.0001	***

Chi-square(3)	89.11152	p-value	3.40e-19
Log-likelihood	172.1285	Akaike criterion	−334.2571
Schwarz criterion	−319.1377	Hannan-Quinn	−328.1151

sigma = 0.0563519 (0.00357359)
Left-censored observations: 20
Right-censored observations: 0
Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 16.2712
with p-value = 0.00029292

V.6 Results of the Tobit model (Sector level)

using observations 1-456, standard errors based on Hessian
Dependent variable: M&A Intensity based on the aggregated transaction value

Country risk (controlled)

	Coefficient	*Std. Error*	*z*	*p-value*	
const	−0.005102	0.0079239	−0.6439	0.5196	
CR	**0.0001403**	2.8682e-05	4.890	<0.0001	***
CCycle	4.6109e-05	0.0001917	0.2405	0.8100	
CGlob	−0.000870	0.0013679	−0.6361	0.5247	
CTrad	0.0011169	0.0005229	2.136	0.0327	**

Chi-square(4)	40.96823	p-value	2.73e-08
Log-likelihood	552.6992	Akaike criterion	−1093.398
Schwarz criterion	−1068.663	Hannan-Quinn	−1083.655

sigma = 0.0102284 (0.000518388)
Left-censored observations: 243
Right-censored observations: 0
Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 101.567
with p-value = 8.81069e-23

Country risk (additionally controlled for agricultural sector)

	Coefficient	*Std. Error*	*z*	*p-value*	
const	−0.014773	0.0081856	−1.805	0.0711	*
CR	**0.0001490**	2.9059e-05	5.126	<0.0001	***
CCycle	3.1001e-05	0.0001952	0.1588	0.8738	
CGlob	−0.001098	0.0013848	−0.7928	0.4279	
CTrad	0.0010080	0.0005309	1.899	0.0576	*
CAgric	0.0138403	0.0017056	8.115	<0.0001	***

Chi-square(5)	93.96417	p-value	9.86e-19
Log-likelihood	599.6777	Akaike criterion	−1185.355
Schwarz criterion	−1156.498	Hannan-Quinn	−1173.988

sigma = 0.00983383 (0.000491832)
Left-censored observations: 243
Right-censored observations: 0
Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 138.895
with p-value = 6.90755e-31

Financial risk, Economic risk and political risk (controlled)

	Coefficient	*Std. Error*	*z*	*p-value*	
const	−0.021699	0.0023198	−9.354	<0.0001	***
FR	2.0583e-05	2.9375e-05	0.7007	0.4835	
ER	**0.0001018**	3.5424e-05	2.873	0.0041	***
PR	**5.8355e-05**	3.1199e-05	1.870	0.0614	*
CAgric	0.0138216	0.0017018	8.122	<0.0001	***

Chi-square(4)	93.56192	p-value	2.30e-19
Log-likelihood	599.0404	Akaike criterion	−1186.081
Schwarz criterion	−1161.346	Hannan-Quinn	−1176.337

sigma = 0.00982463 (0.000489046)
Left-censored observations: 243
Right-censored observations: 0
Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 120.693
with p-value = 6.19238e-27

Financial risk (controlled)

	Coefficient	*Std. Error*	*z*	*p-value*	
const	−0.012830	0.0082680	−1.552	0.1207	
FR	**8.9179e-05**	2.8955e-05	3.080	0.0021	***
CCycle	0.0003037	0.0002008	1.512	0.1305	
CGlob	−0.001274	0.0014116	−0.9025	0.3668	
CTrad	0.0014542	0.0005426	2.680	0.0074	***
CAgric	0.0138718	0.0017218	8.057	<0.0001	***

Chi-square(5)	81.56886	p-value	3.94e-16
Log-likelihood	591.1088	Akaike criterion	−1168.218
Schwarz criterion	−1139.360	Hannan-Quinn	−1156.850

sigma = 0.0100423 (0.000504584)
Left-censored observations: 243
Right-censored observations: 0
Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 144.9
with p-value = 3.42973e-32

Economic risk (controlled)

	Coefficient	*Std. Error*	*z*	*p-value*	
const	−0.017159	0.0083140	−2.064	0.0390	**
ER	**0.0001585**	3.4681e-05	4.571	<0.0001	***
CCycle	−8.1411e-05	0.0002138	−0.3808	0.7033	
CGlob	−0.000860	0.0013915	−0.6183	0.5364	
CTrad	0.0002355	0.0005707	0.4126	0.6799	
CAgric	0.0137638	0.0017021	8.087	<0.0001	***

Chi-square(5)	90.54675	p-value	5.16e-18
Log-likelihood	597.1416	Akaike criterion	−1180.283
Schwarz criterion	−1151.426	Hannan-Quinn	−1168.916

sigma = 0.00989779 (0.000495681)
Left-censored observations: 243
Right-censored observations: 0
Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 136.566
with p-value = 2.21374e-30

Political risk (controlled)

	Coefficient	*Std. Error*	*z*	*p-value*	
const	−0.014460	0.0082532	−1.752	0.0798	*
PR	**0.0001182**	2.4682e-05	4.788	<0.0001	***
CCycle	0.0002774	0.0001840	1.508	0.1315	
CGlob	−0.000869	0.0013968	−0.6221	0.5339	
CTrad	0.0012959	0.0005348	2.423	0.0154	**
CAgric	0.0139472	0.0017228	8.096	<0.0001	***

Chi-square(5)	90.60839	p-value	5.01e-18
Log-likelihood	597.8704	Akaike criterion	−1181.741
Schwarz criterion	−1152.883	Hannan-Quinn	−1170.373

sigma = 0.00990398 (0.000495895)
Left-censored observations: 243
Right-censored observations: 0
Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 145.748
with p-value = 2.2455e-32

Executive Summary

Latin America is widely seen as a homogeneous region of emerging markets, but foreign investment via M&A diverges strongly across its countries. The present thesis seeks to explain this cross-country disparity by country specific risks and distinguishes between financial, economic and political risk components. Higher country risk is assumed to increase shadow costs of information and informational asymmetries between the foreign acquirer and the local target seller. This makes investors refrain from investing in the respective countries. Addressing a country's M&A activity as a whole, this thesis complements the literature on "deal breaking" in M&A by mergers that were neither announced nor negotiated. This absence of M&A activity is assumed to be explained by country risk. Bloomberg provides the country risk scores of eight countries which are set into relation with the Thomson Reuters International Merger Database by means of a logistic regression and a Tobit model. The results mostly confirm the hypotheses both regarding the negative impact of country risk on the decision whether to invest, and on the level of M&A intensity which can be observed in the country.

Keywords: Country Risk, M&A, Asymmetric Information, Deal Breakers, Latin America