

NHH



Norwegian School of Economics

Bergen, Spring 2021

Investor protection's effect on the method of payment in M&A

An empirical study on how the method of payment in corporate acquisitions is affected by the level of investor protection in the country of the acquiror

Simen Solberg & Simen Elstrøm Solberg

Supervisor: Karin S. Thorburn

Master Thesis in Financial Economics

NORWEGIAN SCHOOL OF ECONOMICS

This thesis was written as a part of the Master of Science in Economics and Business Administration at NHH. Please note that neither the institution nor the examiners are responsible – through the approval of this thesis – for the theories and methods used, or results and conclusions drawn in this work.

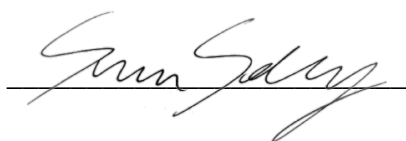
Preface

This thesis is written as a part of our Master of Science in Economics and Business Administration at the Norwegian School of Economics. We owe gratitude to the many individuals that have provided both professional and academic insights into the various aspects of our thesis.

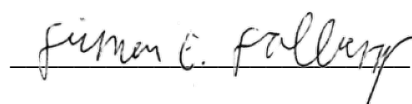
The investor protection topic is a highly important topic for investors and governments around the world. Understanding its many effects in the broader economy and financial markets should be on top of lawmakers' minds when enacting or considering various new legislation. The importance of the subject has made writing our thesis enjoyable, and we have significantly improved our understanding of empirical research.

A special thanks to our supervisor Karin S. Thorburn for her support, suggestions, and insights. With her interest in the topic of investor protection, acquisitions, and method of payment, we have received invaluable input and advice throughout the process.

Bergen/London, June 2021



Simen Solberg



Simen Elstrøm Solberg

Abstract

When shareholders of target companies get paid with stock, they may face an increased risk of expropriation by becoming minority shareholders in a new company. Thus, when target shareholders receive bids from companies regulated by countries with weaker investor protection, their propensity to accept stock as part of considerations will be lower. To test this intuitive prediction, we look at acquisitions by companies from 38 countries with varying degrees of investor protection. The results show a positive relationship between investor protection and the fraction of stock in the method of payment in acquisitions. Furthermore, cross-border transactions amplify this effect.

Contents

Table of Contents

PREFACE	2
ABSTRACT	3
CONTENTS	4
1. INTRODUCTION	6
2. LITERATURE REVIEW	8
2.1 INVESTOR PROTECTION	8
2.2 METHOD OF PAYMENT.....	10
3. EMPIRICAL TESTING STRATEGY	13
4. DATA	15
4.1 TRANSACTION DATA	15
4.2 MEASUREMENT OF INVESTOR PROTECTION	17
4.3 SAMPLE SELECTION	18
4.4 DEPENDENT VARIABLE.....	19
4.5 INDEPENDENT VARIABLES	20
4.5.1 <i>Shareholder rights</i>	20
4.5.2 <i>Rule of Law</i>	21
4.5.3 <i>Accounting standards</i>	22
4.5.4 <i>Investor protection</i>	23
4.5.5 <i>Control variables</i>	23
4.5.6 <i>Interaction terms</i>	24
4.5.7 <i>Correlation table</i>	24
5. METHODOLOGY	26
5.1 OLS	26

5.2	PROBIT ANALYSIS	26
5.3	CLUSTERED STANDARD ERRORS.....	27
6.	ANALYSIS.....	28
6.1	SAMPLE CHARACTERISTICS	28
6.2	REGRESSION.....	29
6.2.1	<i>Investor protection.....</i>	<i>30</i>
6.2.2	<i>Legal origins.....</i>	<i>33</i>
6.2.3	<i>Cross-border and cross-industry effects.....</i>	<i>37</i>
7.	CONCLUSION.....	40
8.	BIBLIOGRAPHY	41
9.	APPENDIX	43

1. Introduction

One of the key aspects of corporate acquisitions is how the acquired company's shareholders ("target") are paid. Much of the research on payment choice has focused on the motivations and drivers of the acquiror. However, the preferences of the target shareholders have not received as much attention. In this thesis, we flip the focus to the target's perspective.

Earlier ways of looking at the value of securities have been largely shaped by Modigliani and Miller (1958), focusing on the cash flows, capital structure and leverage. However, the rights brought to owners beyond the right to the company's cash flows are also important to the value of the securities, according to Hart (1995).

These rights will vary across countries, based on the laws and enforcement in their respective jurisdictions. To measure this, La Porta, Lopez-De-Silanes, Shleifer and Vishny (1998) examine the strength of investor protection of minority shareholders and the risk of expropriation by majority shareholders and management ("insiders"). They create a framework to assess the rights of shareholders, creditors, and the rule of law in 49 countries.

The effect of investor protection can be observed in multiple factors. Two examples are that countries with stronger investor protection are observed to have higher GDP growth (Haidar, 2009) and higher corporate valuations (La Porta, Lopez-De-Silanes, Shleifer, and Vishny, 2002).

The financing decision in corporate acquisitions is important as it can significantly impact important factors such as the corporate control, financial position, and tax liabilities of the firm and its shareholders. This affects both the bidder and the target firm. Faccio and Masulis (2005) examine the choice of payment method for European firms between 1997 and 2000. They find that dilution of dominant shareholders, the ability to pay in cash, and information asymmetry between the bidder and the target are powerful determinants for the method of payment.

We explore how different levels of investor protection affect the payment method in M&A transactions. Our intuition is that acquirors from countries with weaker protection of minority shareholders must pay more in cash due to a higher risk of expropriation, making stock compensation less attractive for target shareholders.

We test if higher levels of investor protection in the country of the acquiror increase the target shareholders' propensity to accept stock as a form of compensation in acquisitions. We analyse 6,851 transactions from 37 countries from 1990 to 2020 using OLS and probit regression. Additionally, we look at how the method of payment is affected by legal origins, cross-border, and cross-industry transactions. The results show that investor protection positively affects the fraction of stock used as part of considerations in takeovers. Furthermore, the effect increases significantly in cross-border transactions.

We build on the research by La Porta et al. (1998) and use the same framework, extending it to the method of payment. We contribute to the existing literature on the method of payment in M&A transactions by showing that higher levels of investor protection positively affect stock as a part of the method of payment in corporate acquisitions. The results also contribute to the literature on investor protection by showing its effect on additional areas within finance. We are not aware of any extant research examining the impact of investor protection on the method of payment in acquisitions.

We structure the thesis into seven sections, excluding the bibliography and the appendix. In section 1, we give a brief overview of the research subject, method, and findings. In section 2, we go over the key literature we use to build our hypotheses and analysis. In section 3, we state our beliefs and formulate the hypothesis used in the analysis. In section 4, we discuss the data, sample selection, and variables. In section 5, we discuss the methodology used in the analysis. In section 6, we perform our regression analysis and discuss our findings. In section 7, we wrap up and conclude with the results of the paper.

2. Literature review

This section reviews the existing literature on the effects of investor protection and on what impacts the choice of the method of payment in acquisitions. There is extensive research on investor protection and how it affects multiple areas relating to finance.

The research on the method of payment has been explored in multiple papers and helped us understand important factors to look at when doing our analysis. We have gained a greater understanding of other important factors that affect the payment method from these papers.

2.1 Investor protection

Previous research literature has shown the importance of the legal protection of investors to countries' financial markets and the pricing of securities. The literature indicates that the increased risk of expropriation is the cause.

Laying the basis for much of the literature, La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) examine laws and enforcement covering shareholders and creditors across 49 countries. In their paper, they created a framework used to compare countries' level of investor protection. The framework has three main categories: Shareholder rights, Creditor rights, and Rule of law. We present the framework and its parts here but will describe them in more detail in section 4.5.

The shareholder rights award one point for each of the following laws that exist in the country: proxy by mail allowed, shares not blocked before meeting, cumulative voting, oppressed minority, preemptive right to new issues, percentage of share of capital to call an extraordinary shareholder meeting, and mandatory dividends. La Porta et al. (1998) used the composite of these to rank the strength of minority shareholders across the 49 countries. These shareholder rights serve to limit the control of insiders and align their interests with shareholders.

Creditor rights cover the protections of creditors. The authors looked at laws that align the interest of insiders to that of lenders. The creditor rights consist of the following variables: No automatic stay on assets, secured creditors first paid, restrictions for going into reorganisation, and management does not stay in reorganisation. In the same way as the shareholder rights, the creditor rights are scored based on the existence of the rule in the relevant country and given a composite score.

The authors examine rule of law, which was comprised of the following variables: efficiency of judicial system, rule of law, corruption, risk of expropriation, and accounting standards. These are ranked on a scale from zero to ten, with higher levels representing more favourable environments to investors.

La Porta et al. (1998) find that both laws and enforcement differ significantly across countries, with the most favourable environments for investors in countries of common law origins and least favourable in French civil law countries. The paper shows that the relative strength of shareholders and creditors are consistent across legal origins and that both are significantly stronger in common law countries.

There are additional ways in which poor investor protection have negatively affected countries and minority shareholders. La Porta et al. (1997) show that the countries with the weakest investor protection have smaller capital markets than countries with higher levels of investor protection. The authors find that French civil law countries stand out as having both the weakest investor protection and the least developed capital markets, especially compared to common law countries.

Haidar (2009) examines the relationship between investor protection and economic growth, looking at more than 170 countries. The paper finds that countries with stronger investor protection tend to grow faster than those with weaker investor protection and that measures of disclosures and transparency had an especially strong effect. This shows that investor protection affects multiple country-level variables and is important to the economic development of countries.

Moreover, it is not only at the country level that we see these effects. Goyal and Muckley (2013) show that investor rights influence dividend decisions in Asia. This indicates that countries with higher levels of investor protection lead to a greater tendency for firms to pay dividends to shareholders. The paper studies the importance of investor rights in decisions on dividend policy in Asia, with a sample of almost 53,000 firm years. It finds that creditors do impact the payout decision-making process but that the agency costs of equity predominate. Common law counties show a greater tendency to pay dividends and tend to pay more.

Further, La Porta, Lopez-De-Silanes, Shleifer, and Vishny (2002) shows the effects on corporate valuation, looking at a sample of 539 companies from 27 wealthy nations. The paper examines the effects of investor protection and cash-flow ownership by a controlling

shareholder on firm valuations. They found that investor protection impacts the valuation of companies, rewarding strong investor protection with higher firm valuation.

La Porta et al. (1998) relate their findings on expropriation and investor protection to Jensen and Meckling's (1976) description of insiders, where the law aspect has a significant bearing on agency costs. Jensen and Meckling (1976) study the agency theory, the theory of property rights, and the theory of finance to develop a theory of firms ownership structure. They focus on the agency relationship between the principals and agents, and the concept of separating ownership and control. One of their findings is that agency cost depends on the statutory and common law, which is particularly relevant to our thesis.

This ties in with what we posit about investor protection, that shareholders by law are more aligned with the insiders of the firm in countries with stronger investor protection. Minority shareholders especially have an even bigger challenge in ensuring that management act in their best interest. Thus, policies that align management and owners by law are likely to benefit the minority shareholders.

In this section, we covered previous literature and found that investor protection is affecting countries economically. We find that countries with higher levels of investor protection positively affect the GDP growth, company valuations, and the payout of firms. Additionally, financial markets tend to be bigger and more developed than those of countries with weaker investor protection.

2.2 Method of payment

Mergers and acquisitions are important strategic events for both the acquiring and target firm. One of the key decisions managers have to make is the method of payment, usually consisting of cash, stock or a mix. There are both internal and external factors affecting the payment choice due to stakeholders with different incentives.

Understanding the intrinsic value of the stock of the acquiring company and information asymmetry is a central part of the method of payment theory. Focusing on information asymmetry, Hansen (1987) presents a theory that firms are more likely to use stock to mitigate the riskiness of the target firm. In his paper, he creates a model for the choice of payment method in M&A transactions, with adverse selection being the main component. Hansen

(1987) finds that acquirors are incentivised to offer stock in cases where the target knows its value better than the acquiror because it has desirable contingent-pricing characteristics.

Eckbo, Makaew, and Thorburn (2018) examine whether bidders are opportunistic in their use of stock as the method of payment, exploiting informational asymmetries between the bidder and target. The authors analyse a sample of 6200 takeover bids with US targets and acquirors, using proxies that decrease the informational asymmetry between bidder and target. They find that the main drivers of the method of payment decision are capital structure considerations, external pressures to pay in cash, and bidder concerns with adverse selection. They find no significant evidence of bidder opportunism. They also find that more stock is used when targets know more about the bidder.

Several papers examine the effect of cross-border and cross-industry transactions. These are cases where the information asymmetry and uncertainty are expected to be higher.

Dutta, Saadi and Zhu (2013) find that cross-border transactions tend to have a higher share of cash as a part of considerations compared to domestic transactions. They do this by examining 1300 completed M&A transactions by Canadian acquirors between 1993 and 2002. They examine stock payment's role in alleviating the impact of information asymmetry that one can expect to arrive from cross-border transactions. Their results show that using stock in cross-border transactions when acquiring companies in countries with lower corporate governance ratings is a way to reduce informational asymmetry. In addition, they find that markets tend to initially react positively to stock-financed cross-border transactions, overestimating the value-add. However, these deals significantly underperform cash-financed cross-border transactions in the long run.

Faccio and Masulis' (2005) findings support Dutta et al. (2012), showing that cross-border and cross-industry transactions are much more likely to be cash-financed. They argue that increased uncertainty causes this effect. They studied the payment choices of European bidders between 1997 and 2000 and made multiple findings regarding the method of payment. They find that bidders will avoid using stock if it threatens to dilute the voting power of their dominant shareholders. The bidders' access to cash or debt financing is a significant predictor for cash financed acquisitions. Additionally, they propose that targets might be more inclined to accept stock if they can benefit by deferring taxes or that they might prefer cash to avoid the risk of becoming a minority owner in a company with concentrated ownership.

These findings seem to reflect Hansen's (1987) findings that the share of stock as a part of total acquisition consideration increases with uncertainty. It is possible that companies favouring stock in cross-border transactions have greater knowledge about the industry and country in which they operate. However, these papers mainly focus on the decisions made by the acquiror. We look at the preference for the method of payment from the target's perspective.

Burch, Nanda and Silveri (2012) examine the method of payment choice from the target shareholders point of view. They use the target shareholders' tax liability and investment style – defined as growth vs value, where growth stocks are riskier– as proxies. The paper has a sample of 1881 completed and failed M&A transactions between 1981 and 2006. Burch et al. (2012) find that higher shareholder tax liabilities lead to lower bids and a higher preference for stock as payment method.

We find that many factors influence the method of payment decision. Some of these are the bidders' ability to offer cash, the impact on current dominant shareholders' voting power in the bidder firm, and information asymmetry between the acquiror and target. The information asymmetry is especially prominent in cross-border and cross-industry transactions, which are more likely to be cash-financed.

3. Empirical testing strategy

We propose that there is a positive relationship between the use of stock in corporate acquisitions and the level of investor protection in the country of the acquiror. This is because investors want to avoid the risk of expropriation by insiders (La Porta et al., 1997, 1998), and that investor protection increases the likelihood of this happening. We suggest that this aversion to risk of expropriation is expressed through an unwillingness to accept stock as a method of payment from companies subject to weaker investor protection. Using the same variables as La Porta et al. (1998): *Shareholder rights around the world and rule of law*, we will assess whether these factors affect the method of payment. Our overarching research question is:

"Does higher levels of investor protection in the country of the acquiror increase the target's propensity to accept stock as a form of compensation in acquisitions?"

From this, we formulate the following hypotheses:

H0: The use of stock as payment in takeovers is independent of the level of investor protection in the acquirer nation

H1: The use of stock as payment in takeovers increases with the level of investor protection in the acquirer nation

To answer this, we look at the research question from different angles.

Focusing on a high-level picture, we can see how common law countries measure up against countries of other origins. We look at this because there is clear evidence that common law countries generally have better protection than civil law ones (La Porta et al., 1998). We also look at the different legal origins to see their effects on investor protection and method of payment.

Dutta et al. (2012) show that cross-border payments are more likely to be financed by cash. They study acquisitions by Canadian firms, a country with good investor protection. We test if their findings also hold for countries where investor protection is weaker. Similarly, the paper by Faccio and Masulis (2005) finds evidence that the cash component is higher for cross-border transactions than domestic ones. Their papers looked at acquisitions by European firms. Since there is greater uncertainty with being acquired by a foreign firm, we propose that risk

factors such as investor protection will be paid greater attention to in these offers. We, therefore, look at how cross-border payments impacts the effect of investor protection on the method of payment.

Faccio and Masulis (2005) also find that the stock portion of considerations in transactions within the same industry is higher than that of cross-industry transactions. Our economic intuition is that risk factors such as investor protection become more apparent when acquiring a company from a different industry. We, therefore, look at the impact of cross-industry on the effect of investor protection on the method of payment.

4. Data

In this section, we describe the data used in the analysis and the data sources. We also describe the sample selection process and how the variables are created.

4.1 Transaction data

We obtain the M&A data from Refinitiv SDC Platinum Financial Securities Data. We select data for all transactions from 1990 to 2020. Both US and non-US targets are selected as well as all sectors. The independent variables are sourced from the framework put forth by La Porta et al. (1998). For the analysis, we assume that the proxies used by La Porta et al. (1998) hold for the entire dataset, i.e., that the measurements of investor protection also apply for transactions in later years. Therefore, we treat the data as cross-sectional data. After performing sample selection, our dataset consists of 6,851 transactions from 37 countries. The variable we want to analyse is the portion of stock as a percentage of total considerations.

Table 1
Country distribution of acquisitions and payment method

Acquiror nation	Count	% Stock	SD % stock	Deal Size	Premium
United States	3266	0.5	0.47	2400	0.38
Japan	738	0.43	0.49	437	0.18
Canada	648	0.68	0.44	789	0.4
Australia	413	0.6	0.46	858	0.31
United Kingdom	367	0.46	0.46	2101	0.3
France	153	0.3	0.45	3380	0.31
Germany	104	0.22	0.4	3728	0.3
South Korea	98	0.69	0.46	424	0.07
India	96	0.62	0.49	459	0.16
Malaysia	92	0.24	0.43	100	0.13
Switzerland	88	0.17	0.36	4288	0.36
Singapore	86	0.4	0.48	266	0.15
South Africa	77	0.46	0.49	503	0.24
Taiwan	73	0.63	0.48	308	0.2
Sweden	67	0.45	0.48	713	0.28
Brazil	60	0.51	0.49	1404	0.29
Italy	48	0.48	0.49	1704	0.25
Netherlands	47	0.4	0.47	6510	0.35

Spain	39	0.42	0.47	4490	0.13
Norway	38	0.27	0.43	399	0.14
Thailand	38	0.26	0.45	383	0.16
Finland	31	0.42	0.48	1091	0.31
Israel	31	0.39	0.46	2039	0.28
Belgium	25	0.29	0.39	7230	0.3
Mexico	19	0.19	0.39	2793	0.25
Colombia	15	0.2	0.41	197	0.59
Chile	14	0.31	0.46	912	0.14
Greece	13	0.62	0.51	507	0.16
New Zealand	13	0.38	0.47	119	0.36
Turkey	13	0.54	0.52	98	0.02
Denmark	12	0.25	0.45	1182	0.41
Austria	11	0.22	0.4	3133	0.5
Argentina	5	0	0	148	-0.04
Egypt	5	0.15	0.33	276	0.01
Peru	5	0.6	0.55	165	0.37
Portugal	2	0	0	373	0.19
Nigeria	1	0		60	1.62
Full sample	6851	0.49	0.48	1809	0.32

The table shows the number of transactions by the different acquiror nations in the sample. The columns display the mean percentage of stock used in considerations and their respective standard deviations. Also included are the mean deal sizes as well as the mean offer premium

Summary statistics of our financial data can be seen in table 1. Transactions with US acquirors make up approximately half of all observations. Stock as a percentage of total compensation varies notably across countries, although the standard deviation stays relatively consistent for nations with a greater number of observations. The average percentage of stock in the dataset is 49 %. We note that among the countries with at least 30 transactions, the countries with the highest fraction stock are: South Korea, Canada, Taiwan, India, and Australia. These represent the three largest legal origins, English common law, French civil law, and German civil law. Similarly, the countries with the lowest fraction stock are also from different legal origins. These countries are Switzerland, Germany, France, Malaysia, Thailand, and Norway.

4.2 Measurement of investor protection

The independent variables we want to use in the analysis are the different measurements put forth by La Porta et al. (1998). We will use these measurements as independent variables in the analysis. The variables that focus on creditors' protection are excluded since, intuitively, this is not of interest to minority shareholders. Thus, we are left with 16 variables, 6 of which are dummy variables.

Table 2

Country overview of investor protection.

Nation	Rule of law	Shareholder rights	Accounting standards	Investor protection
Canada	5	47.88	74	0.88
United Kingdom	5	47.01	78	0.87
United States	5	47.61	71	0.87
Norway	4	49.59	74	0.81
New Zealand	4	48.98	70	0.8
Australia	4	46.5	75	0.78
Japan	4	46.86	65	0.78
Singapore	4	44.95	78	0.77
South Africa	5	33.49	70	0.75
Chile	5	33.87	52	0.74
Sweden	3	48.98	83	0.73
Finland	3	48.82	77	0.72
India	5	30.61	57	0.72
Malaysia	4	38.54	76	0.72
Spain	4	39.35	64	0.71
France	3	44.87	69	0.68
Switzerland	2	49.96	68	0.64
Taiwan	3	40.4	65	0.64
Denmark	2	48.98	62	0.63
Israel	3	38.94	64	0.63
Netherlands	2	49.33	64	0.63
Argentina	4	28.19	45	0.61
Austria	2	47.36	54	0.61
Portugal	3	39.03	36	0.61
Brazil	3	32.31	54	0.56
Colombia	3	28.3	50	0.53
Germany	1	46.83	62	0.53
Greece	2	34.19	55	0.5

South Korea	2	33.55	62	0.5
Nigeria	3	22.7	59	0.49
Peru	3	24.17	38	0.48
Italy	1	39.73	62	0.47
Thailand	2	29.67	64	0.47
Belgium	0	47.43	61	0.45
Turkey	2	27.31	51	0.44
Egypt	2	26.89	24	0.41
Mexico	1	29.96	60	0.38
Full sample	3.05	39.54	61.97	0.64

The table shows summary statistics of the acquiror nations included in the dataset and the independent variables that measure investor protection based on La Porta et al. (1998). It is sorted after the composite for investor protection.

Table 2 shows the investor protections statistics by country. Worth noting is that the ten countries with the highest level of investor protection are dominated by English common law countries. Furthermore, seven out of the ten countries with the weakest investor protection are French civil law countries. Belgium is the only country with a score of zero for rule of law. Egypt has the lowest score for accounting standards with only 24, almost 38 points below the average of 61.97. Mexico is at the bottom of the list scoring below average for all variables.

4.3 Sample selection

To analyse the data, we perform a sample selection. The first step is to remove all transactions where data about the payment method is missing. We analyse the portion of stock as a percentage of the total compensation and limit the data to transactions that only use stock, cash, or a mix of the two. Therefore, only transactions where the percentage of cash and the percentage of stock adds up to 100 % of considerations are included.

Second, we only include the transactions where the acquiror is from one of the 49 countries studied by La Porta et al. (1998). The countries are divided into English common law, French civil law, German civil law, and Scandinavian civil law.

The English-origin countries we include are Australia, Canada, Hong Kong, India, Ireland, Israel, Kenya, Malaysia, New Zealand, Nigeria, Pakistan, Singapore, South Africa, Sri Lanka, Thailand, United Kingdom, United States, and Zimbabwe.

The French-origin countries are Argentina, Belgium, Brazil, Chile, Columbia, Ecuador, Egypt, France, Greece, Indonesia, Italy, Jordan, Mexico, Netherlands, Peru, Philippines, Portugal, Spain, Turkey, Uruguay, and Venezuela.

The German-origin countries are Austria, Germany, Japan, South Korea, Switzerland, and Taiwan.

The Scandinavian-origin countries are Denmark, Finland, Norway, and Sweden.

Third, we remove all transactions where firms within Private Equity, Venture Capital, and Special Purpose Acquisition Vehicles are either on the buy or the sell-side. The reasoning behind this is that these firms have a limited ability to choose the method of payment (Eckbo, Makaew, & Thorburn, 2018). They are also involved in a large share of transactions which could skew the data and inference of the analysis.

Fourth, we want to filter out transactions based on size. We, therefore, remove all transactions that have a deal size of less than \$10 million. Furthermore, we filter out transactions where the deal size is less than 1 % of the acquirors' total assets.

Fifth, we remove all observations that have missing values to ensure that the independent variables will work for all transactions and that all data have what is needed to be analysed.

Lastly, we winsorize all the control variables by altering the top and bottom 2 % of values. This is done to deal with extreme values and provides less bias than removing the outliers outright.

4.4 Dependent variable

The dependent variable is the portion of stock as a percentage of the total payment. We create this variable by downloading data about the fractions of stock and cash that make up the total considerations in the transactions. The two values are combined so that all transactions have a *fraction stock* value on a spectrum from 0 to 1, where 1 is all-stock, and 0 is all-cash. We use the fraction stock variable when analysing with the OLS method. However, when using probit regression, we create a subset of the dataset where we only include values of 0 and 1. Thus, the dependent variable becomes a dummy variable. We argue that this is a sound way of analysing since 88 % of our observations are either all-cash or all-stock.

4.5 Independent variables

The independent variables as described in 4.5.1 through 4.5.4 are used to test our hypothesis. The explanatory variables are based on La Porta et al. (1998). The variables consist of both dummy variables and indexes taken from different rating agencies. Sections 4.5.4 and 4.5.6 describes how we have chosen to combine some of these variables into composites and interaction terms that we utilise in our regressions. We have also included control variables that have previously been shown to affect the method of payment which are described in 4.5.7. We have sourced this from the broader method of payment literature that we have cited in this paper, with particular attention paid to Eckbo et al. (2018).

4.5.1 Shareholder rights

The variable "shareholder rights" that we use throughout the analysis ranges from 0 to 6 and uses the sum of the dummy variables: proxy by mail allowed, shares not blocked before meeting, cumulative voting or proportional representation, oppressed minorities mechanism, and percentage of share capital to call an extraordinary shareholder meeting if less than 10 %.

The dummy variable "proxy by mail allowed" is equal to one if the country allows shareholders to mail in their proxy votes, zero otherwise.

The dummy variable "shares not blocked before meeting" is equal to one if the country does not temporarily block shareholders from trading their stocks when they have been used for voting.

The dummy variable "cumulative voting or proportional representation" equals one if the country allows shareholders to give all their votes to one candidate in elections for the board of directors. Also equal to one if minority shareholders have proportional representation in the board of directors, zero otherwise.

The dummy variable "oppressed minorities mechanism" equals one if the country allows the minority shareholders to challenge the decisions of management in a judicial venue. Also equal to one if minority shareholders can require the company to purchase their shares in disputes about fundamental changes to the company such as mergers, asset dispositions, and changes in articles of incorporation. Minority shareholders in this setting refer to shareholders with a 10 % stake or less.

The dummy variable "preemptive rights" equals one if shareholders get the first opportunity to buy new issue of stock, and the right can only be waived by shareholder vote.

The variable "percentage of share to call an extraordinary shareholders' meeting" ranges from 1 % to 33 % and measures the minimum portion of shares that shareholders need to call an extraordinary shareholders' meeting. A point is awarded if shareholders can call an extraordinary shareholder meeting if they own 10 % or less.

The variable "mandatory dividend" measures the percentage of net income that companies have to pay out as dividends and is expressed as this percentage. The variable is exclusively used in French civil law countries and is a mechanism introduced to make up for weaker investor protection of shareholders.

We posit that higher levels of shareholder rights variables indicate better alignment of insiders and minority shareholders. Furthermore, this should lead to a lower risk of expropriation, which makes stock as payment method more attractive.

4.5.2 Rule of Law

The variable "rule of law" that we use throughout the analysis ranges from 0 to 50 and uses the sum of the variables: efficiency of judicial system, law and order, corruption, risk of expropriation, and repudiation of contracts by government.

The variable "efficiency of judicial system" measures "efficiency and integrity of the legal environment as it affects business, particularly foreign firms (La Porta et al., 1998). Lower scores entail lower efficiency. The index is made by the rating agency Business International Corp and uses the average between 1980 and 1983. The index ranges from 0 to 10.

The variable "law and order" is an indicator of legal traditions in the nation. It is produced by the rating agency International Country Risk ("ICR"). ICR releases a monthly measurement of countries' law and order. La Porta et al. (1998) use the average of values from 1982 to 1995 and ranks the countries on a scale from 0 to 10, where a lower score indicates weaker legal systems and enforcement of law and order.

The variable "corruption" measures the corruption in the government of a nation as measured by the ICR. ICR releases a measurement of corruption monthly. La Porta et al. (1998) use the average of values from 1982 to 1995 and ranks the countries on a scale from 0 to 10, where a

lower score indicates a higher level of corruption. A lower corruption score implies that higher government officials are more susceptible to bribes and illegal payments in processes around licences for import and export, exchange controls, tax assessment, policy protection, and loans.

The variable "risk of expropriation" measures the "risk of outright confiscation or forced nationalisation" (La Porta et al., 1998). ICR releases a monthly measurement of countries' risk of expropriation. La Porta et al. (1998) use the average of values from 1982 to 1995 and ranks the countries on a scale from 0 to 10, where a lower score indicates a higher risk of expropriation. Expropriation is, in this case, defined as outright confiscation or forced nationalisation.

The variable "repudiation of contracts by government" measures the risk of a modification in a contract taking the form of a repudiation, postponement, or scaling down due to budget cutbacks, indigenisation pressure, a change in government or a change in government economic and social priorities. ICR releases a monthly measurement of countries' risk of repudiation of contracts by government. La Porta et al. (1998) use the average of values from 1982 to 1995 and ranks the countries on a scale from 0 to 10 where a lower score indicates a higher risks repudiation.

We posit that higher levels of the rule of law variables indicate a strong system of legal enforcement, which reduces the riskiness and uncertainty related to all investments in the country. Such strong enforcement of the law could aid investors in cases where the insiders are abused by management (La Porta et al., 1998). In countries where the enforcement of the law is weaker, target shareholders should have a greater preference for cash.

4.5.3 Accounting standards

The final variable for investor protection is "accounting standards" and is measured by International Financial Analysis and Research. It measures companies' 1990 annual reports and examines 90 items split into seven categories. The categories are general information, income statement, balance sheet, funds flow statement, accounting standards, stock data, and special items. The index ranges from 0 to 100. It is a proxy to understand the transparency of accounting standards in the country, and while not a law, it is key for investors' understanding of securities.

We posit that higher levels of accounting standards increase the transparency of companies, which makes it easier to assess the value of a potential acquiror. This reduces uncertainty related to the value of the stock received in a potential acquisition, which increases the likelihood that target shareholders will accept stock.

4.5.4 Investor protection

We create a composite of the independent variables we have discussed above. This is done by giving each individual variable a weight of 1 for a combined 12 parts. Thus, our shareholder rights variables make up 6/12, rule of law 5/12, and accounting standards 1/12. We divide this by 12, turning the composite variable into a value between 0 and 1. Equal weight is used to allow for each variable to have an equal impact.

We create this proxy to have one measurement of investor protection to simplify and make the interpretation of investor protection effects more intuitive.

4.5.5 Control variables

To examine the effect of the independent variables for investor protection, we need to control for other variables that are likely to impact payment method in acquisitions. Empirical evidence suggests that the main driver behind the choice of payment method is a combination of capital structure, external pressures to pay in cash, and bidder concern with adverse selection on the target side (Eckbo et al. 2018). Looking at these findings, we use the following control variables: Acquiror debt/assets, cash/book value, transaction value/acquiror enterprise value, dividend dummy, premium, and acquiror market/book.

We use leverage and cash holding of the acquiror to measure the ability, or lack of ability, to pay targets in cash instead of stock. The rationale is that firms with lower leverage or higher deposits of cash have a higher ability to use cash as the method of payment. We also look at the relative size, as the deal size of cash-financed takeovers tends to be lower than that of stock-financed takeovers. This implicitly controls for the size of the acquiror, a characteristic that is positively correlated with stock-financed transactions. We include a dividend dummy that is equal to 1 if the target has paid dividends to its shareholders in the last year. This is to control for the target shareholders' preference for cash. The rationale behind including the premium is that if the acquiror prefers to pay with stock and the target wants to receive cash, the issue might be resolved by a sufficiently large premium. This can occur when the target

believes the acquiror's share price is overvalued. To control for the pricing of the acquiror, we include the market value to book value ratio. All control variables are explained in appendix 1.

4.5.6 Interaction terms

We create interaction terms by combining the variables for investor protection and the dummy variables legal origin, cross-border, and cross-industry. Interaction terms highlight how the existence of one independent variable affects the magnitude and overall effect of another independent variable. We make these to identify conditions in which investor protection matter more to understand the dynamics between the variables.

4.5.7 Correlation table

We have included a correlation table of our key variables in appendix 2. This is done to gain a greater understanding of the data. We note the following correlations:

The correlation between the variables shareholder rights and rule of law is 37 %. Although the two variables measure different factors that affect minority shareholders, it is surprising that the correlation is not higher. This could be explained by the fact that shareholder rights are laws created and implemented while the variable rule of law measure factors such as the efficiency of judicial systems and levels of corruption, i.e. factors that are more difficult to control.

The correlation between investor protection and English-origin, French-origin, German-origin, and Scandinavian-origin are 71 %, -54 %, -42 %, and -10 %. The ranking is expected and aligns with the findings of La Porta et al. (1998) that English-origin countries experience higher levels of investor protection.

One thing that sticks out is that investor protection and shareholder rights have a correlation of 94 %. This is expected as shareholder rights make up half of the investor protection variable. However, this does not have an impact on our analysis as the two are not used in the same regressions.

The correlation between investor protection and market value to book value is – 35 %. This is surprising and contradictory to the paper written by La Porta et al. (2002), where they found that higher levels of investor protection lead to higher valuations. However, the composite is

put together by multiple factors measuring investor protection, such as accounting standards, using a different dataset that includes more countries that could explain the results.

5. Methodology

In this chapter, we explain the frameworks used in our analysis to answer our research question. We will explain the models we use for our data and our rationale for choosing the methods.

5.1 OLS

We use multiple regression to assess the effect of investor protection on the method of payment. We use two base models to which we add dummy variables and interaction terms. The two models are as follows:

$$\begin{aligned} \% \text{ Stock} = & \alpha_i + \beta_1 \textit{Antidirector Rights} + \beta_2 \textit{Rule of law} + \beta_3 \textit{Accounting Standards} \\ & + \beta_4 \textit{Transaction Value to Enterprise Value} \\ & + \beta_5 \textit{Acquiror Cash to Total Assets} + \beta_6 \textit{Acquiror Debt to Total Assets} \\ & + \beta_7 \textit{Acquiror Market Value to Book Value} + \beta_8 \textit{Offer Premium} \\ & + \beta_9 \textit{Dividend Dummy} + \varepsilon_i \end{aligned}$$

$$\begin{aligned} \% \text{ Stock} = & \alpha_i + \beta_1 \textit{Investor Protection} + \beta_2 \textit{Transaction Value to Enterprise Value} \\ & + \beta_3 \textit{Acquiror Cash to Total Assets} + \beta_4 \textit{Acquiror Debt to Total Assets} \\ & + \beta_5 \textit{Acquiror Market Value to Book Value} + \beta_6 \textit{Offer Premium} \\ & + \beta_7 \textit{Dividend Dummy} + \varepsilon_i \end{aligned}$$

We utilise OLS, a linear model, to analyse the change in fraction stock as part of total considerations on our independent variables. We argue that this model is suitable as the fraction stock variable is a continuous dependent variable.

5.2 Probit analysis

One of the methods we use to analyse our data is probit regression analysis. To fit the probit model, we make a subset containing only all-stock and all-cash considerations, which makes up about 88 % of the dataset. This is needed to use the probit method, which can be utilised when the dependent variable is a dummy variable. We use this to cross-check our OLS regression because the data is so heavily weighted at value 0 and 1. The probit regressions will all be shown in appendix 3 and 4.

Probit models are non-linear, and their predicted values are always equal to or between the values 0 and 1. The coefficient is expressed as an increased or decreased probability of a stock financed acquisition. Seeing it expressed in an increased or decreased likelihood, as opposed to a change in the linear relationship, is also an intuitive way to understand the effect. We use McFadden R^2 to explain the magnitude of the deviation our independent variables.

Interpretation of interaction terms differs for linear and non-linear models, as discussed by Ai and Norton (2003). They argue that we first have to compute the cross derivative or the cross difference of the coefficients to interpret them. Since we only use the probit models as a robustness test for OLS, we only interpret the coefficient's significance and direction rather than the odds-ratios that non-linear models provide.

5.3 Clustered standard errors

Clustering the standard errors makes sense, given that there is a correlation between the residuals within clusters and a correlation between regressors within clusters (Abadie, Athey, Imbens, & Woolridge, 2017). It is logical to assume that transaction characteristics for companies from the same country are similar, both in terms of regressors and the variance of the residuals. Utilising clustered standard errors is a solution to problems with both heteroscedasticity and arbitrary correlations of the error term within clusters (Heiss, 2016). Clustering has the same characteristics as cross-sectional data but is sampled from a population of clusters instead of being sampled individually from the population. Therefore, we cluster the standard errors based on acquiror nation throughout the analysis.

6. Analysis

In this chapter, we present the findings from our analysis and our interpretations of the results. We will first go over some characteristics of the data before presenting OLS and probit regression results.

6.1 Sample characteristics

We begin by looking at the characteristics of our sample data. Here we divide it into legal origins, civil law and common law, as described by La Porta et al. (1998), and as it is the focal point of our hypothesis.

Table 3

Summary of investor protection and method of payment by legal system

Law	Mean % stock	Standard deviation	Shareholder rights	Rule of law	Accounting standards	Investor protection
Civil law	0.41	0.48	3.08	44.32	64.84	0.68
Common law	0.52	0.47	4.85	46.59	72.03	0.85
Difference	0.11	-0.01	1.77	2.27	7.19	0.17

The table shows the difference between civil law and common law countries. We look at the dependent variable fraction of stock as part of total considerations and the different measurements of investor protection, including the weighted composite.

In table 3, we see that investor protection is stronger across all measurement categories in common law countries, in line with the findings of La Porta et al. (1998). This is shown together with the fraction of stock to highlight differences between our key independent variables and potential relationship with our dependent variable. The mean percentage of stock in transactions for common law nations is higher than for civil law countries by 11 percentage points. This initial look at the data seems to support our hypothesis in the sense that fraction of stock as part of considerations and levels of investor protection are correlated. Furthermore, the standard deviation is nearly the same for the two, even though the number of observations for common law is twice that of civil law. Although we see a difference in both the fraction stock and investor protection, the difference is not statistically significantly using a chi-squared test.

Table 4*Summary of investor protection and method of payment by legal origin*

Origin	n	Mean % stock	Standard deviation	Shareholder rights	Rule of law	Accounting standards	Investor protection
English	5128	0.52	0.47	4.85	46.59	72.03	0.85
German	1112	0.42	0.49	3.3	45.51	64.58	0.71
French	463	0.37	0.47	2.54	39.94	61.35	0.6
Scandinavian	148	0.38	0.47	3.18	49.1	77.73	0.74

The table shows the differences between the four law origins. We look at the characteristics of the dependent variable fraction of stock as part of total considerations and the different measurements of investor protection, including the weighted composite.

Table 4 breaks down the data into the four law origins. English-origin countries score the highest for shareholder rights while maintaining the highest percentage of stock in their transactions, while Scandinavian-origin countries score the highest on both shareholder protection composite and accounting standards. The mean percentage of stock for Scandinavian-origin is the second-lowest, just ahead of French-origin countries. The French-origin countries have the lowest share of stock as compensation while maintaining the lowest score in all measurements of investor protection.

6.2 Regression

In this section, we will present our findings from the OLS and probit regression. We use different proxies to test the hypothesis. For all tests, we show significance levels in the following way for 10, 5 and 1 % $p^* < 0.10$, $p^{**} < 0.05$, and $p^{***} < 0.01$.

6.2.1 Investor protection

Table 5

Effects of investor protection on method of payment

Variable	OLS (1)	OLS (2)	Probit (3)	OLS (4)	Probit (5)
Shareholder Rights	0.052*** (0.017)	0.052*** (0.014)	0.163*** (0.040)		
Rule of Law	-0.005 (0.005)	-0.002 (0.004)	-0.005 (0.011)		
Accounting Standards	0.003 (0.005)	0.0004 (0.004)	-0.002 (0.012)		
Investor Protection				0.457*** (0.146)	1.318*** (0.425)
Transaction Value/Enterprise Value		0.298*** (0.029)	0.978*** (0.097)	0.299*** (0.029)	0.979*** (0.097)
Cash/Assets		-0.027 (0.037)	-0.061 (0.108)	-0.030 (0.039)	-0.065 (0.113)
Debt/Assets		0.071 (0.052)	0.202 (0.146)	0.074 (0.055)	0.221 (0.154)
Market/Book		0.0002 (0.0001)	0.0005 (0.0003)	0.0002 (0.0001)	0.001* (0.0004)
Offer Premium		-0.100*** (0.021)	-0.287*** (0.062)	-0.102*** (0.020)	-0.290*** (0.061)
Dividend		-0.031 (0.026)	-0.096 (0.080)	-0.032 (0.025)	-0.101 (0.077)
Observations	6,851	6,851	6,040	6,851	6,040
Adjusted R ²	0.013	0.086		0.084	
McFadden R ²			0.076		0.074
F Statistic	31.527*** (df = 3; 6847)	72.611*** (df = 9; 6841)		90.770*** (df = 7; 6843)	

Significance levels

* ** p *** p<0.01

The table shows the results from the OLS regression of the dependent variable fraction of stock as a percentage of total compensation on different variables for investor protection and control variables. Column 1 uses only the three measurements of investor protection as explanatory variables to see their standalone effects. Columns 2 and 3 use the same independent variables as column 1 and introduces control variables. Columns 4 and 5 use the weighted higher-level composite variable for investor protection as the explanatory variable and includes all the control variables. Additionally, columns 3 and 5 show probit regression utilising the dataset with all-cash and all-stock transactions.

Results

In this section of the analysis, we aim to test if investor protection impacts the method of payment. The fitted models obtain adjusted R^2 values of 1.3 %, 8.6 %, 7.6 %, 8.4 %, and 7.4 %, respectively.

The variable shareholder rights positively affect the fraction of stock and is significant at the 1 % level. A one-point increase in the shareholder rights variable – which takes a value between zero and six – will increase the stock portion of considerations in M&A transactions by 5.2 %, ceteris paribus. Shareholder rights measure the protection of minority shareholders. The results, therefore, give a clear indication that target shareholders are more willing to accept stock from companies subject to stronger investor protection.

The regression shows that the weighted composite has a positive effect on the fraction of stock and is significant at the 1 % level. The composite variable for investor protection indicates that a one-unit increase in investor protection will lead to an increase in the fraction of stock in M&A payments of 45.7 %. However, as investor protection is a variable between 0 and 1, a more intuitive understanding is that a 1 % increase in investor protection leads to an increase in the fraction of stock by 0.457 %.

Two of the control variables, transaction value to enterprise value and premium, have a statistically significant effect on the fraction of stock in opposite directions. A 1 % increase in relative size increases the stock portion by 0.298 % and 0.299 % for models 2 and 4, respectively. This is consistent with previous literature stating that larger firms prefer to pay with stock.

The f-statistic is significant at the 1 % level for all OLS models, indicating that the models produce more accurate results than simply using the mean of the dependent variable. The f-

statistic also indicates that the R^2 is not equal to 0 and that there is a statistically significant correlation between the model and the dependent variable.

We can reject the null hypothesis, which supports our alternative hypothesis that the use of stock as payment in takeovers increases with the level of investor protection in the acquiring nation. Considering findings from previous literature, it is surprising that we do not find more significant results for the control variables. Furthermore, the regressions show relatively low values for adjusted R^2 indicating that there are other effects that we are not accounting for in the models. By consulting the correlation matrix in appendix 2, we see that the variables shareholder rights and the investor protection composite have a 94 % correlation. Similar results from the two variables are therefore expected.

The results from probit regression indicate similar results in terms of significance levels and direction of coefficients. The models differ for the variable acquiror market to book value in column 5, considering it is significant at the 10 % level in the probit model.

Due to a large number of US transactions, we also make a subsample of the data where US acquirors are excluded to test the robustness of the results. The number of observations decreases from 6,851 to 3,585. The model obtains very similar results. The table can be found in appendix 5.

6.2.2 Legal origins

Table 6

Effects of investor protection on method of payment – Legal origins

Variables	<i>Common vs civil law</i>		<i>Origins</i>	
	(1)	(2)	(3)	(4)
Mandatory Dividends			0.340** (0.156)	0.151 (0.193)
Shareholder Rights	0.044** (0.019)		0.028 (0.048)	
Rule of Law	-0.014** (0.006)		0.006 (0.006)	
Investor Protection		0.126 (0.204)		0.516* (0.301)
Common Law	-0.070 (0.529)	-0.221 (0.288)		
French-origin			-0.220 (0.548)	0.407 (0.309)
German-origin			0.827 (0.542)	0.182 (0.379)
Scandinavian-origin			5.311*** (1.107)	0.677 (0.511)
Common Law * Rule of Law	0.020** (0.009)			
Rule of Law * German-origin			-0.038*** (0.008)	
Rule of Law * Scandinavian			-0.124*** (0.021)	
Investor Protection * French-origin				-0.736* (0.403)
Observations	6,851	6,851	6,851	6,851
Adjusted R ²	0.088	0.085	0.096	0.087
F Statistic	56.258*** (df = 12; 6838)	80.461*** (df = 8; 6842)	34.082*** (df = 22; 6828)	47.700*** (df = 14; 6836)
Significance levels				* p ** p *** p < 0.01

The table shows the results from OLS regression of the dependent variable fraction of stock as a percentage of total compensation on different variables for investor protection and control variables. A dummy for common law countries is included as well as interaction terms with the explanatory variables for investor protection in columns 1 and 2. Dummy variables and interaction terms for the different law origins are included in columns 3 and 4. Columns 1 and 3 use the three measurements of investor protection, while columns 2 and 4 use the composite.

Results

In this section of the analysis, we test if investor protection impacts the method of payment differently in the various law origins. Control variables and interaction terms that are not significant are not presented in the regression table. The fitted models obtain adjusted R^2 values of 8.8 %, 8.5 %, 9.6 %, and 8.7 %, respectively. Furthermore, the f-Statistic for all models is significant at the 1 % level.

The variable mandatory dividends has a positive coefficient and is significant at the 5 % level in model 3. Mandatory dividends, according to La Porta et al. (1998), is meant as a legal substitute in the absence of other protections for shareholders. The positive coefficient of the variable mandatory dividends supports our hypothesis since mandatory dividends are meant to support minority shareholders in nations with weaker investor protection. The results can be interpreted as a 1 % increase in mandatory dividends will lead to an increase in the fraction of stock in considerations by 0.34 %.

In column 1, the standalone variable shareholder rights is significant at the 5 % level and has a positive coefficient. This supports our hypothesis that higher levels of investor protection in the country of the acquiror increase target shareholders' propensity to accept stock as a form of compensation. It indicates that investor protection affects the method of payment in civil law countries.

The variable investor protection has a positive coefficient and is statistically significant at the 10 % level in column 4. The coefficient indicates that a 1 % increase in investor protection increases the fraction of stock as part of considerations by 0.516 %.

Rule of law has a negative coefficient and is significant at the 5 % level. The negative coefficient for rule of law indicates that an improvement in rights for minority shareholders in civil law countries will lead to a lower willingness to accept stock instead of cash by 1.4 % for a one-unit increase.

The effect is the opposite for common law countries. In column 1, the interactive term common law * rule of law has a positive coefficient and is significant at the 5 % level. The interaction term common law * rule of law indicates that investor protection has a positive effect in common law countries compared to civil law countries. The coefficient indicates that the net effect for common law countries is positive as opposed to civil law countries, where the effect of rule of law is negative. The results are surprising and against our economic intuition.

We believed that a strengthening of investor protection would have a positive effect on payment method in countries with weak investor protection rather than countries with strong investor protection. However, there might be other major differences between the models that we are unable to capture in the model, such as the efficiency of capital markets.

In column 3, the dummy variable for Scandinavian-origin countries has a positive coefficient and is significant at the 1 % level. The abnormally large coefficient is likely due to a small sample size for Scandinavian transactions. When introducing the interaction variable Scandinavian * rule of law, the coefficient turns negative. This indicates that Scandinavian countries have a higher propensity to use stock in transactions. However, the effect diminishes when taking rule of law into account.

The two interaction variables for rule of law combined with dummies for German-origin countries and Scandinavian-origin countries both have negative coefficients and are significant at the 1 % level. This indicates that a one-unit increase in rule of law in the German and Scandinavian legal origin countries decreases the fraction of stock as part of considerations with 3.8 % and 12.4 %, respectively.

In column 2, only the interaction term investor protection * French-origin is statistically significant. This indicates that investor protection has a smaller impact on the fraction of stock as part of considerations in French civil law countries. The coefficient indicates that a one per cent increase in investor protection for French-origin countries leads to a 0.65 % decrease in the fraction of stock as method of payment compared to English-origin countries. This is against our economic intuition, similarly to the previous hypothesis comparing transactions with acquirors from common law countries and civil law countries. Comparably to common law versus civil law, there might be factors that the model is unable to capture that explains the variation in the data.

Using the probit model for robustness gives fairly similar results as the OLS model, though with a higher level of significance. See appendix 3 for the probit model.

Columns 1, 3 and 4 have proxies for investor protection with statistically significant results, with positive coefficients. Therefore, we reject the null hypothesis, which supports our alternative hypothesis that the use of stock as payment in takeovers increases with the level of investor protection in the acquiring nation, also when controlling for legal origins. The regression also indicates that the effect is stronger for common law countries. However, the regressions show relatively low values for adjusted R^2 indicating that there are other effects that influence the method of payment.

6.2.3 Cross-border and cross-industry effects

Table 7
Effects of investor protection on method of payment

Variables	<i>Cross-border</i>		<i>Cross-industry</i>	
	(1)	(2)	(3)	(4)
Shareholder Rights	0.017 (0.016)		0.049*** (0.017)	
Rule of Law	-0.003 (0.005)		-0.006 (0.004)	
Accounting Standards	0.001 (0.005)		0.004 (0.005)	
Investor Protection		0.075 (0.161)		0.445** (0.186)
Cross-border	-0.885*** (0.273)	-0.582*** (0.142)		
Cross-industry			0.072 (0.235)	-0.114 (0.144)
Cross-border * Investor Protection		0.449*** (0.162)		
Cross-industry * Rule of Law			0.007* (0.004)	
Cross-industry * Accounting Standards			-0.008** (0.004)	
Observations	6,851	6,851	6,851	6,851
Adjusted R ²	0.121	0.120	0.095	0.092
F Statistic	73.205*** (df = 13; 6837)	104.916*** (df = 9; 6841)	60.756*** (df = 12; 6838)	77.974*** (df = 9; 6841)
Significance levels				* p < 0.05 ** p < 0.01 *** p < 0.001

The table shows the results of the OLS regression of the dependent variable fraction of stock as a percentage of total compensation on different variables for investor protection and control variables. Columns 1 and 3 use the three measurements of investor protection, while columns 2 and 4 use the investor protection composite. A dummy variable for cross-border transactions as well as interaction terms with the dummy is included in columns 1 and 2. The dummy variable is based on SIC industry sector codes. Columns 3 and 4 use a dummy variable for cross-industry transactions and interaction terms with the dummy variable.

Results

In this section of the analysis, we aim to see if investor protection affects method of payment differently in cross-border and cross-industry transactions. Control variables are included but not presented in the table. The fitted models obtain adjusted R^2 values of 12.1 %, 12 %, 9.5 %, and 9.2 %, respectively. Furthermore, the f-Statistics are significant at the 1 % level.

The variable shareholder rights is statistically significant at the 1 % level in column 3. The coefficient indicates that a one-unit increase in shareholder rights in the nation of the acquiror increases the fraction of stock in transactions by 4.9 %.

We see that the investor protection composite is positive and statistically significant at the 5 % level in column 4. The coefficient indicates that a 1 % increase in investor protection in the nation of the acquiror increases the fraction of stock in transactions by 0.445 %.

The dummy variable for cross-border transactions has negative coefficients and is statistically significant for model 1 and 2 at the 1 % level. This indicates that target shareholders have a lower propensity to accept stock as payment if the acquiror is from a different country. The coefficients measure the effect to be -88.5 % and -58.2 %, respectively. These findings align with the findings of Dutta et al. (2012), that companies tend to pay with more cash in cross-border transactions.

The interaction variable for cross-border transactions and investor protection has a positive coefficient and is statistically significant at the 1 % level in column 2. The coefficient indicates that a 1 % increase in investor protection will lead to a 0.449 % higher increase in the fraction stock as part of considerations in cross-border transactions compared to domestic. The observed net effect of investor protection combined with cross-border transactions indicates that target shareholders prefer to be paid in cash.

The interaction variable for cross-industry transactions and rule of law has a positive coefficient and is statistically significant at the 10 % level in column 3. The coefficient indicates that a one-unit increase in investor protection will lead to a 0.7 % higher increase in the fraction stock as part of considerations in cross-industry transactions compared to domestic.

The interaction term cross-industry * accounting standards has a negative coefficient and is statistically significant at the 5 % level. The coefficient indicates that a one-unit increase in

accounting standards leads to a decrease in the fraction of stock as part of considerations of 0.8 % compared to intra-industry transactions.

Columns 1 and 2 have proxies for investor protection with insignificant results. We, therefore, fail to reject the null hypothesis for these models. However, columns 3 and 4 have proxies for investor protection with statistically significant results, with positive coefficients. The fitted model rejects the null hypothesis, which supports our alternative hypothesis that the use of stock as payment in takeovers increases with the level of shareholder protection, also when controlling for cross-industry transaction. Although models 1 and 2 does not obtain statistically significant results, the interaction term in column 2 indicates a positive relationship between investor protection and stock fraction in cross-border transactions. This aligns with our intuition that targets pay closer attention to judicial risks when considering merging with an acquiring company from a different country. Consequently, target shareholders will accept a higher fraction of stock if the acquiror nation has better investor protection.

The probit model used for robustness gives similar results as the OLS model. The probit table can be found in appendix 4.

7. Conclusion

The purpose of this thesis was to expand on the existing investor protection literature. This was done by looking at investor protection's impact on target shareholders' payment method preference in takeovers. We propose that target shareholders' have a greater preference for cash when faced with increased uncertainty. Greater uncertainty is related to the risk of expropriation of minority shareholders, which is shown to be higher in countries with worse investor protection (La Porta et al. 1998).

In this paper, we introduced the variables for shareholder rights and rule of law used by La Porta et al. (1998). Using their framework as a starting point, we analysed the potential impact on payment method in takeovers. In sum, the results show a positive relationship between increased levels of investor protection in the country of the acquiror and a greater propensity to use stock as method of payment in takeovers. The investor protection composite and shareholder rights variables are both significant, which supports our hypothesis.

Our findings also indicate that targets prefer to be paid with cash in cross-border transactions. This aligns with previous literature by Faccio and Masulis (2005), that cash-financed transactions are more frequent in cross-border deals. Furthermore, this incentivises targets to accept a higher fraction of stock where the country of the acquiror has better investor protection. Although target shareholders' prefer to be paid in cash in cross-border transactions, we find that higher levels of investor protection positively affect the fraction of stock in these transactions.

There are, however, limitations to our thesis. Throughout the analysis, we assume that the laws and different proxies of investor protection used in La Porta (1998) are applicable over a longer time period. In terms of the future direction of research, it would therefore be interesting to include significant changes in proxies for investor protection to see the effects on method of payment. This can illuminate the potential effect of legal changes in countries.

The results of our thesis can help guide bidders to better understand the preferences of target shareholders, which can increase the likelihood of a successful acquisition and an optimal financing structure. Additionally, lawmakers can add our findings to the list of reasons why improving investor protection can be beneficial.

8. Bibliography

- Abadie, A., Athey, S., Imbens, G., & Woolridge, J. (2017). When Should You Adjust Standard Errors for Clustering? (No. w24003). *National Bureau of Economic Research*.
- Ai, C., & Norton, E. (2003). Interaction terms in logit and probit models. *Economics Letters* 80, 123-129.
- Burch, T., Nanda, V., & Silveri, S. (2012). Taking stock or cashing in? Shareholder style preferences, premiums and the method of payment. *Journal of Empirical Finance*, 19(4), 558-582.
- Dutta, S., Saadi, S., & Zhu, P. (2013). Does payment method matter in cross-border acquisitions? *International Review of Economics and Finance*, 91-107.
- Eckbo, B., Makaew, T., & Thorburn, K. (2018). Are stock-financed takeovers opportunistic? *Journal of Financial Economics*, 443-465.
- Faccio, M., & Masulis, R. (2005). The choice of payment method in European mergers & acquisitions . *Journal of Finance*, Vol. 60, No. 3, 1345-1388.
- Gompers, P., Ishii, J., & Metrick, A. (2003). Corporate governance and equity prices. *The quarterly journal of economics*, 118(1), 107-156.
- Goyal, A., & Muckley, C. (2013). Cash dividends and investor protection in Asia. *International Review of Financial Analysis*, 29, 31-43.
- Haidar, J. I. (2009). Investor protections and economic growth. *Economics Letters*, 103(1), 1-4.
- Hansen, R. (1987). A theory for the choice of exchange medium in mergers and acquisitions. *Journal of business*, 75-95.
- Hart, O. (1995). Corporate governance: some theory and implications. *The economic journal*, 105(430), 678-689.
- Heiss, F. (2016). *Using R for Introductory Econometrics*. Dusseldorf.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics*, 3(4), 305-360.

Karaca-Mandic, P., Norton, E., & Dowd, B. (2012). Interaction Terms in Non-linear Models. *Health services research*, 255-274.

La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (1998). Law and Finance. *Journal of Political Economy*, 1113-1152.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (1997). Legal determinants of external finance. *The journal of finance*, 52(3), 1131-1150.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (2002). Investor protection and corporate valuation. *The journal of finance*, 1147-1170.

Modigliani, F., & Miller, M. (1958). The cost of capital, corporation finance and the theory of investment. *The American economic review*, 48(3), 261-297.

9. Appendix

Appendix 1

Variable definitions

Variable name	Variable definition
Shareholder rights	An equal weight composite of the different shareholder rights variables as discussed in 4.5.1 ranked from 0 to 6
Rule of law	An equal weight composite of the different rule of law variables as discussed in 4.5.2 ranked from 0 to 50
Accounting standards	Accounting standards of the countries as described in 4.5.3, ranked between 0 to 100
Investor protection	Composite variable made up of $6/12 * \text{Shareholder rights}$, $5/12 * \text{Rule of law}$ and $1/12 \text{ accounting standards}$, benchmarked to between 0 to 1
Mandatory dividends	Legal rule that requires companies to pay a specific percentage of net income to shareholders in dividends
Transaction value/enterprise value	Transaction value divided by enterprise value of acquiror, the relative size of the acquisition compared to the acquiror
Cash/assets	Cash of acquiror divided by acquiror assets
Debt/assets	Debt of acquiror divided by acquiror assets
Market/book	Market value of acquiror divided by acquiror book value
Offer premium	Offer premium in the acquisition
Dividend	Dividend dummy, equal to 1 if target paid dividend in the last year

Common law	Dummy variable, equal to 1 if the acquiror is from an English-origin, common law country
French-origin	Dummy variable, equal to 1 if the acquiror is from a French-origin country
German-origin	Dummy variable, equal to 1 if the acquiror is from a German-origin country
Scandinavian-origin	Dummy variable, equal to 1 if the acquiror is from a Scandinavian-origin country
Cross-border	Dummy variable, equal to 1 if the acquiror is from a different country than the target
Cross-industry	Dummy variable, equal to 1 if the acquiror is from a different industry than the target based on SIC industry sector codes

The table provides definitions of key terms used in the thesis.

Appendix 2

Correlation matrix of variables

	Cash/asset	Dividend	Payment	D/EV	M/B	Premium	TV/EV	Shareholder rights	Mandatory dividends	Accounting standards	Rule of law	Cross border	Cross industry	Investor protection	French	German	Scandinavian	Common law
Cash/Assets	100%																	
Dividend	-10%	100%																
Payment	1%	-3%	100%															
D/EV	-30%	20%	-2%	100%														
M/B	18%	7%	0%	9%	100%													
Premium	2%	-10%	-6%	-11%	-14%	100%												
TV/EV	12%	-4%	26%	-18%	-11%	4%	100%											
Shareholder rights	-7%	-9%	11%	-19%	-26%	12%	10%	100%										
Mandatory dividend	-1%	-2%	-1%	6%	15%	0%	-4%	-16%	100%									
Accounting standard	-10%	-6%	6%	-24%	-41%	9%	17%	48%	-39%	100%								
Rule of law	-4%	-6%	2%	-17%	-38%	13%	8%	37%	-40%	58%	100%							
Cross border	-3%	1%	-22%	-6%	-6%	6%	-5%	-21%	1%	2%	2%	100%						
Cross industry	6%	4%	-11%	6%	10%	-4%	-9%	-4%	-3%	-7%	-5%	-6%	100%					
Investor protection	-7%	-10%	10%	-22%	-35%	14%	12%	94%	-28%	62%	66%	-16%	-5%	100%				
French	-5%	5%	-7%	10%	2%	-4%	-4%	-50%	45%	-45%	-38%	17%	-4%	-54%	100%			
German	22%	17%	-6%	26%	50%	-14%	-18%	-48%	-5%	-47%	-5%	-2%	11%	-42%	-12%	100%		
Scandinavian	1%	-3%	-3%	3%	-3%	-2%	0%	-18%	-2%	21%	11%	12%	1%	-10%	-4%	-7%	100%	
Common law	-16%	-16%	11%	-29%	-43%	15%	18%	76%	-21%	59%	23%	-12%	-7%	71%	-46%	-76%	-26%	100%

Appendix 3*Effects of investor protection on method of payment – Legal origins – Probit*

Variables	<i>Common vs civil law</i>		<i>Origins</i>	
	(1)	(2)	(3)	(4)
Mandatory dividends			0.997** (0.484)	0.478 (0.559)
Rule of law	-0.035*** (0.012)		0.019 (0.016)	
Accounting Standards	0.018** (0.009)		-0.025 (0.022)	
Investor Protection		0.371 (0.526)		1.577** (0.795)
German-origin			3.025* (1.633)	0.573 (1.016)
Scandinavian-origin			15.369*** (2.956)	2.138 (1.386)
Rule of law * German-origin			-0.111*** (0.021)	
Rule of law * Scandinavian-origin			-0.365*** (0.065)	
Accounting Standards * Scandinavian-origin			0.037* (0.021)	
Common law * Rule of law	0.058*** (0.020)			
Common law * Accounting Standards	-0.040* (0.023)			
Investor Protection * French-origin				-2.079* (1.152)
Investor Protection * Scandinavian-origin				-3.209* (1.806)
Observations	6,040	6,040	6,040	6,040
McFadden R^2	0.080	0.076	0.087	0.077
Significance levels				* p ** p *** p<0.01

The table supplements table 6 as a robustness test, using the probit model on the modified dataset.

Appendix 4

Effects of investor protection on method of payment – Cross-border and cross-industry – Probit

Variables	<i>Cross-border</i>		<i>Cross-industry</i>	
	(1)	(2)	(3)	(4)
Shareholder rights	0.065 (0.044)		0.156*** (0.049)	
Rule of law	-0.006 (0.014)		-0.016 (0.011)	
Accounting Standards	-0.0003 (0.014)		0.009 (0.013)	
Investor Protection		0.311 (0.463)		1.321** (0.532)
Cross-border	-3.028*** (1.029)	-1.889*** (0.481)		
Cross-industry			0.351 (0.712)	-0.281 (0.430)
Cross-border * Investor Protection		1.476*** (0.553)		
Cross-industry * Rule of law			0.021* (0.012)	
Cross-industry * Accounting Standards			-0.024** (0.011)	
Observations	6,040	6,040	6,040	6,040
McFadden R^2	0.108	0.107	0.084	0.081
Significance levels				* p ** p*** p<0.01

The table supplements table 7 as a robustness test, using the probit model on the modified dataset.

Appendix 5*Effects of investor protection on method of payment – Excluding US*

Variables	<i>OLS</i> (1)	<i>OLS</i> (2)	Probit (3)	<i>OLS</i> (4)	<i>Probit</i> (5)
Shareholder Rights	0.066** (0.027)	0.065*** (0.022)	0.191*** (-0.065)		
Rule of law	-0.003 (0.006)	-0.00001 (0.004)	-0.001 (0.012)		
Accounting Standards	0.002 (0.005)	-0.002 (0.004)	-0.007 (0.012)		
Investor Protection				0.521** (-0.223)	1.433** (0.645)
Transaction Value/Enterprise Value		0.341*** (0.045)	1.114*** (0.127)	0.339*** (0.047)	1.107*** (0.135)
Cash/Assets		-0.066 (0.058)	-0.143 (0.186)	-0.061 (0.059)	-0.123 (0.186)
Debt/Assets		0.046 (0.112)	0.161 (0.330)	0.067 (0.108)	0.231 (0.311)
Market/Book		0.0002 (0.0001)	0.001 (0.0004)	0.0002 (0.0001)	0.001* (0.0004)
Offer Premium		-0.074*** (0.026)	-0.215*** (0.090)	-0.078** (0.028)	-0.223** (0.094)
Dividend		-0.045 (0.046)	-0.146 (0.145)	-0.045 (0.047)	-0.145 (0.144)
Observations	3,585	3,585	3,250	3,585	3,250
Adjusted R ²	0.027	0.113		0.108	
McFadden R ²			0.094		0.091
F Statistic	33.793*** (df = 3; 3581)	51.650*** (df = 9; 3575)		63.119*** (df = 7; 3577)	
Significance levels					* p ** p *** p<0.01

The table complements table 5 in section 6.2.1 and shows the effects of investor protection on the method of payment when excluding the US acquirors.