The Choice of Payment Method in European Mergers and Acquisitions

The Aftermath of the Financial Crisis

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Abstract

We study the choice of payment method of European bidders' in the wake of the financial crisis from 1st of august 2007 till 31st of august 2013. We observe a decrease in the proportion of cash payments after the epicenter of the financial crisis. Firm and deal characteristics are found to be largely important for the choice of payment method, corroborating previous research. Our results show that adverse selection and financial constraints are important factors for bidders' when choosing payment method in M&As. We find differences in the choice of payment method between Europe and North America, comparing our results to previous studies of M&A activity in North America.

1. Introduction

As time changes, so does the payment method in mergers & acquisition (M&A). Most deals prior to the 1990s were pure cash transactions, but when the merger wave came in the 90s most deals where suddenly stock or mixed payment transactions (Boone et al 2014). The trend in the choice of payment method in M&A has baffled many economists.

The payment method in mergers and acquisitions can tell us a lot about the companies involved in the deal. Some companies prefer to purchase solely by using cash, while others use only stock or a mix of cash and stock (denoted hybrid). The choice of payment method can have many implications for a firm. Choosing to pay with a certain payment method is an important management decision, which affects financial leverage, firm risk and ownership. The choice of payment method can thus be largely important for firms. During the past years the choice of payment method has varied widely, and we recognize that we can contribute with researching the new trend and find firm characteristics that contributes to the decision of choosing payment method in M&As.

There have been several empirical studies on short-term performance of a bidder's stock performance post transaction, where some papers, a notable being Fishman (1989), suggest that the announcement of stock offers in M&A has a negative short-term effect. However, the more recent paper by Savor and Lu (2009) finds that overvalued firms create value from the merger to shareholders. Whilst interesting, we ignore this aspect in the choice of payment method and focus on firm characteristics and exogenous causes.

Papers on M&A that focus on European bidders' are few, a noteworthy paper being Faccio Masulis (2005), where they observe a wide difference in payment methods in Europe contra North America while comparing their research to the findings of others. They find that a bidder's choice of payment method in European M&As during 1997-2000 largely depends on several factors related to corporate governance concerns and debt financing constraints. In the past stock mergers have been regularly used, particularly in North America where there are few firms that have majority shareholders. Thus ownership dilution in stock offerings is a relatively minor issue. Faccio & Masulis also found research pointing to a trend change in M&A comparing their results to other studies.

As in Faccio & Masulis (2005), our main focus is on the bidders' financing decisions when we attempt to evaluate the determinants of the payment method. We investigate if this trend change toward more pure cash and hybrid transactions has continued, and what the preferred method of payment has been the past years.

Boone et al (2014) see a trend of increased mixed payment methods of both ordinary shares and cash in the American M&A market. They conclude that this is because of acquirers taking target preferences in to consideration. With our research we are able to answer if the same trend is visible in Europe. In comparison, much due to ownership control issues, Faccio and Masulis (2005) hypothesized that the payment method of M&As would differ due to different legal systems and ownership control issues. In their paper they noticed large differences in countries within Europe as well as between America and Europe. Thus we cannot deduce that the observed trends in America are seen in Europe.

We also examine the trends and determinants in M&A payment methods during, and post, the epicenter of the financial crisis in Europe, to see whether the crisis had any effect on the payment methods in M&As. Seeing as both firm characteristics and time trends have an effect on the choice of payment method we expect to see a change due to changes in the environment.

When the crisis started to bloom both the market sentiment and the stock exchanges fell rapidly in anticipation of lower results and increased risk of bankruptcy (De Fiore, Uhlig 2015). Hansen (1987) finds that when a firm believes it is undervalued, it prefers to use cash as means of payment. Presumably, with firms having the same cash balance as before while stock prices fall, we assume that firms use more cash as a payment method in favor of stock. Malmendier et al (2012) analyzes a sample of unsuccessful merger bids during 1980-2008. They find that stock financed deals indicate an overvaluation of the acquiring company's market value, while the opposite is true for cash deals. Shleifer & Vishnys (2001) paper shows similar findings. Thus we expect to see that when stock prices increase on the stock exchanges, firms start to revert to using a larger fraction of stock than during the epicenter of the crisis.

We compare our results to research conducted before the financial crisis. We decided to observe any effects of the financial crisis by using a time variable. Our observations are from 1st august 2007 and ending 31st July 2013. The start date complies with the research of Economic and Financial affairs of the European Union.

The aftermath of the financial crisis was dire for many companies. Numerous firms went bankrupt while others where under severe financial constraints. The M&A activity went down in number of deals and especially the value of total deals, after seeing a large increase in both, after the drop in M&A activity following the IT-bubble crash (Martynova, Renneboog, 2008; Institute of Mergers, Acquisitions and Alliances).
Our descriptive statistics implies that the choice of payment method in M&A is mainly cash.

During 2007-2008 the proportion of cash bids was at its peak, 93.04 and 88.39 percent respectively. Cash as method of payment is preferred when firms are undervalued. Unexpectedly, we observe that firms shy away from hybrid as a method of payment instead of stock during the epicenter of the crisis in 2008. According to an article published by the European Central Bank (De Fiore, Uhlig 2015), market sentiment was very low at the time and the volatility of the stock market was very high. This may have scared away targets from accepting stock as payment due to the high level of uncertainty at the time. Bidders' appear to choose between cash and stock, ignoring hybrid payments and thus removing the possibility for targets to choose payment method.

Our empirical research shows that there has been a change in the method of payment compared to the findings of Faccio and Masulis (2005). It also suggests that the financial crisis has had an effect on the method of payment, supporting our hypothesis that the fraction of cash offers has declined since the epicenter of the crisis. We find several firm characteristics of the bidding firm that affect the choice of payment method such as total assets, dividend yield and whether it is a cross-border deal or not. We observe results that are consistent with previous research; however, some of our findings contradict what has been suggested prior to this study.

Research Questions
- What firm and deal characteristics has an effect on the choice of payment method?
- Has the choice of payment method changed during the financial crisis in Europe?
- Are there still differences in the method of payment offered between Europe and North America?

Main Hypotheses
- The determinants of the choice of payment method in mergers and acquisitions has changed as a result of the financial crisis
- The fraction of purely cash financed deals has declined since the beginning of the financial crisis in Europe

2. Theoretical Framework

2.1 Financial Constraints Hypothesis

In theory, financially constrained firms are less prone to use cash as a method of payment since it is plausible that they may not be able to raise either equity or debt to finance a cash acquisition. Due to the financial crisis the cost of debt financing increased, average yield of corporate bonds rose by 70%, whilst yield on bank loans rose by 29% (De Fiore, Uhlig, 2012). This made it harder for firms with financial constraints to raise debt to finance an acquisition. However this goes both ways, receiving stock in a firm that is financially constrained might not go well with the target shareholders, this factor we believe is stronger than the first. Thus, this will mean that M&A activity for overleveraged firms will decrease and we expect to see that firms with financial constraint issues still use cash as a method of payment in M&As.

The financial resources deficit hypothesis implies that acquirers with high growth opportunities are more likely to engage in stock deals. Looking at companies early in their life cycle they may be constrained by the availability of cash and their debt capacity, and thus be inclined to finance deals with stock.

2.2 Asymmetric Information and Adverse Selection

According to Hansen (1987) the acquirer choice of payment method will create a signaling equilibrium. We analyze the acquirer perspective of this and compare the market capitalization to book value to observe if we see a pattern as a controlling variable. The acquirer will prefer a stock (cash) payment if the acquirer sees itself as overvalued (undervalued); and to a smaller degree, the target will prefer to receive cash as a method of payment if it sees itself as overvalued, and not accept the deal if it sees the bid as too low. The acquirer will also prefer to pay with stock seeing as the target knows its value better than the acquirer, thus a cash acquisition is riskier than a stock acquisition. Bruslerie (2013) observes that if the acquirer perceives the target as risky it should be more willing to use stock instead of cash to decrease the risk of the acquiring company. This theory is particularly applicable for our research since the market capitalization of most companies decreased during the financial crisis, which in turn could lead to firms using more cash payments due to them not feeling overvalued.

Hansen's adverse selection model (1987) also suggests that the relative size of a deal, comparing the value of the target to that of the acquirer, is a significant determinant in the

choice of payment method. This, according to Hansen, is because the target asset in this case is a substantial addition to the acquirer. We thus analyze whether the relative deal size advocates a specific payment method over the other methods.

3. Data

3.1 Data Sources

Gathering our data, we use two primary sources for data collection. SDC Platinum M&A database was used to collect deal specific information regarding mergers and acquisitions that were announced in Europe between the 1st august 2007 and 31st of august 2013. Only bids where the acquirer is a public company and where the transaction value is available where collected. We only include listed acquirers because of the availability of their accounting numbers. We have included both cross-border and intra-border deals, with a 5 percent requirement of percent of shares owned after the transaction.

Thomson Datastream Advance was used to retrieve fiscal year-end accounting and market data for acquiring companies from the year prior to the deal announcement. To reduce the likelihood of selection biases, we have gathered a large sample of observations for our chosen time period. We then use a time variable to analyze the effect of the financial crisis on the payment method. To see adjustments of the dataset, see "Data adjustments" in appendix.

3.2 Variables

Method of Payment

The aim of our thesis is to examine the payment method decision in mergers and acquisitions where the acquiring company originates from a European country. This is done using the variable **ConsiderationOffered**, where the type of consideration offered is classified into cash, hybrid and stock. The variable can take an integral value between 0 and 2, where 0 equals stock payment, 1 equals hybrid payment and 2 equals cash payment.

Percentage of Cash

To be able to use the Tobit two-boundary model we use a variable denoted **OfCash**. The variable takes on the value of 0 for pure stock payments and the value of 100 for pure cash payments. If it is a hybrid it takes on a value between 0 and 100, reflecting the proportion of cash and stock within the payment.

OLS-Cash

The purpose of the binary dummy-variable **OLSCash** is to compare cash bids to stock bids in an OLS regression setting. The variable assigns the value 1 to all deals where the fraction of cash is over 50%. A deal where the payment constitutes less than 50% cash takes the value 0.

Year

In the beginning of the financial crisis in Europe, stock markets plummeted. Due to market sentiments and other factors, stocks were undervalued and highly volatile. When stocks are undervalued, we expect the preferences of acquiring firms to lean in favor of pure cash payments in M&A transactions. To be able to test our hypothesis, we create a time-based variable denoted **YEAR**. Our year variable reflects the year in which a deal was announced, starting with year 2007 and ending with 2013.

Cross-border Deals

As can be seen from previous research, there are indications that the origin of acquirer and target does affect the financing decision. French and Poterba (1991) have found that investors have a home bias due to illiquidity, higher trading costs and the currency exchange risk of foreign stocks. We use the dummy variable **CROSSBORDER** to assess whether this factor has any significant influence over the choice of payment method in European M&As during and after the financial crisis.

Intra-industry Deals

Intra-industry versus Cross-industry is based on asymmetric information risk. For cross-industry deals, the acquirer and target does not know about each other's industry. Thus the target might be unsure if there are any synergies to be realized for the acquirer or whether the combined company enhances the performance of the companies. Therefore we expect to see that cross-industry deals are more likely to use cash than intra-industry deals. We incorporate a dummy variable, **INTRAINDUSTRY**, to study whether it has any effect on the financing decision. This variable is a binary function, which can be equal to 0 or 1, where 1 refers to intra-industry deals and 0 refers to cross-border deals.

Subsidiary

Due to ownership dilution considerations, we except to observe most M&A deals where the acquirer is a subsidiary to be financed by cash. When the relative size difference between acquirer and target decreases, the risk also increases. Since subsidiaries often have one or few owners, these can in turn create a new large shareholder, which increases the risk of losing voting power. The dummy variable we created for subsidiaries, **SUBSIDIARY**, takes the value of 1 when the acquirer is a subsidiary and 0 otherwise.

Total Assets

Firm size measured by total assets, is likely to influence the choice of payment method according to Faccio & Masulis (2005). They argue that the larger firms tend to be more diversified and less financially constrained, which implies that it is easier for them to increase leverage to finance acquisitions. Furthermore, large size bidders are also more likely to have liquid assets available. Thus, cash financing should be the preferred alternative for these firms. We have decided to use a logarithm of total assets, since the size should only have an effect on the financing choice up to a certain amount. Our variable **LogofTotalassets** measures the logarithm of the total amount of assets in the acquiring firm for the end of the fiscal year prior to the deal announcement.

Cash to Assets

The **CASHTOASSETS** variable measures the cash and cash equivalents of the acquiring company relative to the total assets. This variable was implemented to see whether the liquidity of the acquirer has any effect on the choice of payment method.

Transaction Value to Cash

Similar to the previous variable, **TRANSACTIONVALUETOCASH** measures the cash and cash equivalent assets of the acquiring firm in relation to the value of the proposed deal.

Financial Industry

Boone et al (2014) found that bidders in the financial sector are more likely to use pure stock or hybrid offers than other industries. Thus, we have decided to incorporate a dummy variable, denoted **FinancialIndustry**, which takes on the binary value of 1 if the bidder is in the financial sector, and 0 if not.

Dividend Yield

According to the financial resources deficit hypothesis, companies with high growth opportunities prefer financing acquisitions using stock. Conversely, companies with few growth opportunities may distribute dividends in order to satisfy their shareholders, implying that they have excess cash assets that could be used to finance acquisitions. The variable **DIVIDENDYIELD** reflects the dividend percentage that the acquiring firm has paid the year prior to the deal.

Relative Deal Size

When the targets relative size is substantial in proportion to the acquiring company, the acquirer is more likely to offer a mixed or pure stock payment according to Hansen's adverse selection model (1987). Our variable **EVTRANSACTIONRATIO** measures the relative deal size calculated as the enterprise value of the acquirer divided by the sum of the acquiring

firm's enterprise value and the transaction value. We analyze whether this is true for deals announced in our observed sample.

$$EVTransationRatio = \frac{Acquirer\ Enterprice\ Value}{(Acquirer\ Enterprise\ Value + Transaction\ Value)}$$

Deal Premium

We added a variable to control how much the acquirer paid comparing to the enterprise value of the target. Target shareholders expect to see a higher price if they are paid with stock without the option of a cash payment, since it is be riskier due to their $E(r)$ being dependent on acquirer performance and investor expectations. It is riskier with stock financed acquisitions for target shareholders, since stock payment implies that future return depends on the performance of the combined entity. Thus we expect to see a larger deal premium when target shareholders are paid with stock. The equation for the variable is the following:

$$Deal\ Premium = \frac{(Transaction\ Value - Target\ Enterprise\ Value)}{Target\ Enterprise\ Value}$$

4. Methodology

4.1 Tobit two-boundary model

We use a two-boundary Tobit-model to do our statistical tests to make it easier to compare our results with Faccio & Masulis (2005) Using a Tobit two-boundary model we censor the data between 0 (lower limit) and 100 (upper limit). The dependent variable is OfCash, which is the percentage of cash in each M&A bid.

$$y_{i=}x_i'\beta + u_i \text{ where } u_i \sim N(0, \sigma^2)$$

where y_i is a latent variable and u_i is an independantly distributed error term.

$$y_{i=}\begin{cases} 0 & if \ y_i^* \leq 0 \\ y_i^* & if \ 0 < y_i^* < 100 \\ 100 & if \ 100 \leq y_i^* \end{cases}$$

The parameters β, u_i are estimated by maximizing the log likelihood function.

$$\ell(\beta, \sigma) = \sum_{i \ni y_i^*=0} \log F((-x_i'\beta)/\sigma) + \sum_{i \ni 0 < y_i^* < 100} \log f((y_i^* - x_i'\beta)/\sigma)$$

$$+ \sum_{i \ni y_i^*=100} \log(1 - F((100 - x_i'\beta)/\sigma))$$

where f is the density function distribution and F is the cumulative function distribution.

$$\emptyset[(-x_i'\beta)/\sigma], \emptyset[(100 - x_i'\beta)/\sigma], \emptyset[(-x_i'\beta)/\sigma], \phi[(-x_i'\beta)/\sigma], \phi[(100 - x_i'\beta)/\sigma]$$

are denoted, respectively, $\emptyset_0, \emptyset_{100}, \phi_0, \phi_{100}$.

The conditional prediction of y_i is given by:

$$x_i' E(y_i | 0 \leq y_i^* \leq 100) = x_i'\beta + \sigma(\emptyset_0 - \emptyset_{100})/(\phi_0 - \phi_{100})$$

and the unconditional prediction of y_i is given by:

$$E(y_i) = x_i'\beta\{\phi_{100} - \phi_0\} + \sigma\{\emptyset_0 - \emptyset_{100}\} + (1 - \phi_{100})100$$

We interpret the estimated coefficients as the regressors' effect on the latent variable.

4.2 Multinomial Logistic Regression

We use a multinomial logistic regression to test if there is a difference between pure stock and hybrid payments as Boone et al (2014) proclaimed there is. The model categorizes the data in three categories, Stock, Cash and Hybrid. The model does not take the percentage of cash in hybrids into account; which is good since target shareholders often decide the percentage of cash in a hybrid deal. A multinomial regression inherently assumes that the dependent variable can't be perfectly predicted from the independent variable.

4.3 Ordinary Least-Squares

In addition to the Tobit and the multinomial regression, an Ordinary Least-Squares (OLS) regression is used. The OLS regression is a linear technique used to model our binary dependent variable OLScash. Our model consists of a single response variable (OLScash), predicted by the multiple explanatory variables mentioned above.

The model equation is the following:

$$OLScash_i = \alpha + \beta_1 X_i + \beta_2 X_i + \beta_3 X_i + \ldots + \beta_{11} X_i + \varepsilon_i$$

Where α reflects the value of our continuous response variable **OLSCash** when the value of our explanatory variables is zero.

The β coefficients measure the effect a change in the value of the explanatory variables has on the method of payment.

To produce unbiased estimators using the OLS regression, the following set of assumptions must be satisfied.

(1) A normal distribution of residuals $\varepsilon \sim N(0, \sigma^2)$

(2) Residuals have a constant (homogenous) variance $V(\varepsilon) = \sigma^2$

(3) The model must be linear in the parameters

(4) Residuals are uncorrelated from each other

(5) No multicollinearity

(6) Precisely measured independent variables such that measurement error is negligible

(7) Expected residual value is always zero $E(\varepsilon) = 0$

5. Results

5.1 Descriptive Statistics

Table 1 in the appendix presents the percentage of cash, hybrid and stock M&As for each year since the beginning of the financial crisis in Europe in august 2007. The total number of cash bids in our sample is 855 (84.32%), hybrid bids 78 (7.69%), Stock bids 81 (7.99%). By looking at the numbers we see that cash was the primary payment method in the majority of the deals that were announced during the time period. Separating our sample into seven windows, each representing a year in the interval specified earlier (1 equals 2007, 2 equals 2008 etc.), we see that the fraction of cash bids has declined since the beginning of the crisis. This coincides with our hypothesis.

As can be seen in figure 1, the fraction of cash bids was at its highest in 2007, equaling about 93% of all deals announced during this period. Stock was only chosen as payment method in

one bid out of the 115 deals that were announced, while 7 bids were to be financed by a mixed payment. In the second year, the fraction of cash bids and hybrid bids declined while the fraction of stock bids increased. This could be related to small changes in the market sentiment as time passed since the beginning of the crisis. From year 3 and onwards, the fraction of cash bids stabilized around 81-82%, with almost equal proportions of stock and hybrid bids (9-10% for each in year 3-7). The descriptive statistics for our year variable gives support for our hypothesis.

Figure 1 Payment Method per Year

The bar chart shows the fraction of hybrid, stock and cash deals for each year in our observed time period.
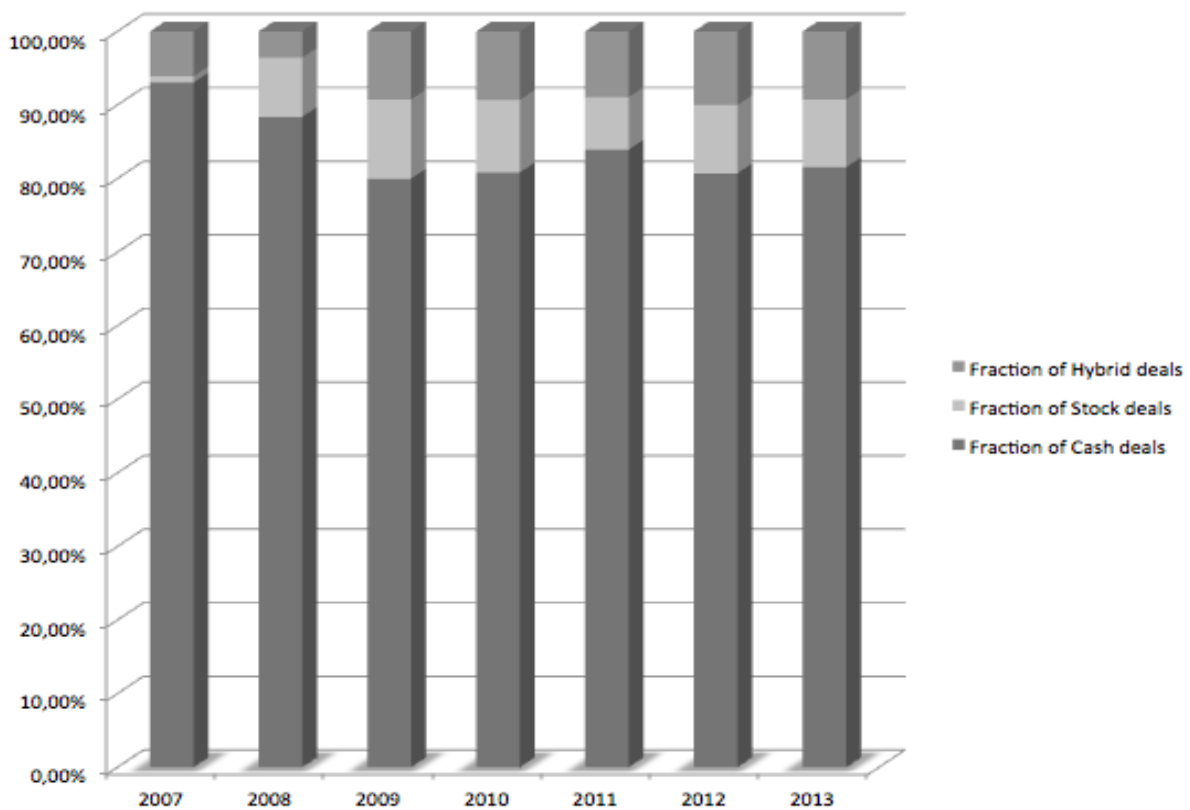
Subsequently, we can observe that there has been a slight shift from purely cash financed deals to stock and hybrid-financed deals during the observed time period. This provides additional support for our hypothesis that the fraction of cash financed deals has declined since the epicenter of the financial crisis.

We observe a relationship between the time that has passed since the beginning of the crisis and the choice of payment method. This is likely the result of the initial undervaluation in company stocks and the market sentiment. As the value of company stocks and the market sentiment improved, the fraction of cash offers declined in exchange for hybrid and stock offers. However, purely stock financed deals are considered more risky than cash deals. Thus,

13

using a mixture of both cash and stock when acquiring another firm may be suitable in order to satisfy all stakeholders. Notice that the percentage of hybrid offers in year 2008 is the lowest in our sample. A possible reason for this is that when the valuation of firms is at its lowest, those that have the opportunity to do a purely cash financed acquisition do so. These findings give credit to the research of Boone et al (2014), where they identify hybrid as a unique sort of payment. However, our tests showed no significant evidence between choosing stock or hybrid for bidders. An alternative explanation could be that bidders', during undervaluation in the stock market, chooses cash if they have the opportunity to do so, and only resorts to stock if need be. Thus, removing the option for target shareholders to choose between cash and stock. This could be related to financial constraints, or that the transaction is too risky to finance it purely by cash due to a large relative deal size. This would imply that firms, due to endogenous reasons, prefer stock offers to hybrid offers even though the overall market is undervalued.

Figure 2 Percentage of Cash Bids per Year

The graph shows the linear relationship between the total percentage of cash bids per year and our year-variable. It shows that the fraction of cash bids has declined during the period.
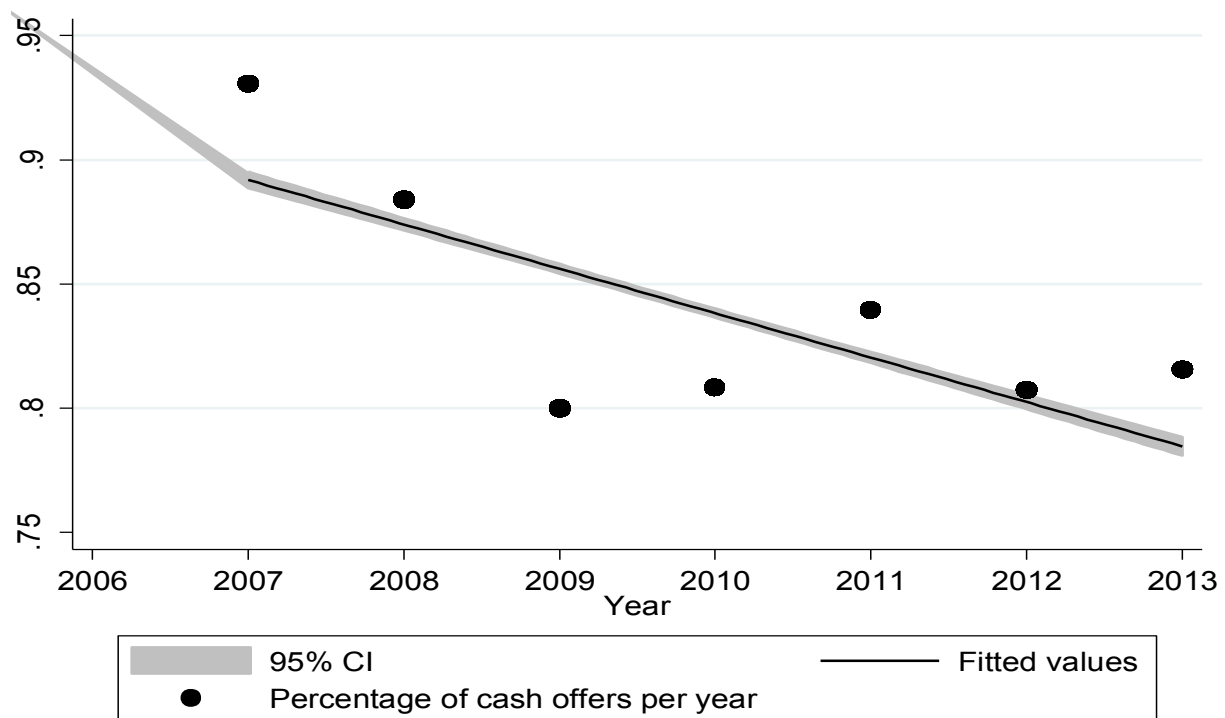
Figure 2 shows the relationship between fraction of cash bids and time in years. We can observe that the percentage of cash bids has declined from the high point in 2007 to the lowest point in 2009, then stabilizing between 80% and 85% pure cash offers. Comparing our results to Faccio & Masulis (2005), whose results found that 80% of all European bids where pure cash offers, our preliminary findings suggest that there has been a change in payment

method of M&As. Interestingly the level of pure cash offers declined rapidly in 2007 and 2008 but stabilized in 2009 onwards. The percentage of pure cash offers declined to 80.7% in 2012 and increased slightly in 2013. The level of pure cash offers in 2013 is merely 2% higher than what Faccio & Masulis (2005) reported. This is also in compliance with our hypothesis that the financial crisis affected the choice of payment method. Our results differ from Boone et al (2014) in the sense that we do not see a substantial increasing trend toward hybrid and cash transactions. Notwithstanding the years 2007 and 2008 the level of hybrid payments appear to be at the same level, which can also be said for the percentage of pure cash transactions. The percentage of pure cash deals, hybrid deals and stock deals are different from Boone et al's (2014) research in North America. We thus concur with Faccio & Masulis and conclude that the choice of payment method in Europe is different from North America.

Table 2 Acquirer Nation Distribution and Fraction of Payment Method

The table shows the distribution of deals based on the origin of the acquiring firm. It shows the number of deals and the fraction of deals per payment method for each country.

Acquirer Nation	No. Deals	Cash	Hybrid	Stock
Total	1014	855	78	81
Austria	22	90,91%	9,09%	0,00%
Belgium	28	78,57%	10,71%	10,71%
Bulgaria	2	100,00%	0,00%	0,00%
Croatia	3	100,00%	0,00%	0,00%
Cyprus	10	90,00%	10,00%	0,00%
Czech Republic	5	100,00%	0,00%	0,00%
Estonia	2	100,00%	0,00%	0,00%
Finland	39	84,62%	10,26%	5,13%
France	104	90,38%	4,81%	4,81%
Germany	69	88,41%	5,80%	5,80%
Greece	19	89,47%	10,53%	0,00%
Hungary	2	100,00%	0,00%	0,00%
Iceland	3	100,00%	0,00%	0,00%
Ireland-Rep	25	64,00%	12,00%	24,00%
Italy	60	90,00%	3,33%	6,67%
Latvia	1	100,00%	0,00%	0,00%
Lithuania	4	100,00%	0,00%	0,00%
Luxembourg	10	80,00%	20,00%	0,00%
Malta	1	0,00%	0,00%	100,00%
Netherlands	51	84,31%	7,84%	7,84%
Norway	46	82,61%	8,70%	8,70%
Poland	25	88,00%	8,00%	4,00%
Portugal	6	100,00%	0,00%	0,00%
Slovak Rep	2	100,00%	0,00%	0,00%
Slovenia	4	100,00%	0,00%	0,00%
Spain	42	85,71%	7,14%	7,14%
Sweden	69	89,86%	4,35%	5,80%
Switzerland	57	85,96%	7,02%	7,02%
Ukraine	1	100,00%	0,00%	0,00%
United Kingdom	293	77,47%	10,24%	12,29%
Denmark	9	100,00%	0,00%	0,00%

With 293 announced deals during our observed time period, the M&A activity in the United Kingdom is by far the largest, representing 28,9% of our total sample. Faccio & Masulis

(2005) observed that 65.3% of the bidding companies in their sample originated from the United Kingdom, thus a larger than average inclination to use stock and hybrid as means of payment in said country may be a part of the explanation of our differing results.

Several countries where we have a sample size of under 10 observations has 100% cash bids, however all countries with 10 or more observations has at least some hybrid or stock offers. We find that Ireland stands out with 36% stock or hybrid bids. Faccio & Lang (2002) researched the voting control rights in Europe and found them to be low in Ireland, which aligns with the theory that firms with widespread owners do not care about voting control dilution in the same manner as firms where there is one owner with large voting control.

Deals where the acquiring company originates from France, Sweden and Germany constitute a big proportion of the total sample. Only a small proportion of these offers are financed by either hybrid or stock payments. The majority of the offers are purely cash financed.

The percentage of hybrid payments in our sample for these countries is approximately the same, comparing to the results of Faccio & Masulis. However, we can observe a large shift from purely stock financed offers to cash offers within these three countries.

Examining the payment method by target firm origin (Table 3 in appendix) the largest proportion of target firms originate from the United States, the United Kingdom, Canada, Germany, Russia, Sweden or Spain. There seems to be a large inclination for bidders to use stock or hybrid as payment when they are to acquire firms from Australia, Sweden, Switzerland, the Netherlands and the United States. In the United Kingdom, the fraction of hybrid payments has been considerably lower than average, with a major proportion of cash and where 15% of the bids are stock offers. Other notable statistics include the fact that one third of all bids for a South African target firm were stock offers. However, the sample only contains 18 bids, hence we cannot draw any significant conclusions.

Examining our observations where the bidder used a hybrid payment, see table 4 in appendix, we find that the average of percentage cash used in the transaction is 50.25% with a standard deviation of 26.16% which indicates that most hybrid offers have an even distribution of stock and cash.

Table 5 Descriptive Statistics for Explanatory Variables

The table shows descriptive statistics for our explanatory variables, displaying the number of observations for each variable and the average based on payment method.

Variable	Total	Cash		Stock		Hybrid	
	Obs.	Obs.	Avg.	Obs.	Avg.	Obs.	Avg.
Subsidiary	1014	855	0,0971	80	0,0000	79	0,0127
log(TOTASSETS)	975	822	14,9738	76	13,0916	77	13,0655
Deal Premium	1000	845	794 422	78	985 216	77	870 772
TransactionToCash	973	820	9 376	76	86 847	77	71 639
EVtoTransaction	937	793	0,8566	72	0,9387	72	0,9737
CashtoAssets	975	822	0,1251	76	0,1896	77	0,2261
DividendYield	933	798	2,42%	70	1,15%	65	2,11%

Table 5 shows the number of observations within each payment category for our explanatory variables as well as the average of each variable. Looking at the number of observations within each payment method category, we see that the amount of pure cash financed offers outweighs the other two payment alternatives. The number of stock and hybrid financed offers are almost the same.

Out of all 84 observations where the acquiring firm is a subsidiary, all but one was financed using cash. This implies that the variable may yield skewed results in the regressions. The findings are consistent with what we expected; cash is the most likely choice of payment method in these deals. A possible explanation is that the risk of ownership dilution in a subsidiary is higher than when the acquiring firm is not a subsidiary. Unfortunately, it was difficult to find financials for the majority of the subsidiary firms which is why the sample is rather limited.

We decided to use the logarithm of the acquiring company's total assets. This decision was based on the fact that we do not believe that an increasing level of total assets would have any effect on the choice of payment method, after reaching a certain level. Our data shows that the average logarithm of total assets is higher for the acquiring companies paying with cash than firms paying with either hybrid or stock. Between hybrid and stock offers the difference is minimal, with a slightly higher average for the stock group. This reflects what Faccio & Masulis (2005) found in their paper. Larger firms, measured by total assets, tend to be better diversified, have more liquid assets and be able to increase leverage in order to finance cash acquisitions.

According to our findings, a stock financed deal is characterized by a higher deal premium compared to the other types of payment method. A merger or acquisition financed solely by stock is a riskier option and thus warrants a higher deal premium since the payoff depends on the performance of the combined entity. The average size of cash and cash equivalents of the acquirer in relation to the total deal size is more substantial in the stock and hybrid financed deals. Our results imply that a bidder prefers cash financing to stock and hybrid financing when their liquid assets constitute a large proportion of the deal value.

The relative deal size is considered a crucial part as a determinant of the payment method (Hansen 1987; Faccio & Masulis 2005; Kotsovskyi & Stadnyk 2014). They have found that mixed payment or stock payment is associated with a higher relative deal size. We can see that the average relative deal size varies from 85.87% for cash offers to 97.37% for hybrid offers, with stock offers in-between. This clearly shows a propensity to finance acquisitions of relatively large targets by using both cash and stock, and that the least preferred alternative is pure cash.

With an average dividend yield of 2.42%, the group containing purely cash financed offers has the highest average of the three types of payment method. However, the difference between dividends for cash and hybrid deals is small. On the contrary, the dividend yield of acquiring companies that has chosen stock as their payment method is much lower.

The M&A activity within the financial industry is relatively high during the observed time period, financial firms account for 16% of our total sample (see table 6 in appendix). Firms within the financial sector appear to have a larger propensity to finance an acquisition with stock than average, consistent with our expectations. The average relative deal size for financial industry deals is larger than when the acquirer is not a financial firm. The descriptive statistics show a larger average total asset base, lower deal premiums and cash to assets ratios. The statistics also show a higher dividend yield for the acquiring financial firms as well as a tendency to acquire targets originating from the same country and outside of the financial industry. These results support our expectations about acquisitions within the financial industry and are also compliant with our regression results.

5.2 Regressions

5.2.1 Tobit Regression Explaining the Percentage of Cash in Deals

With the variable **logTOTASSETS** we observe that larger total assets in a firm equals a higher likelihood of using cash as means of payment (see table 8 in appendix). The variable **logTOTASSET** is significant at a 1% level. This supports our hypothesis that firms with larger assets are more prone to either take on more debt or finance the acquisition internally.

Table 7 Tobit Regression

The table shows the coefficients and the statistical significance of our explanatory variables derived from the Tobit regression.

VARIABLES	(1) model	(2) sigma
Subsidiary	1,664	
	(0)	
year	-12.49	
	(7.737)	
FinancialIndustry	-108.9***	
	(41.37)	
logTOTASSET	20.73***	
	(6.835)	
DealPremium	-3.47e-05	
	(2.16e-05)	
transactionvaluetocash	0.000124	
	(0.000462)	
evtransactionratio	-233.6**	
	(104.3)	
Cashtoassets	-160.4*	
	(91.84)	
DIVIDENDYIELD	2,134***	
	(702.4)	
CrossBorder	177.6***	
	(63.34)	
Intraindustry	-18.69	
	(26.95)	
Constant	169.1	237.4***
	(162.2)	(28.89)
Observations	880	880

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

We find no support that the variable **transactionvaluetocash** is significant. This means that we cannot draw any conclusion that the relative size of the transaction in relation to the cash balance means a larger likelihood of cash as means of payment. Also, the **DealPremium** variable in the Tobit Regression has a p-value of 10.9%. The assumption that a larger deal

premium would mean that a firm chooses stock as the method of payment is therefore not supported at the 95% confidence level, even though it seems to affect the choice of payment method. Our variable **FinancialIndustry** is significant with a t-value of -2.63. This implies that a firm in the financial sector uses more stock and hybrid transactions than the average of our sample. Our result complies with the research done by Boone et al in 2014.

The Tobit regression shows a relationship between a larger propensity to use stock or hybrid and a higher **evtransactionratio**. This implies that if the relative deal size is larger, firms are more likely to use stock or hybrid as means of payment. This further supports Faccio & Masulis (2005) empirical research and our hypothesis built on Hansen's (1987) theory of asymmetric information. The risk of the acquiring company as a whole is higher when acquiring a relatively larger firm.

We expected to see a strong relationship between cross-border deals and a larger propensity to use cash as payment. Our results in the Tobit regression further support this with a significance level of 0.5%. However the relationship between Intra-industry deals and a larger propensity to use stock as method of payment is not supported. The variable **DIVIDENDYIELD** is significant at a 0.2% level, this further supports our hypothesis that firms with high growth potential prefers to use stock as means of payment in an M&A deal. Another explanation can be that a firm that does not give out any dividends, is in a bad financial position to do so, and thus prefer to use stock as method of payment. Also, a firm with high dividend payouts may have large cash assets and thus inclined to finance a deal by cash. Another variable used to account for a firm's financial position is **cashtoassets**, which unexpectedly had a negative relationship to the propensity to use cash as a method of payment. Thus, our hypothesis that more cash to assets mean a higher likelihood to pay the deal with cash is not supported.

We expected our year-variable to show significant results, implying that the propensity to finance deals with cash should decrease as the financial crisis subsided. This is also partly supported by our regression, however it is not statistically significant with a 95% confidence interval as can be seen in table 7. This could originate from the fact that we measure the percentage of cash in each offer, instead of separating deals into cash, hybrid and stock. As noted in our descriptive statistics, we observe that the amount of solely cash financed offers has decreased from 2007-2013. In short, despite the fact that the year variable is not statistically significant at a 5% level, we note that the propensity to finance M&As solely by cash has decreased since the beginning of the financial crisis.

5.2.2 Multinomial Logistic Regression with Stock as base outcome

When doing a multinomial logistics regression where the base outcome is stock financing, there are only one statistically significant variable at the 5% level comparing deal characteristics of stock financed offers to hybrid offers; the variable in question being **evtransactionratio** (see table 9 above and table 10 in the appendix).

Table 9 Multinomial Logistic Regression with Base Outcome: Stock Payment
The table shows the results of our multinomial logistic regression where the significance of each explanatory variable is examined by comparing cash and hybrid offers to stock offers.

VARIABLES	(1 - Stock) 0	(2 - Hybrid) Stock vs. Hybrid	(3 - Cash) Stock vs. Cash
Subsidiary	Base	1.312	17.15
		(1,562)	(1,031)
FinancialIndustry	Outcome	-0.824	-0.921**
		(0.571)	(0.377)
year		0.0645	-0.0763
		(0.105)	(0.0770)
logTOTASSET		0.0560	0.170**
		(0.0931)	(0.0698)
DealPremium		-2.03e-07	-3.59e-07*
		(2.05e-07)	(1.90e-07)
transactionvaluetocash		2.57e-06	2.97e-06
		(5.14e-06)	(4.39e-06)
evtransactionratio		6.488**	-1.052
		(3.108)	(1.135)
Cashtoassets		1.436	-0.858
		(1.069)	(0.905)
DIVIDENDYIELD		21.00*	25.98***
		(10.89)	(8.850)
CrossBorder		1.974*	1.653***
		(1.097)	(0.487)
Intraindustry		0.330	-0.0654
		(0.373)	(0.279)
Constant		-9.627***	-0.250
		(3.713)	(1.739)
Observations	880	880	880

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Out of all variables used, the one with the highest significance is **CrossBorder**. This would imply that cross-border deals are more prone than average to be financed by a hybrid of stock and cash than by purely stock. This is consistent with our expectations that cross-border deals are considered riskier than intra-border deals due to factors such as foreign currency risks, illiquidity and higher trading costs. Despite the fact that the deal premium variable isn't statistically significant at a 95% confidence interval, we see that a higher deal premium seems to make the acquiring company more inclined to finance the deal by stock instead of a

hybrid payment. This is also consistent with our expectations, and most likely depends on the higher riskiness of a stock payment for the target shareholders.

After the epicenter of the financial crisis, there seems to have been a shift from using cash as payment method to hybrid payments. This is not statistically significant at a 5% level, but looking at the fraction of cash, stock and hybrid offers during the time period we observe a slight shift from cash to hybrid offers.

Given the relatively low pseudo R-squared (14.66%) of our multinomial regression it is fair to conclude that there are more variables affecting the choice of payment method in European mergers and acquisitions in addition to those we use.

Boone et al found that in order to analyze the payment method in mergers and acquisitions by doing regressions, the alternatives should be divided into three different types of payment: cash, hybrid or stock. Our results indicate that there are no significant differences in the latter two methods, at least not in conjunction with our independent variables. Instead, our results indicate that hybrid payments are merely a mix between the two payments and should not affect the bidder's choice of payment method merely based on firm characteristics. Due to the lack of difference between hybrid and stock deals, we performed an OLS-regression.

5.2.3 Ordinary Least-Squares Regression

Our dependent variable, **OLScash**, is a binary dummy variable with the value of 1 for every offer that contains 50% cash or more. The value 0 is given to offers where the fraction of cash used is less than 50%. The OLS regression gives us an R-squared of approximately 10.2% (see table 12) which indicates that there are more variables affecting the payment method in M&As, in addition to those we have included. However, the significance of the regressed independent variables is similar to those of the Tobit-model.

Table 11 Ordinary Least-Squares Regression

The table shows the coefficients and statistical significance of our explanatory variables based on the dependent variable OLScash. Results are derived from the Ordinary Least-Squares regression model.

VARIABLES	(1) OLScash
Subsidiary	0.211***
	(0.0376)
FinancialIndustry	-0.0805***
	(0.0292)
year	-0.00984*
	(0.00536)
logTOTASSET	0.0193***
	(0.00560)
DealPremium	-3.52e-08
	(2.50e-08)
transactionvaluetocash	-3.15e-07
	(9.90e-07)
evtransactionratio	-0.0492
	(0.0459)
Cashtoassets	-0.0445
	(0.0917)
DIVIDENDYIELD	1.840***
	(0.420)
CrossBorder	0.137**
	(0.0598)
Intraindustry	-0.0116
	(0.0204)
Constant	0.555***
	(0.129)
Observations	880
R-squared	0.102

Robust standard errors in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

The regression model supports our hypothesis that the fraction of cash has declined since the epicenter of the financial crisis in Europe. The implication of the negative coefficient in the regression is that the fraction of cash declines as time passes, thus implying that companies prefer to use stock payments for acquisitions when the market sentiment improves. However, this is only statistically significant at the 10% level.

The Subsidiary variable shows a strong statistical significance, implying a great propensity for subsidiary bidders to finance potential M&A deals solely by cash. Bidders in the financial industry are more likely to use stock as payment than other industries. This is in compliance with our expectations, since deals within the financial industry tend to be on the larger scale and thus be financed using stock.

The regression supports that the larger the assets of the firm, the more likely it is to pay with Cash. Large firms tend to be more liquid and diversified than smaller firms. Additionally,

larger companies are usually not as financially constrained as smaller firms, which supports the expectation of primarily cash financed deals.

In contrast to our Tobit regression, the enterprise value to transaction value-ratio is not statistically significant when we approximate using an OLS-regression. This ratio was negatively correlated with the percentage of cash used in offers. The difference is based on the fact that we use a different definition of our dependent variable this time.

Our **DIVIDENDYIELD** and **CROSSBORDER** variables show strong statistical significance, implying that cross-border deals and deals where the dividend yield of the bidder is high are more prone to be financed by cash. A cross-border deal involves several risks due to uncertain circumstances regarding currencies, illiquidity and higher trading costs. To mitigate these risks, cash financing will be preferred by most bidders. A high dividend yield is typical for a company with few growth opportunities, according to the financial resources deficit hypothesis. Such companies can use their extra liquidity to pay dividends to shareholders, which indicates that they have available cash assets. Thus, we expect companies with high dividend yields to finance potential acquisitions with cash. The regression results support our expectations.

Variables that show no statistical significance at the 10% level in the OLS regression include **DealPremium**, **transactionvaluetocash, evtransactionratio, cashtoassets** and **Intra-industry**. We can conclude that, given the relatively low R-squared of the model that there is several determinants of the payment method in M&As in addition to those we have used.

6. Robustness Tests

To address potential problems related to our tests and results, such as heteroskedasticity and multicollinearity, we have performed a set of robustness tests.

6.1 Tobit two-boundary model

Due to heteroskedasticity of residuals, we adjust for quasi-maximum likelihood White standard errors using the regression with robust standard errors in Stata. The subsequent R-squared of our model is unaffected (see table 13 in appendix). The significance of the majority of our independent variables is also unaffected. However, the relative deal size variable loses its statistical significance after this procedure implying that the variable may

not be as significant a determinant of the payment method as previously thought. The same result was discovered using the non-robust OLS regression.

6.2 Ordinary Least-Squares

6.2.1 Controlling variable

As a precaution and a measurement of model robustness, an additional control variable has been added to the equation (see table 14 in appendix). **MRKTVALUETOBOOK** measures the market value to the book value of the acquirer for the fiscal year end prior to the deal announcement. Faccio & Masulis found this variable to be statistically significant as a determinant of the choice of payment method in mergers and acquisitions. A bidder with a high market to book ratio would increase the attractiveness of using stock as payment. The addition of the controlling variable does not have any substantial effect on the significance of our previous variables; neither does it comply with the findings of previously mentioned research since the variable is not statistically significant in our sample. Consequently we can conclude that our model is robust.

6.2.2 Heteroskedasticity and Multicollinearity

To reduce potential issues related to heteroskedasticity, a log transformation of certain variables has been made. However, according to the Breusch-Pagan heteroskedasticity test (table 15) the null hypothesis is rejected implicating that our data is heteroskedastic. Thus, the use of the robust regression-technique incorporated in Stata allows us to take this into consideration.

Table 15 Breusch-Pagan Heteroskedasticity Test

The Breusch-Pagan results indicate that our explanatory variables do not have constant variance (Heteroskedastic).

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
$H_o: Constant\ variance$
Variables: fitted values of OLScash

chi2(1)	=	218.71
Prob > chi2	=	0.0000

Examining the correlation of our independent variables, none of the regressors show a VIF-value above 2. This supports our assumption of a low degree of collinearity (see table 16 in appendix). The correlation matrix (table 17 in appendix) indicates a high correlation

between a subsidiary bidder and cross-border deals, suggesting that there is a statistical relationship between these two variables. Thus, this has to be taken into consideration in the interpretation of our results. The cause of this is likely to depend on the limited sample of subsidiary offers.

7. Implications and Conclusions

Analyzing a bidder's choice of payment method in M&A during the period between 1st august 2007 and ending 31st July 2013 we find several firm characteristics that affect the choice of payment method. We find results implying that the financial crisis has affected the choice of payment, but not on a highly significant level. We find that bidders choose cash in almost all M&A deals involving subsidiaries, aligning with our theory that subsidiary bidders have a parent company which is afraid of losing ownership control. We hypothesized that investors have a home bias due to illiquidity, higher trading costs and currency exchange risk, which we found further support for. The relative deal size to bidders size is a significant factor whilst choosing payment method, as the risk of the deal increases, so does the probability of choosing stock as method of payment. We find that our dividend yield variable is significant, which we used to control if firms susceptible to pay out dividends prefer to use cash to finance M&A transactions. This is aligned with our hypothesis that firms with high dividend payouts don't have enough investment opportunities and large cash assets; thus they would prefer to use cash in their M&A transactions. We also found that the amount of total assets, which can be used for collateral in raising debt to finance acquisitions, has a positive significant effect on the amount of cash used in a bidder's choice of payment.

Contrary to our expectations, our deal premium variable did not have an effect on the choice of payment method in our sample. Hence we cannot conclude whether or not a higher deal premium increases the likelihood of a stock payment.

We do not find considerable support for Boone et al (2005) concerning their classification of hybrid as a specific method of payment, instead of a mix of both cash and stock, since we do not find specific firm characteristics in our multinomial logistic model that characterizes a firm choosing hybrid over stock, or vice versa. Whilst the decline of hybrid payments in 2008 is peculiar, we cannot draw any conclusions from it. The implication of our results is that the choice between a hybrid payment and a stock payment is dependent on other factors than that of those we analyze. However, further investigation in this area is required.

We found evidence on a 10% significance level that the financial crisis has affected the choice of payment method in M&A. We conclude that the percentage of cash was at its highest point in 2007 and 2008 and decreased afterwards to later on stabilize around 80% and 82 %.

8. Alternative Explanations

There are other possible explanations, apart from the financial crisis itself, as to why the M&A payment method choice have changed during the financial crisis. For example, both regulatory changes and changes in taxation may have incited a specific payment method for acquirers. If this has changed during the financial crisis it could possibly affect the choice of payment method.

Furthermore, as our regressions suggest there are other explanatory variables affecting the choice of payment method in addition to those we have used.

9. Suggestions for Future Research

A possible future research area could be to analyze hybrid payments in depth. It would be stimulating to read a study of hybrid payments through time and how they have evolved. Are they simply just a mix of stock and cash or should it be seen as a separate payment method by itself, with its own unique firm characteristic features?

Another interesting research area would be the payment method of M&As with a focus on target firms and their shareholders. What kinds of firms prefer a stock, hybrid or cash offer? The research could guide acquirers to make the right choice of payment to possibly decrease the premium paid and/or increase the chance of the target accepting the offer. The choice of payment method in an acquisition is likely to be dependent upon the preferences of both the acquirer and the target.

Expanding both time period and the firm characteristics is also a possible extension of our research. What did the payment preferences and statistics look like in the years prior to the financial crisis, and what has happened since august 2013?

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11. Appendix

Data Adjustments

Several adjustments of our dataset were necessary. The first adjustment was to remove all observations where the acquiring company was non-European, including those situated in colonies and overseas countries such as the British Virgin Islands and French Polynesia. This resulted in the removal of 5207 observations. We decided to only include bids where the payment consideration consisted of solely cash and/or stock. Thus, we had to remove all observations where other methods of payment had been used such as assets, notes and earnouts. 112 deals were removed due to not fulfilling the requirement of a transaction value of at least USD 1 million. After removing 52 observations where the percentage of shares acquired were less than 5 percent, we ended up with a total sample of 2129 observations.

To make our results comparable to those of Faccio & Masulis, all deals where the acquiring company originated from Russia or Turkey were removed. All these adjustments were made prior to the collection of financial data through Datastream. In order to be able to find the financial variables we were looking for, it was necessary to find the listed equity of the acquiring company.

First, we separated all bids into groups based on year of deal announcement. Subsequently, we created Datastream series consisting of the equities belonging to the acquiring companies. All firms in our sample had to be found both in SDC and Datastream. Those deals where the equity of the acquirer could not be found were removed from our sample.

As stated earlier, the fiscal year-end accounting items that we collected for the acquiring companies were those of the year prior to the announcement year. However, these numbers were reported in different currencies. Thus, we used the December average exchange rate (of the year prior to the deal) for each currency to the USD to convert all numbers into the same currency (USD) to make the numbers more comparable between the companies. All accounting data in our sample is presented in US dollar. After the adjustments we end up with 1014 observations.

Table 1 Descriptive Statistics of the Payment Method for Each Year

Descriptive statistics of the payment method for each year. Shows the absolute number and the percentage of offers in each payment category per year.

year	Consideration Offered			Total
	Cash	Hybrid	Stock	
1	107	7	1	115
	93.04	6.09	0.87	100.00
2	198	8	18	224
	88.39	3.57	8.04	100.00
3	104	12	14	130
	80.00	9.23	10.77	100.00
4	139	16	17	172
	80.81	9.30	9.88	100.00
5	141	15	12	168
	83.93	8.93	7.14	100.00
6	113	14	13	140
	80.71	10.00	9.29	100.00
7	53	6	6	65
	81.54	9.23	9.23	100.00
Total	855	78	81	1,014
	84.32	7.69	7.99	100.00

Table 3 Target Nation Distribution and Fraction of Payment Method

The table shows the distribution of deals based on the origin of the target firm. It shows the number of deals and the fraction of deals per payment method for each country.

Target Nation	No. Deals	Cash	Hybrid	Stock
Total	1014	855	78	81
Albania	1	100,00%	0,00%	0,00%
Argentina	8	100,00%	0,00%	0,00%
Armenia	2	100,00%	0,00%	0,00%
Australia	31	70,97%	16,13%	12,90%
Austria	5	100,00%	0,00%	0,00%
Bahamas	1	100,00%	0,00%	0,00%
Bahrain	1	0,00%	0,00%	100,00%
Belarus	3	100,00%	0,00%	0,00%
Belgium	11	90,91%	0,00%	9,09%
Bermuda	6	66,67%	16,67%	16,67%
Bosnia	2	100,00%	0,00%	0,00%
Brazil	25	88,00%	4,00%	8,00%
British Virgin	2	50,00%	0,00%	50,00%
Bulgaria	6	100,00%	0,00%	0,00%
Burkina Faso	1	0,00%	100,00%	0,00%
Cameroon	1	100,00%	0,00%	0,00%
Canada	36	72,22%	8,33%	19,44%
Cayman Islands	1	0,00%	100,00%	0,00%
Chile	8	100,00%	0,00%	0,00%
China	32	100,00%	0,00%	0,00%
Colombia	2	100,00%	0,00%	0,00%
Croatia	4	100,00%	0,00%	0,00%
Cyprus	5	40,00%	60,00%	0,00%
Czech Republic	11	100,00%	0,00%	0,00%
Deark	16	93,75%	6,25%	0,00%
Dem Rep Congo	1	0,00%	0,00%	100,00%
Ecuador	1	100,00%	0,00%	0,00%
Egypt	2	100,00%	0,00%	0,00%
Estonia	3	100,00%	0,00%	0,00%
Falkland Is	1	100,00%	0,00%	0,00%
Finland	11	72,73%	18,18%	9,09%
France	39	82,05%	10,26%	7,69%
Germany	50	88,00%	8,00%	4,00%
Gibraltar	2	100,00%	0,00%	0,00%
Greece	9	77,78%	22,22%	0,00%
Guatemala	2	100,00%	0,00%	0,00%
Guernsey	4	25,00%	25,00%	50,00%
Hong Kong	10	80,00%	10,00%	10,00%
Hungary	4	100,00%	0,00%	0,00%
India	17	100,00%	0,00%	0,00%
Indonesia	5	100,00%	0,00%	0,00%
Iraq	2	100,00%	0,00%	0,00%
Ireland-Rep	5	80,00%	0,00%	20,00%
Isle of Man	3	100,00%	0,00%	0,00%
Israel	5	100,00%	0,00%	0,00%
Italy	27	81,48%	11,11%	7,41%
Jamaica	1	100,00%	0,00%	0,00%
Japan	6	100,00%	0,00%	0,00%
Jersey	1	0,00%	100,00%	0,00%
Jordan	2	100,00%	0,00%	0,00%
Latvia	2	100,00%	0,00%	0,00%
Lithuania	4	100,00%	0,00%	0,00%
Luxembourg	5	100,00%	0,00%	0,00%
Macedonia	4	100,00%	0,00%	0,00%
Malaysia	2	100,00%	0,00%	0,00%
Malta	2	100,00%	0,00%	0,00%
Mexico	7	100,00%	0,00%	0,00%
Morocco	2	100,00%	0,00%	0,00%
Mozambique	2	100,00%	0,00%	0,00%
Netherlands	27	85,19%	7,41%	7,41%
New Zealand	2	100,00%	0,00%	0,00%
Nigeria	3	100,00%	0,00%	0,00%
Norway	34	82,35%	5,88%	11,76%
Peru	5	80,00%	20,00%	0,00%
Philippines	1	100,00%	0,00%	0,00%
Poland	25	92,00%	0,00%	8,00%
Portugal	3	100,00%	0,00%	0,00%
Romania	7	100,00%	0,00%	0,00%
Russian Fed	44	88,64%	9,09%	2,27%
Serbia	4	100,00%	0,00%	0,00%
Serbia & Mont.	1	100,00%	0,00%	0,00%
Sierra Leone	1	0,00%	0,00%	100,00%
Singapore	6	83,33%	16,67%	0,00%
Slovak Rep	3	100,00%	0,00%	0,00%
Slovenia	2	100,00%	0,00%	0,00%
South Africa	18	66,67%	0,00%	33,33%
South Korea	8	100,00%	0,00%	0,00%
Spain	35	88,57%	2,86%	8,57%
Sri Lanka	1	100,00%	0,00%	0,00%
Sweden	36	75,00%	11,11%	13,89%
Switzerland	16	75,00%	12,50%	12,50%
Taiwan	2	100,00%	0,00%	0,00%
Tunisia	3	100,00%	0,00%	0,00%
Turkey	17	88,24%	5,88%	5,88%
Ukraine	11	90,91%	0,00%	9,09%
United Kingdom	79	81,01%	3,80%	15,19%
United States	150	79,33%	14,00%	6,67%
Utd Arab Em	2	50,00%	0,00%	50,00%
Venezuela	1	100,00%	0,00%	0,00%
Vietnam	1	100,00%	0,00%	0,00%
Zambia	2	0,00%	100,00%	0,00%

Table 4 Descriptive Statistics of Hybrid Payments

Descriptive statistics for the observed hybrid deals, based on the percentage of cash used in each offer.

Hybrid Deals

	Obs.	Avg.	StDev.
% Cash	79	50,25%	27,16%

Table 6 Descriptive Statistics for the Financial Industry

Descriptive statistics showing the differences between deals where the acquiring firm is from the financial sector compared to other sectors.

Variable	Financial Industry		Non-financial industry	
	Obs.	Avg.	Obs.	Avg.
Subsidiary	165	0,1636	849	0,0671
log(TOTASSETS)	152	16,3962	823	14,3588
Deal Premium	159	782 427	841	821 376
TransactionToCash	152	7 759	821	22 687
EVtoTransaction	148	0,8020	789	0,8871
CashtoAssets	152	0,1073	823	0,1438
DividendYield	155	3,41%	778	2,08%
CrossBorder	165	0,8606	849	0,9388
IntraIndustry	165	0,3030	849	0,4629

Table 8 Tobit Regression (Stata Output)

*Stata output from our Tobit regression model. Shows the relationship between our dependent variable **ofCash** and our explanatory variables.*

```
Tobit regression                              Number of obs   =        880
                                              LR chi2(10)     =     111.08
                                              Prob > chi2     =     0.0000
Log likelihood = -669.11671                   Pseudo R2       =     0.0766
```

ofCash	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Subsidiary	1663.785	.	.	.	.	.
year	-12.48745	7.737026	-1.61	0.107	-27.67287	2.697963
FinancialIndustry	-108.8744	41.37463	-2.63	0.009	-190.0802	-27.6687
logTOTASSET	20.7345	6.834851	3.03	0.002	7.319779	34.14923
DealPremium	-.0000347	.0000216	-1.61	0.109	-.000077	7.70e-06
transactionvaluetocash	.0001239	.0004623	0.27	0.789	-.0007834	.0010312
evtransactionratio	-233.6394	104.272	-2.24	0.025	-438.2935	-28.98541
Cashtoassets	-160.4146	91.84396	-1.75	0.081	-340.6762	19.84703
DIVIDENDYIELD	2133.866	702.3901	3.04	0.002	755.2892	3512.444
CrossBorder	177.6236	63.34246	2.80	0.005	53.30167	301.9454
Intraindustry	-18.68517	26.95495	-0.69	0.488	-71.58949	34.21916
_cons	169.1185	162.2151	1.04	0.297	-149.2602	487.4973
/sigma	237.4167	28.89283			180.7089	294.1245

```
Obs. summary:        69  left-censored observations at ofCash<=0
                     59      uncensored observations
                    752  right-censored observations at ofCash>=100
```

Table 10 Multinomial Logistic Regression with Base Outcome: Stock

Stata output from our multinomial logistic regression based on the payment method variable (Consideration). Compares stock offers (base outcome) with hybrid and cash offers to see what payment method that is advocated by different firm characteristics.

```
Iteration 0:   log likelihood = -453.55585
Iteration 1:   log likelihood = -405.63118
Iteration 2:   log likelihood = -390.54198
Iteration 3:   log likelihood = -387.58132
Iteration 4:   log likelihood = -387.18235
Iteration 5:   log likelihood = -387.10315
Iteration 6:   log likelihood = -387.08375
Iteration 7:   log likelihood = -387.07979
Iteration 8:   log likelihood = -387.07894
Iteration 9:   log likelihood = -387.07875
Iteration 10:  log likelihood =  -387.0787
Iteration 11:  log likelihood = -387.07869
```

```
Multinomial logistic regression              Number of obs   =        880
                                             LR chi2(22)     =     132.95
                                             Prob > chi2     =     0.0000
Log likelihood = -387.07869                  Pseudo R2       =     0.1466
```

Consideration	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
0	(base outcome)					
1						
Subsidiary	1.311791	1561.828	0.00	0.999	-3059.816	3062.439
FinancialIndustry	-.8241849	.5711816	-1.44	0.149	-1.94368	.2953104
year	.0645353	.1053612	0.61	0.540	-.1419689	.2710394
logTOTASSET	.0560398	.0931486	0.60	0.547	-.1265281	.2386077
DealPremium	-2.03e-07	2.05e-07	-0.99	0.321	-6.04e-07	1.98e-07
transactionvaluetocash	2.57e-06	5.14e-06	0.50	0.617	-7.51e-06	.0000126
evtransactionratio	6.487743	3.108431	2.09	0.037	.3953307	12.58015
Cashtoassets	1.436496	1.068868	1.34	0.179	-.658447	3.53144
DIVIDENDYIELD	20.99674	10.89063	1.93	0.054	-.3484947	42.34197
CrossBorder	1.973567	1.096792	1.80	0.072	-.1761066	4.12324
Intraindustry	.3302071	.3734031	0.88	0.377	-.4016496	1.062064
_cons	-9.627093	3.713194	-2.59	0.010	-16.90482	-2.349365
2						
Subsidiary	17.14727	1031.264	0.02	0.987	-2004.092	2038.387
FinancialIndustry	-.9213311	.376833	-2.44	0.014	-1.65991	-.182752
year	-.0763181	.077002	-0.99	0.322	-.2272393	.0746031
logTOTASSET	.1704441	.0697591	2.44	0.015	.0337188	.3071694
DealPremium	-3.59e-07	1.90e-07	-1.89	0.059	-7.31e-07	1.40e-08
transactionvaluetocash	2.97e-06	4.39e-06	0.68	0.499	-5.64e-06	.0000116
evtransactionratio	-1.051934	1.134914	-0.93	0.354	-3.276325	1.172456
Cashtoassets	-.8583456	.9053996	-0.95	0.343	-2.632896	.916205
DIVIDENDYIELD	25.97571	8.849901	2.94	0.003	8.630221	43.3212
CrossBorder	1.652852	.4872984	3.39	0.001	.6977646	2.607939
Intraindustry	-.0654032	.2791145	-0.23	0.815	-.6124575	.4816512
_cons	-.2496249	1.739056	-0.14	0.886	-3.658112	3.158863

Table 12 Ordinary Least-Squares Regression

*Stata output of our non-robust Ordinary Least-Squares regression showing the statistical relationship between **OLScash** and our explanatory variables.*

Source	SS	df	MS		
Model	8.65787236	11	.787079306	Number of obs = 880	
Residual	76.0864458	868	.087657196	F(11, 868) = 8.98	
				Prob > F = 0.0000	
				R-squared = 0.1022	
				Adj R-squared = 0.0908	
Total	84.7443182	879	.096409918	Root MSE = .29607	

OLScash	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Subsidiary	.2110166	.0473413	4.46	0.000	.1180998	.3039334
FinancialIndustry	-.080471	.029531	-2.72	0.007	-.1384315	-.0225105
year	-.0098373	.0057848	-1.70	0.089	-.021191	.0015165
logTOTASSET	.0193216	.0050066	3.86	0.000	.0094951	.0291481
DealPremium	-3.52e-08	1.81e-08	-1.94	0.053	-7.07e-08	4.25e-10
transactionvaluetocash	-3.15e-07	4.67e-07	-0.67	0.501	-1.23e-06	6.02e-07
evtransactionratio	-.0491684	.0561349	-0.88	0.381	-.1593444	.0610076
Cashtoassets	-.0445396	.0794818	-0.56	0.575	-.2005385	.1114594
DIVIDENDYIELD	1.839852	.4650963	3.96	0.000	.927007	2.752697
CrossBorder	.1372201	.0465223	2.95	0.003	.0459108	.2285293
Intraindustry	-.0116127	.0205268	-0.57	0.572	-.0519006	.0286752
_cons	.5550461	.1186025	4.68	0.000	.3222649	.7878273

Table 13 Robust Tobit Regression

Stata output of the Tobit regression, using robust standard errors.

```
Tobit regression                                Number of obs  =        880
                                                F( 10,    870) =          .
                                                Prob > F       =          .
Log pseudolikelihood = -669.11671               Pseudo R2      =     0.0766
```

ofCash	Robust Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Subsidiary	1663.785	.	.	.	.	.
FinancialIndustry	-108.8744	41.85915	-2.60	0.009	-191.0312	-26.71772
year	-12.48745	7.033424	-1.78	0.076	-26.29192	1.317007
logTOTASSET	20.7345	7.198323	2.88	0.004	6.606393	34.86261
DealPremium	-.0000347	.0000193	-1.79	0.073	-.0000726	3.28e-06
transactionvaluetocash	.0001239	.0005255	0.24	0.814	-.0009076	.0011554
evtransactionratio	-233.6394	137.4467	-1.70	0.090	-503.4052	36.12633
Cashtoassets	-160.4146	83.08503	-1.93	0.054	-323.4851	2.655915
DIVIDENDYIELD	2133.866	858.5813	2.49	0.013	448.7337	3818.999
CrossBorder	177.6236	72.8415	2.44	0.015	34.65796	320.5892
Intraindustry	-18.68517	27.05579	-0.69	0.490	-71.78741	34.41708
_cons	169.1185	194.6103	0.87	0.385	-212.842	551.079
/sigma	237.4167	29.66477			179.1938	295.6396

```
Obs. summary:       69  left-censored observations at ofCash<=0
                    59      uncensored observations
                   752 right-censored observations at ofCash>=100
```

Table 14 Ordinary Least-Squares Regression with Control Variable

*Stata output of our Ordinary Least-Squares regression with the additional controlling variable **MRKTVALUETOBOOK.***

Source	SS	df	MS		
Model	8.09685976	12	.674738313		
Residual	74.5944394	826	.090308038		
Total	82.6912992	838	.098676968		

Number of obs = 839
F(12, 826) = 7.47
Prob > F = 0.0000
R-squared = 0.0979
Adj R-squared = 0.0848
Root MSE = .30051

OLScash	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Subsidiary	.2188622	.0499239	4.38	0.000	.1208696	.3168547
FinancialIndustry	-.0715451	.0307466	-2.33	0.020	-.1318957	-.0111944
year	-.0084228	.0060568	-1.39	0.165	-.0203113	.0034657
logTOTASSET	.0184166	.005199	3.54	0.000	.0082119	.0286214
DealPremium	-3.46e-08	1.86e-08	-1.86	0.064	-7.11e-08	1.97e-09
transactionvaluetocash	-3.43e-07	4.75e-07	-0.72	0.470	-1.28e-06	5.89e-07
evtransactionratio	-.0540463	.0585274	-0.92	0.356	-.1689263	.0608336
Cashtoassets	-.0529286	.0814412	-0.65	0.516	-.2127847	.1069275
DIVIDENDYIELD	1.850914	.4886411	3.79	0.000	.8917896	2.810038
CrossBorder	.1437243	.0478383	3.00	0.003	.0498254	.2376232
Intraindustry	-.0116311	.0213697	-0.54	0.586	-.0535764	.0303142
MRKTVALUETOBOOK	.0004537	.001279	0.35	0.723	-.0020566	.0029641
_cons	.5581134	.1228177	4.54	0.000	.317042	.7991848

Table 16 VIF-Test

Variance Inflation factor that quantifies the level multicollinearity of our explanatory variables.

Variable	VIF	1/VIF
logTOTASSET	1.87	0.533340
evtransact~o	1.34	0.746741
CrossBorder	1.34	0.747565
Subsidiary	1.32	0.758531
Cashtoassets	1.22	0.822920
DIVIDENDYI~D	1.20	0.833017
FinancialI~y	1.16	0.858778
transactio~h	1.11	0.897286
year	1.06	0.939808
Intraindus~y	1.04	0.958512
DealPremium	1.03	0.974360
Mean VIF	1.25	

Table 17 Correlation Matrix

A correlation matrix that shows the statistical relationships between our explanatory variables.

	Subsid~y	Financ~y	year	logTOT~T	DealPr~m	transa~h	evtran~o	Cashto~s	DIVIDE~D	CrossB~r	Intrai~y
Subsidiary	1.0000										
FinancialI~y	0.1070	1.0000									
year	0.0071	-0.0428	1.0000								
logTOTASSET	-0.0451	0.2814	-0.1038	1.0000							
DealPremium	0.0092	-0.0235	-0.0308	-0.0606	1.0000						
transactio~h	-0.0019	0.0869	0.0213	-0.2296	0.0210	1.0000					
evtransact~o	-0.0220	-0.1554	0.0741	-0.4911	0.0558	0.0789	1.0000				
Cashtoassets	0.0289	-0.0890	-0.0401	-0.3570	0.1311	-0.0378	0.1230	1.0000			
DIVIDENDYI~D	-0.0307	0.1590	0.1043	0.3546	-0.0900	-0.0858	-0.1737	-0.1978	1.0000		
CrossBorder	-0.4801	-0.1236	-0.0677	0.0258	-0.0297	-0.0020	0.0514	-0.0136	-0.0770	1.0000	
Intraindus~y	-0.0408	-0.0969	0.1230	0.0106	-0.0012	0.0311	-0.0400	0.0695	0.0013	-0.0033	1.0000