The Value Relevance of Corporate Risk Management Disclosures in European M&A Transactions

10 June 2025

Abstract

This study examines the role of corporate risk management disclosures by acquirers in the context of mergers and acquisitions (M&A), with a focus on hedge accounting under IAS 39 and IFRS 9. Using a sample of 487 M&A announcements by firms listed on the STOXX Europe 600 index, we find that firms using hedge accounting are significantly less likely to use stock-based payments, preferring instead full cash compensation. This effect is particularly pronounced for firms reporting under IFRS 9 compared to those reporting under IAS 39. Furthermore, while there is no direct relationship between the use of hedge accounting and abnormal acquirer returns, our evidence suggests that the use of FX cash flow hedge accounting mitigates the (predominantly positive) stock price response to the announcement of cross-currency M&A transactions. Overall, the findings are consistent with an enhanced information environment for firms that use hedge accounting, and reduced investor uncertainty regarding the acquirer's future cash flows.

JEL classification: G14, G32, G34

Keywords: Abnormal Returns, Event Study, Hedge Accounting, IFRS, Mergers and Acquisitions

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1. Introduction

This paper examines the link between a firm's decision to engage in mergers and acquisitions (M&A), its financial hedging choices, and the extent to which the latter are disclosed to investors. The interaction of these factors plays a central role in shaping the information environment of the firm and is therefore likely to have a significant impact on investor decisions. However, research on the value relevance of hedge accounting in the context of M&As is scarce. We aim to fill this gap by investigating whether and how firms' hedge accounting disclosures under IAS 39 and IFRS 9 moderate both management decisions and shareholder reactions in the context of mergers and acquisitions. Using a sample of 487 M&A transactions of firms listed in the STOXX Europe 600 index, we investigate three key research questions: (1) whether the use of hedge accounting affects the acquirer's choice of payment method, (2) whether the use of hedge accounting affects abnormal acquirer returns following an M&A announcement, and (3) whether foreign exchange (FX) cash flow hedge accounting moderates the market reaction in cross-currency M&A transactions.

To answer our first research question, we employ a logistic regression model in which the dependent variable is a dummy indicating whether shares are used as a payment method. Our findings indicate that firms employing hedge accounting are significantly less likely to use stock-based payments and instead prefer full cash compensation. This effect is particularly pronounced for firms reporting under IFRS 9 compared to IAS 39. We attribute this preference to the increased transparency and financial flexibility associated with more comprehensive risk management disclosures, which enhance capital availability.

With respect to the second research question, we conduct an event study to assess the impact of hedge accounting on acquirers' cumulative abnormal returns (CARs) in a three-day window surrounding the M&A announcement. Our results show no direct relationship between hedge accounting and abnormal acquirer returns. However, with respect to the third research question, our event study shows that cross-currency M&A transactions generally elicit a more positive market reaction than same-currency deals, and that this positive reaction is significantly weaker when acquirers use FX cash-flow hedge accounting. We take this as further evidence of an improved information environment for firms that employ hedge accounting, which likely leads to better investor understanding and lower uncertainty about future cash flows.

The remainder of the paper proceeds as follows. In section two, we place the paper in the context of related literature and develop the hypotheses. In sections three and four, we present the methodology and data used. Section five contains a discussion of the results. Section six concludes the paper.

2. Literature Review and Hypotheses

Decisions on financial risk management, its accounting treatment and disclosure to the firm's stakeholders as well as strategic decisions in the firm's investment behaviour, like the choice of payment method in mergers and acquisitions, are all inseparably connected to the informational environment of the firm. In the world of Modigliani and Miller's irrelevance theorems, individual investors can engage in their own hedging decisions and corporate hedging has no effect on firm value. Furthermore, it should be irrelevant how firms finance

their investments and acquisitions (Modigliani and Miller 1958). Only after incorporating market imperfections like information asymmetries, financing or hedging decisions become potentially valuable (Chen, Han, and Zeng 2017; Alexandridis, Chen, and Zeng 2021). For example, DeMarzo and Duffie model such information asymmetries assuming that managers possess more accurate and current information than investors on the firm's exposures to foreign exchange risk, interest rate risk, or commodity price risk (DeMarzo and Duffie 1995).

Prior literature suggests several theoretical incentives and motives to explain why corporates engage in derivative hedging transactions and how this may affect firm value. Proposed incentives can be categorized broadly into arguments based on cost and likelihood of financial distress, taxes, avoidance of underinvestment, managerial motives as well as reduction of information asymmetries and agency costs.

Studies focusing on financial distress argue that corporate hedging reduces variability of future cash flows and firm value and thus reduces the probability of incurring transaction costs of bankruptcy (Mayers and Smith 1982; Smith and Stulz 1985). Therefore, cost of financial distress may affect optimal hedge policies (Stulz 1984) which reduce cost of debt (Chen and King 2014) and cost of equity (Gay, Lin, and Smith 2011). Additionally, Graham and Rogers (2002) state that increased debt capacity also leads to tax advantages in form of higher interest tax deductions. Alternative tax-based theories argue that, assuming convex tax functions, corporate hedging reduces the variability of pre-tax firm values and the expected tax liability (Smith and Stulz 1985; Mayers and Smith 1982). Further analysis suggests that hedging firms face more convex tax functions than non-hedging firms (Nance, Smith, and Smithson 1993).

Another strand of literature is based on the underinvestment problem described by Myers (1977). Expensive external financing causes firms to not fully exhaust their growth

opportunities and refrain from positive net present value investment projects. According to Froot, Scharfstein, and Stein (1993) this is explained by non-hedging firms facing variability in cash flows that must result in either variability in the amount of financing externally raised or in the investment amount. Assuming increasing marginal cost of external financing the variability in cash flows affects investment and financing at the same time. Therefore, firms might hedge to increase leverage, debt capacity and avoid inefficient underinvestment (Leland 1998). Concurringly, Geczy, Minton, and Schrand (1997) show that firms with greater growth opportunities and tighter financial constraints are more likely to engage in financial risk management. This argument is extended by Haushalter, Klasa, and Maxwell (2007) who argue that growth opportunities are intercorrelated between firms and underinvesting firms do not only bypass profitable investments but are also predated by industry rivals that are less financially restrained and thus can invest in the limited growth opportunities.

In addition, hedging incentives can also arise from managerial motives. Already Smith and Stulz (1985) included managerial risk aversion in their model to explain hedging. Stulz (1984) assumes that managerial compensation schemes influence hedging policies. Campbell and Kracaw (1990) point out that a commitment to hedging by shareholding managers prevents risk shifting which refers to an intentional increase in unobservable risks as reaction to increases in observable risks. Hedging becomes more valuable in its trade-off against risk shifting the more severe the firm's financial constraints become (Kuersten and Linde 2011). DeMarzo and Duffie (1995) suggest that hedging reduces profit variability and thus also reduces wage variability which is preferred by risk averse managers. In this context, Knopf, Nam, and Thornton (2002) find that managers hedge more if their portfolio sensitivity to the firm's stock price increases. However, they hedge less when their portfolios sensitivity to the firm's stock price volatility increases. Finally, founding family involvement in CEO positions

appears to increase hedging propensities due to socioemotional wealth protection (Barbi and Morresi 2023).

Despite the variety of theoretical arguments, the empirical evidence on the effects of corporate financial risk management on firm value is mixed. On the one hand, Tufano (1996) finds no evidence for value creation by gold mining companies engaging in derivative transactions. He observes that firms hedge more if managers hold stock of the firm. Accordingly, Brown, Crabb, and Haushalter (2006) find that selective hedging leads to no superior operating or financing performance for the gold mining industry. Jin and Jorion (2006) report that US oil and gas producers experience lower stock price sensitivity towards oil and gas prices if they decide to hedge them. But the lower sensitivity does not appear to be related to higher market values. Ullah et al. (2023) even suggest that capital expenditures of hedged UK oil and gas companies reduce firm value. While Ahmed, Fairchild, and Guney (2020) find that the effect of hedging varies across types of risk exposures and types of derivatives, Guay and Kothari (2003) argue that the derivative portfolios of non-financial firms are too small to reasonably affect firm value.

On the other hand, Adam and Fernando (2006) report that gold miners significantly gain from derivative transactions. For the oil and gas industry, some studies also report valuable hedging strategies. Non-hedging firms affected by basis risk shocks reduce investment, have lower valuations, sell assets and reduce debt (Mackay and Moeller 2007; Gilje and Taillard 2017). For foreign exchange risks, hedging becomes more likely if firms face greater growth opportunities and tighter financial constraints (Geczy, Minton, and Schrand 1997). A meta-analysis by Bessler, Conlon, and Huan (2019) shows that especially foreign exchange hedging is related to higher values for Tobin's Q. Allayannis and Weston (2001) report a hedging premium for non-financial US firms of 5% if the firm faces significant foreign exchange exposure. For commodity

exposures in the airline industry, Carter, Rogers, and Simkins (2006) find a hedging premium of 10% which they lead back to underinvestment avoidance. Also, the likelihood of fuel hedging increased more for airlines near financial distress than financially sound airlines. Hedged airlines experienced increased operating performance (Giambona and Wang 2020). Biguri, Brownlees, and Ippolito (2022) report increased profit margins, investments, better access to credit lines and a drop in cash holdings for commodity hedging firms. Furthermore, Bartram, Brown, and Conrad (2011) show that financial hedging reduces total risk as well as systematic risk which transfers to higher firm value, higher abnormal returns and larger profits during the economic downturn in 2001-2002. Consistent with the incentives of reducing underinvestment and financial distress, hedging firms receive more favourable financing terms in the form of lower interest rate spreads and less capital expenditure restrictions. They appear to use the increased debt capacity to fuel investments (Campello et al. 2011). Qiao, Xia, and Zhang (2020) also report that hedging reduces the underprizing in IPOs, especially for more opaque firms. Finally, the introduction of new weather derivatives increased firm value, investments and leverage for weather sensitive firms (Pérez-González and Yuan 2013).

The nature of the incentives and effects of hedging which is deeply embedded in the informational environment of the firm in combination with the mixed empirical results regarding the economic effects let us argue that one should also consider what information about their hedging activities firms actually share with their stakeholders through different accounting treatments and disclosures related to them.

Our sample of European firms operates primarily under the accounting regime of IAS / IFRS. During our sample period the standards relevant for derivatives accounting are IAS 39 and its successor IFRS 9 which broadly both offer the two approaches of mark-to-market and hedge accounting. Under the mark-to-market approach, derivatives are measured at fair value and

its changes are immediately recognized in the profit and loss statement. Although the firm economically hedges the corresponding risk, this may lead to gains and losses from the hedging instrument / derivative and the hedged item affecting the profit and loss statement in different periods. Hedge accounting aims to solve this mismatch by modifying the accounting treatment of the hedging instrument or the hedged item to enable a matched and offsetting presentation of gains and losses in the income statement. Furthermore, the application of hedge accounting requires extensive and detailed disclosures on the hedging relationship. The relevant standard IFRS 7 requires qualitative information on exposure origins and risk management strategy (IFRS 7.22A-22C), quantitative information about timing and uncertainty of future cash flows (IFRS 7.23A-23F) and detailed quantitative information about hedging instruments, hedged items and hedge effectiveness (IFRS 7.24A-24F).

The standard setter's intention in designing these requirements is to provide investors with detailed information on the firm's hedging activities and thereby decreasing information asymmetries between the firm and its stakeholders. This leads us to the question whether additional information regarding details of financial risk management is in fact beneficial to stakeholders by decreasing information asymmetries or if they could even increase information asymmetries on average due to their complexity.

Healy and Palepu (2001) state that disclosures are an important tool for the firm to communicate firm performance and governance to its stakeholders. The share price of a more transparent firm should be less dependent on systematic trends affecting the market and more dependent on reasons related to the individual firm. Therefore, studies argue that greater disclosures are associated with lower betas and less systematic risk (Patel and Dallas 2002; Ferrell 2007; Akhigbe and Martin 2006). Additionally, many studies showed that useful information release is associated with price movements and higher trading volume (Beaver

1968; Morse 1981; Cready and Mynatt 1991; Francis, Schipper, and Vincent 2002; Griffin 2003; Li and Ramesh 2009). Thus, greater transparency should reduce information asymmetries between investors and lead to less informed trading and higher stock liquidity (Diamond and Verrecchia 1991; Ahmed and Schneible 2007). Firms with more informative disclosures also have larger analyst following, more accurate analyst earnings forecasts, less analyst dispersion and less forecast revisions (Lang and Lundholm 1996; Botosan 1997).

Besides that, Lambert, Leuz, and Verrecchia (2007) report a positive influence of transparency on management decisions. DeMarzo and Duffie (1995) even differentiate hedging and disclosure of hedging. They argue that hedging itself reduces profit variability which relates to lower wage variability of risk averse managers. With the application of hedge accounting and increased disclosures, a second effect in the form of noise elimination in the profits arises. This results in shareholders perception of managerial ability becoming more sensitive to firm performance. All these effects should ultimately end up in lower cost of capital and better external financing which are valuable to the firm (Diamond and Verrecchia 1991; Lambert, Leuz, and Verrecchia 2007).

However, this conclusion is based on the assumption that any surplus information disclosed by management can be correctly processed and translated into usable information by investors (Farvaque, Refait-Alexandre, and Saïdane 2011). Grossman and Stiglitz (1980) as well as Bloomfield (2002) point out that acquiring and processing information is costly. Investors or analysts may choose to not process complex information because their ability to comprehend information is a decreasing function of complexity or because processing is too costly compared to the benefit (Plumlee 2003). Consistently, an exogenous reduction in cost and increase in availability is associated with greater investor reactions (Asthana and Balsam 2001; You and Zhang 2009). Format and complexity of information affects how non-professional

investors weight information (Maines and McDaniel 2000). More complex filings are associated with lower trading volume especially by smaller investors (Miller 2010). Yet, even sophisticated investors or analysts find it difficult to comprehend the implications of complex disclosures like hedge accounting (Ranasinghe, Sivaramakrishnan, and Yi 2022). Plumlee (2003) reports analysts assimilating less complex information to a greater extent than more complex information. More complex reports are associated with greater analyst forecast dispersion and lower forecast accuracy (Lehavy, Li, and Merkley 2011).

Furthermore, Paredes (2003) and Drake, Hales, and Rees (2019) show concerns over informational overload while Prat (2005) states that certain types of transparency increase agency costs instead of reducing them. Shareholders of firms with longer and linguistically less readable reports suffer from decreased transparency and ultimately bear increased cost of external financing (Ertugrul et al. 2017; Li 2008).

Evidence regarding the effect or complexity of hedging disclosures is mixed as well. On the one hand, increased transparency does not necessarily lead to more prudent risk management (Sapra 2002). Kawaller (2004) finds that new information on derivatives and hedging can easily be misinterpreted by analysts. Consistently, Chang, Donohoe, and Sougiannis (2016) report that analysts' forecasts for new derivatives users are less accurate and more dispersed. They lead back these results to reporting complexity instead of economic complexity of derivatives. A mismatch between information given on hedged items and derivatives / hedging instruments causes investors to neglect the less comparable information (He et al. 2019). On the other hand, Melumad, Weyns, and Ziv (1999) state that firms may deviate from optimal hedging decisions if no hedge accounting is applied. Further studies attest hedging disclosures being useful information for the market, investors and rivals (Wong 2000; Zou 2022; Dinh and Seitz 2020). Firms being more affected by increased hedging disclosure requirements

introduced by SFAS 161 appear to experience lower bid-ask spreads (Steffen 2022) as well as lower loan spreads and less covenants in their debt contracts (Chen, Zhou, and Han 2021). Also for IFRS, Panaretou, Shackleton, and Taylor (2013) report lower analysts forecast errors and dispersion measures indicating lower information asymmetries.

Since prior evidence shows that hedging and the corresponding accounting treatments and disclosures may affect information asymmetries between the firm and its stakeholders in a positive or negative manner, we argue that it should also affect investment decisions. We use established intercorrelations between the informational environment of the firm and its strategic decisions and outcomes of its mergers and acquisitions to further study the informational effect of hedging treatments and disclosures.

Prior literature showed that the decision on the payment method of the deal is highly affected by the informational environment of both firms (Duchin and Schmidt 2013).[1] Different theoretical arguments and empirical evidence suggest that higher information asymmetry regarding the acquirer's value is related to a higher likelihood of including acquirer stock in the consideration while higher transparency should be related to more cash payments (Luypaert and van Caneghem 2017; Yook, Gangopadhyay, and McCabe 1999). One branch of literature is based on a two-sided information asymmetry in which both the true value of the acquirer and the target firm are private information (Hansen 1987; Fishman 1989; Eckbo, Giammarino, and Heinkel 1990). In such a scenario, the value of a stock offer is contingent on the true value of the combined firm and may be accepted by the target even if it undervalues the target (Eckbo 2009). An undervaluing cash offer on the other hand will be rejected. Additionally, acquirers can avoid target adverse selection and overpayment by offering stock as a payment method

[1] For a detailed overview of theories and determinants of payment method decisions view (Eckbo 2009).

(Huang, Officer, and Powell 2016). Therefore, stock payments can be an efficient tool to mitigate the effects of information asymmetries for both parties (Eckbo 2009).

Besides two-sided rationale payment design, Shleifer and Vishny (2003) as well as Rhodes-Kropf and Viswanathan (2004) construct models in which uncertainty about the true value of the acquirer can lead to overvaluation. Opportunistic acquirer managers try to cash in on the overvaluation and prefer to use considerations with higher stock proportions. Target shareholders may accept overvalued stock because they have a short-time horizon and overestimate the deal synergy in times of general market overvaluation (Rhodes-Kropf and Viswanathan 2004). Alternatively, target shareholders may wish to postpone tax payments (Brown and Ryngaert 1991) or the acquirer pays target top tier management to convince shareholders (Hartzell, Ofek, and Yermack 2004). Accordingly, Chemmanur, Paeglis, and Simonyan (2009) find that acquirers paying in stock tend to be overvalued. Consistent with the argument by Myers and Majluf (1984) that stock payments are a signal of overvaluation, some studies find negative abnormal returns to the announcement of mergers paid in stock (Travlos 1987; Moeller, Schlingemann, and Stulz 2007).

Another branch of literature points out to arguments that explain why decreased information asymmetries and greater transparency should be related to more cash payments. Fischer (2017) argues that the payment method decision is a proxy for a preceding decision on capital structure and source of financing. As argued before, less information asymmetries are related to lower financial constraints and cost of debt. In the sense of the pecking order theory, the acquirer will finance the deal with the most advantageous source. Faccio and Masulis (2005) argue that financial constraints, information asymmetries and bankruptcy considerations reduce the willingness of lenders to finance cash offers. Indeed, the use of cash is significantly and negatively related to financial constraints faced by the acquirer (Gorbenko and Malenko

2018). Acquirers with poor long-term earnings quality use less cash payments (Yung, Sun, and Rahman 2013), while acquirers with higher credit ratings are more likely to use cash (Karampatsas, Petmezas, and Travlos 2014). Moreover, existing empirical evidence on hedging (as opposed to hedge accounting) also shows that firms that use derivatives for hedging are more likely to use cash sourced from external borrowing for M&A transaction (Alexandridis, Chen, and Zeng 2021).

Therefore, assuming that hedging and extended information on hedging through hedge accounting reduces information asymmetries, we hypothesize the following:

H1: The use of hedge accounting is associated with a greater likelihood of the acquirer using cash instead of stocks as the means of payment in an M&A transaction.

Moreover, previous literature also indicates that the market reaction to the acquirer's announcement of an M&A deal may be affected by the decision to use derivatives for hedging. Chen, Han, and Zeng (2017) find that derivatives usage seems to be associated with positive abnormal announcement returns especially for cross-border deals, and the results reported by Lin, Pantzalis, and Park (2009) indicate the same in the aftermath of a deal if hedging policies are kept comprehensive and sophisticated. However, these studies do not investigate the informational effect of disclosures on hedging activities.

Regarding the effect of information asymmetries on the market reaction to the acquirer's announcement of the deal, existing literature mainly focused on the role of transparency in explaining different abnormal acquirer return patterns found between deals of different payment method or public status of the target (Wansley, Lane, and Yang 1983, 1987; Travlos 1987; Amihud, Lev, and Travlos 1990; Fuller, Netter, and Stegemoller 2002; Hazelkorn, Zenner,

and Shivdasani 2004; Conn et al. 2005; Draper and Paudyal 2006; Netter, Stegemoller, and Wintoki 2011; Harford, Humphery-Jenner, and Powell 2012).

Furthermore, some studies directly link information asymmetries to acquirer abnormal returns without relying on mechanisms of different payments or target listings. However, these studies also do not investigate the informational effect of hedging disclosures. For example, Black et al. (2017) show that information asymmetries can cause investors to overreact and increase the absolute magnitude of abnormal returns. Based on the revaluation effect described by Draper and Paudyal (2008) and the uncertainty resolution effect established by Moeller, Schlingemann, and Stulz (2007), we derive predictions that should be observable if hedging disclosures decrease information asymmetry.

Draper and Paudyal (2008) argue that announcing an M&A transaction puts acquirers in the spotlight for investors and analysts. Less transparent acquirers should experience a revaluation effect, adjusting for any over- or undervaluation, particularly if they have not announced a takeover in the recent past. They find that acquiring firms with higher information asymmetries experience higher abnormal returns around the announcement date, and that this effect is stronger for more undervalued acquirers. Due to this revaluation effect, we also expect to find a negative (positive) relationship between overvaluation (undervaluation) and abnormal acquirer returns for our sample. However, if increased disclosures through hedge accounting reduce information asymmetries, we expect this revaluation effect to be mitigated for acquirers using hedge accounting. We therefore hypothesize the following:

H2: The use of hedge accounting mitigates the potential negative (/positive) impact of acquirer overvaluation (/undervaluation) on the acquirer's abnormal returns when an M&A transaction is announced.

In relation to the impact of information asymmetries on acquirer returns, the findings of Diether, Malloy, and Scherbina (2002) indicate a negative relationship between uncertainty (as measured by analyst forecast dispersion) and abnormal returns. Tying in with their results, Johnson (2004) develops a theoretical model in which higher uncertainty about a firm's future growth prospects increases the value of a call option on a levered firm's equity. Pastor and Veronesi (2006) show that the level and volatility of Nasdaq stock prices in the late 1990s were positively related to uncertainty about average future profitability. Therefore, Moeller, Schlingemann, and Stulz (2007) argue that the announcement of an event that reduces uncertainty should lead to a drop in firm value, and vice versa. Haw, Jung, and Ruland (1994) find that analyst forecast accuracy sharply decreases after completed mergers and recovers only after about four years when analysts have better understood the combined firm.

We argue that while the announcement of an M&A transaction may in general lead to higher uncertainty about future firm growth, whether a transaction creates or reduces uncertainty also depends on deal-specific as well as acquirer-specific factors. In particular, we focus on the role of currency risk and respective hedge accounting disclosures. As firms that depend on worldwide supply chains are typically subject to currency risks, cross-border M&A deals involving firms with different functional currencies should create more uncertainty about future growth prospects than purely domestic deals.[2] Consequently, we expect that firms using derivatives to mitigate foreign exchange risk, and providing useful information about their

[2] Apart from currency risk arising from a firm's operations, the acquisition itself can create or amplify an acquirer's exposure to exchange-rate risk, particularly if the payment is made in cash. However, as our data set does not include information on derivatives used to explicitly hedge the consideration paid (such as deal-contingent forwards), we cannot isolate their effect from other FX-related hedging activities in the study at hand.

hedging activities via FX cash flow hedge accounting, will exhibit fewer information asymmetries. Therefore, we hypothesize the following:

H3: The use of foreign exchange cash flow hedge accounting has a mitigating effect on the acquirer's abnormal announcement returns in cross-currency M&A transactions.

3. Methodology

We conduct an event study to measure the market reaction the acquirer's deal announcement. Cumulative abnormal returns are determined as the sum of the differences between observed and expected stock returns for different event windows centred on the announcement day, namely the three-day [-1;1], five-day [-2;2] and seven-day [-3;3] windows, respectively. Expected returns are estimated using the market model with the STOXX Europe 600 as proxy for the market portfolio. The estimation window ranges from day 300 to day 91 prior to the announcement.[3]

We test our first hypothesis by differentiating the payment method into deals paid fully in cash and deals that incorporate stock in its consideration structure. Thus, our dependent variable $Stock_i$ is a dummy variable that takes the value one if the acquirer uses at least some proportion of stock to pay the target in deal i and zero if the payment is made fully in cash. We set up the following binominal logistic regression model:

$$Stock_i = \frac{1}{1 + e^{-Z_i}} \quad (1)$$

[3] The event study is conducted using the STATA module EVENTSTUDY2 developed by Kaspereit (2015).

Z_i is a vector of prior year firm financials, hedging and accounting treatment information as well as other firm and deal characteristics that serve as control variables. It is defined as follows:

$$Z_i = \beta_0 + \beta_1 Deriv\_imp_{it-1} + \beta_2 HA_{it-1} + \sum \beta_k Firm\ controls_{kit-1} + \sum \beta_l\, Deal\ controls_{lit} + \nu_t + \nu_j + Regulatory_i + \varepsilon_{it} \quad (2)$$

HA_{it-1} is our main variable of interest that takes the value of one if the acquirer of deal i applied any form of hedge accounting in the year prior to the deal. In an alternative specification of this model, we differentiate between the application of hedge accounting under IAS 39 and IFRS 9 using respective dummy variables. In addition to controlling for firm and deal characteristics, we also control for derivative usage in cases where firms do not use hedge accounting to distinguish between the effects of financial risk management activities and differences in the disclosure of these activities. Our derivative usage indicator $Deriv\_imp_{it-1}$ takes the value of zero if the acquirer did not use derivatives in the previous year and increases with the value of the derivatives used relative to total assets. In an alternative specification of our model, we use a dummy variable indicating derivative usage in the previous year instead.

We include year and industry fixed effects, but refrain from using country fixed effects as our sample includes countries with only few observations that all use the same payment method. Hence, country fixed effects would result in some country dummies being a perfect predictor of the decision on the payment method. However, as Huang, Officer, and Powell (2016) show that country-level governance risk can affect the decision on the payment method, we include a variable $Regulatory_i$ in the regression, a regulatory quality index for the acquirer's country, which is one of the governance indices provided by the World Bank Group.

To test our second and third hypotheses, we regress the acquirer's cumulative abnormal returns at the time of the deal announcement on our key variables of interest and sets of control variables. We specify the following cross-sectional linear regressions:

$$CAR_i = \beta_0 + \beta_1 Deriv_{imp_{it-1}} + \beta_2 HA_{it-1} + \beta_3 Tobin's\ Q_{it-1} + \beta_4 (HA_{it-1} * Tobin's\ Q_{it-1}) + \sum \beta_k Firm\ controls_{kit-1} + \sum \beta_l\ Deal\ controls_{lit} + \nu_t + \nu_j + Regulatory_i + \varepsilon_{it} \quad (3)$$

$$CAR_i = \beta_0 + \beta_1 Deriv_{imp_{it-1}} + \beta_2 HA_{it-1} + \beta_3 Cross\_FX_i + \beta_4 (HA_{it-1} * Cross\_FX_i) + \sum \beta_k Firm\ controls_{kit-1} + \sum \beta_l\ Deal\ controls_{lit} + \nu_t + \nu_j + Regulatory_i + \varepsilon_{it} \quad (4)$$

To remain consistent with our logistic regressions, we use the regulatory quality index to identify respective differences between countries. Moreover, we include country fixed effects to account for structural differences between counties that remain stable over time.

4. Data

The sample includes M&A deals carried out by firms listed in the STOXX Europe 600 index between 1 January 2014 and 31 December 2020. We chose the STOXX Europe 600 as a basis because it contains the largest and most actively traded European companies, covering up to 90 per cent of the European market capitalisation. The composition of the index is reviewed every three months and we take this into account when selecting our sample. We exclude deals in which the acquirer is a financial sector firm due to their specific characteristics in terms of capital structure, merger behaviour, and financial risk management strategy (Fama and

French 1992). For the remaining deals, we hand-collect information on the acquirers' use of derivatives and hedge accounting from their financial reports. This data includes general information on whether firms use hedge accounting, as well as more detailed information, such as gains or losses on cash flow hedges recognised in OCI between 2013 and 2019. We also obtain data on deal characteristics, firm financials, and stock prices from LSEG Eikon/Datastream. Country-specific governance indicators stem from the website of the World Bank Group.

The final dataset is restricted to deals that meet the following conditions:

1. The deal announcement date is between 1 January 2014 and 31 December 2020,
2. The acquirer is listed in the STOXX Europe 600 index,
3. The deal is classified as successfully completed and the deal value is greater than one million euros,
4. The acquirer holds less than 50% of the shares of the target company prior to the announcement and gains control of the target company by holding more than 50% of its shares after the completion of the deal,
5. The name of the target company can be clearly identified (i.e. the name in LSEG Eikon does not begin with "Undisclosed"),
6. The acquirer is not classified as a financial sector firm according to the Refinitiv Business Classification (TRBC),
7. Price data and data on the firm's financials are available at LSEG Eikon/Datastream.

Table 1 summarises the sample selection procedure. The initial dataset contains 3514 M&A deals. We exclude 1672 deals carried out by financial sector firms. Moreover, we lose 1355

observations due to missing or inconsistent data on derivatives and hedge accounting usage, deal characteristics, and firm financials. This leaves us with a final sample of 487 deals.

Table 1: Sample Selection

Sample Selection	Observations
Completed and control-seeking M&A deals by acquirers listed in the STOXX Europe 600 index	3514
Excluding deals conducted by financial sector firms	-1672
Excluding deals with missing data	-1355
Final sample	487

Table 2 provides information on the distribution of the sample over time, across acquirers' industries, and across acquirers' home countries for all deals as well as for selected subgroups based on characteristics like payment method, derivatives usage, and usage of hedge accounting. We observe a relatively stable distribution of deals across time with only 2020 showing a lower number of deals, which is consistent given the general economic environment after the outbreak of the COVID19 pandemic. The variables measuring the usage of derivatives and hedge accounting are lagged by one year. We find that the proportions of acquirers using derivatives and those using hedge accounting in the previous year are stable at around 95% and 85%, respectively. It is noteworthy that all the acquirers in the real estate sector used derivatives in the previous year but only 60% of them used hedge accounting. In contrast, all acquirers from the utility sector that used derivatives also designated them in a hedging relationship.

Table 2: Distribution of Deals

This table shows the distribution of the deals included in the sample over time, and across acquirers' industries and home countries by selected deal and firm characteristics. The variables concerning the usage of derivatives and hedge accounting (columns 5 and 6) are lagged by one year. Therefore, the distribution over time contains prior year information for these variables. Variable definitions are provided in Appendix A.

Year	(1) Deals	(2) Public targets	(3) Cash Payment	(4) Cross-border	(5) Derivates Users	(6) Hedge Accounting
Panel A: Deal distribution over time:						
2014	79	13	73	56	77	69
2015	69	7	64	51	64	58
2016	69	4	59	39	67	61
2017	73	13	69	54	68	59
2018	72	8	66	54	69	63
2019	75	16	67	55	70	62
2020	50	8	45	35	46	42
Total	487	69	443	334	461	414
Panel B: Deal distribution across acquirers' industries:						
Basic Materials	70	10	64	58	66	64
Consumer Cyclicals	47	10	40	32	46	43
Consumer Non-Cyclicals	49	8	45	37	46	40
Energy	30	5	28	19	27	25
Healthcare	45	11	41	41	43	42
Industrials	114	9	104	89	107	101
Real Estate	47	4	44	18	47	28
Technology	57	11	50	40	52	44
Utilities	28	1	27	10	27	27
Total	487	69	443	344	461	414
Panel C: Deal distribution across acquirers' home countries:						
Austria	6	0	5	4	6	4
Belgium	17	3	16	13	16	9
Denmark	14	3	13	14	12	11
Finland	23	3	19	15	23	23
France	108	29	99	74	105	99
Germany	13	2	13	6	12	12
Ireland	24	2	22	24	24	23
Italy	24	1	19	8	23	17
Luxembourg	2	0	2	1	2	2
Netherlands	14	2	14	11	12	11
Norway	12	2	10	9	10	8
Poland	2	1	2	0	2	2
Portugal	2	0	2	1	2	2
Spain	30	2	28	16	28	22
Sweden	39	6	35	30	37	36
Switzerland	12	2	12	12	12	12
United Kingdom	145	11	132	106	135	121
Total	487	69	443	334	461	414

As is typical of the European market for corporate control, the majority of deals involve non-public targets and are paid for entirely in cash. While acquirers from the consumer cyclicals and technology sectors use at least partial stock-based payment more frequently (12-15% of the cases), this applies to only 4% of the acquirers from the utilities sector. These ratios are consistent with Alexandridis, Mavrovitis, and Travlos (2012) who find that the usage of stock-based payments declined over the years and that full stock payment was rarely observed in more recent M&A transactions. Regarding the acquisition of public targets, French firms have been most active during the sample period (27% of the cases).

Table 3 presents descriptive statistics for the main and control variables of our analysis. The definition of each variable is provided in Appendix A. In addition to distinguishing between users and non-users of hedge accounting (HA), we also distinguish between users of IAS 39 and IFRS 9 using respective dummy variables. As IFRS 9 is mandatory for accounting periods beginning on or after 1 January 2018, we mainly observe the use of IAS 39 in the 2013 to 2019 sample period, with only few early adopters of IFRS 9. Our indicator of the importance of derivatives (Deriv_imp) is defined as the absolute fair value of derivatives divided by total assets.[4]

[4] Our definition of Deriv_imp relies on fair values rather than notional amounts since the former better reflect the economic impact of derivative usage. Moreover, notional amounts are reported much less frequently by the firms in our sample, so that using the latter would have significantly reduced the size of our sample.

Table 3: Descriptive statistics

This table reports descriptive statistics across deal, firm and hedging variables included in our sample. Variable definitions are provided in Appendix A.

Variables	N	Mean	Std. Dev.	p25	Median	p75
Panel A: Main variables						
HA	487	0.850	0.357	1.000	1.000	1.000
IAS39	487	0.661	0.474	0.000	1.000	1.000
IFRS9	487	0.189	0.392	0.000	0.000	0.000
Stock	487	0.090	0.287	0.000	0.000	0.000
CAR [-1;1]	487	0.009	0.041	-0.013	0.006	0.026
CAR [-2;2]	487	0.009	0.045	-0.015	0.007	0.030
CAR [-3;3]	487	0.008	0.051	-0.019	0.007	0.030
Panel B: Other hedging-related variables						
Deriv	487	0.947	0.225	1.000	1.000	1.000
Deriv_imp	487	0.662	1.390	0.054	0.209	0.698
CFH	487	0.791	0.407	1.000	1.000	1.000
CFH_FX	487	0.608	0.489	0.000	1.000	1.000
CFH_IR	487	0.488	0.500	0.000	0.000	1.000
CFH_CO	487	0.193	0.395	0.000	0.000	0.000
Panel C: Firm-level control variables						
Book to market	487	50.732	37.494	25.927	41.417	70.847
Tobin's Q	487	1.603	1.112	0.897	1.227	1.890
Firm size	487	15.712	1.400	14.658	15.570	16.575
Leverage	487	21.699	13.145	12.767	20.839	29.552
Liquidity	487	9.740	7.808	4.222	8.129	12.861
Profitability	487	0.091	0.067	0.053	0.082	0.121
Regulatory	487	1.493	0.361	1.155	1.635	1.800
Tangible Assets	487	30.831	26.191	9.686	23.330	44.086
24M Dormant Period	487	0.581	0.494	0	1	1
Panel D: Deal control variables						
Relative size	487	0.117	0.114	0.038	0.085	0.163
Public target	487	0.858	0.349	1.000	1.000	1.000
Toehold	487	0.033	0.178	0.000	0.000	0.000
Cross-FX	487	0.706	0.456	0.000	1.000	1.000
Cross-industry	487	0.957	0.203	1.000	1.000	1.000

As Table 3 shows, the estimated average abnormal return over the three-day event window is around 0.9% with a median market reaction of 0.6%. Betton, Eckbo, and Thorburn (2008b) report acquiror gains for the same event window of 0.73% on average with a median abnormal

return of -0.05% and 49% of acquirers experiencing negative abnormal returns. Compared to US acquirers, the European acquirers in our sample experience similar market reactions on average, but the number of acquirers with negative abnormal returns is lower (40%), and their median return is higher. However, taking into account that the sample used by Betton, Eckbo, and Thorburn (2008b) covers the period from 1980 to 2005 and thus includes, for example, the dotcom crash in the early 2000s, this difference seems plausible. In this context, Moeller, Schlingemann, and Stulz (2005) attribute the negative average market reaction they observe for the period 1998 to 2001 to a small number of large value-destroying deals. Moreover, Alexandridis, Antypas, and Travlos (2017) show that acquiring firm shareholders gained more from deals post-2009 than ever before and argue in favour of a structural change in firms' corporate governance frameworks in the aftermath of the financial crisis of 2008. They observe average abnormal returns of 1.05% with only 46% of acquirers losing in value for deals occurring between 2010 and 2015, which is more in line with the results for our sample of deals between 2014 and 2020.

5. Results

5.1 Hedge Accounting and M&A Payment Method

In this section, we examine the relationship between hedge accounting application and the payment method used in mergers and acquisitions. According to hypothesis one, acquirers that apply hedge accounting and disclose more information about their hedging activities should benefit from increased transparency in terms of better financial flexibility. Therefore,

hedge accounting appliers should be expected to use more full cash payments and less considerations that involve stock to pay their targets.

Table 4 reports the results of our binominal logistic regression analyses. We control for several variables that have been associated with key merger decisions like payment method by prior literature. To control for the general availability of cash, we use a liquidity proxy in terms of cash and short-term investments relative to total assets (Martin 1996; Duchin, Ozbas, and Sensoy 2010; Disatnik, Duchin, and Schmidt 2014) and a free cash flow proxy (Jensen 1986; Harford 1999; Harford, Mansi, and Maxwell 2008; Karampatsas, Petmezas, and Travlos 2014; Zhang 2016; Yang, Guariglia, and Guo 2019). Additionally, we control for the acquiring firm's debt capacity by using leverage (Chaney, Lovata, and Philipich 1991; Faccio and Masulis 2005) and collateral in form of tangible assets scaled by total assets (Ambrose and Megginson 1992). We calculate Tobin's Q or book-to-market ratio to proxy for overvaluation and growth opportunities (Martin 1996; Shleifer and Vishny 2003; Rhodes-Kropf and Viswanathan 2004). The target's public status should affect the payment decision because the acquirer's shareholders may fear concentrated ownership of private targets that might create a control-challenging blockholder position in the combined firm (Harris and Raviv 1990; Faccio and Masulis 2005). We further control for different measures of acquirer and target size, as well as characteristics of the deal, such as cross-industry deals, cross-FX deals, or deals that involve toehold bidding (Betton, Eckbo, and Thorburn 2008a). Finally, we account for national regulatory quality differences (Huang, Officer, and Powell 2016).

Table 4: Determinants of the Decision on the Payment Method

The table shows the results of the logistic regression analysing the determinants of the decision on the payment method in an M&A transaction. The dependent variable is a dummy variable that takes the value of one if an acquisition is paid for fully or partly in shares, and zero for cash-only payments. We regress the stock-based payment dummy on the main hedging and hedge accounting variables of interest (Deriv, Deriv_imp, HA, IAS39 and IFRS9), as well as controls for acquirer characteristics (size, leverage, liquidity, Tobin's Q, tangible assets, book-to-market ratio, profitability, regulatory quality index), deal characteristics (target public status, toeholds, cross-FX deals, cross-industry deals, relative size) and year and industry fixed effects. All variables are defined in Appendix A. Robust standard errors are clustered at the firm level. t-statistics are presented in parentheses. *, **, *** indicate statistical significance at the 10%, 5% and 1% levels, respectively.

	(1) Stock-based Payment	(2) Stock-based Payment	(3) Stock-based Payment	(4) Stock-based Payment
Deriv_imp	-0.233		-0.220	-0.203
	(-0.98)		(-0.83)	(-0.79)
Deriv		0.777		
		(0.79)		
HA		-1.922***	-1.661***	
		(-2.87)	(-3.19)	
IAS39				-1.457***
				(-2.78)
IFRS9				-2.443***
				(-3.00)
Constant	-7.754	-9.907**	-9.956**	-10.930**
	(-1.44)	(-2.11)	(-2.05)	(-2.20)
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Firm Controls	Yes	Yes	Yes	Yes
Deal Controls	Yes	Yes	Yes	Yes
Observations	487	487	487	487
Pseudo R^2	0.283	0.319	0.319	0.324

Column 1 of Table 4 shows the results of the logistic regression analysis in which only the derivatives importance indicator is included. For our sample, derivative usage alone is not significantly related to the decision on the payment method. This result is robust to using a derivative usage dummy instead of our indicator, but is inconsistent with Alexandridis, Chen, and Zeng (2021). However, when we include hedge accounting and its required disclosures in the model, financial risk management becomes significant to the payment method decision.

Columns 2 and 3 show the regression results when *HA*, a dummy variable representing the application of hedge accounting, is included. Regardless of how derivative usage is controlled for, we find a significant and negative coefficient for *HA*, which indicates that acquirers using hedge accounting tend to make cash-only rather than stock-based payments in M&A transactions. This supports our first hypothesis and aligns with the idea that hedge accounting results in greater transparency and enhanced financial flexibility for the acquirer.

Next, we investigate whether there is a difference between IAS 39 users and users of its successor standard, IFRS 9, in terms of the acquirer's decision on the payment method. Column 4 shows that hedge accounting under both IAS 39 and IFRS 9 is associated with a higher likelihood of cash-based payments. The effect is even stronger for IFRS 9, suggesting that its introduction may have further improved the information environment of adopting acquirers.

To mitigate possible endogeneity concerns regarding the relationship between the use of hedge accounting and the payment method in M&A transactions, we conduct a robustness test involving a propensity score match of firms using hedge accounting (the treatment) with a control group of non-users. The treatment effect is calculated as the average difference between the observed and the expected outcome for each acquirer and allows to control for

the issue that the decision to use hedge accounting may not be random. We use a logit model to calculate propensity scores for hedge accounting application based on acquirer size, tangible assets, the book to market ratio and profitability as well as the acquirer country's regulatory quality index. We match each treated observation with its 5 nearest neighbours based on the calculated propensity scores. In alternative specifications of the robustness test, use inverse-probability weighting and an inverse-probability weighting regression adjustment instead of propensity score matching, and we account for covariate balance and overlap and conduct an overidentifying restriction test, as suggested by Imai and Ratkovic (2014). Table B.1 in Appendix B shows that we find a negative and significant treatment effect that supports the results of our main analysis. Table B.2 shows respective summary statistics on covariate balances. Overidentification tests for inverse-probability weighting and inverse-probability weighted regression adjustment indicate balanced covariates.[5]

5.2 Hedge Accounting and Acquirer Announcement Returns

Table 5 shows the results of the regression analyses of the effects of hedge accounting on three-day [-1;1] acquirer CAR. As column 1 shows, hedge accounting alone does not seem to be related to acquirer CAR. Similarly, the results shown in columns 2 and 3 indicate that overvaluation (as measured by Tobin's Q) has a negative impact on acquirer CAR, but the use of hedge accounting does not significantly alter this relationship, which is inconsistent with Hypothesis 2.[6]

[5] The overidentification test yields a χ^2 value of 2.38 and a p-value of 0.88.

[6] As column 3 shows, there seems to be a small interaction effect between hedge accounting and overvaluation if we distinguish between frequent acquirers and acquirers that have not announced an M&A transaction in the past 24 months. However, this effect is statistically significant only at the 10% level.

Table 5: Linear Regression Results on Acquirer CAR

The table shows the results of the regression analyses of the effects of hedge accounting on acquirer CAR [-1;1]. CAR are regressed on the main hedging and hedge accounting variables of interest (Deriv, Deriv_imp, HA and CFH-FX), as well as controls for acquirer characteristics (size, leverage, liquidity, Tobin's Q, tangible assets, profitability, regulatory quality index), deal characteristics (payment method, target public status, toeholds, cross-FX deals, cross-industry deals, relative size) and fixed effects. All variables are defined in Appendix A. Robust standard errors are clustered at the firm level. t-statistics are presented in parentheses. *, **, *** indicate statistical significance at the 10%, 5% and 1% levels, respectively.

	(1) CAR [-1;1]	(2) CAR [-1;1]	(3) CAR [-1;1]	(4) CAR [-1;1]
Deriv	0.002	-0.004	-0.003	0.005
	(0.15)	(-0.28)	(-0.20)	(0.52)
Deriv_imp	0.001	0.001	0.001	0.001
	(0.22)	(0.28)	(0.21)	(0.33)
HA	0.006	-0.003	-0.003	
	(0.85)	(-0.33)	(-0.36)	
Cross-FX	0.001	-0.001	-0.001	0.016**
	(0.20)	(-0.08)	(-0.00)	(2.04)
Tobin's Q	-0.007**	-0.011**	-0.011**	-0.008**
	(-2.09)	(-2.43)	(-2.46)	(-2.35)
Tobin's Q * HA		0.006	0.006*	
		(1.65)	(1.67)	
24M Dormant Period			0.004	
			(1.22)	
CFH_FX				0.018***
				(2.85)
CFH_FX * Cross-FX				-0.023**
				(-2.54)
Constant	0.073	0.075	0.075	0.075
	(1.12)	(1.11)	(1.14)	(1.16)
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes
Firm Controls	Yes	Yes	Yes	Yes
Deal Controls	Yes	Yes	Yes	Yes
Observations	487	487	487	487
Adjusted R^2	0.094	0.096	0.099	0.109

Regarding Hypothesis 3, we expect abnormal returns on M&A announcements involving firms with different functional currencies to be mitigated for users of foreign exchange cash flow hedge accounting. Column 4 shows the results of the test of this hypothesis, with the main variables of interest being *Cross-FX* (for differences in functional currencies), *CHF_FX* (for the

use of FX cash flow hedge accounting), and their interaction term, *CFH_FX * Cross-FX*. As expected, we find that cross-FX deals result in higher abnormal returns compared to deals within the same currency for non-users of hedge accounting. Moreover, the use of hedge accounting results in significantly lower CAR, which supports H3. Therefore, we conclude that from an equity investor's perspective, the fact that an acquirer uses FX cash flow hedge accounting may reduce information asymmetries associated with cross-FX M&A deals.

To verify the robustness of our results, we repeat our analysis using different model specifications. Appendix C summarises the regression results based on CAR calculated over a five-day [-2;2] and seven-day [-3;3] event window, respectively. The results confirm the findings from the main analysis over the three-day event window [-1;1]. Furthermore, Appendix D shows the results of the regression analysis based on country-specific benchmark indices instead of the STOXX Europe 600.[7] We find that this change also does not alter our main findings.

[7] We use the AEX, ATX, BEL 20, CAC 40, DAX, FTMIB, FTSE 100, IBEX 35, ISEQ, LUXX, OMXC, OMXH, OMXS, PSI, SMI and WIG as benchmarks for the corresponding countries listed in Table 2.

6. Conclusion

The aim of this study was to examine the impact of hedge accounting under IAS 39 and IFRS 9 in European M&A transactions on the acquirer's payment method choice and abnormal stock market returns. Using a sample of 487 M&A announcements by firms listed in the STOXX Europe 600 index, we found that firms using hedge accounting are significantly less likely to use stock-based payments and instead prefer full cash compensation. This effect is particularly pronounced for firms reporting under IFRS 9 compared to IAS 39. We attribute this preference to the increased transparency and financial flexibility associated with more comprehensive risk management disclosures, which enhance capital availability. Moreover, we found no direct relationship between hedge accounting and abnormal acquirer returns around the M&A announcement date. However, we found that cross-currency M&A transactions generally elicit a more positive market reaction than same-currency deals, and that this positive reaction is significantly mitigated when acquirers use FX cash-flow hedge accounting. We take this as further evidence of an improved information environment for firms that employ hedge accounting, which likely leads to better investor understanding and lower uncertainty about future cash flows.

Overall, our study highlights the role of disclosures on corporate risk management practices in shaping M&A outcomes. By enhancing transparency and reducing information asymmetries, hedge accounting can influence both the structure of M&A deals and the way investors react to them. These findings provide relevant insights for corporate decision-makers, investors, and regulators concerned with financial reporting quality and market efficiency in the context of M&A transactions.

Appendix

Appendix A: Variable descriptions

The table presents the definitions for the variables used in our analysis.

Variables	Description
Panel A: Main variables	
HA	Dummy variable that takes the value of one if the firm uses hedge accounting, and zero otherwise.
IAS39	Dummy variable that takes the value of one if the firm uses hedge accounting under IAS 39, and zero otherwise.
IFRS9	Dummy variable that takes the value of one if the firm uses hedge accounting under IFRS 9, and zero otherwise.
Stock	Dummy variable that takes the value of one if the deal is paid fully in acquiror stock, and zero otherwise
CAR [-1,1]	Cumulative abnormal returns in the symmetric three-day event window around the event.
CAR [-2,2]	Cumulative abnormal returns in the symmetric five-day event window around the event.
CAR [-3, 3]	Cumulative abnormal returns in the symmetric seven -day event window around the event.
Panel B: Other hedging variables	
Deriv	Dummy variable that takes the value of one if the firm has derivatives on its balance sheet, and zero otherwise.
Deriv_imp	Absolute fair value of derivatives divided by total assets.
CFH	Dummy variable that takes the value of one if the firm uses cash flow hedge accounting, and zero otherwise.
CFH_FX	Dummy variable that takes the value of one if the firm uses foreign exchange cash flow hedge accounting, and zero otherwise.
CFH_IR	Dummy variable that takes the value of one if the firm uses interest rate cash flow hedge accounting, and zero otherwise.
CFH_CO	Dummy variable that takes the value of one if the firm uses commodity cash flow hedge accounting, and zero otherwise.
Panel C: Firm control variables	
Profitability	Earnings before interest and tax divided by the difference between total assets and current liabilities.
Tobin's Q	The sum of total debt and market value of equity divided by total assets.
Book to market	Book value of equity divided by market value of equity.
Liquidity	Cash and short-term investments divided by total assets.
Leverage	Total long-term debt divided by total assets.
Firm size	Natural logarithm of total assets.
Tangible assets	Plant, property and equipment divided by total assets.
24M Dormant period	Dummy variable that takes the value of one if a company did not announce an M&A transaction in the last 730 days, and zero otherwise.
Regulatory	Regulatory quality index published by World Bank Group

(Continued on next page)

Variables	Description
Panel D: Deal control variables	
Toehold	Percentage of target shares the acquiror hold before announcement of the deal.
Relative size	Target size (proxied by deal value) divided by acquiror size (proxied by total assets).
Public target	Dummy variable that takes the value of one if the target is publicly listed and zero otherwise.
Cross-FX	Dummy variable that takes the value of one if the acquiror and target firm are located in countries with different functional currencies, and zero otherwise.
Cross-industry	Dummy variable that takes the value of one if the acquiror and target firm belong to different industries, and zero otherwise. Industry classification is determined by TRBC level 1.

Appendix B: Propensity-Score Matching

Table B.1: Propensity-Score Matching Results

The table shows the results on our propensity-score matching model. We model hedge accounting as the treatment that affects a firm's decision on the payment method. We apply a logit model to predict likelihood of the firm using hedge accounting based on acquirer size, tangible assets, book-to-market ratio, profitability and the acquirer country's regulatory quality index. The table reports the average treatment effect (ATE) of the treatment 'hedge accounting' (HA).

Treatment-Effects Estimation			Number of Obs.	487
Estimator:	Propensity-Score Matching		Matches required:	5
Outcome Model:	Matching		Min:	5
Treatment Model:	Logit		Max:	5

Stock	Coefficient	Std. Err.	Z-Statistics	p-Value
ATE:				
HA	-1.122	0.045	-2.70	0.007

Table B.2: Propensity-Score Matching Statistics

The table below reports statistics on the balance of covariates.

Covariate Balance Summary		Raw	Matched
	Number of Obs.:	487	974
	Treated Obs.:	414	487
	Control Obs.:	73	487

Predictor	Standardized differences		Variance Ratio	
	Raw	Matched	Raw	Matched
Size	0.718	1.904	1.234	1.499
Tangible Assets	-0.269	0.048	0.047	0.681
Regulatory	0.238	-0.062	0.826	1.035
Book-to-Market	-0.086	-0.022	0.853	1.155
Profitability	-0.367	0.077	0.354	0.715

Appendix C: Robustness Tests on Acquirer Announcement Returns

The table shows the regression results of our regression from Table 5 for different event windows. We control for acquirer characteristic (size, leverage, liquidity, Tobin's Q, tangible assets, profitability, free cash flows, regulatory quality) and deal characteristic (payment method, target public status, toeholds, cross-FX deals, cross-industry deals, relative size). Robust standard errors are clustered on the firm level. t-statistics are presented in parentheses. *, **, *** indicate statistical significance on the 10%, 5% and 1% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	CAR [-2;2]	CAR [-2;2]	CAR [-2;2]	CAR [-3;3]	CAR [-3;3]	CAR [-3;3]
Deriv	-0.007	-0.012	-0.001	0.001	-0.006	0.005
	(-0.47)	(-0.74)	(-0.05)	(0.01)	(-0.28)	(0.34)
Deriv_imp	0.001	0.001	0.001	-0.001	-0.001	-0.001
	(0.67)	(0.67)	(0.83)	(-0.49)	(-0.54)	(-0.40)
HA	0.010	-0.001		0.008	-0.005	
	(1.14)	(-0.04)		(0.79)	(-0.44)	
Tobin's Q	-0.007*	-0.011**	-0.008*	-0.010**	-0.015***	-0.011**
	(-1.71)	(-2.29)	(-1.93)	(-2.01)	(-2.64)	(-2.19)
Cross-FX	-0.003	-0.004	0.015*	0.004	0.002	0.018*
	(-0.52)	(-0.67)	(1.70)	(0.58)	(0.32)	(1.72)
Tobin's Q *		0.007*			0.009*	
HA		(1.67)			(1.93)	
24M Dormant		0.003			0.008*	
Period		(0.74)			(1.73)	
CFH_FX			0.021***			0.018**
			(2.86)			(2.16)
CFH_F *			-0.027***			-0.021*
Cross-FX			(-2.68)			(-1.88)
Constant	0.029	0.031	0.028	0.014	0.016	0.015
	(0.39)	(0.42)	(0.40)	(0.16)	(0.19)	(0.18)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes
Deal Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	487	487	487	487	487	487
Adjusted R^2	0.085	0.088	0.100	0.064	0.073	0.071

Appendix D: Robustness Tests on Acquirer Announcement Returns

The table shows the regression results of our regression from Table 5 for country-specific benchmark indices instead of the STOXX Europe 600. Robust standard errors are clustered on the firm level. t-statistics are presented in parentheses. *, **, *** indicate statistical significance on the 10%, 5% and 1% level, respectively.

	(1) CAR [-1;1] local	(2) CAR [-1;1] local	(3) CAR [-1;1] local
Deriv	0.007	0.001	0.009
	(0.44)	(0.06)	(0.77)
Deriv_imp	0.001	0.001	0.001
	(0.38)	(0.38)	(0.49)
HA	0.005	-0.007	
	(0.49)	(-0.76)	
Tobin's Q	-0.007*	-0.012**	-0.008**
	(-1.76)	(-2.19)	(-2.04)
Cross-FX	0.002	0.001	0.017**
	(0.40)	(0.19)	(2.03)
Tobin's Q * HA		0.008*	
		(1.84)	
24M Dormant Period		0.004	
		(1.10)	
CFH_FX			0.018***
			(2.61)
CFH_FX *			-0.023**
Cross-FX			(-2.41)
Constant	0.087	0.089	0.089
	(1.17)	(1.18)	(1.19)
Year FE	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Country FE	Yes	Yes	Yes
Firm Controls	Yes	Yes	Yes
Deal Controls	Yes	Yes	Yes
Observations	478	478	478
Adjusted R^2	0.088	0.094	0.101

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