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Fusing futures: Financial institutions' stock price response to fintech acquisitions

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ABSTRACT

Traditional financial institutions are increasingly engaging in mergers and acquisitions ('M&As') with financial technology ('fintech') firms. Utilizing signaling theory, we argue that investors perceive an acquirer's first fintech deal as a signal of commitment to a digitalized future. Our findings, based on 1681 fintech and nonfintech M&A deals, reveal that acquirers exhibit a significantly higher abnormal return for fintech deals than for nonfintech deals. This difference stems primarily from an acquirer's first fintech deal. We rule out several alternative explanations, such as CEOs' communication efforts to promote these deals. Consequently, a signaling effect seems likely.

1. Introduction

Financial institutions face rapid technological advancements alongside the widespread adoption of mobile devices. This has gradually diminished the relevance of traditional financial services offerings. To keep pace with these developments and to maintain a competitive edge, financial institutions have undertaken mergers and acquisitions ('M&As') with financial technology (hereafter referred to as 'fintech') firms. To study how investors value these transactions, we analyze the stock price responses of US financial institutions ('acquirers') rumored to acquire or merge with a company ('target'). We argue that fintech deals provoke a stronger stock price response than nonfintech deals because fintech deals may enhance an acquirer's growth trajectory and productivity more effectively in the ongoing process of digitalization than nonfintech M&A deals. We distinguish between fintech and nonfintech deals by applying a word list covering terms related to recent digitalization efforts on the deal description. These descriptions often include direct quotes from chief executive officers (CEOs) or high-level executives regarding the rationale for the specific deal or summarize insights from newspaper articles and press releases. Based on our analysis of 1681 deals, we find that fintech M&As are associated with a significantly higher stock price response than nonfintech deals.

While there is a substantial body of empirical literature on financial institutions' M&A deals (e.g., [Campa and Hernando \(2006\)](#); [DeYoung et al. \(2009\)](#); [Asimakopoulos and Athanasoglou \(2013\)](#); [Leledakis and Pyrgiotakis \(2022\)](#); [Tampakoudis et al. \(2022\)](#)), few recent studies investigate fintech M&A deals and find positive announcement returns for financial acquirers ([Dranev et al. \(2019\)](#)) and negative announcement returns for banks ([Zheng and Mao \(2022\)](#); [Collevocchio et al. \(2023\)](#)). The specialization of the fintech target moderates announcement returns ([Cappa et al. \(2022\)](#)). These studies have in common that they solely focus on fintech deals. Our study contributes to this part of the literature by comparing financial institutions' stock price responses to the announcement of fintech deals with those of nonfintech deals. Using both types of deals allows us to control for the effect of M&A waves, which have been shown to affect the stock price response ([Goel and Thakor \(2009\)](#)).

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We use signaling theory (Spence (1973)) to develop an argument that prompts us to differentiate between first and subsequent (later) fintech deals. A major uncertainty from an investor's perspective is how and when traditional financial institutions respond to emerging competition from fintech firms. Hence, investors may see an acquirer's first fintech deal as a pivotal moment toward committing to a more digitalized supply of financial services. Thus, if investors interpret the first deal as a signal that a traditional financial institution is actively responding to heightened competition from fintech firms, differentiating between the first and subsequent fintech deals is very important. We find evidence in line with this conjecture.

In Section 4 below, after discussing our data and methodology in Section 3, we show that the first fintech deal has a 1.4 percentage point higher abnormal return, while the one of later fintech deals does not significantly differ from the one of nonfintech deals. To the best of our knowledge, this is the first study to compare stock price responses of first fintech deals with other fintech and nonfintech deals. We expect this distinction to also hold significance in other contexts because investors may interpret first transactions but not later transactions as a signal toward a particular (strategic) change. For instance, investors might interpret the first acquisition of a firm in a foreign country as a credible signal toward geographical expansion, or investors might interpret the first acquisition of a sustainable target by a previously unsustainable acquirer as a signal toward a new commitment to sustainability in the future.

2. Hypothesis development

In informationally efficient financial markets, investors are expected to rapidly incorporate new value-relevant information into stock prices (Fama (1970)). If investors are convinced that an announced M&A deal will result in revenue synergies and cost reductions, the acquirer's stock price will increase. Conversely, if investors are convinced that an announced deal is marred by management misbehavior and behavioral biases, such as empire building and CEO overconfidence (Malmendier and Tate (2008)), where acquirers are more likely to overpay for targets, the acquirer's stock price will decline. If investors perceive a deal as risky due to integration complexities, clashes in organizational cultures, and regulatory obstacles, stock price responses will be less positive or even more negative.

In the context of the ongoing digitalization process, fintech deals might hold even greater relevance for the future value of a financial institution than nonfintech deals because the former may enhance the acquirer's growth path and productivity more than the latter. The rationale for this is multifaceted. Fintech deals may enable acquirers to diversify their services and enter new markets, which can lead to an increase in revenue potential and profitability. Furthermore, fintech firms offer innovative and user-friendly financial services that may enhance customer satisfaction and loyalty, thereby contributing to the acquirer's future growth. Finally, the synergies resulting from combining the experience and expertise of traditional financial institutions with the innovative and technological capabilities of fintech firms may result in a more efficient and productive organization. By actively pursuing and ultimately successfully completing such a transaction, the acquirer demonstrates its willingness to adapt and embrace technological advancements in its financial services. Investors likely perceive such a deal as showcasing the institution's commitment to innovation, growth, and staying ahead of the curve in an increasingly digital landscape. Given this overall positive view of fintech deals, we also want to acknowledge specific risks associated with fintech firms, such as potential cybersecurity vulnerabilities, regulatory compliance concerns, or the risk of disrupting the innovation that made the fintech target attractive in the first place. If these risks are not too high, we anticipate

Hypothesis 1. The stock price of the acquirer increases more when the target is a fintech firm than when it is a nonfintech firm

In times where traditionally operating financial institutions see themselves faced with innovative competition from fintech firms¹ that may ultimately make their service offerings obsolete, investors may more often rely on signaling theory (Spence (1973)). This is because management knows more about the firm's future prospects than investors, who have to determine their estimate of the firm value from available public information. Consequently, investors may interpret the first fintech deal of an acquirer as the starting point for incorporating fintech innovation into firm services.² Additionally, investors might perceive this first deal involving a fintech target as a particularly bold and visionary move, highlighting the institution's proactive stance in leveraging emerging technologies to drive future business success. When investors interpret the first fintech deal as such a signal, they will not only buy stocks because of the synergies the deal creates but also because of the anticipated future growth prospects for the firm. Subsequent fintech M&A deals may show stock price responses in line with nonfintech M&A deals. Our second hypothesis reads as

Hypothesis 2. The stock price of the acquirer increases more for the first fintech deal than for subsequent deals

3. Research design

3.1. Sample

Our sample comes from Zephyr, a database that provides in-depth descriptions of M&A deals. A deal is included in our sample when it meets two criteria. First, the deal must have been completed or assumed to be completed between January 1, 2006 and

¹ Thakor (2020) offers an overview of the fintech space and its effect on lending, money creation, investment management, and insurance.

² A similar signal could be banks' investments into fintech startups. However, Carlini et al. (2022) find insignificant effects in the short run. This might be because of the small deal amounts associated with startup investments. Carlini et al. (2022) report an average deal amount of EUR 81.2 thousands, while our average deal amount is USD 437,081.9 thousands.

Table 1
Deal breakdown.

Year	#deals	#with prices	#acquirers	#ft-deals	#first-ft-deals
2006	234	166	64	5	4
2007	197	143	48	7	4
2008	91	68	17	3	1
2009	122	75	20	0	0
2010	125	82	21	1	1
2011	166	103	27	5	1
2012	136	91	22	2	1
2013	169	115	32	4	4
2014	211	146	36	6	4
2015	190	131	40	10	8
2016	152	108	29	5	5
2017	157	115	39	4	3
2018	121	91	17	9	2
2019	129	98	25	10	4
2020	47	34	11	6	2
2021	106	93	29	10	3
2022	30	22	6	8	4
Total	2,383	1,681	483	95	51

September 30, 2022 by acquirers falling under Section K — Financial and Insurance Activities (with NACE Rev.2 codes 641 & 642), having a primary address in the United States. Second, the deal description has to contain a minimum of 30 words to ensure a reliable classification of fintech targets. These selection criteria result in a total of 2383 deals (see Table 1).

Unfortunately, not all deals in Zephyr come with the ISINs that are needed for retrieving stock prices. To address this, we employ two approaches. First, in cases where an unlisted subsidiary of a listed parent company acquires a target, we use either the immediate or ultimate parent ISIN provided in Zephyr. Second, we conduct string matching of the names provided in Zephyr against a list of US financial institutions from EIKON. If we find a perfect name match or if it is deemed accurate after manual inspection, we use the ISIN from EIKON.³ After applying the two approaches, we have a total of 1681 deals from 483 acquirers (Table 1).

We define a deal as a fintech deal if the deal description contains at least one word from the following list: “ANALYTIC”, “DIGITAL”, “SOFTWARE”, “ONLINE”, “TELECOMMU”, “INNOVATIVE”, “INNOVATION”, “FINTEC”, “INTERNET”, “E-COMMERCE”. This approach shares similarities with the methodology employed by Collevocchio et al. (2023),⁴ who use the target’s business description to determine fintech status. Other studies (e.g., Dranev et al. (2019); Cappa et al. (2022)) utilize target SIC codes or other industry classification schemes. Our approach also captures fintech firms that are attributed an SIC code that does not easily identify them as being fintech firms, yet brings fintech-like innovations to the table. Out of the 1681 deals, we have 95 fintech deals (ft-deals in Table 1). Furthermore, we define a deal as a first fintech deal if, in the seven years preceding the deal, there is no record of the acquirer engaging in another fintech deal.⁵ Fifty-one deals are classified as first fintech deals (first-ft-deals in Table 1).

3.2. Event study

We adopt an event study approach to assess the influence of M&A deals on the acquirer’s stock price. The event of interest is the date on which a rumor regarding an M&A deal is initially documented or the succeeding business day. Predicted returns are calculated utilizing the following model:

$$R_{i,t} = \alpha_i + \beta_i * R_{S\&P,t} + \epsilon_{i,t} \quad (1)$$

where $R_{i,t}$ is the return of acquirer i on calendar day t , $R_{S\&P,t}$ is the return of the S&P 500 total return index, and α_i , and β_i are the parameters of the model to be estimated for each deal d . We use stock-split and dividend-adjusted stock prices retrieved from Datastream and an estimation window that starts one year before the event. Subsequently, we employ the estimation window parameters $\hat{\alpha}_i$ and $\hat{\beta}_i$ to calculate the abnormal returns in the event window for each deal d :

$$AR_{i,d,\tau} = R_{i,\tau} - (\hat{\alpha}_{i,d} + \hat{\beta}_{i,d} * R_{S\&P,\tau}) \quad (2)$$

where $AR_{i,d,\tau}$ is the abnormal return of deal d of acquirer i on event day τ . τ equals zero on the rumor day and -1 and $+1$ on the day before and after, respectively. To account for the possibility that stock prices might respond before the rumor date or that they

³ For instance, we match “FIRST FINANCIAL BANCSHARES” with “FIRST FINANCIAL BANKSHARES” and “1ST CONSTITUTION BANK” with “1ST CONSTITUTION BANCORP”.

⁴ In an Online Appendix, we also apply the word list by Collevocchio et al. (2023) to our deal description and document that our definition of fintech is broader.

⁵ We go back to as early as 1999 in Zephyr to check whether an acquirer was involved in a fintech takeover.

Table 2
Event study tests.

Event window	All deals (#1,681)			Nonfintech deals (#1,586)			Fintech deals (#95)		
	CAAR	KP	GRANK	CAAR	KP	GRANK	CAAR	KP	GRANK
[-3 : 3]	0.20%		**	0.17%		**	0.68%		
[-1 : 1]	0.17%			0.14%			0.71%		***

** Indicate statistical significance at the 5% level.

*** Indicate statistical significance at the 1% level.

Table 3
Cross-sectional results.

	(1)	(2)	(3)	(4)
fintech	0.008*	0.008*		
	(0.004)	(0.005)		
fintech_first			0.014***	0.013***
			(0.005)	(0.005)
fintech_later			-0.002	-0.004
			(0.008)	(0.008)
Equality tests (p value)				
fintech_first vs fintech_later			0.057	0.057
Observations	1,681	1,571	1,681	1,571
Controls	No	Yes	No	Yes
Year FE	Yes	Yes	Yes	Yes
adj R2	0.008	0.016	0.009	0.017

Note: The dependent variable is CAR[-1:1]. Standard errors are clustered at the acquirer level.

* Indicate statistical significance at the 10% level.

*** Indicate statistical significance at the 1% level.

may respond sluggishly, we sum abnormal returns over various event windows from day τ_1 to τ_2 for each acquirer and event to obtain the cumulative abnormal return (CAR) of deal d .

$$CAR_{i,d}[\tau_1 : \tau_2] = \sum_{\tau_1}^{\tau_2} AR_{i,d,\tau} \tag{3}$$

We average (by dividing by the number of deals N considered in the sum) over all CARs of a certain event window to obtain cumulative average abnormal returns (CAARs):

$$CAAR[\tau_1 : \tau_2] = \frac{1}{N} * \sum_{i,d} CAR_{i,d}[\tau_1 : \tau_2] \tag{4}$$

To test the CAAR's statistical significance, we report the test by [Kolari and Pynnönen \(2010\)](#) (KP) because M&A deals occur in waves, leading to returns being clustered in time. As a nonparametric alternative, we use the generalized rank test by [Kolari and Pynnönen \(2011\)](#) (GRANK).

4. Results

In [Table 2](#), all CAARs lack significance according to the KP test, while some of them are significant according to the GRANK test. The differences between the CAARs are worth mentioning. The nonfintech deals have a CAAR[-1:1] of 0.14%, and the respective CAAR of fintech deals is 0.71%. This might suggest that investors perceive fintech deals more positively.

We test for differences in stock price responses between the two deal types by employing a regression model of the form:

$$CAR_{i,d}[-1 : 1] = \delta_0 + \delta_1 * fintech_{i,d} + \mu_y + v_{i,d} \tag{5}$$

where the dependent variable is the 3-day CAR for acquirer i and deal d ,⁶ $fintech$ is a dummy variable for whether the deal is a fintech deal (=1) or not (=0), and μ_y denotes year dummies that capture the effects of merger waves.

The results are depicted in [Table 3](#). We find that fintech deals have, on average, 0.8 percentage points (PP) higher CARs than nonfintech deals (column 1). This effect is significant. The positive difference between the two deal types exists regardless of whether we include additional controls (column 2). As controls, we consider the acquirer's return on assets and the market-to-book ratio from Worldscope and the deal value and deal payment type from Zephyr. Overall, these findings support our first hypothesis.

⁶ We winsorize CARs on the 0.5% level on both sides.

To test hypothesis 2, we replace the fintech variable with two dummy variables capturing the first fintech deal (*fintech_first*) and later fintech deals (*fintech_later*) of an acquirer. The results of column (3) show that the positive, significant CAR remains for the first fintech deal of an acquirer (+1.4 PP) when compared to nonfintech deals. This result also holds after including controls (+1.3 PP, column 4). The difference between first fintech deals and later fintech deals is significant, as the result from the equality test in the table indicates. Later fintech deals do not exhibit significant CARs. This supports our second hypothesis.

The positive effect of the first fintech deal is in line with our argument based on signaling theory, but several alternative channels exist that could lead to the same pattern in abnormal returns. In the Online Appendix of this study, we test several of these channels, such as the size of the deal, whether or not the CEO talks about the deal, the intensity of deal communication to proxy for attention grabbing, and a possible digital hype. In none of our robustness tests do we find evidence that stands in contrast to our interpretation of the first fintech deals' announcement return as a signaling effect.

5. Conclusion

We study the stock price response of US financial institutions to the announcement of M&A deals to see whether fintech deals outperform nonfintech deals. We find that fintech deals result in a CAAR of 0.71%, while nonfintech deals result in a CAAR of 0.14%. Subsequent cross-sectional tests show that this difference is significant. Moreover, we present evidence that this response is driven by the first fintech deal. We interpret this result through the lens of signaling theory. Investors interpret an acquirer's first involvement in the fintech space as a positive signal for the future success of the firm. To rule out alternative value-relevant channels, we conduct a number of robustness tests. The results of these tests indicate that neither one of the considered alternative explanations is at play, which lends further support to our interpretation.

CRedit authorship contribution statement

Michael Kueschnig: Data curation, Writing, Investigation. **Andrea Schertler:** Conceptualization, Methodology, Writing, Investigation, Supervision.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The authors do not have permission to share data.

Declaration of Generative AI and AI-assisted technologies in the writing process

During the preparation of this work the authors used Digital Editing by American Journal Experts in order to check grammar and spelling. After using this tool, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

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Appendix A. Supplementary data

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