The Disruptive Effect of Failed Acquisition Attempts

Borja Larrain, Augusto Orellana, and Giorgo Sertsios*

August 28, 2025

Abstract

We study the causal effect of failed acquisition attempts on the likelihood of acquiring other firms to shed new light on the drivers of M&A activity. Our empirical design compares U.S.-listed firms after failed and completed international attempts. Attempts fail more often when the local currency depreciates shortly after the deal is announced. Firms that fail (for this arguably exogenous reason) are less likely to complete other acquisitions, particularly domestic and downstream. Our findings are consistent with failed attempts disrupting the access to new investment opportunities, supporting profit maximization as the main driver of acquisitions.

Keywords: M&As, cross-border M&As, instrumental variables.
JEL Codes: G32, G34

*We thank comments and suggestions from Kenneth Ahern, Davidson Heath, Kristoph Kleiner (discussant), Antonio Macias, Shawn Thomas, and seminar participants at the University of Piraeus, the University of Wisconsin Milwaukee, and the 19th Finance UC International Conference. Larrain: Escuela de Administración, Pontificia Universidad Católica de Chile; borja.larrain@uc.cl. Orellana: Escuela de Administración, Pontificia Universidad Católica de Chile; augusto.orellana@uc.cl. Sertsios: Lubar College of Business, University of Wisconsin Milwaukee; sertsios@uwm.edu. Copyright ©2025 by Borja Larrain, Augusto Orellana, and Giorgo Sertsios. All rights reserved.

1 Introduction

Firms engage in mergers and acquisitions (M&As) for multiple reasons, including efficiency gains, expansion into new markets, ensuring the provision of specific inputs, acquiring new technologies, or preventing competition from rivals (see Andrade, Mitchell, and Stafford 2001, and Eckbo 2014). Increasing profits may not be the sole motivation behind acquisitions. For instance, Jensen (1986) famously argued that managerial empire building drove the takeover wave of the 1980s. Other frictions, including equity overvaluation, can also impact M&A decisions (Shleifer and Vishny, 2003). Disentangling these motives is difficult, empirically speaking, but of first-order importance to assess the efficiency of resource allocation in the corporate sector.

In this paper we shed new light on the motivations behind M&As by examining how acquirers respond to failed acquisition attempts. These are deals that are announced but ultimately canceled, and they account for nearly 5% of U.S. M&A activity (Boone and Mulherin, 2007). We propose a novel identification strategy to estimate the causal impact of attempt failure on subsequent acquisitions. These follow-on decisions can serve as a window into the acquirer's underlying motives, helping us to distinguish between competing theories of M&A behavior.

To fix ideas, consider that we have a sample of announced deals, or that acquirers have already chosen their desired targets. Now, assume that we can randomly assign failure and success among M&A attempts. There will be "lucky" completed attempts and "unlucky" failed attempts. Under the profit-maximization hypothesis, the failed attempt is a real loss in terms of efficiency gains that do not materialize, or in terms of subsequent investment opportunities to which the firm does not gain access. The failed acquirer should make fewer acquisitions going forward, since it falls behind successful acquirers. Under the empire-building hypothesis, instead, the failed attempt is not a real loss. It only leaves the manager with spare free cash flow, and the still unattained goal of entrenching herself. In this second case, the failed acquirer should make more acquisitions going forward than the successful

acquirer. These contrasting predictions illustrate how different M&A theories imply distinct consequences of failed attempts, making this thought experiment a useful laboratory. Our empirical strategy is basically an implementation of this thought experiment.

In practice, failure and success are not randomly assigned. Failure can cause an impact at the firm, but it can also be correlated with firm characteristics that drive future behavior. For example, low-productivity firms may be more prone to fail an acquisition attempt and, at the same time, acquire fewer firms in the future since potential synergies are low for this type of firm (Maksimovic and Phillips, 2001). Thus, it is challenging to separate the effect of a failed attempt from unobserved characteristics that underlie the failed attempt. In econometrics terms, we need an instrument to identify failed attempts that are due to "bad luck". With a proper instrument we can then compare "unlucky" failed attempts with "lucky" successful attempts to see if failure leads to different outcomes.

We propose an instrumental variables (IV) strategy in the context of international M&As. Cross-border deals represent a significant share of the money involved in M&As, and they have received growing attention in the literature (Ahmad, de Bodt, and Harford, 2021; Erel, Jang, and Weisbach, 2022; Fresard, Hege, and Phillips, 2017). The cross-border setup is useful because it allows us to find a plausible instrument for deal failure, which is not readily available for domestic M&As. Our instrument is the variation in the foreign exchange rate for the target's country in a short window that follows the announcement of the deal. Previous literature shows that long-term foreign exchange rate variation is related to deal volume (Erel, Liao, and Weisbach, 2012). We use a much shorter window of 20 trading days after announcement. Our instrument follows a similar logic as the one used by Bernstein (2015) for completed and failed IPOs, but we exploit short-term foreign exchange rate movements instead of stock market returns. Alternative identification strategies for M&A failure based on anti-trust cases are not satisfactory because the regulatory action also restricts the future M&A activity of the firm (i.e., it violates the exclusion restriction).

We first show that variation in the short-term foreign exchange rate is uncorrelated

with acquirer and deal characteristics, and therefore, that it behaves like a well-balanced instrument. In the first-stage regression, we find that a one-standard-deviation increase in the foreign exchange rate (a depreciation of the local currency) leads to a 1.5 percentage points increase in the failure rate, i.e., it increases the failure rate by one quarter of the unconditional rate of 6% in our sample. Our explanation for this effect is that there are frictions in renegotiation, and in particular that it is harder to adjust the bid downwards when the target losses value. The first-stage F-statistics are above the weak-instruments threshold in all specifications.

In the second stage of the IV setup we find a strong and negative relationship between failed attempts and future acquisitions. Our estimate implies that firms with failed attempts reduce their acquisition rate to basically zero in the next year. The result is consistent with a model in which the profit motive drives M&A strategy. Failed attempts have a negative effect on future M&As because the firm is unable to achieve efficiency gains, which would make the firm a better acquirer, or access new investment opportunities. The evidence is less consistent with standard frictions studied in the M&A literature such as agency problems.

The exclusion restriction of the IV setup means that foreign exchange rate variation in the 20-day window does not impact future outcomes other than through deal failure. This is a plausible assumption since, among other reasons, the outcomes we study refer to the U.S. acquirer, and not to the international target. We show that the power of the instrument comes from idiosyncratic movements in the local currency and not from a generalized appreciation or depreciation of the dollar around the world, which could imply that the entire opportunity set of the acquirer is changing.

We perform a pseudo-placebo test that supports the validity of the exclusion restriction. First, we show that short-term foreign exchange rate variation *after* the deal has closed is unrelated to the likelihood of failure. We then find that this post-closing variation in the foreign exchange rate also has no impact on the acquirer's future acquisitions. This serves as a placebo test because, if short-run exchange rate variation says something about the

acquirer other than through deal failure (e.g., if the exchange rate variation is related to the overall strategy of the acquirer), then it is not clear why the signal should be different right after the deal's announcement than right after the deal's closing. The explanation left is that the foreign exchange rate only has impact when it goes through the likelihood of failure (the first-stage relationship).

To further discriminate among M&A theories, we study the effect of failure on different types of future acquisitions. We find an increase in the likelihood of acquisitions in the same geographical region and industry, suggesting that failed acquirers insist with similar targets. The overall negative effect of failure on M&A activity can be explained because the relative frequency of such deals is low (e.g., it is hard to find targets in narrow niches). In contrast, domestic acquisitions are more frequent deals, and we find a strong reduction in the likelihood of domestic deals after international failures. This effect across different contexts –international and domestic– suggests that the effects are not due to learning or experience. We also find that downstream acquisitions are less likely after failures, consistent with the disruption of a growth strategy toward end-consumers.

The theoretical prediction for the effect of failed attempts on the long-run returns of acquirers is, in principle, ambiguous. For example, Hackbarth and Morellec (2008) show that acquirers can experience an increase or decrease in risk depending on the relative CAPM beta of the target and the acquirer. We find a negative but insignificant impact of failed acquisitions attempts on the acquirer's long-term cumulative abnormal returns. These findings suggest that acquisitions do not clearly change the acquirer's risk.

Finally, we examine the effects of failed attempts on the future acquisitions of competitors, i.e., other U.S. listed firms in the same industry. The competitive pressure on rivals seems to ease with failed deals: the acquisition rate of rivals falls in the years after a failure. This evidence is in line with defensive acquisitions or "eat-or-be-eaten" type of behavior (Gorton, Kahl, and Rosen, 2009).

Our main contribution is to estimate the *causal* effect of acquisitions on the acquirer.

Most of the literature studies selection effects in the M&A process. More productive firms (Maksimovic and Phillips, 2001), high-Q firms (Jovanovic and Rousseau, 2002), or firms in particular stages of their life cycle (Arikan and Stulz, 2016), are more likely to acquire other firms.[1] Complementary firms tend to merge (Rhodes-Kropf and Robinson, 2008). In terms of agency frictions, CEOs with empire-building preferences (Jensen, 1986), or with overconfidence (Malmendier and Tate, 2008), pursue more acquisitions. In models with inefficient capital markets, firms with overvalued stock are more likely to acquire other firms (Shleifer and Vishny, 2003). In all of these cases, acquisitions are the product of other underlying forces. By identifying exogenous variation in failed attempts, we can estimate the causal impact of acquisitions themselves on the future M&A strategy of the firm.

The literature typically studies the value creation of acquisitions by estimating the market reaction at the announcement (see Fuller, Netter, and Stegemoller 2002, Fee and Thomas 2004, Mulherin, Netter, and Poulsen 2017, and Renneboog and Vansteenkiste 2019), or long-run post-acquisition returns (Loughran and Vijh, 1997).[2] We contribute by focusing on *real effects* for the acquirer, and in particular on future acquisitions, which can better reflect marginal investment decisions. Many firm outcomes, such as profitability or Tobin's Q, instead showcase the average result of past investment decisions. Other authors study the real effects of M&As, but in general for the target firm (e.g., Seru 2014, Bai, Jin, and Serfling 2022, Macchiavello and Morjaria 2022). Our test for acquirers provides new insights into standard M&A theories, which have been difficult to disentangle empirically.

Identifying the causal impact of acquisitions is also relevant for understanding other dimensions of M&A activity. First, our results imply that M&A activity is path-dependent, which is relevant for equilibrium models where acquirers search for targets or are matched with targets (e.g., Rhodes-Kropf and Robinson 2008, and Levine 2017). Second, the disruptive effect of failure (and the continuation of success) can serve as amplification mechanism for

[1] Various other papers study asset sales and acquisitions as a process driven by profit maximization, e.g., Eisfeldt and Rampini (2006), Warusawitharana (2008), and Levine (2017).

[2] Poor announcement returns for U.S. acquirers are concentrated on deals with listed targets. Announcement returns are not so clear cut in cross-border deals (Erel, Jang, and Weisbach, 2022).

primitive shocks, and therefore provide a rationale for merger waves (see Andrade, Mitchell, and Stafford 2001, Harford 2005, Rhodes-Kropf, Robinson, and Viswanathan 2005, Ahern and Harford 2014, Xu 2017, and Ahmad, de Bodt, and Harford 2021). An initial shock produces a burst of new deals, because more opportunities unfold for successful acquirers. Merger activity then dies off once failures appear, since failure disrupts the opportunity set of many firms. Third, our results can also help explain why some firms become frequent or "serial" acquirers and others never do (Fuller, Netter, and Stegemoller, 2002). The complementarity between acquisitions has a compounding effect for firms that start acquiring other firms. Fourth, our results on the effects of failed attempts on other firms in the industry is important to quantify the response function of rivals, and thus the competitive effects of M&A activity. Our focus on rivals' acquisitions can significantly add to the literature, which has been mostly about the consequences of acquisitions on rivals' returns but not on their real decisions (see Eckbo 1983, and Anton, Azar, Gine, and Lin 2022).

Lastly, our results on long-run post-M&A returns contribute to the empirical literature by advancing a new identification strategy. Selection has always been an issue when comparing the long-run returns of failed and successful acquirers. Malmendier, Moretti, and Peters (2018) attempt to partly solve the identification challenge by comparing failed and successful acquirers in close biding contests. Savor and Lu (2009) use an identification strategy that emphasizes regulatory actions among other causes for failure. While our main focus is on real outcomes, the absence of significant effects on long-run returns is consistent with the idea that acquisitions have an ambiguous effect on firm risk.

One caveat to our setup is that it relies on international attempts for clean identification. The identification strategy requires meaningful variation in the value of targets that does not spill over directly to the acquirer. This requirement is hard to meet with domestic acquisitions, since in that case both the acquirer and the target operate in the same market. Cross-border deals are increasingly important in the global M&A market and in the literature (Erel, Jang, and Weisbach, 2022), so the setup is not just instrumental for identification

purposes, but also relevant in and of itself. Still, it is worth noting that our empirical design faces the classic trade-off between identification and external validity (Angrist and Pischke, 2010).

The rest of the paper is organized as follows. Section 2 develops the hypotheses in the context of attempt failures. Section 3 describes the data on international M&A attempts. Section 4 explains the empirical design of our tests. Section 5 presents the main results for the effect of failed attempts on future acquisitions. Section 6 shows additional results, and section 7 concludes.

2 Hypotheses Development

Assume that we have a sample of announced acquisition attempts, so acquirers have already chosen their respective targets. In other words, selection effects that explain why some firms decide to acquire others have already taken place. Now assume that we can randomly assign failure and success among these M&A attempts. There will be "lucky" completed attempts and "unlucky" failed attempts. We study the reaction of acquirers to such "luck". This thought experiment has the potential to reveal key mechanisms that drive M&A activity. We first describe how acquirers react in a neoclassical benchmark and then under different frictions. We develop predictions from the main theories in the M&A literature, but we do not provide an exhaustive list of all possible theories. Moreover, the alternative scenarios are not mutually exclusive.

We focus on the impact of failed (vs. successful) attempts on future acquisitions, and secondarily on long-run stock returns. The advantage of focusing on outcomes such as M&A transactions is that they can better reflect marginal investment decisions. Other outcome variables, such as profitability or Tobin's Q, reflect the average of assets-in-place and the new investment. Similarly, post-acquisition variables for the mix of the acquirer and the target can contain mechanical effects (e.g., average profitability goes down in the short run

if a high-profitability acquirer buys a low-profitability target). Announcement effects (e.g., CARs) predate our experiment, so they are outside the scope of our study.

2.1 Neoclassical benchmark

Under the neoclassical hypothesis, firms are profit maximizers that look for gains (e.g., synergies) through acquisitions (Maksimovic and Phillips, 2001). Failed attempts are lost opportunities, while completed acquisitions allow acquirers to lock-in gains. Successful acquirers are in a better position to acquire other firms in the future since they become more productive. A related possibility is that the gains of the acquisition manifest as new investment opportunities. If acquisition opportunities appear in sequence, the firm cannot proceed to the next stage without the successful completion of the previous stage. A failed attempt closes doors. In any case, under the neoclassical hypothesis, failed attempts predict fewer future acquisitions in comparison to successful attempts.

Long-run average returns, after the market has incorporated the result of the attempt into prices, are not necessarily different following failure or success. When markets are efficient long-run returns vary only if there is a change in risk. However, it is not clear if, on average, risk increases or decreases with acquisitions. Hackbarth and Morellec (2008) show that the acquirer can experience an increase or decrease in risk depending on the relative CAPM beta of the acquirer and target. The effect on long-run returns is, therefore, ambiguous.

2.2 Learning and experience

The M&A process requires specific knowledge, for instance, about strategies in the bidding process, valuation risks, legal considerations, and others (Aktas, de Bodt, and Roll, 2013). Firms can learn by successfully completing acquisitions. Many firms have specialized M&A teams that collect and preserve this know-how through time (Aktas and Boone, 2024). A failed attempt prevents the firm from acquiring this knowledge, at least in part. Therefore, under the learning hypothesis, failure predicts a reduction of future acquisitions. A related

behavioral hypothesis is that firms and executives want to avoid repeating "bad" experiences, such as an attempt failure (Malmendier, 2021).[3] Under the experience hypothesis, failure also reduces future acquisitions because acquirers are discouraged from trying again. Learning and experience are both specific to their context. For example, if failure refers to an international acquisition, then the knowledge that firms fail to learn or the bad experience that firms want to avoid in the future also refers to international acquisitions.

2.3 Agency problems

Since Jensen (1986), managerial empire building has been a concern in the M&A literature. Managers with too much free cash flow acquire other firms to increase the size of companies, and entrench themselves. Under the agency hypothesis, failed attempts are likely to accelerate future acquisitions to compensate for the recently lost target. Empire builders want to quickly expand the organization under their control because they do not feel that their position is sufficiently secured unless the company grows. This is particularly true if there is more free cash flow to spare, which is almost by definition the case after failed attempts. Successful acquirers, instead, are already more entrenched and have less free cash flow at their disposal.[4]

2.4 Overvaluation

Overvaluation in stock markets can be the driver of acquisition attempts (see Shleifer and Vishny 2003, and Rhodes-Kropf, Robinson, and Viswanathan 2005). A failed attempt should push the firm to quickly try again so the firm does not miss the window of opportunity. Failed acquirers have other targets at their disposal that promise returns over the acquirer's

[3]For experience effects in M&A activity, see Guenzel (2024) who shows that sunk costs in acquisitions affect future divestitures.

[4]Overconfident managers are likely to behave like empire builders, acquiring too many firms and destroying shareholder value, even if they honestly believe to work in favor of investors (Malmendier and Tate, 2008). It is less straightforward to relate failed attempts with future acquisitions in the case of overconfident managers since past failure can undermine overconfidence, and success can feed it.

irrationally low cost of capital (otherwise, one could argue that the cost of capital is not irrationally low). Successful acquirers, having just completed an acquisition paid at least in part by issuing equity, are less likely to have as much cheap equity financing available to them as failed acquirers because, in behavioral terms, the demand for stocks is downward sloping. Hence, under the overvaluation hypothesis, attempt failure predicts more future acquisitions.

If markets are inefficient, there can be variation in long-run average returns even if risk stays constant throughout the acquisition. For example, if market perceptions are biased and synergies are initially over-valued, then long-run returns after successful attempts are lower than after failed attempts. As in Malmendier, Moretti, and Peters (2018), for investors there can be "winning by losing" in acquisitions.

3 Data

3.1 Deal Selection

We use the LSEG SDC Platinum database to collect all announced international M&A deals from listed U.S. acquirers between 1990 and 2020.[5] Acquirer outcomes are measured up to three years after the deal, hence our main sample of post-deal outcomes ends in 2023. We collect deal characteristics such as announcement date, completion or failure date, deal value, listed status of target, payment structure, etc. We exclude acquirers and targets labeled as investors (SIC 6799) or blank checks (SIC 6770), when the target used a defensive tactic, or if the deal is labeled as unfriendly. It is important to note that all attempts in our sample are formally announced. Many preliminary advances between acquirers and targets are unreported. Due to the requirements of our identification strategy, we exclude deals where the difference between announcement and closing dates is less than 20 trading days,

[5]SDC has good coverage of domestic deals in earlier years, but not of international deals before 1985 (Bollaert and Delanghe, 2015). Our regressions control for financial variables 3 to 5 years before deals, hence we start studying deals in 1990.

and when the announcement date in the database is only estimated. The data selection process is summarized in Table A.1.

There are 2,290 deals in our main sample of international attempts. The distribution of deals by year, together with the rate of deal failure is shown in Panel A of Figure 1. Targets are spread out over 38 countries as seen in Panel B. Acquirers can be involved in more than one international deal in our sample: 975 acquirers appear once, 266 acquirers appear twice, and 193 acquirers appear in three or more deals. There are only 48 acquirers with 5 or more deals (301 deals), which can be considered as "serial acquirers" according to the standard definition in the literature (Fuller, Netter, and Stegemoller, 2002). The average time between deals of the same acquirer is approximately 4 years.

Insert Figure 1 here

In Panel A of Table 1, we show summary statistics for the main sample of deals. The rate of deal failure is 6%. The average number of calendar days between announcement and closing is 114, or approximately 4 months, which fits well with other evidence on the length of the interim period in M&A transactions (e.g., Bhagwat, Dam, and Harford 2016). Close to 70% of deals have a definitive agreement regarding the terms of the transaction (e.g., fees, clauses that define material adverse events, etc.). A minority of targets corresponds to listed firms (22%). We identify cases where payment is done with more than 50% cash or with more than 50% stocks. A larger fraction of deals is paid in cash rather than stocks according to our definition (44% vs. 17%). In terms of industrial relationship between the acquirer and the target, horizontal deals represent 44% of the sample, vertical deals 27%, and unrelated deals 29%.[6] The average (median) deal represents 21% (6%) of the acquirer's stock market capitalization, hence deals in our sample are significant for acquirers.

[6]We use the 2002 BEA input-output (IO) tables to measure vertical relatedness between industries (Ahern and Harford, 2014). Following Ahern and Harford (2014), vertical relations are defined if two industries exceed a threshold of 1% across any of the following four vertical relations: (1) acquirer industry purchases from target, (2) target industry purchases from acquirer, (3) acquirer industry sells to target, and (4) target industry sells to acquirer. In horizontal deals the primary industry of the acquirer is the same as the primary industry of the target.

Insert Table 1 here

In Panel B of Table 1, we show summary statistics for exchange rates and several returns. Exchange rate movements (ΔFX) around the announcement and closing dates have means of about 1%, but larger standard deviations. Figure A.1 in the appendix illustrates the time-series volatility of exchange rates in 20-day intervals. Stock returns at the market level (either the acquirer's or the target's market) are more volatile than exchange rates. The acquirer's own stock return is the most volatile of all returns.

3.2 Acquirer Characteristics

We get acquirer financial data from Compustat. For each acquirer, event years are defined as follows. Year $t = -1$ is the last fiscal year ending before the announcement date. Year $t = 0$ is the first fiscal year ending after the closing date. Years that follow the event ($t + 1$, $t + 2$, etc.) are defined analogously.

Insert Table 2 here

International M&As tend to occur in waves (Xu, 2017), just like domestic M&As (Mitchell and Mulherin 1996, Andrade, Mitchell, and Stafford 2001, Harford 2005). Hence, firms that engage in M&A attempts show wave-like dynamics. We can see this by comparing acquirer outcomes before and after attempts in Panel A of Table 2. The average (median) Tobin's q is 2.51 (1.80) in the 3 years before the international deal, which is higher than 1.92 (1.57) in the 3 years after the deal. Other variables show a similar pattern. In the window between $t - 3$ and $t - 1$ we find higher average rates of capital expenditures and return on assets (ROA) than in the window between $t + 1$ and $t + 3$.

In Panel B of Table 2 we show the main variables that characterize M&A activity. More than 70% of firms made an acquisition in the 3 years before the international attempt. The mean (median) number of acquisitions is 3.82 (2) in those years. On average, 51% of firms make at least one acquisition in the next year; 22% (13%) of firms make only domestic

(international) acquisitions in the next year. More acquisitions are related (horizontal or vertical) than unrelated.

We get acquirer stock returns from CRSP. We compute cumulative abnormal returns (CARs) over short and long horizons for Panel C of Table 2. We present results with abnormal returns defined as the excess return over the expected return from a 3-factor Fama-French model. We get very similar results using the excess return over the value-weighted CRSP universe or with the 5-factor Fama-French model. The short-term market reaction to the announcement (CAR from day -1 to day 1) is 1% on average (see also Dandapani, Hibbert, and Lawrence 2020, and Erel, Jang, and Weisbach 2022). Positive market reactions are more frequent in deals with private targets, which dominate our sample (Moeller, Schlingemann, and Stulz, 2004). The average market response on announcement is still very small, so the market is relatively agnostic about the value consequence of these acquisitions. On average, there is little market reaction at the closing date. Average long-term excess returns are negative and large in magnitude in the years following the closing date (-19% in the first two years).

4 Empirical Design

4.1 OLS estimation

To fix ideas, consider estimating the effect of a failed acquisition attempt with the following cross-sectional OLS regression:

$$Y_i^{post} = \beta Fail_i + \gamma Y_i^{pre} + \Psi' X_i^{pre} + \Pi' T + \Omega + \varepsilon_i \tag{1}$$

The dependent variable Y_i^{post} is measured for acquirer firm i in the period after the deal is finalized. Our main Y_i^{post} is a dummy for the occurrence of any acquisition by firm i in the post period. The methodology is analogous for other outcome variables. The

main explanatory variable is $Fail_i$, which takes a value of 1 if firm i failed the acquisition attempt, and 0 if the acquisition was completed. Hence, our comparisons are all between acquisition attempts. We control for the pre-attempt dynamics in the outcome of interest by including the dependent variable before the attempt, Y_i^{pre} (see Bernstein 2015). The vector X_i^{pre} includes several other control variables for the acquirer in the pre-deal period. The vector T includes target and deal characteristics (e.g., deal value). The vector Ω includes acquirer-industry-times-year and target-industry-times-year fixed effects defining industry at the 1-digit SIC level, together with acquirer-industry and target-industry fixed effects at the 2-digit SIC level. Industry-times-year fixed effects allow us to control for industry waves in M&A activity (see Harford 2005, Rhodes-Kropf, Robinson, and Viswanathan 2005, and Xu 2017). Ω also includes target-country fixed effects, which allow us to control for institutional and cultural differences across countries that matter for cross-border deals (see Rossi and Volpin 2004, Ahern, Daminelli, and Fracassi 2015, Alquist, Berman, Mukherjee, and Tesar 2019, Huang, Officer, and Powell 2016, Meier and Smith 2020, and Erel, Jang, and Weisbach 2022).

There can be selection effects in failure, even within acquisition attempts. In other words, failure is not random. Selection effects imply that the OLS estimate for the β coefficient is unlikely to capture the causal effect of a failed acquisition. On the one hand, low-productivity firms can be more likely to fail an international attempt and simultaneously acquire fewer firms in the future. The OLS estimate for β would be biased downwards in this case. On the other hand, there might be a positive association between past failure and future acquisitions, and the OLS estimate can be biased upwards. Empire builders make more acquisitions on average (Jensen, 1986), and may fail more often because they also make more mistakes in their eagerness to make acquisitions (e.g., valuation errors, poor target selection, etc.).

Insert Table 3 here

Selection effects can be proxied by deal-specific characteristics. In Panel A of Table 3 we find that failed deals are more likely to be paid with stocks (32% vs. 16%), which is

a potential indicator of a poorly-motivated acquisition (Shleifer and Vishny, 2003). Failed deals take longer to close than completed deals (171 days vs. 110 days), also suggesting difficulties in the negotiation. For our purposes, poor acquisition ideas can proxy for low-quality aquirers or for agency frictions such as empire building. In both cases, the OLS estimate for β is expected to be biased.

4.2 IV Strategy

In order to estimate the causal effect of failed attempts we need an instrument for deal failure. Simply put, we need to identify deals that fail for exogenous reasons. These reasons do not need to be completely exogenous to market forces or random, as in a lottery. They only need to be uncorrelated with the future opportunity set of the acquirer, except through the failure of a given deal. In other words, the instrument for failure cannot affect the acquirer's future either directly (bypassing the relevance of failure) or indirectly (through some other omitted variable).

Target and deal characteristics (e.g., payment method) can be related to merger strategy, and with the acquirer's future performance more broadly speaking, so in principle these are not good instruments. For similar reasons, the existence of competing bids and objections by regulators are not good instruments either. Local macroeconomic and capital market conditions (e.g., market returns), determined after the acquisition attempt is announced, could be appropriate instruments. These conditions are largely unpredictable and affect the value of the local target, but not necessarily the future value of the acquirer. Macroeconomic and capital market conditions are often considered material adverse events (MAEs) among other news that can hurt firm value. In the case of U.S. domestic merger attempts, MAEs represent the underlying cause of two-thirds of failures (Denis and Macias, 2013).

We follow a strategy similar to Bernstein (2015)'s study of failed and completed IPOs. Instead of using post-announcement stock market returns as instrument for failure, we use changes in the foreign exchange rate of the country of the target vis-a-vis the U.S. dollar.

It is common practice for international deals to be negotiated in U.S. dollars, even for deals that do not involve U.S. firms. We view variation in the foreign exchange rate as a shift in local conditions that can affect the target's or the acquirer's willingness to close the deal, but without being correlated to the acquirer's long-term performance through other channels. We take the variation in the exchange rate in a short window of 20 trading days after the deal is announced (approximately one calendar month). We consider the same window for all deals regardless of whether the deal closes in 20 days or more. This post-announcement window has been used to study the effect of aggregate market fluctuations on the failure of domestic U.S. acquisitions (Heath and Mitchell, 2022).[7]

The equation for the first stage of the IV setup is:

$$Fail_i = \theta \Delta FX_i + \mu Y_i^{pre} + \Lambda' X_i^{pre} + \Upsilon' T + \Omega + \nu_i \tag{2}$$

Our main variable of interest in this equation is ΔFX_i. The rest of the variables control for multiple features of the deal, the acquirer, or the target that potentially explain failure (see Denis and Macias 2013, and Bhagwat, Dam, and Harford 2016).

A positive ΔFX_i means that the U.S. dollar gained value, or that the local currency lost value, in the 20 days following deal announcement.[8] The sign of θ is, in theory, ambiguous since there are several explanations for why ΔFX_i can impact failure. We expect a positive θ if the bidder's perspective dominates. For instance, as the local currency loses value, bidders may become concerned about over-paying for a deteriorating target. The bid price is fixed (typically in U.S. dollars) once the deal is announced, while the target's intrinsic value for the acquirer goes down with a post-announcement depreciation of the local currency. Rene-

[7]Heath and Mitchell (2022) do not study the effects of foreign exchange rate fluctuations nor use predicted failures to study the causal effects of acquisitions in an IV setup. There is not enough power using stock market returns in the domestic setting. In a sample of domestic deals we confirm Heath and Mitchell (2022)'s positive effect on the likelihood of failure of strong market downturns (more than 10%): the coefficient on the dummy for strong downturns is 0.072 with a t-stat of 2.48. However, the F-test is just 6.33, which is below the standard threshold for weak-instrument tests.

[8]The absolute value of ΔFX_i or the volatility of the foreign exchange rate, could be alternative instruments in the first stage. Empirically, we find that they have less power than the linear term shown in equation 2.

gotiation is possible, but not frictionless. Downward adjustment in bids can be particularly difficult to implement (Heath and Mitchell, 2022). Contractually speaking, variation in the foreign exchange rate can be considered a material adverse event and trigger termination.

Termination can also be initiated by the target. We expect a negative θ, i.e., less failure when the dollar gets stronger, if the target's position dominates. For example, target shareholders may have a reservation value in local currency terms, which is easier to attain for U.S. bidders when the dollar gets stronger.[9]

It is not clear whether the acquirer or the target would like to hedge currency risk. Hedging (e.g., with a forward contract) assumes that the acquisition goes through, which does not always happen. Our explanation is not about hedgeable currency risk, but about currency movements providing information to the different parties involved, and thus affecting the outcome of the deal.

The second stage takes the predicted likelihood of failure from the first stage, $\widehat{Fail_i}$, to assess the impact of failed acquisitions on future acquirer outcomes:

$$Y_i^{post} = \beta\widehat{Fail_i} + \gamma Y_i^{pre} + \Psi' X_i^{pre} + \Pi' T + \Omega + \upsilon_i \tag{3}$$

The IV estimate for β corresponds to the causal effect of a failed acquisition, if the IV assumptions hold. Given the discussion above about the potential biases in OLS, we expect to find that $\beta_{OLS} \neq \beta_{IV}$.

Insert Figure 2 here

Figure 2 illustrates our identification strategy in a graphical way. Variation in the exchange rate between the announcement and the next 20 days always precedes the closing date of the M&A attempt. We use foreign exchange variation to predict the outcome of the attempt (first stage), and then that predicted likelihood of failure to explain future M&A strategy (second stage).

[9]Edelen and Kadlec (2005) explain this idea in the context of IPOs, but the mechanism is analogous for acquisitions.

4.3 Instrument Relevance and Balance

Panel A in Table 3 shows that ΔFX is significantly higher for failed deals than completed deals (0.50% vs. 0.10%). This suggests that the instrument is relevant or that it has predictive value for M&A failure. The first stage regression is a better test of this predictive power since it controls for a host of other effects. Nonetheless, the sample split already shows that failed deals are, on average, preceded by a depreciation of the local currency.

Panel B in Table 3 shows the characteristics of deals in sample splits based on our instrument (ΔFX). We find almost no statistically significant differences in means when comparing the sample with high and low ΔFX. Moreover, the differences are economically much smaller than the differences when comparing failed and completed deals (Panel A). While not definitive, this evidence is consistent with as-random assignment according to the instrument (Atanasov and Black, 2021). For instance, the fraction of deals paid mostly with stocks is 17% in both samples (with high and low ΔFX), and the average days between announcement and closing are virtually the same (113 vs. 114 days). Acquirer characteristics, such as size, ROA, or the investment rate, are very similar across high- and low-ΔFX samples, unlike what happens when comparing failed and completed acquisitions.

4.4 Exclusion Restriction

The exclusion restriction means that the instrument has an effect on the future outcomes of the acquirer only through the likelihood of failure of the current attempt. The exchange rate is related to local conditions of the target's country, thus, it is not immediately obvious why such short-term variation could be directly related to the acquirer in the future. One possibility would be that the variation of the exchange rate speaks about the broad strategy of the acquirer to search for targets in particular countries. For example, the depreciation of Asian currencies predicts a deterioration of a growth strategy with an Asian focus. This sounds plausible at long horizons, but less so in a short window like the one we study. Currencies are noisy in the short run, and their predictive power for future fundamentals is

relatively weak (Engel and West, 2005).

A related concern is that, for the exclusion restriction to hold, exchange rate fluctuations cannot induce selection along dimensions that are correlated with long-term outcomes. Erel, Liao, and Weisbach (2012) show that the prior 12-month appreciation of the target's country currency reduces the volume of cross-border deals. Again, this variation considers a much longer horizon than our 20-day window. Similarly, it is hard to believe that firms are systematically selected in advance of currency appreciations or depreciations since short-run variation in foreign exchange rates is basically unpredictable (Rossi, 2013).

A violation of the exclusion restriction would be that "good" firms hurry to complete a deal when the local currency appreciates, while "bad" firms shy away from completion when the local currency depreciates. In this case, failure correlated with exchange rate fluctuations would only be a signal of the underlying quality of the acquirer. As this example shows, a violation of the exclusion restriction requires some degree of asymmetry: acquirers that respond to positive variation in the exchange rate are different from acquirers that respond to negative variation. Moreover, the quality of the firm (being "good" or "bad") needs to be a persistent characteristic that affects outcomes that are potentially years away from the exchange rate fluctuations that we use as instrument. This is a tall order.

Beyond this theoretical argument, we propose a placebo test to examine the plausibility of the exclusion restriction. Although the exclusion restriction is ultimately untestable, the placebo test is designed to alleviate concerns regarding the direct effects of short-term exchange rate fluctuations on acquirer outcomes. The placebo test exploits short-term exchange rate fluctuations *after the deal closes*. If short-term exchange rate variation has predictive power for future acquirer outcomes outside of its effect on deal failure (e.g., because the exchange rate speaks about the acquirer's strategy more broadly speaking), then variation right after the deal is finalized should provide similar predictability. There is no reason why the informational content of short-term exchange rate fluctuations should discontinuously fall on the date that the deal is finalized. At the same time, such variation should have no

bearing on the probability of deal completion as the deal's outcome has already been determined, severing the first-stage link. If we find no direct effect of post-closing exchange rate variation on acquirer outcomes, then we can be more confident that the exclusion restriction holds or that the effect on acquirer outcomes only goes through deal failure.

4.5 Compliers and External Validity

The IV setup leverages on "compliers", or deals where the likelihood of failure reacts to changes in the foreign exchange rate. In fact, the β_{IV} is the local average treatment effect (LATE) for the complier population. Compliers are of two types (if $\theta > 0$): deals that are more likely to fail when the local currency depreciates, and deals that are less likely to fail when the local currency appreciates. Both types of acquirers are responding to the exchange rate, but we do not need all acquirers to respond to the exchange rate. Some deals fail regardless of the exchange rate ("always takers" in IV language), and similarly others go through regardless of the exchange rate ("never takers" in IV language). Complier deals are at the margin. For these deals the variation in the exchange rate can be a small "nudge" that induces failure or completion.

Insert Figure 3 here

Figure 3 illustrates who the compliers are with an example. This figure shows the hypothetical relationship between the likelihood of M&A failure and the spread between the target's intrinsic value for the acquirer (i.e., the present value of future dividends and private benefits of control) and the starting price of the negotiation. The spread does not reflect the overall quality of the target, but just how close the bid and the ask prices are. The likelihood of failure decreases as the spread increases, as there is more room for renegotiation. Never (always) takers are deals for which the spread is so large (small) that they never (always) fail regardless of post-announcement exchange rate variation, which affects the target's intrinsic value.

The likelihood of failure for compliers, instead, depends on exchange rate variation. This variation in the exchange rate does not need to be large to induce a significant change in the likelihood of failure since compliers are deals with a positive but smaller spread. There can be renegotiation between targets and bidders after the foreign exchange moves, but since these deals are marginal they can still fail because of frictions in the bidding process. Renegotiation might be particularly hard when the acquirer wants to reduce the bid because the intrinsic value of the target has recently gone down. For always and never takers, the outcome (failure or completion) does not respond to foreign exchange variation, although there can be renegotiation in those cases.

Different characteristics of compliers relative to other deals do not violate the exclusion restriction because all comparisons in the IV setup are *within* compliers. The characteristics of compliers are still relevant for external validity since they speak of the population from which our results are derived. Following Angrist and Pischke (2009), we compute the prevalence of a given characteristic in the complier population in comparison to the overall sample. As seen in Table A.2, compliers are not significantly different from the overall population of deals in our sample in terms of deal characteristics (e.g., form of payment), target characteristics (e.g., listed status), or acquirer characteristics (e.g., prior acquisition experience).

5 Failed attempts and future M&A Activity

5.1 First Stage

In Table 4 we present results for the first stage of the IV setup. The dummy for failed acquisitions, $Fail$, is the dependent variable. In columns 1 through 3 we show the predictive power of our instrument (ΔFX, Ann. to Ann.+20) using different sets of control variables. The results in column 3, which has the largest set of controls, implies that a one-standard-deviation increase in ΔFX (2%) leads to an increase of 1.5 percentage points (0.746 x 2%)

in the likelihood of failure. This represents an increase of about one quarter of the average failure rate in this sample (6%).

Insert Table 4 here

Other variables also predict failure. Larger deals ($LogDealValue$) are more likely to fail. Acquirers with acquisition experience in the previous three years ($PriorAcq3yr$) are less likely to fail. When the acquirer's profitability and Tobin's q are higher, deals are also less likely to fail. The effect of ΔFX not only survives these controls, but has strong predictive power as indicated by the large Montiel-Olea and Pflueger F-tests (all above 10 in the first three columns of Table 4). The instrument is not weak according to this diagnostic test.

Insert Figure 4 here.

Figure 4 illustrates the non-parametric relationship between the foreign exchange rate and the likelihood of failure, after de-meaning both $Fail$ and ΔFX with the full set of fixed effects of our main analysis. The power of ΔFX to predict failure comes from both appreciations and depreciations of the foreign exchange rate. As implied by the figure, the likelihood of failure is close to 0% when the exchange rate appreciates by 7%, and it is 11% when the exchange rate depreciates by 7%. Hence, the power of the instrument does not come solely from large devaluations or currency crises. The fact that the effect is opposite in sign for appreciation and depreciation of the currency suggests that the mechanism is not related to pure volatility. Uncertainty increases the option value to delay investment and may lead to deal cancellation. In such case, the effect of large appreciations and large depreciations should be in the same direction, which is not what we find.

In columns 4 and 5 of Table 4 we study the predictive power of ΔFX at other horizons. In column 4 we consider the change in the foreign exchange rate between the announcement date and the closing date. On average, there are 114 calendar days or around 4 months between the announcement and closing (see Table 1). While the coefficient on ΔFX at the

longer horizon is much smaller (0.269), the standard deviation of ΔFX is larger (5%), so the overall impact of a one-standard deviation shock on the likelihood of failure is about the same as with the 20-day horizon. The window that starts 20 days after the announcement and ends with the closing date provides weaker results (see column 5). The smaller F-tests are a disadvantage of the extended horizons. As seen at the bottom of columns 4 and 5, these tests are below 10, which suggests a weak-instruments problem. The 20-day window has the additional advantage of being a common window for all deals without introducing the endogeneity of the timing of deal closure.

In column 6, we use as explanatory variable the variation in the foreign exchange rate in the 20 days *after* the deal is finalized. As expected, post-closing exchange rate variation has no predictive power for deal failure. One could imagine a situation where deal failures occur in advance of strong movements in the exchange rate, but there is no evidence in favor of that hypothesis. The deals in our sample are not material enough to influence the exchange rate either. Crucially, we can use this short-term exchange rate variation post-closing for our placebo test. We return to this placebo test after presenting the main results.

Insert Table 5 here

In Table 5 we study the predictive power for failure of other changes in the foreign exchange rate. Column 1 shows the baseline first stage for comparison. Columns 2 and 3 use the absolute value and the volatility of ΔFX respectively, but none is significant, which speaks about the opposing effects of currency appreciations and depreciations. We then study the relative importance of country-specific and worldwide movements in the U.S. dollar. We measure aggregate movements in the dollar in two ways: (1) the average change against the dollar of all non-U.S. currencies in the BIS database (82 countries), and (2) the change in the dollar index (DXY), which tracks the strength of the dollar against a basket of major currencies. In columns 4 and 5 our main instrument retains its magnitude and significance when controlling for either proxy of the worldwide strength of the dollar. In columns 6 and 7 we use the change in ΔFX net of worldwide dollar movements and we get

similar results. Our results imply that country-specific changes in currencies are relevant for M&A failure and not simply the strength or weakness of the dollar around the world. This is important for the exclusion restriction, because the overall strength of the dollar could arguably affect the future opportunity set of U.S. acquirers. If our instrument captures idiosyncratic fluctuations in currencies, then it is more likely that the exclusion restriction holds.

In Table A.3 in the appendix we study other potentially relevant returns. We focus on the same time window as our main instrument, namely the period between deal announcement and the next 20 trading days. Motivated by the results in Heath and Mitchell (2022), we first study the dollar return on the acquirer's stock market. Then we use the return on the target's stock market (in local currency terms), and the acquirer's own stock return (in dollar terms). None of these returns predicts deal failure. The fact that the acquirer's own return does not predict failure suggests that our results are not driven by renegotiation in stock-based mergers. Acquirers can also learn from the market reaction, and they may be more keen to complete a deal when there is positive market feedback (see Chen, Goldstein, and Jiang 2007; and Kau, Linck, and Rubin 2008). Following this idea we use the announcement CAR as indicator of market reaction, but we find no significant feedback effect on failure. The last column shows that ΔFX is the sole variable with predictive power among the set of returns that we study.

5.2 Second Stage

Table 6 shows regressions where the dependent variable is an indicator for completing an acquisition in the year following the international attempt ($Acq.t + 1$). The unconditional mean of this variable is 0.51%, indicating the relatively high frequency of acquisitions in this sample. Acquirer characteristics, deal and target controls, and fixed effects used for Table 4 are included in all columns here.

Insert Table 6 here

In column 1 we show the OLS regression where $Fail$ is the main explanatory variable. The OLS effect of failure on future acquisitions is close to zero and statistically insignificant. Thus, firms with failed international attempts are not more likely than successful acquirers to subsequently pursue acquisitions, or failed acquisition attempts are not quickly followed by new acquisitions. In other words, failure does not appear to be disruptive.

In column 2 we show the second stage of the IV setup where $Fail$ is instrumented using the foreign exchange variation in the 20 days that follow the announcement of the deal. We now find a negative and significant effect of failure on future acquisitions (coeff. -0.87 and t-stat 2.35).

Of the theories presented in section 2, our results are most consistent with the neoclassical benchmark. Failed attempts have a negative effect on future M&A activity because the firm is not able to achieve efficiency gains, which would make the firm a better acquirer, or because the firm is not able to access new investment opportunities. Both learning and experience also imply a negative effect of failure on future acquisitions. Further evidence in section 5.7 will help us to disentangle these theories. For now we can say that learning and experience seem less likely explanations since our sample of U.S. listed acquirers is composed of mature and already experienced firms (e.g., 73% have acquisitions in the previous 3 years; see Table 2).

The negative effect of failed attempts on future acquisitions goes against the agency and overvaluation hypotheses. Both predict that failure should cause more and not fewer acquisitions in the near term. Our evidence does not rule out the existence of empire builders or that some acquisitions are motivated by overvaluation, in particular over certain periods (e.g., Moeller, Schlingemann, and Stulz 2005). However, our results imply that these frictions are not the main driving force of acquisitions.

The IV estimation also shows that the disruptive effect of failure is stronger than the potentially positive (still causal) effect associated with simply having the funding aligned. If access to financing is an issue, then firms with "dry powder" could make more, and not

fewer future acquisitions. The dry-powder effect is probably small in our sample of U.S. listed acquirers since they are not likely to be financially constrained.

5.3 Comparison of OLS and IV

When compared to the IV coefficient, the OLS coefficient is biased towards zero. One possible explanation is the presence of selection effects from empire building (Jensen, 1986). Empire builders make more acquisitions on average, and potentially fail more often because they make more mistakes in their eagerness to acquire many firms (e.g., valuation errors, poor target selection, etc.). This selection effect would imply a positive association between failure and future acquisitions, and hence a countervailing force for the negative causal effect of failure with IV.

Another explanation for the OLS bias is that firms experiencing an industry or financing wave may hurry to close another deal before the wave passes. Our set of acquirer-industry-times-year and target-industry-times-year fixed effects account for waves, but there can still be a residual cyclical component left in the data (more granular waves in terms of industries or their duration).[10] The IV setup again provides an advantage since those residual merger waves would need to be correlated with our instrument in order to invalidate the IV estimation. A priori, it is not clear how the currency of the target's country in the narrow post-announcement window that we study could be systematically correlated with merger waves.

5.4 Magnitude of IV coefficient

The IV coefficient of *Fail* is large. Failure basically drives the likelihood of an acquisition in the next year to zero. The second stage that we show in column 2 is, in essence, a linear probability model, which does not restrict estimated probabilities to lie between zero

[10] Waves are typically defined in the literature as 24-month episodes (Harford, 2005). Thus, the annual fixed effects are enough to capture the dynamics of most waves. Out of the deals in our sample, 25% (567 deals) belong to wave periods, and 75% (1,723 deals) to off-wave periods.

and one. The IV probit has the advantage that the estimated probabilities belong to the $[0, 1]$ range. However, we prefer the linear estimation because nonlinear models, such as IV probit, rely on stronger functional form assumptions and can suffer from inconsistency due to the incorrect distribution of first-stage residuals (Wooldridge 2002).[11] Nonetheless, for completeness, Figure 5 Panel A compares the estimated effects from the linear and probit models over the three years following a failed attempt. Both models exhibit similar trajectories and statistical significance. Panel B presents the predicted probabilities from the IV probit for failed and completed attempts, showing that the reduced likelihood of future acquisitions persists for two years before returning to pre-attempt levels.

Insert Figure 5 here

We take advantage of Figure 5 to show the dynamics of the effect of failure. In years $t + 1$ and $t + 2$ after failure, the estimated probabilities of an acquisition are both below 20%, while after completion the estimated probabilities are close to the unconditional likelihood (51%). By $t + 3$, the estimated probabilities of additional acquisitions for acquirers with failed and completed deals converge. Therefore, the effect comes from acquirers with failed attempts reducing acquisitions in the short run rather than from successful acquirers increasing acquisitions. This implies that failed attempts deviate a firm from the path of active acquirers, rather than successful attempts propelling a firm to a whole new level. In M&As, if you are not moving forward, you are falling behind.

[11] Linear IV models are generally preferred over probit IV when the endogenous regressor is binary. As Wooldridge 2002 explains, standard two-stage estimation in nonlinear models like IV probit is inconsistent because the first-stage residuals do not follow a normal distribution. However, the resulting misspecification of the maximum likelihood estimator (MLE) may not be severe if the first stage is approximately linear (as in our case; see Figure 4). An alternative is the bivariate probit (biprobit) model. However, structural estimates from biprobit models often exceed nonstructural ones, particularly when additional covariates are included, even if those covariates are only weakly related to the instrument. This discrepancy arises because structural models impose stronger distributional and functional-form assumptions, which can introduce bias. For this reason, linear IV models are also favored over biprobit when estimating causal effects (see Angrist 2001; Angrist and Pischke 2009). Additionally, IV models estimated via MLE face practical issues with convergence, especially in the presence of high-dimensional fixed effects (see Wooldridge 2002, Chapter 15, Section 15.7).

5.5 Reduced form and placebos

In column 3 of Table 6, we present the reduced-form regression where we use the instrument (ΔFX, Ann. to Ann.+20) directly as explanatory variable. The coefficient of -0.648 implies that a one-standard-deviation increase in the exchange rate (2%) reduces the likelihood of a future acquisition by 1.3 percentage points. The coefficient is consistent with the exclusion restriction holding, as -0.648 is approximately the coefficient from the first-stage regression (0.746; column 3, Table 4) times the coefficient from the second-stage regression (-0.870; column 2, Table 6). The reduced-form coefficient could have been significantly different if there was an additional direct effect from short-term exchange rate returns on future M&A activity. Although consistent with as-random assignment, the fact that the coefficient on the reduced-form regression is well-behaved is merely suggestive (Atanasov and Black, 2021).

We show the results of the placebo test in column 4. We run a reduced-form regression with the foreign exchange movement *after* the deal was closed (ΔFX, Close to Close+20). The coefficient is statistically insignificant and much smaller than in the true reduced form in column 3. This is consistent with the exclusion restriction since the exchange rate should have no predictive power for future acquisitions once the first-stage link is severed (as shown in column 6 of Table 4). The informational content of ΔFX after closing could directly affect future acquisitions, yet it does not, consistent with the idea that the effect only goes through deal failure.[12] Table A.4 shows the results of multiple placebo tests that follow the same logic as the one presented in the main text. We use changes in the foreign exchange rate over various horizons after the closing date of the deal (or before the announcement date). The results again support the exclusion restriction.

[12]The placebo test also helps to rule out a particular mechanism where the target's cash flows contribute to funding future acquisitions when the local currency appreciates post-announcement. If this were the case, currency appreciations after closing would have a similar effect. Yet, we find they have no bearing on future acquisitions, which is inconsistent with this explanation.

5.6 Robustness of main result

In Table A.5 of the appendix we present various robustness checks. In our baseline results, we include control variables averaged between $t-3$ and $t-1$. In columns 1 through 3, we show that the results are robust to using controls measured with different lags (i.e., only at $t=-1$, restricting to non-missing values for any of the lags, or averaged between $t-5$ and $t-1$). In column 4 we exclude the dot-com bubble (1999-2001) and the great recession (2008-2009) to check that the results are not driven by crisis years. In columns 5 and 6, we exclude deals that coincide with merger waves as computed by Harford (2005), or deals from serial acquirers as defined by Fuller, Netter, and Stegemoller (2002). Finally, in column 7, we use a dummy variable for acquisitions between $t+1$ and $t+3$ as the dependent variable. The coefficient on *Fail* remains large and significant in all cases.

Insert Figure 6 here

IV strategies have received recent criticism because of a lack of robustness (Jiang, 2017). Young (2022) shows that, for papers published in top journals in economics, small changes in sample definition can lead to dramatically different statistical inference. He recommends checking the robustness of the results to the exclusion of observations, since many IV papers appear to leverage on a few pivotal data points. In Figure 6 we show the IV coefficients and the p-values in the different sub-samples that result from excluding one deal at a time (i.e., 2,128 different samples). All IV coefficients are between -1.013 and -0.772. The p-values are all below 5%, confirming the robustness of the estimation. Young (2022) also mentions that many IV estimations imply coefficients that are not statistically different from OLS coefficients. This is not the case in our sample. For instance, the OLS coefficient of 0.032 (column 1 in Table 6) is outside the 95% confidence interval of $[-1.60; -0.14]$ from our baseline IV estimation (column 2 in Table 6).

In Appendix A.2 and Table A.6 we explore the robustness to alternative estimation methods. In particular, we perform a duration analysis, which typically involves non-linear

methods and is therefore hard to combine with IV. The results are in line with those that we present in the main text.

5.7 Types of acquisition

We now study the effects of failure on different types of future acquisitions. In columns 1 through 3 of Table 7 we consider whether future acquisitions happen internationally or domestically (U.S.). We find a negative but smaller and statistically insignificant effect on overall international acquisitions (column 1). Part of this dampened effect can be understood because we find a *positive* and significant effect of failure on future international acquisitions within the same region and industry of the previous target (column 2). This suggests that acquirers with a failed attempt keep looking for a similar target in the same geographic region. In column 3 we find a negative and significant effect of failure on future domestic acquisitions. Domestic acquisitions are 1.6 times more likely to occur than international acquisitions (the relative frequencies are 21.5% vs. 13.1%), and almost 6 times more likely than international acquisitions in the same region and industry (3.5%), which explains the overall negative effect on acquisitions.

Insert Table 7 here

Both learning and experience imply a negative effect of failure on future acquisitions. However, these hypotheses do not explain why the impact is seen more strongly in the domestic context, which differs from the international context in which the learning or experience initially occurred. Failed acquirers insist with targets in the same region and industry, which is inconsistent with avoiding bad experiences. This evidence in Table 7 explains our preference for the neoclassical hypothesis as driver of the main results.

In columns 4 through 9 of Table 7 we split future acquisitions according to the industrial relationship between the acquirer and the future target. We find that the negative effect of failure is seen in related acquisitions (column 5), but more specifically in downstream

acquisitions (column 8). Thus, a failed international deal particularly reduces the likelihood of future acquisitions that bring the firm closer to final consumers.

Some examples from our sample can illustrate these effects. In 2004, ITT Industries Inc., a manufacturer of electronic components for industries such as defense and energy, acquired Wedeco AG in Germany, a company that provides water treatment solutions. Subsequently, in 2005, ITT Industries acquired Ellis K. Phelps and Co. in the U.S., a wholesale distributor of industrial products. This acquisition increased the capacity of ITT to commercialize its products, and therefore represents a clear downstream effort. Similarly, in 1998, International Game Technology, a leading provider of gaming technology, acquired Barcrest Ltd in the U.K., a developer of slot machines and casino games. Then, in 1999, International Game Technology acquired Sodak Gaming Inc., a company that specialized in distributing gaming machines and providing services to Native American casinos in the U.S. Again, this represented a downstream move after the international acquisition.[13]

Insert Table 8 here

In Table 8 we focus on how the type of failed attempt impacts future acquisitions. For the purposes of this table we define the acquisition dummy as a 1 when the acquisition follows an attempt of a given industrial relationship with the acquirer (e.g., related or unrelated), and 0 otherwise. There is not enough power in our setup to study the impact of heterogeneity through regressions with interactions (e.g., adding variables such as $Fail$ times $RelatedAcq$). All coefficients on $Fail$ across Table 8 are negative, but the effects are statistically significant when the previous attempts are vertical deals, and in particular, downstream deals (columns 4 and 5). Hence, it appears that acquirers attempting to expand vertically suffer more from failure.

[13]The acquisition of Wedeco AG was completed after a -5.6% post-announcement variation (appreciation) of the Euro. Similarly, the acquisition of Barcrest Ltd. was completed after a -2% post-announcement variation (appreciation) of the British Pound.

6 Additional Results

6.1 Other Firm-Level Outcomes

In Table A.7 we study the effects of failed attempts on other firm-level variables such as size (log assets), the investment rate (capex/assets), profitability (ROA), cash management (cash/assets), and payout policy (payout/assets). We find statistically insignificant effects of failure across the table. Our results are not consistent with a strong substitutability or complementarity between organic and inorganic growth (Levine, 2017). For example, we do not find that failed M&A attempts lead to a clear decrease or increase in investment, research and development, or patents. We find that a failed attempt leads to an increase in cash holdings, as if the funds from the failed attempt mechanically stay as cash on the acquirer's balance sheet, although the effect is noisy. Finally, we do not find a significant increase in payout to shareholders.

Taken together, our results suggest that while failed attempts have an impact on future M&A activity, they do not have a clear effect on other financial outcomes at the firm. We argue that future M&A activity is the best evidence of efficiency gains or improved investment opportunities from acquisitions. Direct measures, such as profitability, are unlikely to react quickly to a successful attempt, even if there are synergies, because they represent a mix of the marginal investment decision and previous assets in place.

6.2 Stock Returns

For our analysis of the impact of failed acquisitions on stocks returns, we use as dependent variable the long-term CARs between the closing date and month $t+12$, and between months $t+12$ and $t+24$.

Insert Table 9 here

In columns 1 and 4 of Table 9 we show the coefficients for $Fail$ estimated by OLS (equa-

tion 1). The control variables and fixed effects are the same as in our baseline regressions. Point estimates are positive, which is reminiscent of the positive effect of failure found by Malmendier, Moretti, and Peters (2018), although the effects are not statistically significant. In columns 2 and 5 we show the IV coefficients for $Fail$, which now become negative, suggesting that the positive OLS effect on long-term CARs is due to selection. One potential explanation for the upward bias in the OLS regression goes along the lines of Malmendier, Moretti, and Peters (2018): if more overvalued acquirers are able to outbid rivals, then the high returns of failed acquirers relative to successful acquirers only reflects the reversion of stronger overvaluation for successful acquirers. The IV coefficients and the reduced-form estimates (columns 3 and 6) are not statistically significant either.[14]

The interpretation of the IV results is that failure does not significantly *cause* a change in future returns, despite the significant change in future M&A activity that we document. In principle, long-run returns can go up or down depending on how risk changes with the acquisition (Hackbarth and Morellec, 2008). Once we open the door to inefficiency in markets, as in the overvaluation hypothesis, then average returns can also vary even if (true) risk stays constant. Future returns are predictable when biased expectations revert. For example, if markets over-estimate the efficiency losses (gains) of a failed (successful) attempt, then average returns after a failed attempt should be higher. Although our evidence with returns is noisy, the results seem to point in the opposite direction since we find a negative rather than a positive effect of failed attempts.

Our results contribute to the empirical literature by advancing a new identification strategy. Selection has always been an issue when comparing the returns of failed and successful acquirers. Malmendier, Moretti, and Peters (2018) attempt to partly solve the identification challenge by comparing failed acquirers with successful acquirers in close biding contests. Savor and Lu (2009) use an alternative identification strategy that emphasizes regulatory actions. Unfortunately, regulatory actions change the opportunity set for acquirers, and thus

[14]The OLS and IV coefficients for the regressions with the short-run CAR[-1,+1] at closing as dependent variable are very small and not statistically significant.

are not appropriate to study the firm's future M&A activity like we do. Naturally, besides differences in the identification strategy, our results on returns can also be different due to variation in the empirical setting and sample. Our findings, combined with causal estimates from other settings, can advance in achieving external validity beyond the specific features of each setup.

6.3 Effects of Failed Attempts on Rivals

In Table 10 we explore the effect of failed acquisitions on rivals. We define rivals as the set of listed U.S. firms in the same 2-digit SIC industry. We look at longer horizons of up to three years since the reaction of rivals may take time to materialize. We find negative but insignificant effects on rival's future acquisition rates of international firms (columns 1-3). However, we find negative and strong effects on rivals' domestic acquisitions between 2 and 3 years after the initial failure (columns 5 and 6). Hence, a failed deal seems to ease the competitive pressure from rivals. The reaction of rivals suggests that failed attempts make firms less competitive, and therefore less threatening to them.

Insert Table 10 here

The fact that rivals' acquisitions fall after a failed acquisition is consistent with the existence of defensive acquisitions (Gorton, Kahl, and Rosen, 2009). Under such a hypotheses, when there are acquisitions or a wave of consolidation in an industry, rivals respond by acquiring firms in an "eat-or-be-eaten" fashion. A failed attempt would prevent such a defensive mechanism from starting. Our focus on rivals' acquisitions can significantly add to the literature, which has been mostly about the return consequences or rival acquisitions (see Eckbo 1983, Fee and Thomas 2004, and Anton, Azar, Gine, and Lin 2022). A positive return impact is sometimes associated with collusion between rivals. Our study of M&A activity can broaden the picture to include the effects on rivals' real decisions.

7 Conclusions

Firms engage in acquisitions for multiple reasons, and our experiment can us help to disentangle the drivers of acquisitions. Our empirical design is based on two key building blocks. First, we compare the M&A activity of U.S. listed firms following failed and completed international attempts. Second, we instrument for attempt failure using short-run foreign exchange rate variation after the deal is announced.

We find that deals fail more often when the local currency depreciates after the announcement. Firms that fail in their attempt due to changes in the exchange rate are less likely to complete other acquisitions, particularly domestic and downstream, in the future. Our findings suggest that profit maximization is the likely motive behind the typical acquisition. M&As allow the firm to lock in efficiency gains and access new investment opportunities. Other theories, such as empire building or equity overvaluation, predict that failed attempts are followed by more acquisitions, contrary to what we find.

References

Ahern, Kenneth R, Daniele Daminelli, and Cesare Fracassi, 2015, Lost in translation? The effect of cultural values on mergers around the world, *Journal of Financial Economics* 117, 165–189.

Ahern, Kenneth R, and Jarrad Harford, 2014, The importance of industry links in merger waves, *The Journal of Finance* 69, 527–576.

Ahmad, Muhammad Farooq, Eric de Bodt, and Jarrad Harford, 2021, International trade and the propagation of merger waves, *The Review of Financial Studies* 34, 4876–4925.

Aktas, Nihat, and Audra Boone, 2024, The private deal process in mergers and acquisitions, in *Handbook of Corporate Finance* . pp. – (Edward Elgar Publishing).

Aktas, Nihat, Eric de Bodt, and Richard Roll, 2013, Learning from repetitive acquisitions: Evidence from the time between deals, *Journal of Financial Economics* 108, 99–117.

Alquist, Ron, Nicolas Berman, Rahul Mukherjee, and Linda L Tesar, 2019, Financial constraints, institutions, and foreign ownership, *Journal of International Economics* 118, 63–83.

Andrade, Gregor, Mark Mitchell, and Erik Stafford, 2001, New evidence and perspectives on mergers, *Journal of Economic Perspectives* 15, 103–120.

Angrist, Joshua D., 2001, Estimation of limited dependent variable models with dummy endogenous regressors: Simple strategies for empirical practice, *Journal of Business & Economic Statistics* 19, 2–28.

——— , and Jorn-Steffen Pischke, 2009, *Mostly Harmless Econometrics: An Empiricist's Companion* (Princeton University Press: Princeton).

Angrist, Joshua D, and Jörn-Steffen Pischke, 2010, The credibility revolution in empirical economics: How better research design is taking the con out of econometrics, *Journal of Economic Perspectives* 24, 3–30.

Anton, Miguel, Jose Azar, Mireia Gine, and Luca Lin, 2022, Beyond the target: M&A decisions and rival ownership, *Journal of Financial Economics* 144, 44–66.

Arikan, Asli, and Rene M. Stulz, 2016, Corporate acquisitions, diversification, and the firm's life-cycle, *The Journal of Finance* 71, 139–193.

Atanasov, Vladimir, and Bernard Black, 2021, The trouble with instruments: The need for pretreatment balance in shock-based instrumental variable designs, *Management Science* 67, 1270–1302.

Bai, John, Wang Jin, and Matthew Serfling, 2022, Management practices and mergers and acquisitions, *Management Science* 68, 2141–2165.

Bernstein, Shai, 2015, Does going public affect innovation?, *The Journal of Finance* 70, 1365–1403.

Bhagwat, Vineet, Robert Dam, and Jarrad Harford, 2016, The real effects of uncertainty on merger activity, *The Review of Financial Studies* 29, 3000–3034.

Bollaert, Helen, and Marieke Delanghe, 2015, Securities Data Company and Zephyr, data sources for M&A research, *Journal of Corporate Finance* 33, 85–100.

Boone, Audra, and Harold Mulherin, 2007, How are firms sold?, *The Journal of Finance* 62, 847–875.

Chen, Qi, Itay Goldstein, and Wei Jiang, 2007, Price informativeness and investment sensitivity to stock prices, *The Review of Financial Studies* 20, 619–650.

Dandapani, Krishnan, Ann Marie Hibbert, and Edward R Lawrence, 2020, The shareholder's response to a firm's first international acquisition, *Journal of Banking & Finance* 118, 105852.

Denis, David J, and Antonio J Macias, 2013, Material adverse change clauses and acquisition dynamics, *Journal of Financial and Quantitative Analysis* 48, 819–847.

Dobbie, Will, and Jae Song, 2015, Debt relief and debtor outcomes: Measuring the effects of consumer bankruptcy protection, *American Economic Review* 105, 1272–1311.

Eckbo, B. Espen, 1983, Horizontal mergers, collusion, and stockholder wealth, *Journal of Financial Economics* 11, 241–273.

Eckbo, B Espen, 2014, Corporate takeovers and economic efficiency, *Annual Review of Financial Economics* 6, 51–74.

Edelen, Roger, and Gregory Kadlec, 2005, Issuer surplus and the partial adjustment of IPO prices to public information, *Journal of Financial Economics* 77, 347–373.

Eisfeldt, Andrea L, and Adriano A Rampini, 2006, Capital reallocation and liquidity, *Journal of monetary Economics* 53, 369–399.

Engel, Charles, and Kenneth West, 2005, Exchange rates and fundamentals, *Journal of Political Economy* 113, 485–517.

Erel, Isil, Yeejin Jang, and Michael Weisbach, 2022, Cross-border mergers and acquisitions, *NBER WP 30597* pp. –.

Erel, Isil, Rose Liao, and Michael Weisbach, 2012, Determinants of cross-border mergers and acquisitions, *The Journal of Finance* 67, 1045–1082.

Fee, Edward C., and Shawn Thomas, 2004, Sources of gains in horizontal mergers: Evidence from customers, suppliers, and rival firms, *Journal of Financial Economics* 74, 423–460.

Fresard, Laurent, Ulrich Hege, and Gordon Phillips, 2017, Extending industry specialization through cross-border acquisitions, *The Review of Financial Studies* 30, 1539–1582.

Fuller, K., J. Netter, and M. Stegemoller, 2002, What do returns to acquiring firms tell us? Evidence from firms that make many acquisitions, *The Journal of Finance* 57, 1763–1793.

Gorton, Gary, Matthias Kahl, and Richard Rosen, 2009, Eat or be eaten: A theory of mergers and firm size, *The Journal of Finance* 64, 1291–1344.

Guenzel, Marius, 2024, In too deep: The effect of sunk costs on corporate investment, *The Journal of Finance* pp. –.

Hackbarth, Dirk, and Erwam Morellec, 2008, Stock returns in mergers and acquisitions, *The Journal of Finance* 63, 1213–1252.

Harford, Jarrad, 2005, What drives merger waves?, *Journal of Financial Economics* 77, 529–560.

Heath, Davidson, and Mark Mitchell, 2022, Market returns and interim risk in mergers, *Management Science* 69, 617–635.

Huang, Peng, Micah S Officer, and Ronan Powell, 2016, Method of payment and risk mitigation in cross-border mergers and acquisitions, *Journal of Corporate Finance* 40, 216–234.

Jensen, Michael, 1986, Agency costs of free cash flow, corporate finance, and takeovers, *American Economic Review* 76, 323–329.

Jiang, Wei, 2017, Have instrumental variables brought us closer to truth?, *The Review of Corporate Finance Studies* 6, 127–140.

Jovanovic, Boyan, and P Rousseau, 2002, The q-theory of mergers, *American Economic Review* 92, 198–204.

Kau, James, James Linck, and Paul Rubin, 2008, Do managers listen to the market?, *Journal of Corporate Finance* 14, 347–362.

Levine, Oliver, 2017, Acquiring growth, *Journal of Financial Economics* 126, 300–319.

Lin, Wei, and Jeffrey Wooldridge, 2019, Testing and correcting for endogeneity in nonlinear unobserved effects models, in *Panel Data Econometrics - Theory* . pp. 21–43 (Elsevier).

Loughran, Tim, and Anand M Vijh, 1997, Do long-term shareholders benefit from corporate acquisitions?, *The Journal of Finance* 52, 1765–1790.

Macchiavello, Rocco, and Ameet Morjaria, 2022, Acquisitions, management, and efficiency in Rwanda's coffee industry, Discussion paper, National Bureau of Economic Research.

Maksimovic, Vojislav, and Gordon Phillips, 2001, The market for corporate assets: Who engages in mergers and asset sales and are there efficiency gains?, *The Journal of Finance* 56, 2019–2065.

Malmendier, Ulrike, 2021, Experience effects in finance: Foundations, applications, and future directions, *Review of Finance* pp. 1339–1363.

Malmendier, U., E. Moretti, and F. Peters, 2018, Winning by losing: Evidence on overbidding in mergers, *The Review of Financial Studies* 31, 3212–3264.

Malmendier, Ulrike, and Geoffrey Tate, 2008, Who makes acquisitions? CEO overconfidence and the market's reaction, *Journal of Financial Economics* 89, 20–43.

Meier, Jean-Marie, and Jake Smith, 2020, Tax avoidance through cross-border mergers and acquisitions, *SSRN Electronic Journal. https://doi. org/10.2139/ssrn* 3639640.

Mitchell, Mark, and Harold Mulherin, 1996, The impact of industry shocks on takeover and restructuring activity, *Journal of Financial Economics* 41, 193–229.

Moeller, Sara, Frederik Schlingemann, and Rene Stulz, 2004, Firm size and the gains from acquisitions, *Journal of Financial Economics* 73, 201–228.

——— , 2005, Wealth destruction on a massive scale? A study of acquiring-firm returns in the recent merger wave, *The Journal of Finance* 60, 757–782.

Mulherin, J., J. Netter, and A.B. Poulsen, 2017, *The Evidence on Mergers and Acquisitions: A Historical and Modern Report, Handbook of Economics and Corporate Governance* . vol. 1 (North-Holland).

Renneboog, Luc, and Cara Vansteenkiste, 2019, Failure and success in mergers and acquisitions, *Journal of Corporate Finance* 58, 650–699.

Rhodes-Kropf, Matthew, and David Robinson, 2008, The market for mergers and the boundaries of the firm, *The Journal of Finance* 63, 1169–1211.

——— , and S Viswanathan, 2005, Valuation waves and merger activity: The empirical evidence, *Journal of Financial Economics* 77, 561–603.

Rossi, Barbara, 2013, Exchange rate predictability, *Journal of Economic Literature* 51, 1063–1119.

Rossi, Stefano, and Paolo F Volpin, 2004, Cross-country determinants of mergers and acquisitions, *Journal of Financial Economics* 74, 277–304.

Savor, Pavel, and Qi Lu, 2009, Do stock mergers create value for acquirers?, *The Journal of Finance* 64, 1067–1097.

Seru, Amit, 2014, Firm boundaries matter: Evidence from conglomerates and R&D activity, *Journal of Financial Economics* 111, 381–405.

Shleifer, Andrei, and Robert Vishny, 2003, Stock market driven acquisitions, *Journal of Financial Economics* 70, 295–311.

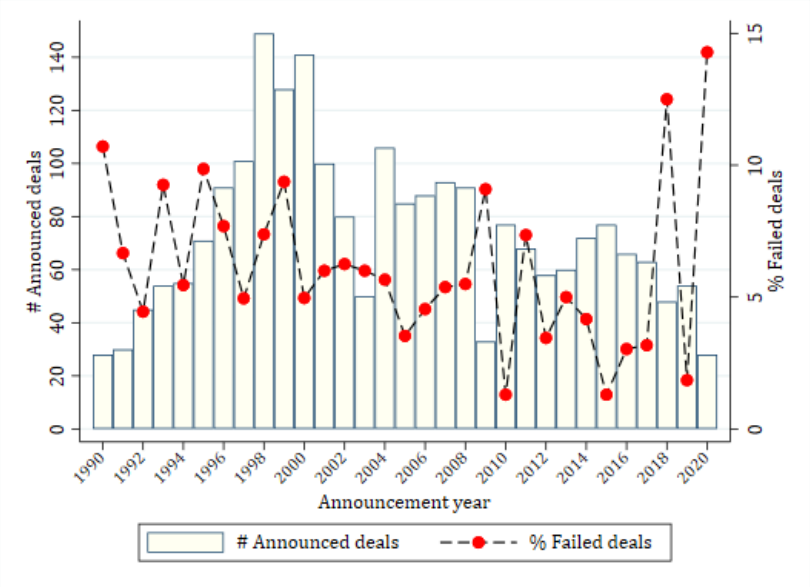
Warusawitharana, Missaka, 2008, Corporate asset purchases and sales: Theory and evidence, *Journal of Financial Economics* 87, 471–497.

Wooldridge, Jeffrey, 2002, *Econometric Analysis of Cross-Section and Panel Data* (MIT Press: Cambridge, MA).

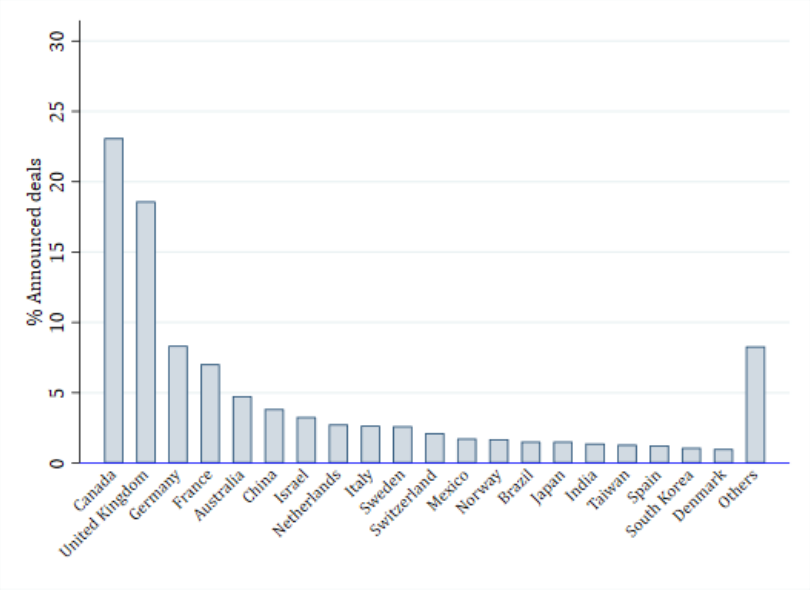
Xu, Emma Qianying, 2017, Cross-border merger waves, *Journal of Corporate Finance* 46, 207–231.

Young, Alwyn, 2022, Consistency without inference: Instrumental variables in practical application, *European Economic Review* pp. –.

Figure 1: International Deals across Years and Countries



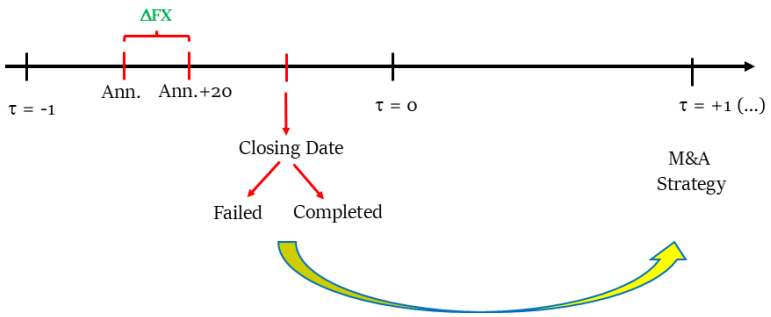
(a)



(b)

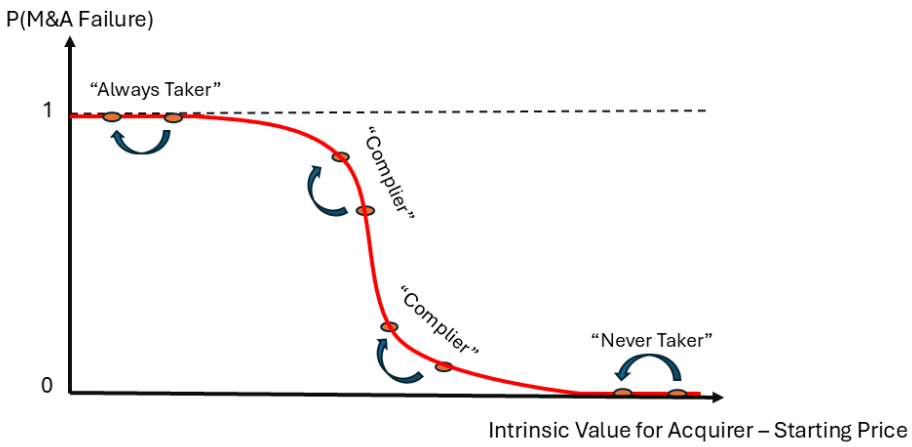
Notes: This figure shows the total number of international deals by year (panel a) and country of target (panel b).

Figure 2: Identification Strategy



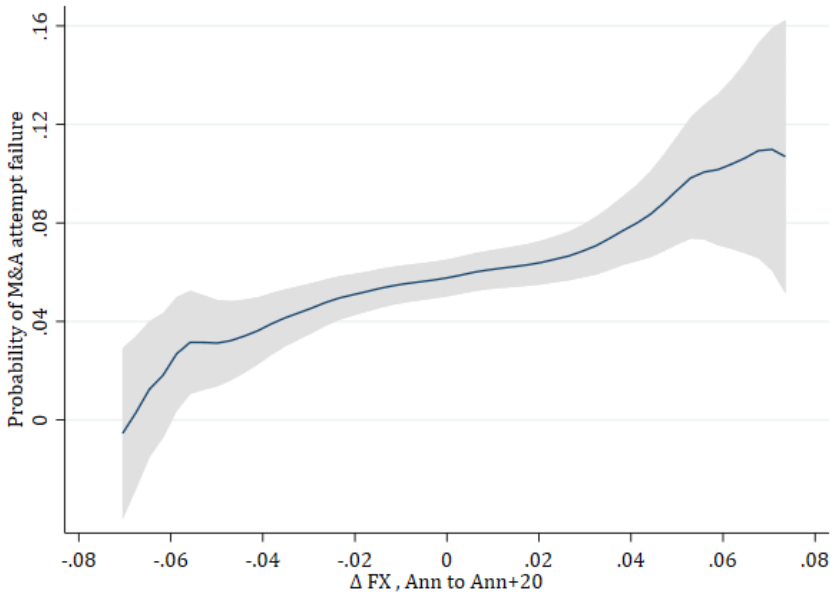
Notes: This figure shows the timing of events in our identification strategy. Year $\tau = -1$ is the last fiscal year ending before the announcement date (Ann.). Year $\tau = 0$ is the first fiscal year ending after the closing date. Years that follow the event ($\tau = +1$, $\tau = +2$, etc.) are defined with respect to the closing date. The foreign exchange rate variation (ΔFX) is measured between the announcement date and the following 20 trading days (Ann.+20).

Figure 3: Compliers



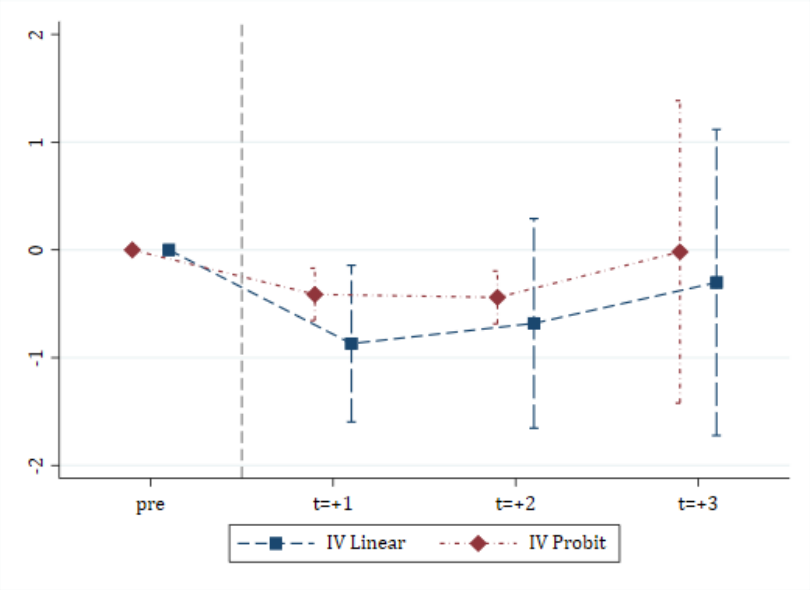
Notes: This figure shows the theoretical relationship between the likelihood of M&A failure and the spread between the target's intrinsic value for the acquirer and the starting price. The likelihood of failure decreases as the spread increases. Exchange rate variation after the offer is announced affects the intrinsic value and consequently the spread for a given deal. The arrows represent how the spread of different deals falls as the exchange rate depreciates (because the intrinsic value falls). "Always" ("never") takers are deals for which the spread is so small (large) that they always (never) fail regardless of exchange rate variation. "Compliers" are deals with a marginally positive spread, and thus, deals with a likelihood of failure that ultimately depends on exchange rate variation.

Figure 4: Nonparametric Relationship between ΔFX and the Probability of Attempt Failure

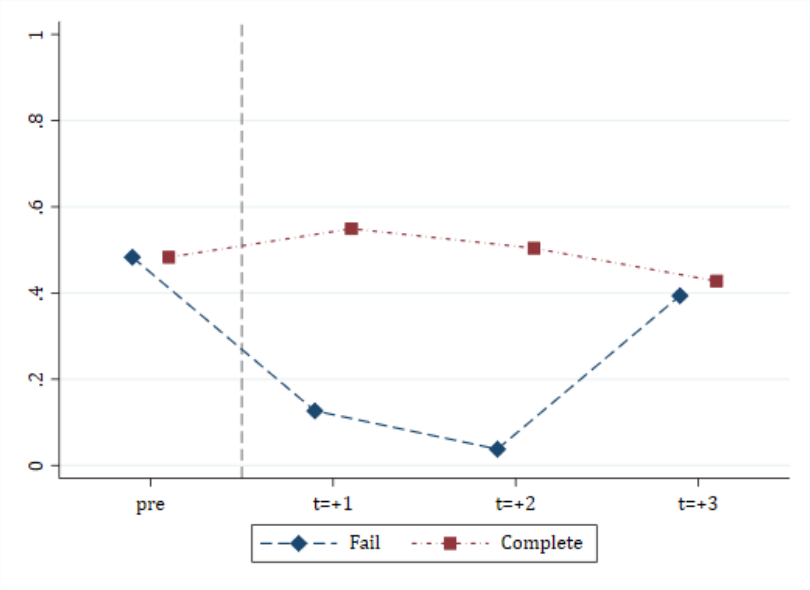


Notes: This figure shows the nonparametric relationship between ΔFX and the probability of attempt failure. The dependent variable, $Fail$, and the independent variable, ΔFX, are demeaned by acquirer industry-year, target industry-year, acquirer industry, target industry, and target country fixed effects.

Figure 5: IV Estimation: Linear and Probit Models



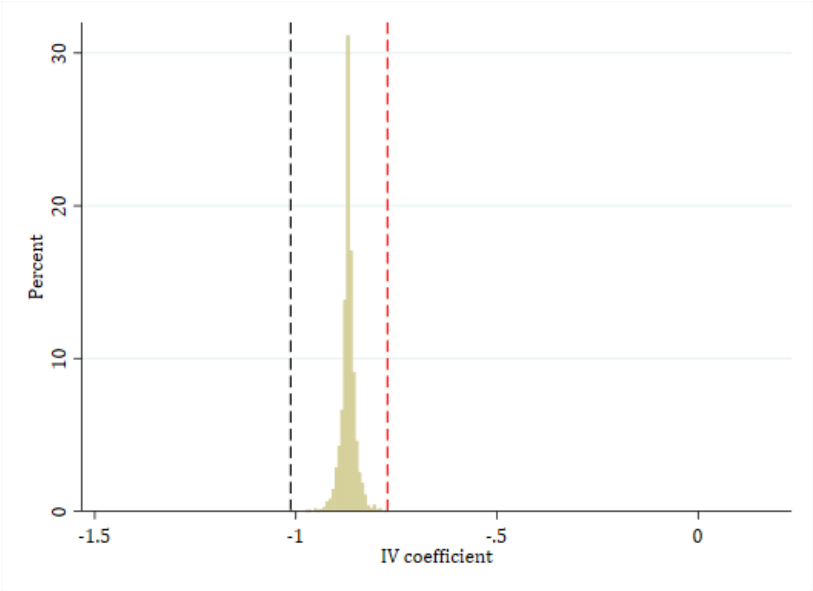
(a)



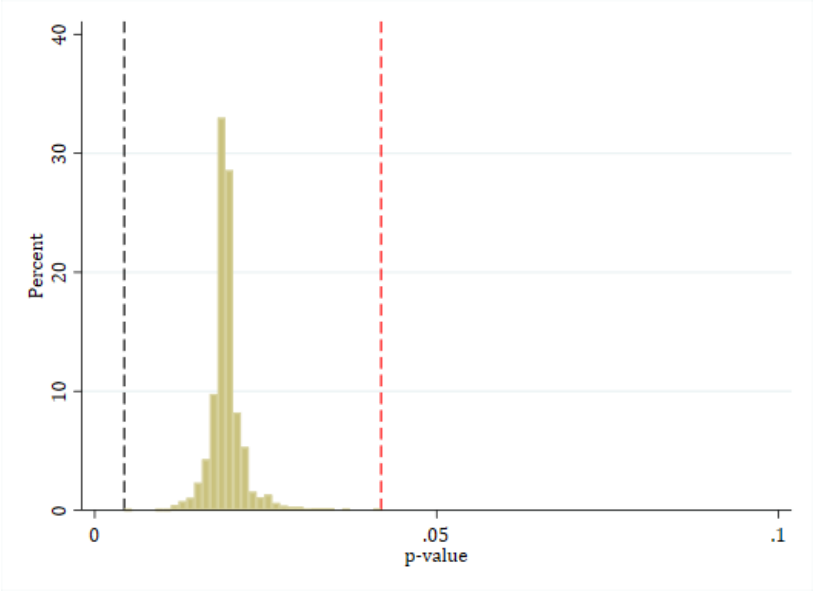
(b)

Notes: Panel A shows the estimated coefficients in the second stage for the linear IV model and the IV probit model. Panel B shows the rate of future acquisitions for acquirers with prior failed and completed acquisitions as predicted by the IV probit estimation. To compute the confidence intervals of IV Probit coefficients, we first estimate the predicted probabilities for fail = 0 and fail = 1, along with their standard errors (via the delta method), using the structural function from the IV Probit model. We then compute the difference between these predicted probabilities and test its statistical significance. The confidence interval is obtained by adding a margin of error to the estimated difference that reflects 95% confidence under a normal distribution.

Figure 6: Robustness to Sample Composition



(a)



(b)

Notes: Panel A shows the distribution of the IV coefficients for *Fail* that we get in the different IV estimations on sub-samples where we exclude one deal at a time. Panel B shows the distribution of p-values for the *Fail* coefficients. Dashed vertical lines mark the minimum and maximum in each panel.

Table 1: Summary Statistics for Main Sample of International Deals

Summary statistics at the deal level. Variable descriptions are reported in the appendix.

	Mean	P10	P50	P90	SD	N
Panel A: Deal characteristics						
Failed acquisition	0.06	0.00	0.00	0.00	0.23	2290
Days announcement to closing	114	35	77	215	151	2290
Definitive agreement	0.70	0.00	1.00	1.00	0.46	2290
Listed target	0.22	0.00	0.00	1.00	0.41	2290
Mostly cash	0.44	0.00	0.00	1.00	0.50	2290
Mostly stock	0.17	0.00	0.00	1.00	0.38	2290
Horizontal	0.44	0.00	0.00	1.00	0.50	2290
Vertical	0.27	0.00	0.00	1.00	0.44	2290
Unrelated	0.29	0.00	0.00	1.00	0.45	2290
Log(Deal Value)	4.34	1.91	4.42	6.59	1.86	2290
Deal value/Assets	0.33	0.01	0.08	0.76	0.79	2288
Deal value/Market capitalization	0.21	0.00	0.06	0.55	0.42	2198
Panel B: Returns						
ΔFX, Ann to Ann+20	0.00	-0.03	0.00	0.03	0.02	2290
$\lvert\Delta FX\rvert$, Ann to Ann+20	0.02	0.00	0.01	0.04	0.02	2290
$\sigma(\Delta FX)$, Ann to Ann+20	0.01	0.00	0.00	0.01	0.00	2290
Net ΔFX (basket), Ann to Ann+20	0.00	-0.03	0.00	0.02	0.02	2290
Net ΔFX (dollar index), Ann to Ann+20	0.00	-0.02	0.00	0.02	0.02	2287
ΔBasket, Ann to Ann+20	0.00	-0.02	0.00	0.03	0.02	2290
ΔDollar Index, Ann to Ann+20	0.00	-0.03	0.00	0.03	0.02	2287
ΔFX, Ann to Close	0.01	-0.05	0.00	0.06	0.05	2290
ΔFX, Ann+20 to Close	0.01	-0.04	0.00	0.05	0.04	2290
ΔFX, Close to Close+20	0.00	-0.03	0.00	0.03	0.02	2290
Acq Mkt Ret, Ann to Ann+20	0.01	-0.05	0.01	0.05	0.04	2290
Tgt Mkt Ret, Ann to Ann+20	0.01	-0.06	0.01	0.07	0.06	2225
Acq Ret, Ann to Ann+20	0.01	-0.16	0.01	0.15	0.16	2217

Table 2: Summary Statistics for Main Sample of Acquirers

Summary statistics for acquirers. Event time is measured with respect to the attempt: year $t = 0$ is the first fiscal year ending after the closing date. Variable descriptions are reported in the appendix.

	Mean	P10	P50	P90	SD	N
Panel A: Financials						
Assets, t-3-t-1	13457	33	1028	22718	48391	2290
Capex/Assets, t-3-t-1	0.05	0.01	0.04	0.11	0.05	2258
ROA, t-3-t-1	-0.01	-0.17	0.04	0.12	0.23	2285
Tobin's q, t-3-t-1	2.51	1.13	1.80	4.30	2.24	2224
Book Leverage, t-3-t-1	0.24	0.00	0.21	0.50	0.20	2290
Assets, t+1-t+3	20890	82	2147	34422	75641	2181
Capex/Assets, t+1-t+3	0.04	0.01	0.03	0.09	0.04	2156
ROA, t+1-t+3	-0.05	-0.26	0.02	0.09	0.26	2180
Tobin's q, t+1-t+3	1.92	1.03	1.57	3.24	1.13	2165
Book Leverage, t+1-t+3	0.28	0.02	0.26	0.53	0.20	2179
Panel B: M&A Activity						
Prior Acquisition, t-3-t-1	0.73	0.00	1.00	1.00	0.44	2290
# Acquisitions, t-3-t-1	3.82	0.00	2.00	10.00	6.50	2290
Acquisition, t+1	0.51	0.00	1.00	1.00	0.50	2290
Domestic Acquisition, t+1	0.22	0.00	0.00	1.00	0.41	2290
International Acquisition, t+1	0.13	0.00	0.00	1.00	0.33	2290
Int acq, same region same ind, t+1	0.04	0.00	0.00	0.00	0.18	2290
Unrelated Acquisition, t+1	0.06	0.00	0.00	0.00	0.24	2290
Related Acquisition, t+1	0.33	0.00	0.00	1.00	0.47	2290
Horizontal Acquisition, t+1	0.13	0.00	0.00	1.00	0.34	2290
Vertical Acquisition, t+1	0.12	0.00	0.00	1.00	0.32	2290
Downstream Acquisition, t+1	0.04	0.00	0.00	0.00	0.19	2290
Upstream Acquisition, t+1	0.07	0.00	0.00	0.00	0.25	2290
Panel C: CARs						
Acq short-term CAR Ann, [-1;+1]	0.01	-0.06	0.00	0.08	0.07	2094
Acq short-term CAR Clo, [-1;+1]	0.00	-0.05	0.00	0.05	0.05	2106
Acq long-term CAR Clo, [-12;+0]	-0.05	-0.93	-0.01	0.79	0.79	2106
Acq long-term CAR Clo, [-0;+12]	-0.19	-1.49	-0.08	0.96	1.13	2106
Acq long-term CAR Clo, [+12;+24]	-0.19	-1.74	-0.06	1.08	1.31	2065

Table 3: Sample Splits according to M&A Failure and ΔFX

This table reports means of different variables and the number of deals in sub-samples with completed and failed acquisitions in Panel A, and with high and low ΔFX (from the announcement date to the next 20 trading days) in Panel B. The difference in means is reported in the last column of each panel. Variable descriptions are reported in the appendix. Significant at: *10%, **5% and ***1%.

	Panel A			Panel B		
Variable	Failed	Completed	Diff.	High ΔFX	Low ΔFX	Diff.
Listed target	0.381	0.205	0.176***	0.232	0.198	0.034**
Mostly stock	0.321	0.164	0.157***	0.174	0.173	0.001
Log(Deal Value)	4.584	4.327	0.257	4.359	4.325	0.033
Days announcement to closing	171.6	110.5	61.03***	113.6	114.6	-1.038
Horizontal	0.507	0.439	0.068	0.439	0.447	-0.008
Vertical	0.164	0.271	-0.107***	0.263	0.267	0.00
Unrelated	0.328	0.289	0.039	0.298	0.286	0.01
Definitive agreement	0.604	0.71	-0.105***	0.699	0.708	-0.01
(Deal value/Mkt Cap)	0.609	0.187	0.422***	0.206	0.218	-0.01
Prior acquisition, t-3-t-1	0.604	0.741	-0.136***	0.741	0.725	0.02
Log(Assets), t-3-t-1	6.159	6.908	-0.749***	6.916	6.812	0.10
Log(Sales), t-3-t-1	5.683	6.572	-0.890***	6.56	6.485	0.08
ROA, t-3-t-1	-0.107	-0.008	-0.099***	-0.018	-0.009	-0.01
Tobin's q, t-3-t-1	2.327	2.523	-0.196	2.492	2.531	-0.04
Capex/Assets, t-3-t-1	0.065	0.052	0.013***	0.052	0.053	0.00
ΔFX, Ann to Ann+20	0.005	0.001	0.004**	0.019	-0.016	0.036***
# of deals	134	2,156		1,145	1,145	

Table 4: Failed Acquisition Attempts and Foreign Exchange Rates: First Stage

This table reports results for equation (2) in the main text. Variable descriptions are reported in the appendix. We report the Montiel-Olea and Pflueger F-test for weak instruments that is robust to non-i.i.d. errors. Standard errors (in parentheses) are adjusted for heteroskedasticity and clustered at the 2-digit SIC acquirer industry. Significant at: *10%, **5% and ***1%.

VARIABLES	(1) Fail	(2) Fail	(3) Fail	(4) Fail	(5) Fail	(6) Fail
ΔFX, Ann to Ann+20	0.821***	0.761***	0.746***			
	(0.191)	(0.181)	(0.181)			
ΔFX, Ann to Close				0.269**		
				(0.103)		
ΔFX, Ann+20 to Close					0.148	
					(0.131)	
ΔFX, Close to Close+20						0.36
						(0.304)
Listed target	0.039*	0.042**	0.040*	0.041*	0.041*	0.041*
	(0.020)	(0.021)	(0.021)	(0.022)	(0.022)	(0.022)
Mostly cash	-0.019	-0.019	-0.017	-0.017	-0.017	-0.016
	(0.013)	(0.013)	(0.012)	(0.013)	(0.013)	(0.013)
Mostly stock	0.018	0.003	0.003	0.004	0.003	0.002
	(0.016)	(0.018)	(0.017)	(0.017)	(0.017)	(0.017)
Horizontal	0.011	0.016	0.017	0.016	0.015	0.016
	(0.011)	(0.010)	(0.011)	(0.010)	(0.011)	(0.011)
Vertical	-0.023*	-0.017	-0.016	-0.016	-0.017	-0.016
	(0.014)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Log(Deal Value)	0.006	0.012**	0.014**	0.014**	0.014**	0.013**
	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Def agreement	-0.032**	-0.035**	-0.035**	-0.036**	-0.035**	-0.035**
	(0.014)	(0.014)	(0.015)	(0.015)	(0.015)	(0.015)
Log(Days ann. to close)	0.028***	0.027**	0.027**	0.024**	0.025**	0.026**
	(0.010)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Prior Acq 3 yr	-0.045**	-0.035**	-0.035**	-0.033**	-0.032*	-0.031*
	(0.017)	(0.016)	(0.016)	(0.016)	(0.016)	(0.017)
Prior Joint Venture 3 yr	0.005	0.014	0.018	0.019	0.021	0.023
	(0.018)	(0.015)	(0.016)	(0.017)	(0.017)	(0.018)
Log(Assets), t-3-t-1		-0.005	-0.006	-0.006	-0.006	-0.006
		(0.004)	(0.005)	(0.005)	(0.005)	(0.005)
ROA, t-3-t-1		-0.105**	-0.106**	-0.106**	-0.109**	-0.112**
		(0.048)	(0.048)	(0.048)	(0.049)	(0.048)
q, t-3-t-1		-0.005**	-0.006**	-0.006**	-0.006**	-0.006**
		(0.003)	(0.003)	(0.002)	(0.002)	(0.003)
Capex/Assets, t-3-t-1			-0.163	-0.156	-0.163	-0.162
			(0.169)	(0.165)	(0.164)	(0.168)
Leverage, t-3-t-1			-0.016	-0.014	-0.014	-0.015
			(0.029)	(0.028)	(0.027)	(0.027)
Observations	2,222	2,155	2,128	2,128	2,128	2,128
Acq SIC1-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Tar SIC1-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Acq Ind FE	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig
Target Ind FE	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig
Target country FE	Yes	Yes	Yes	Yes	Yes	Yes
F test model	18.45	17.67	16.93	6.788	1.272	1.408
Regression	1st Stage	1st Stage	1st Stage	1st Stage	1st Stage	1st Stage

Table 5: Failed Acquisition Attempts and Foreign Exchange Rates: Robustness

This table reports results for equation (2) in the main text. Firm controls, deal controls, and pre-deal financial variables are as in Table 4, column 3, although they are not shown. Variable descriptions are reported in the appendix. We report the Montiel-Olea and Pflueger F-test for weak instruments that is robust to non-i.i.d. errors. Standard errors (in parentheses) are adjusted for heteroskedasticity and clustered at the 2-digit SIC acquirer industry. Significant at: *10%, **5% and ***1%.

VARIABLES	(1) Fail	(2) Fail	(3) Fail	(4) Fail	(5) Fail	(6) Fail	(7) Fail
ΔFX, Ann to Ann+20	0.746***			0.732***	0.747***		
	(0.181)			(0.209)	(0.192)		
Net ΔFX (basket), Ann to Ann+20						0.640***	
						(0.233)	
Net ΔFX (dollar index), Ann to Ann+20							0.472**
							(0.194)
$\lvert\Delta FX\rvert$, Ann to Ann+20		0.156					
		(0.403)					
$\sigma(\Delta FX)$, Ann to Ann+20			-3.627				
			(2.195)				
ΔBasket, Ann to Ann+20				0.034			
				(0.430)			
ΔDollar Index, Ann to Ann+20					0.022		
					(0.259)		
Observations	2,128	2,128	2,128	2,128	2,125	2,128	2,125
Acq SIC1-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tar SIC1-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Acq Ind FE	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig
Target Ind FE	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig
Target country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Deal controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
F test model	16.93	0.150	2.730	12.31	15.09	7.549	5.931
Regression	1st Stage	1st Stage	1st Stage	1st Stage	1st Stage	1st Stage	1st Stage

Table 6: Failed Acquisition Attempts and Future Acquisitions: Main IV Results

Columns 1 and 2 show the results for the OLS estimation (equation 1 in the main text) and the second stage of the IV estimation (equation 3 of the main text). Columns 3 and 4 show the reduced form regression using our instrument (ΔFX, Ann to Ann+20) and the placebo instrument (ΔFX, Close to Close+20). Firm controls, deal controls, and pre-deal financial variables are as in Table 4, column 3, although they are not shown. Pre-deal financial variables are averages between $t-3$ and $t-1$. Variable descriptions are reported in the appendix. Standard errors (in parentheses) are adjusted for heteroskedasticity and clustered at the 2-digit SIC acquirer industry. Significant at: *10%, **5% and ***1%.

VARIABLES	(1) Acq. t+1	(2) Acq. t+1	(3) Acq. t+1	(4) Acq. t+1
Fail	0.032	-0.870**		
	(0.042)	(0.371)		
ΔFX, Ann to Ann+20			-0.648**	
			(0.309)	
ΔFX, Close to Close+20				-0.120
				(0.276)
Observations	2,128	2,128	2,128	2,128
Mean dep. var.	0.516	0.516	0.516	0.516
Acq SIC1-Year FE	Yes	Yes	Yes	Yes
Tar SIC1-Year FE	Yes	Yes	Yes	Yes
Acq Ind FE	2 dig	2 dig	2 dig	2 dig
Target Ind FE	2 dig	2 dig	2 dig	2 dig
Target country FE	Yes	Yes	Yes	Yes
Deal controls	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes
Regression	OLS	2nd Stage	Reduced Form	Placebo

Table 7: Failed Acquisition Attempts and Future Acquisition Types

This table shows results for the second stage of the IV estimation following the specification in column 2 of Table 6. All acquisition types refer to year t+1. Variable descriptions are reported in the appendix. Standard errors (in parentheses) are adjusted for heteroskedasticity and clustered at the 2-digit SIC acquirer industry. Significant at: *10%, **5% and ***1%.

VARIABLES	(1) Int. Acq.	(2) Int. Acq. Same r/i	(3) Dom. Acq.	(4) Unrel. Acq.	(5) Rel. Acq.	(6) Horiz. Acq.	(7) Vert. Acq.	(8) Down Acq.	(9) Up Acq.
Fail	-0.162	0.319**	-0.851**	0.363	-0.408	-0.737	-0.034	-0.712***	0.406
	(0.373)	(0.153)	(0.434)	(0.270)	(0.455)	(0.498)	(0.475)	(0.255)	(0.347)
Observations	2,128	2,128	2,128	2,128	2,128	2,128	2,128	2,128	2,128
Mean dep. var.	0.131	0.0357	0.215	0.0587	0.332	0.139	0.116	0.0381	0.0686
Acq SIC1-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tar SIC1-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Acq Ind FE	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig
Target Ind FE	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig
Target country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Deal controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Regression	2nd Stage	2nd Stage	2nd Stage	2nd Stage	2nd Stage	2nd Stage	2nd Stage	2nd Stage	2nd Stage

Table 8: Future Acquisitions Conditional on Type of Prior Attempt

This table shows results for the second stage of the IV estimation following the specification in column 2 of Table 6. All acquisition types refer to year t+1. Variable descriptions are reported in the appendix. Standard errors (in parentheses) are adjusted for heteroskedasticity and clustered at the 2-digit SIC acquirer industry. Significant at: *10%, **5% and ***1%.

VARIABLES	(1) Acq. after Unrel.	(2) Acq. after Rel.	(3) Acq. after Horiz.	(4) Acq. after Vert.	(5) Acq. after Down	(6) Acq. after Up
Fail	-0.648	-0.221	-0.230	-0.418*	-0.369**	-0.049
	(0.435)	(0.259)	(0.398)	(0.226)	(0.183)	(0.279)
Observations	2,128	2,128	2,128	2,128	2,128	2,128
Mean dep. var.	0.360	0.156	0.219	0.141	0.0512	0.0902
Acq SIC1-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Tar SIC1-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Acq Ind FE	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig
Target Ind FE	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig
Target country FE	Yes	Yes	Yes	Yes	Yes	Yes
Deal controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes
Regression	2nd Stage	2nd Stage	2nd Stage	2nd Stage	2nd Stage	2nd Stage

Table 9: Long-Run Stock Returns of Firms with Failed Acquisition Attempts

Cumulative abnormal returns (CARs) are computed for the acquirer from the closing date up to month $t+12$, or between months $t+12$ and $t+24$. We use Fama-French's 3-factor model to compute abnormal returns. Firm controls, deal controls, and pre-deal financial variables are as in Table 4, column 3, although they are not shown. Variable descriptions are reported in the appendix. Standard errors (in parentheses) are adjusted for heteroskedasticity and clustered at the 2-digit SIC acquirer industry. Significant at: *10%, **5% and ***1%.

VARIABLES	(1) Long-term FF3 CAR [0,+12]	(2) Long-term FF3 CAR [0,+12]	(3) Long-term FF3 CAR [0,+12]	(4) Long-term FF3 CAR [+12,+24]	(5) Long-term FF3 CAR [+12,+24]	(6) Long-term FF3 CAR [+12,+24]
Fail	0.099	-0.239		0.064	-1.234	
	(0.151)	(1.986)		(0.158)	(2.782)	
ΔFX, Ann to Ann+20			-1.004			-1.747
			(1.420)			(1.513)
Observations	1,970	1,970	1,970	1,932	1,932	1,932
Acq SIC1-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Tar SIC1-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Acq Ind FE	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig
Target Ind FE	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig
Target country FE	Yes	Yes	Yes	Yes	Yes	Yes
Deal controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes
Regression	OLS	2nd Stage	Reduced Form	OLS	2nd Stage	Reduced Form

Table 10: Failed Acquisition Attempts and Future Rival Acquisitions

This table shows results for the second stage of the IV estimation following the specification in column 2 of Table 6. Variable descriptions are reported in the appendix. Standard errors (in parentheses) are adjusted for heteroskedasticity and clustered at the 2-digit SIC acquirer industry. Significant at: *10%, **5% and ***1%.

	(1)	(2)	(3)	(4)	(5)	(6)
		Rival Int. Acq.			Rival Dom. Acq.	
VARIABLES	t+1	t+2	t+3	t+1	t+2	t+3
Fail	0.569	-0.246	-0.046	0.137	-0.404*	-0.510**
	(0.360)	(0.263)	(0.438)	(0.316)	(0.216)	(0.222)
Observations	2,128	2,128	2,128	2,128	2,128	2,128
Mean dep. var.	0.789	0.806	0.794	0.885	0.883	0.875
Acq SIC1-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Tar SIC1-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Acq Ind FE	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig
Target Ind FE	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig
Target country FE	Yes	Yes	Yes	Yes	Yes	Yes
Deal controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes
Regression	2nd Stage	2nd Stage	2nd Stage	2nd Stage	2nd Stage	2nd Stage

Appendix

A.1 Variable definitions

All continuous variables are winsorized at the 1% level. When we use the log of a variable, we first take averages (e.g., between $t+1$ and $t+3$) and then take logs. Different horizons for the same variable are defined analogously unless noted.

Fail: One if the deal status is withdrawn, zero if the status is completed.

Days announcement to closing: Number of calendar days from deal announcement to deal closing (completed/withdrawn).

Listed target: One if the target's listing status in LSEG SDC Platinum is public, zero otherwise.

Mostly cash: One if the percentage of the total value paid in cash is higher than 50%, zero otherwise.

Mostly stock: One if the percentage of the total value paid in stock is higher than 50%, zero otherwise.

Horizontal: One if the acquirer's primary IO industry is equal to the target's primary IO industry, zero otherwise. Since IO industries are not precisely aligned with the six-digit NAICS codes of firms, the acquirer's and target's relationship can be categorized as both horizontal and non-horizontal simultaneously. Following Ahern and Harford (2014), we prioritize horizontal mergers first, followed by vertical mergers, and then unrelated mergers.

Vertical: One if the acquirer's primary IO industry is vertically and not horizontally related to the target's primary IO industry, zero otherwise. Following Ahern and Harford (2014), vertical relations are defined if two industries exceed a threshold of 1% across any of the following four vertical relations: (1) acquirer industry purchases from target, (2) target industry purchases from acquirer, (3) acquirer industry sells to target, and (4) target industry sells to acquirer.

Unrelated: One if the acquirer's primary IO industry is neither horizontal nor vertical, zero otherwise.

Downstream: One if the acquirer's primary IO industry is vertically downstream related to the target's primary IO industry, zero otherwise. Following Ahern and Harford (2014), vertically downstream relations are defined if two industries exceed a threshold of 1% across any of the following two vertical relations: (1) target industry purchases from acquirer or (2) acquirer industry sells to target vertical relations exceed a threshold of 1%.

Upstream: One if the acquirer's primary IO industry is vertically upstream related to the target's primary IO industry, zero otherwise. Following Ahern and Harford (2014), vertically upstream relations are defined if two industries exceed a threshold of 1% across any of the following two vertical relations: (1) acquirer industry purchases from target or (2) target industry sells to acquirer vertical relations exceed a threshold of 1%.

Deal Value: Total value paid by the acquirer in millions of dollars. If a portion of the value is paid with common stock, then the stock is valued using the closing price on the last full trading day prior to the announcement.

Def. agreement: One if the deal contains a definitive agreement, zero otherwise. We consider that a deal has a definitive agreement in place if the definitive agreement contract has been signed up to the deal's closing. A definitive agreement is a legally binding contract that outlines the detailed terms of a merger. It typically includes a Material Adverse Change (MAC) clause, which details the circumstances under which the agreement may be terminated.

Prior Acquisition, t-3-t-1 : One if the acquirer has completed a domestic or international in the past three years, zero otherwise.

Acquisition, t-3-t-1: Number of domestic or international acquisitions completed in the past three years.

Prior Joint Venture: One if the acquirer has completed an international joint venture in the in the past three years, zero otherwise.

Assets, t-3-t-1: Average of the acquirer's total assets in the three years before the announcement year (in millions of dollars).

Capex/At, t-3-t-1: Average of the acquirer's capital expenditures over total assets in the three years before the announcement year.

ROA, t-3-t-1: Average of the acquirer's return on assets in the three years before the announcement year.

q, t-3-t-1: Average of the acquirer's Tobin's q in the three years before the announcement year.

Cash/At, t-3-t-1: Average of the acquirer's cash holdings over assets in the three years before the announcement year.

Book Leverage, t-3-t-1: Average of the acquirer's book leverage in the three years before the announcement year.

Payout/At, t-3-t-1: Average of the acquirer's dividends plus repurchased over assets in the three years before the announcement year.

Deal Value/Assets: Deal Value over the acquirer's total assets.

Deal Value/Mkt Cap: Deal Value over the acquirer's stock market capitalization.

Acquisition, t+1: One if the acquirer has completed a domestic or international deal in the next year after the closing year, zero otherwise.

Domestic Acquisition, t+1: One if the acquirer completes only domestic deals in the year after the closing year, zero otherwise.

International Acquisition, t+1: One if the acquirer completes only international deals in the year after the closing year, zero otherwise.

Horizontal Acquisition, t+1: One if the acquirer completes only horizontal deals in the next year after the closing year, zero otherwise.

Vertical Acquisition, t+1: One if the acquirer completes only vertical deals in the next year after the closing year, zero otherwise.

Unrelated Acquisition, t+1: One if the acquirer completes only unrelated deals in the next year after the closing year, zero otherwise.

Downstream Acquisition, t+1: One if the acquirer completes only downstream deals in the next year after the closing year, zero otherwise.

Upstream Acquisition, t+1: One if the acquirer completes only upstream deals in the next year after the closing year, zero otherwise.

Int acq, same region same ind, t+1: One if the acquirer completes only international acquisitions in the same target region (Asia, Canada, Europe Latam, Others) and industry (sic 2-digit) as the previous attempt within one year after the closing date, zero otherwise.

Acq. after Unrel.: One if the acquirer completes an acquisition within one year after the closing date of a previously attempted international unrelated acquisition, zero otherwise.

Acq. after Rel.: One if the acquirer completes an acquisition within one year after the closing date of a previously attempted international related acquisition, zero otherwise.

Acq. after Horiz.: One if the acquirer completes an acquisition within one year after the closing date of a previously attempted international horizontal acquisition, zero otherwise.

Acq. after Ver.: One if the acquirer completes an acquisition within one year after the closing date of a previously attempted international vertical acquisition, zero otherwise.

Acq. after Down.: One if the acquirer completes an acquisition within one year after the closing date of a previously attempted international downstream acquisition, zero otherwise.

Acq. after Up.: One if the acquirer completes an acquisition within one year after the closing date of a previously attempted international upstream acquisition, zero otherwise.

Rival Int. Acq., t+k: One if a listed U.S. rival of the acquirer, defined at the 2-digit SIC level, completes only international acquisitions k years after the closing date, zero otherwise.

Rival Dom. Acq., t+k: One if a listed U.S. rival of the acquirer, defined at the 2-digit

SIC level, completes only domestic acquisitions k years after the closing date, zero otherwise.

Short-term cumulative abnormal return (CAR), t-1-t+1: Abnormal stock returns computed daily for the acquirer with respect to Fama-French's 3-factor (market, SMB, and HML) or 5-factor (market, SMB, HML, RMW, and CMA) model. The estimation window for the expected return model is 252 trading days before the announcement. Day 0 can be the date of announcement or closing. We accumulate returns between days $t-1$ and $t+1$ from the announcement or closing.

Long-term cumulative abnormal return (CAR), t-j-t+h: Abnormal stock returns computed daily for the acquirer with respect to Fama-French's 3-factor (market, SMB, and HML) or 5-factor (market, SMB, HML, RMW, and CMA) model. The estimation window for the expected return model is 252 trading days before the announcement. Day 0 is the date of closing. We accumulate returns between months $t-j$ and $t+h$ from closing.

Δ FX, Ann to Ann +20: Percentage change in the nominal exchange rate of the U.S. Dollar relative to the target country between the announcement date and the next 20 trading days. We use the BIS bilateral nominal exchange rate dataset at a daily frequency for this and all variables below with the foreign exchange rate.

Δ FX, Ann to Close: Percentage change in the nominal exchange rate of the U.S. Dollar relative to the target country between the announcement date and the closing date.

Δ FX, Ann +20 to Close: Percentage change in the nominal exchange rate of the U.S. Dollar relative to the target country between 20 trading days after the announcement date and the closing date.

Δ FX, Close to Close +20: Percentage change in the nominal exchange rate of the U.S. Dollar relative to the target country between the closing date and the next 20 trading days.

$|\Delta FX|$ Ret, Ann to Ann+20: Absolute value of the percentage change in the nominal exchange rate of the U.S. Dollar relative to the target country between the announcement date and the next 20 trading days.

$\sigma(\Delta$ FX), Ann to Ann+20: Standard deviation of the daily percentage change in the nominal exchange rate of the U.S. Dollar relative to the target country between the an-

nouncement date during the next 20 trading days after the announcement.

ΔBasket, Ann to Ann+20: Percentage change in the nominal exchange rate of the U.S. dollar relative to a basket of 82 non-U.S. currencies (from the BIS database), where the basket is constructed as an average across these currencies. The change is measured from the announcement date and the next 20 trading days.

ΔDollar Index, Ann to Ann+20: Percentage change in the nominal exchange rate of the U.S. dollar relative to the Dollar Index (DXY), measured from the announcement date and the next 20 trading days.

Net ΔFX (basket), Ann to Ann+20: Difference between the percentage change in the U.S. dollar's nominal exchange rate relative to the target country (ΔFX, Ann to Ann+20) and the corresponding change relative to a basket of 89 non-U.S. currencies (ΔBasket, Ann to Ann+20), measured from the announcement date and the next 20 trading days.

Net ΔFX (dollar index), Ann to Ann+20: Difference between the percentage change in the U.S. dollar's nominal exchange rate relative to the target country (Δ FX, Ann to Ann +20) and the corresponding change relative to the Dollar Index (ΔDollar Index, Ann to Ann+20), measured from the announcement date and the next 20 trading days. (see: https://www.bloomberg.com/quote/DXY:CUR)

Acq Mkt Ret, Ann to Ann+20: Market value-weighted CRSP returns between the announcement date and the next 20 trading days.

Tgt Mkt Ret, Ann to Ann+20: Market returns of the target country between the announcement date and the next 20 trading days.

Acq Ret, Ann to Ann+20: Acquirer's stock returns (from CRSP) between the announcement date and the next 20 trading days.

A.2 Duration analysis

In the main text we study the likelihood of acquiring other firms after failed or successful attempts. A related idea is to study how long it takes for the firm to acquire other firms after failed or successful attempts. This implies performing a duration or survival analysis. The ideal approach to answering this question is to use a Cox proportional hazard model, which is specifically designed for time-to-event data. This semi-parametric model allows us to estimate the probability that a firm completes an acquisition at a given point in time, conditional on not having done so earlier. If failure were randomly assigned, the estimated coefficients would be unbiased and would reflect how the likelihood of completing an acquisition evolves over time following a failed international attempt. However, failed attempts are unlikely to be exogenous, as they may be driven by unobserved firm characteristics that also influence future acquisition behavior.

Because the standard Cox model does not accommodate IV techniques or control function corrections for endogeneity, we instead estimate a Poisson model with a control function approach. Although estimating a standard IV Poisson model is theoretically possible, it is not feasible in our empirical setting. The combination of a relatively small sample size and the inclusion of high-dimensional fixed effects leads Stata to perform poorly when estimating models via maximum likelihood (MLE). Since IV Poisson estimation relies on the generalized method of moments (GMM), which is even more complex than MLE, it becomes unfeasible to implement. As a result, we rely on the control function approach. This method involves first modeling the endogenous regressor as a function of the instrument, and then including the resulting residuals of the first stage as an additional control in the main equation to correct for endogeneity (Lin and Wooldridge, 2019).[15]

We estimate the hazard rate of completing an acquisition using two approaches that differ in how they define time and risk sets. The first is the standard hazard model, in which time is measured from the year of the international attempt. This model estimates the probability that a firm completes an acquisition t years after the attempt, conditional on not having done so earlier in the post-attempt window.

The second is a recursive hazard model (or conditional risk set model), which defines time relative to the most recent acquisition during the post-attempt window. Unlike traditional hazard models, where agents are assumed to experience at most one event, our setting allows firms to complete multiple acquisitions within the post-attempt period. The recursive approach updates the risk set after each acquisition, allowing us to estimate the probability

[15] In unreported results, we verify that the Cox model yields estimates that are equivalent to those from a Poisson regression when time is measured in discrete intervals and we consider $Fail$ as an exogenous variable. This is consistent with the well-established equivalence between discrete-time hazard models and Poisson.

that a firm completes the next acquisition t years after the most recent one.

The key difference between the two approaches lies in how they define risk sets: the standard model uses a common starting point (the failed or completed attempt), whereas the recursive model resets the origin after each acquisition in the post-attempt window. Both models are estimated using a Poisson specification with a control function correction to address the endogeneity of failure.

To implement these models, we reshape the data from single-record to multiple-record (or "long") format, leveraging the flexibility of duration models. This transformation is particularly important for bootstrapping standard errors under the control function approach. The multi-record structure improves the efficiency of the bootstrap when regression equations include many fixed effects.

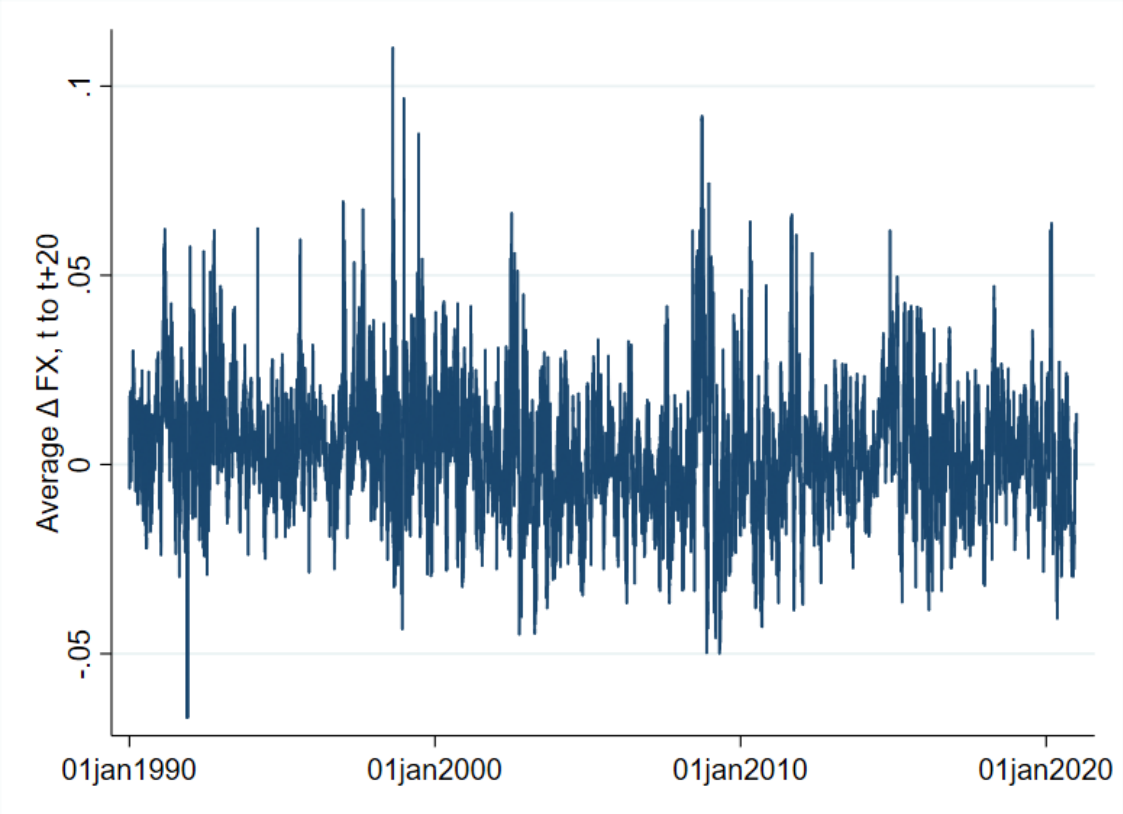
As a final robustness check, we estimate a modified IV model to examine how long it takes to complete a first acquisition after failed attempts. This analysis combines the linear probability model and the hazard rate intuition (see, for example, Dobbie and Song 2015). We create a balanced panel with T post-attempt years for each acquirer. The dependent variable is a binary indicator equal to one if a firm completes its first acquisition in or before a given year. The explanatory variable is $Fail$ as in our original setup. The coefficient for $Fail$ corresponds to the fraction of years lost without acquisitions over the horizon T. For example, imagine we have a sample with 2 firms: one with a failed attempt and who completed its first acquisition in year 2 of $T = 3$, and another firm with a completed attempt and who completed its next acquisition in year 1. The fraction of years lost without acquisitions due to failed attempts in this sample is 33% ($= 1/3$), and thus $\beta = -0.33$ (This example can be generalized adjusting for means of the different variables).

Table A.6 shows that the results for hazard models in the first two columns. The coefficient of 0.05 in column 1 implies that firms with a previous failed attempt exhibit a 95% (=1-0.05) lower likelihood of completing an acquisition at time t, conditional on not having done so earlier, relative to firms with completed previous attempts. Column 2 shows that firms with failed attempts exhibit a 91% (=1-0.089) lower likelihood of completing an acquisition. The recursive specification highlights how failure continues to affect acquisition activity, suggesting a persistent effect of failed international attempts on future acquisition dynamics. Column 3 shows results from the panel IV model, which uses a three-year post-attempt window ($T = 3$). The coefficient of -0.935 is statistically significant at the 1% level and implies that firms with failed attempts lose 2.85 years (=3*0.935) without new acquisitions acquisitions.

Taken together, the results indicate that failed attempts has both immediate and persistent effects on firms' subsequent acquisitions. The magnitude of the effect is consistent across

methodologies. Results show that firms with failed attempts are approximately 90-95% less likely to complete an acquisition in the years following the attempt compared to firms with completed deals. These findings are also consistent with the dynamics shown in Figure 5, where firms with failed attempts show, on average, almost no acquisitions during the first two years after the attempt but resume normal acquisition activity in year three.

Figure A.1: Exchange Rate Variation in 20-day Intervals



Notes: This figure shows the time series of 20-day changes of dollar exchange rates averaged across 82 countries in the BIS dataset.

Table A.1: Sample Selection

Description of the sample selection process from raw data to the final sample.

Selection Criteria	Sample
LSEG SDC Platinum International M&A deals with US acquirers completed or withdrawn 1981-2023 in the form of Acquisition, Acquisition of assets, Acquisition of majority interest, Acquisition of partial interest, Acquisition of remaining interest, and Merger.	56,439
Drop deals if the closing and announcement dates are equal.	14,551
Keep deals if there is available information about short-run foreign exchange rates.	13,917
Drop deals if the difference between the closing and announcement date is less than 20 trading days.	10,877
Drop deals if the acquirer's SIC code or the target's SIC code is missing.	10,809
Keep deals for which we can identify fixed effects. Exclude countries and industries with a single deal.	10,239
Drop deals if the percentage sought is less than 50%.	9,638
Drop deals if acquirers and targets are labeled as investors (SIC 6799) or blank checks (SIC 6770).	7,887
Drop deals if Deal Value is missing.	4,793
Drop deals if the announcement date is different from the original date when the deal was first announced. This difference arises when deals are renegotiated, face competing offers, or undergo structural changes after the initial announcement.	3,975
Keep deals if the announcement date is not estimated. The LSGE SDC Planitinium Database flags this.	3,920
Drop deals if the target used a defensive tactic or is not friendly.	3,787
Drop deals with collars.	3,773
Drop deals if the acquirer's ultimate parent company is the same as the target's ultimate parent company.	3,653
Keep deals if the acquirer is listed (with available Compustat information).	2,451
Keep deals if the announcement date is between 1990 and 2020.	2,290
Final Sample	2,290

Table A.2: Characteristics of Compliers

This table shows the first stage coefficient in subsamples of our data with a given characteristic (e.g., deals with a definitive agreement, deals with listed targets, etc.). The relative complier likelihood is the first stage coefficient in each subsample divided by the full-sample first stage coefficient. If this relative likelihood is above (below) 1, then the compliers are more (less) likely to have that characteristic than the full sample. The 95% confidence intervals for the relative likelihood are computed through the delta method. The complier population is significantly different from the full sample (in terms of a given characteristic) if the confidence interval excludes 1.

Characteristic	First stage coeff.	Relative likelihood	Confidence interval (95%)
Definitive agreement	0.683	0.916	(0.536 ; 1.297)
Mostly stock	1.991	2.67	(0.465 ; 4.876)
Listed target	1.731	2.322	(-0.025 ; 4.669)
Canadian target	0.625	0.838	(-1.685 ; 3.362)
European target	0.459	0.616	(0.046 ; 1.185)
Other target regions	1.097	1.472	(0.469 ; 2.475)
Prior Domestic Acquisition	0.827	1.11	(0.477 ; 1.742)
Prior International Acquisition	0.499	0.67	(-0.013 ; 1.353)

Table A.3: Failed Acquisition Attempts and Other Returns

This table reports results for equation (2) in the main text. Firm controls, deal controls, and pre-deal financial variables are as in Table 4, column 3, although they are not shown. Variable descriptions are reported in the appendix. We report the Montiel-Olea and Pflueger F-test for weak instruments that is robust to non-i.i.d. errors. Standard errors (in parentheses) are adjusted for heteroskedasticity and clustered at the 2-digit SIC acquirer industry. Significant at: *10%, **5% and ***1%.

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	Fail	Fail	Fail	Fail	Fail	Fail
ΔFX, Ann to Ann+20	0.746***					0.605***
	(0.181)					(0.184)
Acq Mkt Ret, Ann to Ann+20		-0.135				-0.002
		(0.170)				(0.173)
Tgt Mkt Ret, Ann to Ann+20			0.030			0.051
			(0.118)			(0.128)
Acq Ret, Ann to Ann+20				-0.076		-0.048
				(0.052)		(0.055)
Acq short-term CAR Ann, [-1;+1]					0.065	0.084
					(0.102)	(0.093)
Observations	2,128	2,128	2,067	2,082	1,963	1,901
Acq SIC1-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Tar SIC1-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Acq Ind FE	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig
Target Ind FE	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig
Target country FE	Yes	Yes	Yes	Yes	Yes	Yes
Deal controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes
F test model	16.93	0.634	0.0629	2.149	0.405	10.87
Regression	1st Stage	1st Stage	1st Stage	1st Stage	1st Stage	1st Stage

Table A.4: Failed Acquisition Attempts and Future Acquisitions: Placebos

This table shows results for the first stage and reduced form of the IV estimation following the specifications in the main text. Variable descriptions are reported in the appendix. Standard errors (in parentheses) are adjusted for heteroskedasticity and clustered at the 2-digit SIC acquirer industry. Significant at: *10%, **5% and ***1%.

VARIABLES	(1) Fail	(2) Fail	(3) Fail	(4) Acq. t+1	(5) Acq. t+1	(6) Acq. t+1	(7) Fail	(8) Fail	(9) Fail	(10) Acq. t+1	(11) Acq. t+1	(12) Acq. t+1
ΔFX, Ann-81 to Ann-1	0.244			0.194								
	(0.163)			(0.179)								
ΔFX, Ann-161 to Ann-1		0.115			0.139							
		(0.116)			(0.117)							
ΔFX, Ann-241 to Ann-1			0.068			0.022						
			(0.084)			(0.132)						
ΔFX, Close to Close+80							0.095			-0.003		
							(0.135)			(0.253)		
ΔFX, Close to Close+160								-0.002			-0.149	
								(0.122)			(0.179)	
ΔFX, Close to Close+240									-0.096			0.130
									(0.077)			(0.115)
Acq SIC1-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tar SIC1-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Acq Ind FE	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig
Target Ind FE	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig
Target country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Deal controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,128	2,127	2,127	2,128	2,127	2,127	2,128	2,128	2,128	2,128	2,128	2,128
Regression	1st Stage	1st Stage	1st Stage	Red. Form	Red. Form	Red. Form	1st Stage	1st Stage	1st Stage	Red. Form	Red. Form	Red. Form

Table A.5: Failed Acquisition Attempts and Future Acquisitions: Robustness

This table shows results for the second stage of the IV estimation following the specification in column 2 of Table 6. Variable descriptions are reported in the appendix. Standard errors (in parentheses) are adjusted for heteroskedasticity and clustered at the 2-digit SIC acquirer industry. Significant at: *10%, **5% and ***1%.

VARIABLES	(1) Acq. t+1	(2) Acq. t+1	(3) Acq. t+1	(4) Acq. t+1	(5) Acq. t+1	(6) Acq. t+1	(7) Acq. t+1-t+3
Fail	-0.819**	-0.752**	-0.835**	-1.357**	-0.841*	-0.808**	-0.816**
	(0.382)	(0.371)	(0.391)	(0.681)	(0.438)	(0.409)	(0.416)
Observations	2,099	1,994	2,128	1,666	1,598	1,845	2,128
Acq SIC1-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tar SIC1-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Acq Ind FE	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig
Target Ind FE	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig
Target country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Deal controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Regression	2nd Stage	2nd Stage	2nd Stage	2nd Stage	2nd Stage	2nd Stage	2nd Stage
Prior controls	t-1	t-3 to t-1	t-5 to t-1	t-3 to t-1	t-3 to t-1	t-3 to t-1	t-3 to t-1
Sample	Baseline	No missing lags	Baseline	Excl. crises	Excl. Waves	Excl. serial acq.	Avg. t+1 to t+3

Table A.6: Duration Analysis

The regressions report hazard coefficients estimated using a control function approach applied to a Poisson model, as well as coefficients estimated from a panel IV specification. In column (1), the dependent variable is the probability that a firm completes an acquisition at year t, conditional on not having completed any acquisition since the international acquisition attempt. Here, t refers to the number of years since the attempt (t in 1, 2, 3). In column (2), the dependent variable is the probability that a firm completes an acquisition at time t, conditional on not having completed an acquisition since its most recent one. In this case, t refers to the number of years since the last completed acquisition after the international attempt (t in 1, 2, 3). In column (3), the dependent variable is an indicator equal to one if a firm completes its first acquisition in or before a given year. Columns (1) and (2) report exponentiated coefficients from Poisson regressions (i.e., IRR coefficients = exp(β)) to facilitate interpretation as hazard ratios. Standard errors are also transformed (exp(β)*exp(se)) following Stata's default, but these are not directly interpretable in statistical terms. Importantly, significance levels are based on the original, non-exponentiated coefficients. For the Poisson regressions, standard errors are computed using the bootstrap method. For the IV specifications, standard errors are robust and clustered at the acquirer industry level. All standard errors are shown in parentheses. Significant at: *10%, **5% and ***1%.

	(1)	(2)	(3)
VARIABLES	Hazard	Hazard	Acq.
Fail	0.050**	0.089*	-0.935***
	(0.077)	(0.115)	(0.323)
Residuals	22.050**	11.911*	
	(33.586)	(15.944)	
Observations	3,747	6,213	6,384
Pseudo R-squared	0.117	0.02	
Acq SIC1-Year FE	Yes	Yes	Yes
Tar SIC1-Year FE	Yes	Yes	Yes
Acq Ind FE	2 dig	2 dig	2 dig
Target Ind FE	2 dig	2 dig	2 dig
Target country FE	Yes	Yes	Yes
Deal controls	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes
Regression	Control function	Control function	Panel IV
	IV Poisson	IV Poisson	

Table A.7: Failed Acquisition Attempts and Other Outcomes

This table shows results for the second stage of the IV estimation following the specification in column 2 of Table 6. Variable descriptions are reported in the appendix. Standard errors (in parentheses) are adjusted for heteroskedasticity and clustered at the 2-digit SIC acquirer industry. Significant at: *10%, **5% and ***1%.

VARIABLES	(1) Log(Assets)	(2) Capex/Assets	(3) R&D	(4) Patent	(5) ROA	(6) Cash/Assets	(7) Payout/Assets
Fail	-0.374	-0.032	0.007	0.088	0.164	0.236	-0.049
	(0.560)	(0.028)	(0.058)	(0.231)	(0.174)	(0.197)	(0.042)
Observations	2,022	1,991	1,346	2,128	2,022	2,001	1,810
Acq SIC1-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tar SIC1-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Acq Ind FE	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig
Target Ind FE	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig	2 dig
Target country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Deal controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Regression	2nd Stage	2nd Stage	2nd Stage	2nd Stage	2nd Stage	2nd Stage	2nd Stage