

# The Environment for Merger Arbitrage: 2021

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# The Environment for Merger Arbitrage: 2021

## Executive Summary

Merger arbitrage capitalizes on the spread between a company's current share price and its final acquisition price.

After a tumultuous first half in 2020, the merger market has come back strongly with a large number of deals, low failure rates, many improved offers, and moderate times to completion. These and related characteristics of the merger markets should allow merger arbitrage strategies to build well-diversified portfolios with relatively low risks of deal failure and attractive returns.

Fully exploiting the attractive environment requires a sophisticated investment strategy that can distinguish more attractive mergers from less attractive mergers and position the portfolio accordingly. Versor Investments has implemented an advanced systematic merger arbitrage strategy. The alpha forecast model for that strategy uses machine learning and a proprietary database covering more than 4,000 mergers to estimate the probability that a merger will close, determine downside risk, and perform competing bid analysis. The strategy invests in announced merger deals across the US, Canada, UK, and Europe.

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## 1 Introduction

Merger arbitrage principally aims to earn the spread remaining between the target shares and the total value of the offer in announced mergers while minimizing the market exposures of the portfolio. For stock offers, this involves hedging the acquirer-specific risk by shorting an appropriate number of acquirer shares. While the risks of deal failures can be diversified across a portfolio with a large number of mergers, there is room to improve performance by reducing positions in riskier deals. When these trades are well executed, they earn attractive returns with close-to-zero correlations with equity markets.

Interestingly, the opportunity set for such merger arbitrage portfolios varies over time based on the number of mergers in the market and their characteristics. We describe several environment metrics and conclude that the current environment is attractive compared to historical norms.

## 2 The Merger Arbitrage Environment over Time

We now outline the most important aspects of the environment for merger arbitrage over time. Of course, we do so with an eye on how the current state of the environment compares to historical norms and the recent past.

### 2.1 Deal flow

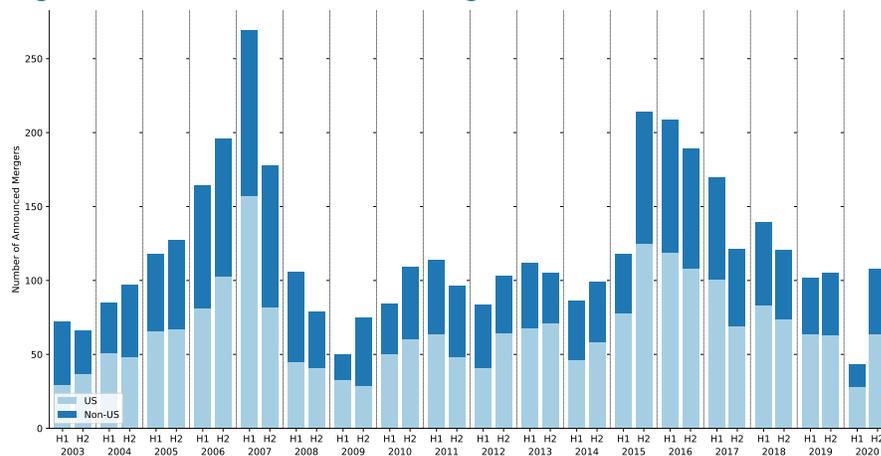
A larger number of mergers increases the demand for merger arbitrage, elevates spreads, increases liquidity and capacity for merger arbitrage, permits more diversified portfolios and higher portfolio leverage. Merger deal flow varies over time. As a result, there are periods when merger portfolios are more or less attractive than is typical based on deal flow.

In early 2020, merger deal flow was materially reduced due to Covid-19. In March 2020, the global health crises triggered large market swings, which left potential acquirers uncertain about appropriate valuations. The associated uncertainty about economic growth also reduced deal flow. Finally, Covid-19 restrictions on travel and meetings made traditional merger negotiations impossible. As market volatility declined and many firms devised new operating modes, investment bankers adjusted to remote negotiations. The figures in this section show that deal flow overall has strongly recovered throughout the second half of 2020, after an understandably slow period during the first half of 2020.

#### Number of mergers

Figure 1 shows the number of mergers over time. The total numbers are divided into semi-annual periods, shown in pairs of bars for each calendar

**Figure 1: Number of Announced Mergers**



The figure shows the number of announced mergers by semi-annual calendar period. For each period, the total number is separated into US and non-US mergers, respectively. The bottom portion of each bar indicates the number of mergers with US targets; the top portion of each bar indicates the number of mergers with non-US targets. Non-US mergers constitute mergers with target stocks in Canada, Europe including the UK, Australia and Japan.

Source: Versor Investments, Bloomberg.

Past performance is not indicative of future results. Performance results reflect the reinvestment of income. Commodity interest trading involves substantial risk of loss.

year. Moreover, the bars are subdivided into mergers with US and non-US targets.<sup>1</sup> The figure clearly shows that the last few years have produced an unusually high number of mergers, especially in the US. Although the number of mergers fell noticeably during the Covid-related market turmoil in the first half of 2020, deal flow has strongly recovered since then. In fact, the flow of new mergers continued to rise during the second half of 2020 and appeared to continue at very high levels in early 2021.

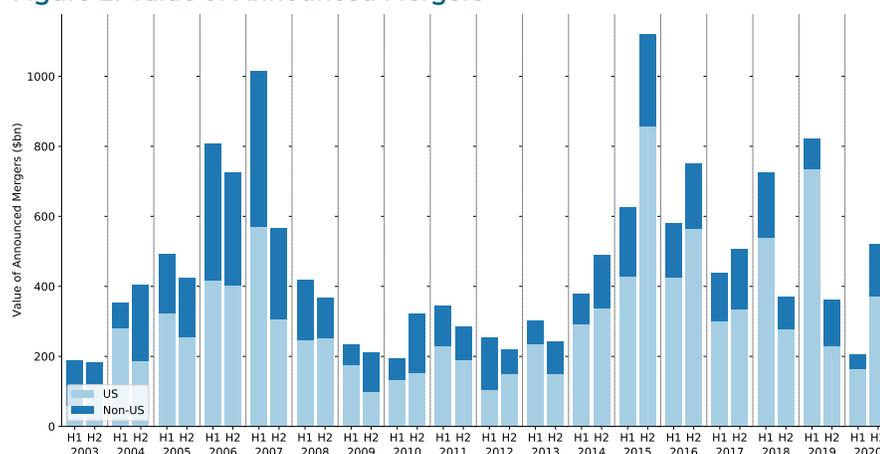
### Value of mergers

While more mergers are better for liquidity, spreads, diversification, and leverage, a large number of small mergers is less attractive than a similar number of large mergers. Small deals have less impact on market liquidity and overall spreads.

Figure 2 shows the dollar value of mergers over time. For each deal, the size is equal to the market value of the total offer. As for the number of mergers in figure 1, we subdivide the totals for each six-month period by US and non-US acquirers.

<sup>1</sup>A target stock is considered a US target if its primary equity listing is on a US stock exchange. Non-US mergers have target stocks with primary equity listings in Canada, Europe including the UK, Australia, and Japan.

Figure 2: Value of Announced Mergers



The figure shows the dollar value of announced mergers by semi-annual calendar period. For each period, the total is separated into the value of US and non-US mergers, respectively. The bottom portion of each bar indicates the value of US mergers; the top portion of each bar indicates the value of non-US mergers. Non-US mergers constitute mergers in Canada, Europe including the UK, Australia and Japan.

Source: Versor Investments, Bloomberg.

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The figure shows that the dollar value of announced mergers strongly recovered during the second half of 2020, along with the number of deals. While the value of announced mergers in the first half of 2020 was below recent values, the second half was higher than the corresponding periods during 2017, 2018, or 2019, all of which had very strong merger activity. Like the number of mergers, the value of mergers continued to rise during the second half of 2020 and into early 2021.

#### Cash available for future mergers

While it is difficult to make precise predictions about future deal flow, the cash on hand at both corporate and private equity acquirers gives some indication of possible future deal flow. Harford (1999) shows that cash-rich firms are more likely to attempt acquisitions. In part, this is true because potential acquirers with large amounts of available cash can make offers without accessing the debt markets. Of course, the cash can be used for either new mergers or competing offers on existing deals. Either one should benefit merger arbitrage portfolios.

Figure 3 shows the median cash to asset ratio for US large-cap and mid-cap firms. Clearly, many US firms have accumulated an unusual amount of cash during 2020. These firms may continue to hold some of that cash as a precaution against future operating cash demands. Most likely, however,

**Figure 3: Corporate Cash**



The figure shows the cross-sectional median cash to assets ratio for US large-cap and mid-cap firms. The firms are the constituents of the large-cap and mid-cap components of the US S&P Broad Market Index.

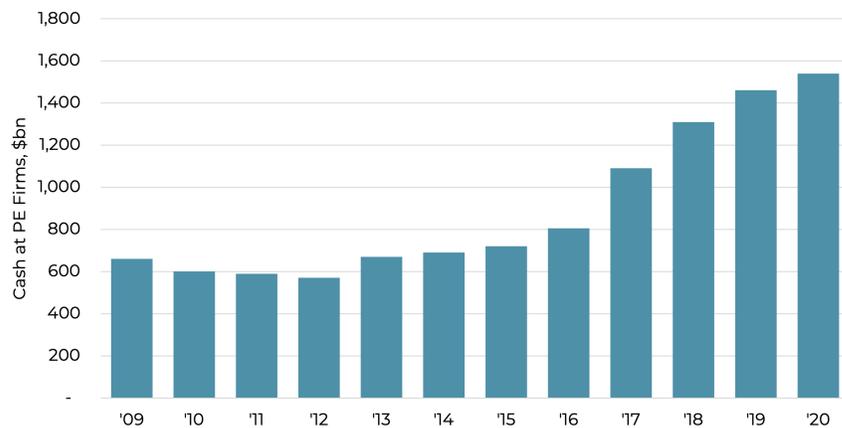
Source: Versor Investments, S&P, Worldscope.

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they will also spend some of this cash on acquisitions, especially if the economy progresses on the road to recovery before large parts of the cash reserves are consumed for ongoing business reasons.

Figure 4 shows that private equity funds have also accumulated large

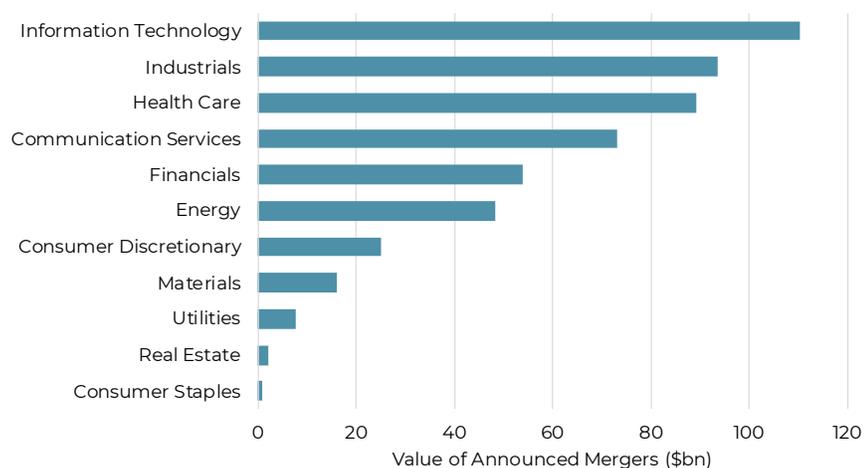
**Figure 4: Dry Powder at PE Funds**



The figure shows estimates of cash held by private equity funds. Values prior to 2020 are at year-end; the value for 2020 is for the end of March.

Source: Goldman Sachs.

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**Figure 5: Value of Announced Mergers by Sector**

The figure shows the value of announced mergers by sector during the second half of 2020. Source: Versor Investments, Bloomberg.

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amounts of cash, although this trend has built up over several years. Unlike corporations, private equity funds must spend their cash at some point. While PE funds may use some of the cash to support existing investments, a large fraction is likely to fund future acquisitions. Some of the acquisition targets will be private companies in which merger arbitrage cannot take positions. However, many of the acquisition targets will be public companies that will become part of merger arbitrage portfolios.

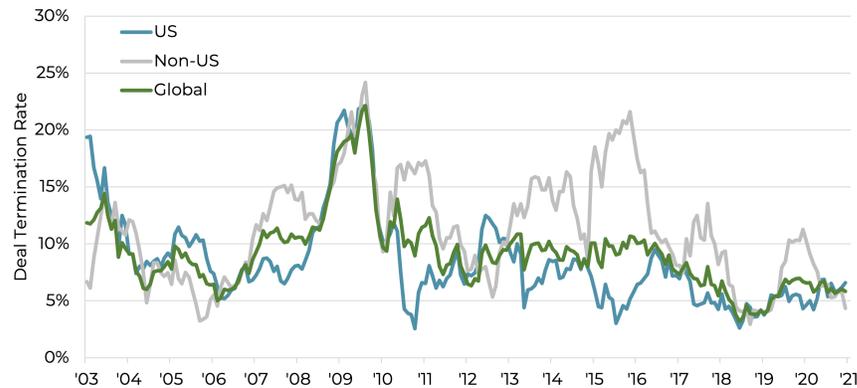
As the figures show, cash at public and private potential acquirers is at exceptionally high levels. This should contribute to higher future merger activity.

Most recently, deal flow has been concentrated in the technology, industrial, and health care sectors. Figure 5 shows deal flow, in dollars, by sector during the second half of 2020. It is likely that high cash holdings (and high equity values) at some technology firms have contributed to mergers in that sector and will continue to do so.

## 2.2 Failures and competing bids

Most mergers complete based on the initial offer. This is a positive outcome for merger arbitrage. A few mergers fail, generally contributing negative returns to merger arbitrage. Interestingly, there is a third possible outcome, in which a merger receives an improved offer from the current bidder or a third party. This is the best possible outcome for merger arbitrage.

**Figure 6: Deal Terminations**



The figure shows the failure rate of mergers over time. The failure rate is the number of mergers that terminate divided by the sum of pending and terminating mergers.

Source: Versor Investments, Bloomberg.

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### The frequency of failures

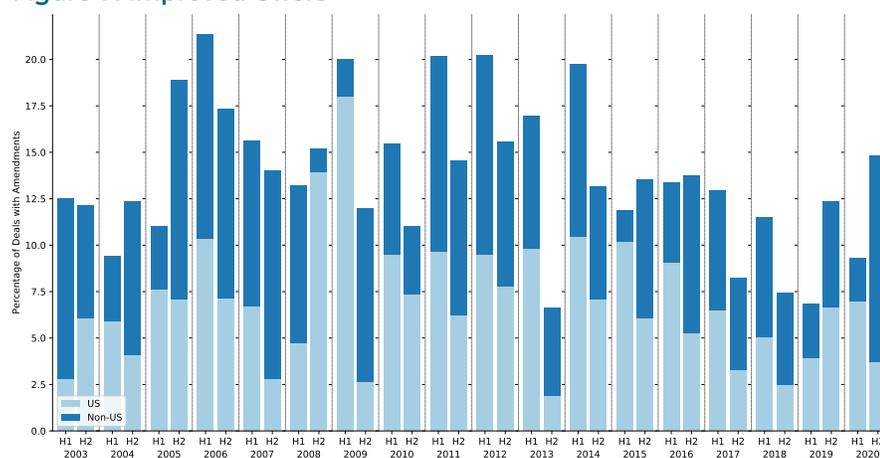
The failure of mergers is a key risk for merger arbitrage trading strategies. Although mergers fail infrequently, when they do they often contribute materially negative returns, even in well diversified portfolios. An environment with elevated deal failure rates is likely to detract from overall returns.

Figure 6 shows the evolution of merger termination rates over time. The figure shows that typical failure rates are just under 10%. But the rates vary over time. Despite the Covid-19 stresses on the economy and financial markets, recent failure rates have been very low. Although there were some Covid-related deal failures, the overall failure rate in 2020 remained low by historical norms.

The low termination rates in 2020 are strikingly different from those during the financial crisis of 2008/2009. During those years, merger termination rates reached twice their normal levels. Although early 2020 brought severe stress to financial markets and global economies, financial markets recovered fairly quickly and most mergers proceeded as planned. Part of this relatively high resilience in current mergers is likely to be structural. Over time, merger agreements, especially for definitive mergers, have become much stronger and more difficult to abandon.

Barring a dramatic change in economic conditions, deal failure rates seem to have settled in a range that is highly advantageous for merger arbitrage going forward.

Figure 7: Improved Offers



The figure shows the number of mergers that received an improved offer from the current bidder or a third party over time. The US and Non-US percentages are as a fraction of the global universe, so they correctly add up to the global fraction.

Source: Versor Investments, Bloomberg.

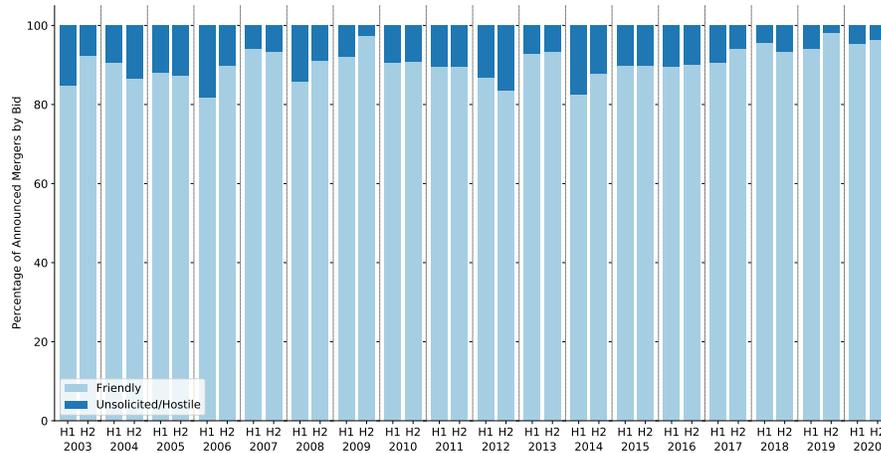
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### The frequency of competing bids

Long-term, improved offers occur about twice as frequently as deal failures. Most of the improved offers come from current bidders. Obviously, higher offers are good for merger arbitrage. In portfolios that successfully reduce positions in risky deals that might fail and increase positions in deals that might receive improved offers, the gains from improved offers can largely offset the losses from terminated deals. Of course, this positioning requires good forecasts of which deals may fail and which deals may receive an improved bid.

In late 2020 and at the beginning of 2021, mergers have received an unusual number of competing bids. Figure 7 shows the number of improved offers for each six-month period. As the figure shows, improved offers increased to unusually high levels in the second half of 2020. Many of these offers are amendments from the initial bidder, in part because market prices have continued to rise. A smaller fraction of the improved offers are competing bids from a second potential acquirer. Although these competing bids have been relatively rare in the last few years, there was a notable increase in these offers most recently. Clearly, such increased competition is favorable to merger arbitrage.

Figure 8: Fraction of Friendly Mergers



The figure shows the fraction of announced mergers that are friendly or hostile, for successive six-month periods. A merger is “friendly” if both target and acquirer agree to merge at announcement. The bottom portion of each bar shows the fraction of friendly mergers; the top portion of each bar shows the fraction of hostile mergers.

Source: Versor Investments, Bloomberg.

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### 2.3 Deal characteristics

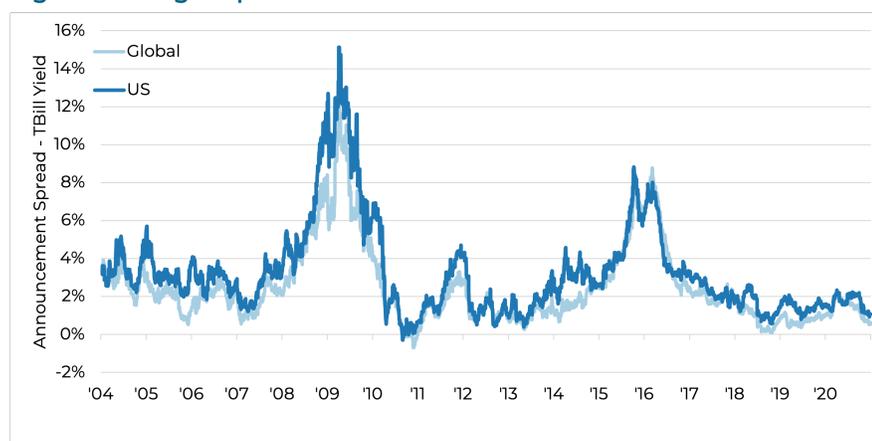
In addition to overall deal volume, merger arbitrage benefits from certain deal characteristics. All else equal, merger arbitrage performs better when mergers enter the market at wider spreads and close faster. While these characteristics always differ across deals, merger arbitrage benefits when more mergers have favorable characteristics. We present the average characteristics across outstanding mergers.

#### Friendly or hostile?

Whether both parties agree to the deal in a “friendly” merger or whether the target firm is resisting the offer in a “hostile” merger is a key indicator for the likely success or failure of the merger. Hostile mergers fail at roughly six times the rate of friendly mergers, 36% versus 6%. As a result, modest shifts in the proportion of friendly and hostile mergers can have material impact on the likely failure rates across deals.

Figure 8 graphs the fraction of friendly and hostile mergers over time. The figure shows that the current fraction of hostile mergers is unusually small. This should bode well for high rates of successful deal completion in the future.

Recently, the relatively high fraction of friendly mergers likely has contributed to the lower failure rates we showed in figure 6. The anticipation of

**Figure 9: Merger Spreads at Announcement**

The figure shows the average merger spread at announcement in excess of the contemporaneous Treasury Bill yield, adjusted to the average deal duration. The spreads are not annualized and a merger arbitrage portfolio would expect to earn these spreads several times per year, depending on deal duration, amplify them with portfolio leverage, and add back the Treasury Bill yield.

Source: Versor Investments, Bloomberg.

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lower deal failure rates likely has contributed to tighter spreads as well.

Of course, sophisticated merger arbitrage strategies attempt to gauge the failure probability for each deal as one input into determining position sizes. Naturally, however, when there are fewer hostile deals, it is easier to avoid deal failures.

### Merger spreads at announcement

Since merger arbitrage attempts to earn the merger spreads, wider spreads offer better returns – all else equal. Merger spreads consist of two components: a risk-free interest rate and a risk premium for uncertainty about when, under what terms, and whether the merger will complete. If all mergers succeeded under the announced terms on known dates, merger spreads would be equal to the risk-free rate. The component of the spread over and above the risk-free rate of interest is an expected reward merger arbitrage earns in exchange for bearing the risk that the deal may not close on time, under the current terms. Of course, this return component remains uncertain until the deal actually closes.

In order to focus on the excess return component of the spread, figure 9 shows deal spreads at announcement minus the contemporaneous risk-free rate of interest. Since mergers are not expected to last a full year, we compound the risk-free rate to the expected deal duration.

Merger spreads are generally small. It is important to note that merger arbitrage attempts to earn these spreads several times per year since the average deal duration is materially less than one year. In addition, merger arbitrage portfolios can amplify these excess returns by applying leverage to the portfolio. Given current deal durations, which we discuss in the next section, we might expect to earn the spread 2 or 3 times per year. Given current deal flow, we might expect to double the spreads again via leverage. The final return might be about 5 times the excess spread plus the Treasury Bill yield, depending on deal durations, portfolio leverage, deal failures, and improved offers.

Figure 9 shows that current spreads are near, but slightly below, historic norms. As for individual deals, tight or negative merger spreads can be an indication that market participants discount the probability of failures or assign material probability to improved offers. As we showed in figures 6 and 7, both appear to be true at the moment.

#### Deal durations

All else equal, faster deal completion is better for merger arbitrage since it means that the portfolio earns the spreads sooner, which translates into a higher annual rate of return.

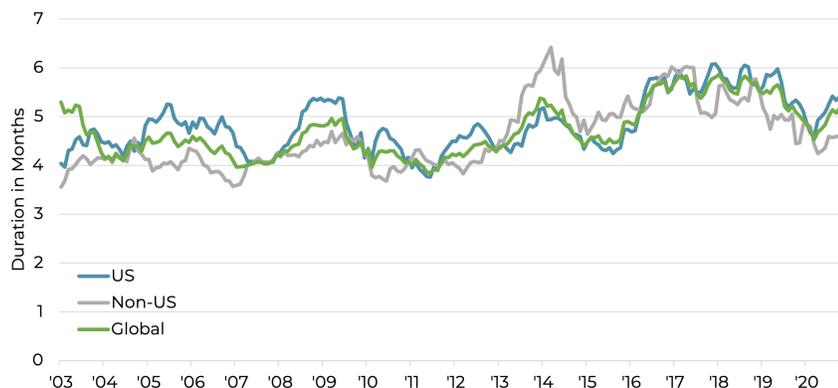
Generally, mergers complete over the course of a few months. Figure 10 shows that Covid restrictions on travel and meetings temporarily slowed deal completion in the first half of 2020. However, that increase started from a low base and deal durations remained at normal levels in the second half of 2020.

It appears that merger participants have found ways of coping with Covid restrictions and manage to complete mergers in fairly normal timeframes.

#### Forms of payment

Figure 11 shows the evolution of payment terms for mergers over time. Historically, cash has been the dominant payment form, either in pure cash offers or in combination with stock. In the first half of 2020, however, cash offers were far less prevalent as firms tried to conserve cash. We also saw this cash conservation in figure 3. A similar shift in payment terms occurred during the financial crisis in the first half of 2009. In addition to conserving cash, stock offers can be attractive in an environment of elevated uncertainty about market prices. In the event the value of the merger target falls materially as a result of an overall market decline, a stock offers automatically adjusts to changing market conditions.

As deal flow recovered in the second half, the fraction of cash offers returned to fairly normal levels.

**Figure 10: Deal Durations**

The figure shows the average deal duration for announced mergers over time. The duration is measured from announcement to successful completion or termination. US mergers have targets with primary equity listings in the US. Non-US mergers constitute mergers with target stocks in Canada, Europe including the UK, Australia and Japan.

Source: Versor Investments, Bloomberg.

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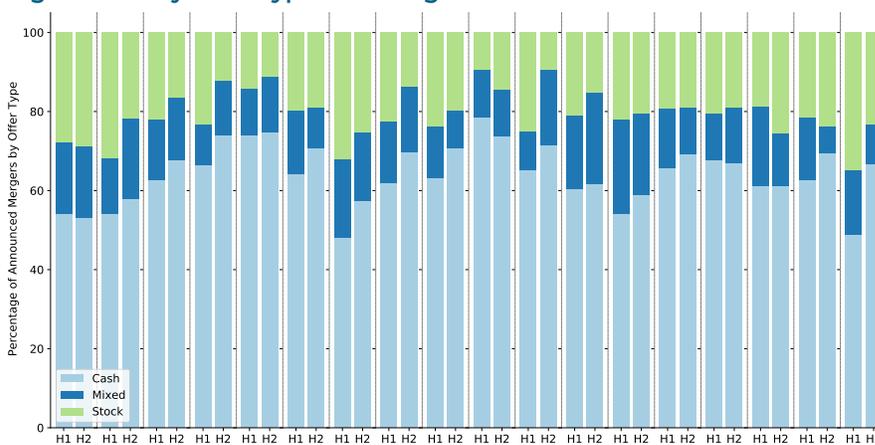
### 3 Summary

We provide a comprehensive review of the global environment for mergers and merger arbitrage investment strategies. Although Covid-19 brought material stresses to the market for mergers in the first half of 2020, the second half of 2020 produced an attractive environment. If anything, these improvements continued to accelerate towards the turn of the year and into 2021.

In the second half of 2020, deal flow was strong with large numbers and large values of mergers. This allows merger arbitrage strategies to build well diversified portfolios. Corporations and private equity funds have unusual amounts of cash on hand, which is likely to contribute to strong deal flow going forward. Not surprisingly, the early recovery in deal flow has been concentrated in sectors that have weathered Covid-19 relatively well, like technology and health care. In addition to continued strong deal flow in these sectors, we anticipate that there will also be a recovery of deal flow in sectors that have suffered under Covid-19, as stronger firms acquire weaker firms.

Despite the extraordinary economic stress from Covid-19, the vast majority of announced mergers completed. In fact the termination rates over the course of 2020 were below long-term average termination rates. Especially in the US, where new merger agreements will include even more stringent

Figure 11: Payment Types for Mergers



For semi-annual period, the figure shows the fraction of announced mergers by payment type: pure cash, pure stock, or a blend of the two. The bottom portion of each bar indicates the fraction of pure cash deals; the top portion of each bar indicates the fraction of pure stock deals; and the middle portion of each bar indicates the fraction of mergers with offers that include both cash and stock.

Source: Versor Investments, Bloomberg.

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material adverse condition clauses, we expect termination rates to remain attractively low.

Similarly, the characteristics of mergers announced in the second half of 2020 indicate an attractive environment for merger arbitrage: spreads are near typical levels, deal durations are the same as they were over the last few years, and the mix of cash and stock offers is near historical norms.

Based on these considerations, we conclude that 2021 begins with a very attractive environment for merger arbitrage.

Fully exploiting the attractive environment requires a sophisticated investment strategy that can distinguish more attractive mergers from less attractive mergers and position the portfolio accordingly. Versor Investments has implemented an advanced systematic merger arbitrage strategy. The alpha forecast model for that strategy uses machine learning and a proprietary database covering more than 4,000 mergers to estimate the probability that a merger will close, determine downside risk, and perform competing bid analysis. The strategy invests in announced merger deals across the US, Canada, UK, and Europe.

## 4 References

Harford, Jarrad, 1999, Corporate cash reserves and acquisitions, *Journal of Finance* 54, 1969–1997.



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