

VALUETRUST

finexpert
German Takeover Report 2023

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Preface

Dear finexpert members,

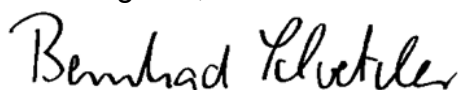
We are delighted to present the 2023 edition of the Finexpert German Takeover Report. This report covers all takeover offers and delisting tender offers made in 2022, in accordance with the German takeover code, WpÜG. It offers comprehensive information on relevant variables such as bid types, premium offered, market reaction of target's, and, if available, bidder's stock prices. Furthermore, our extensive database allows us to compare the figures of these variables from the previous year against the moving average of the preceding years, highlighting trends and long-term developments. The Finexpert German Takeover Report includes a unique and thorough analysis of fairness opinions and statements of management and supervisory board of the target company (§27 WpÜG), enabling a detailed examination of the relationship of these factors with target stock price reaction and the takeover bid's success rates. Along with the conventional success definitions of takeover offers, we analyze an alternative success measure that takes potential bidder toeholds into account

In 2022, the M&A market in Germany experienced two distinct phases. Following a record-breaking year in 2021, the first quarter of 2022 demonstrated a continued strong dealmaking activity. However, as the economic ramifications of the Russian invasion of Ukraine, the surge in energy prices, and inflationary pressures became apparent, there was a significant decline in deal activity for the remainder of the year. The private equity-related M&A sector was further impacted by the sharp increase in interest rates, making it difficult to finance LBOs with debt. As a result, the market encountered a challenging year with the number of offers declining by 50%, and the offer volume decreasing by over 80%, primarily due to the absence of mega offers.

This report contains a detailed description of the taking private process that Acorn HoldCo Inc. launched for Deutsche Adva Optical Networking SE from August 2022.



Best regards,



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People



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Market Overview

In 2022, the German M&A market saw a moderate level of activity. Despite an increase in takeover bids in 2021, the total number of such bids in 2022 dropped by over 50%. The number of primary takeover bids¹ also decreased by 42% (a reduction of 8 bids) compared to the previous year, marking the lowest value since 2015 and equally low as in 2018. Additionally, there were 7 delisting tender offers² in 2022, which represents a 50% decrease compared to the peak of such offers seen last year. Given their unique nature, we will treat delisting tender offers as a separate category of public offers. Since the regulation amendment in 2015, which set a requirement for an offer document prior to delisting application, a total of 40 delisting offers have been published. Figure 1 illustrates the trend in all offers from 2015 to 2022.

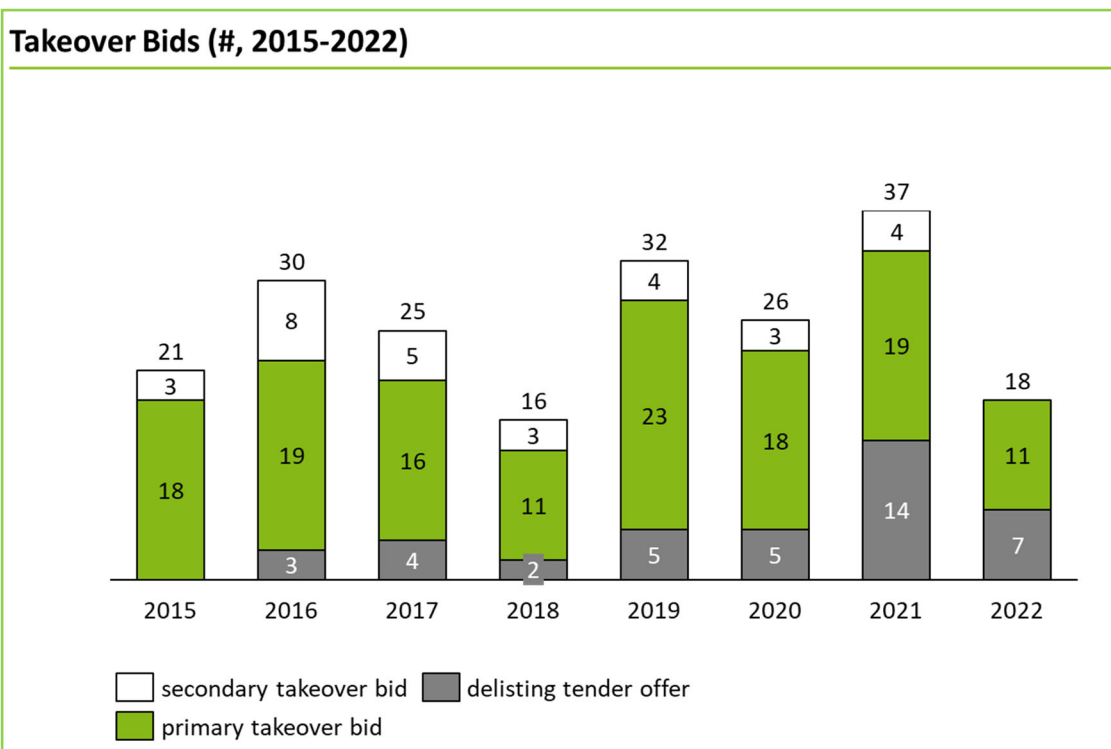


Figure 1: Takeover Bids (#, 2015-2022)*

¹ A primary takeover bid denotes the initial offer, while a secondary takeover bid refers to a change of the previous offer (e.g. increase of acquisition premium, extension of deadlines).

² A delisting tender offer is a voluntary public compensation offer as a legal requirement for a withdrawal of the admission to trading of the shares on a regulated market.

Market Overview

The total volume of primary takeover bids and delisting tender was EUR 6.86bn in 2022, a sharp decline of 87% from the previous year. This decrease in volume was caused by both the primary takeover offers and delisting tender offers. In particular, the average volume of primary takeover bids decreased by 79% (EUR 2.1bn/bid). This decrease in deal volume represents the lowest value seen since 2015. The largest offer in 2022, with a total bid volume of EUR 2.3bn, was from Oak Holdings GmbH for the acquisition of Vantage Towers AG, and was published towards the end of the year. The second largest offer in 2022 had a total bid volume of EUR 2.0bn, and was made by Atlantic BidCo GmbH for the acquisition of shares in Aareal Bank AG. The volume of delisting offers in 2022 was also lower (even when taking into account the high average volume in 2018, which was mainly driven by a delisting offer for STADA Arzneimittel AG shares of EUR 5.1bn). The largest delisting tender offer in 2022 was for Hornbach Baumarkt AG, with a bid volume of EUR 0.3bn.

Figure 2 depicts the development of the bid volumes between 2015 and 2022.

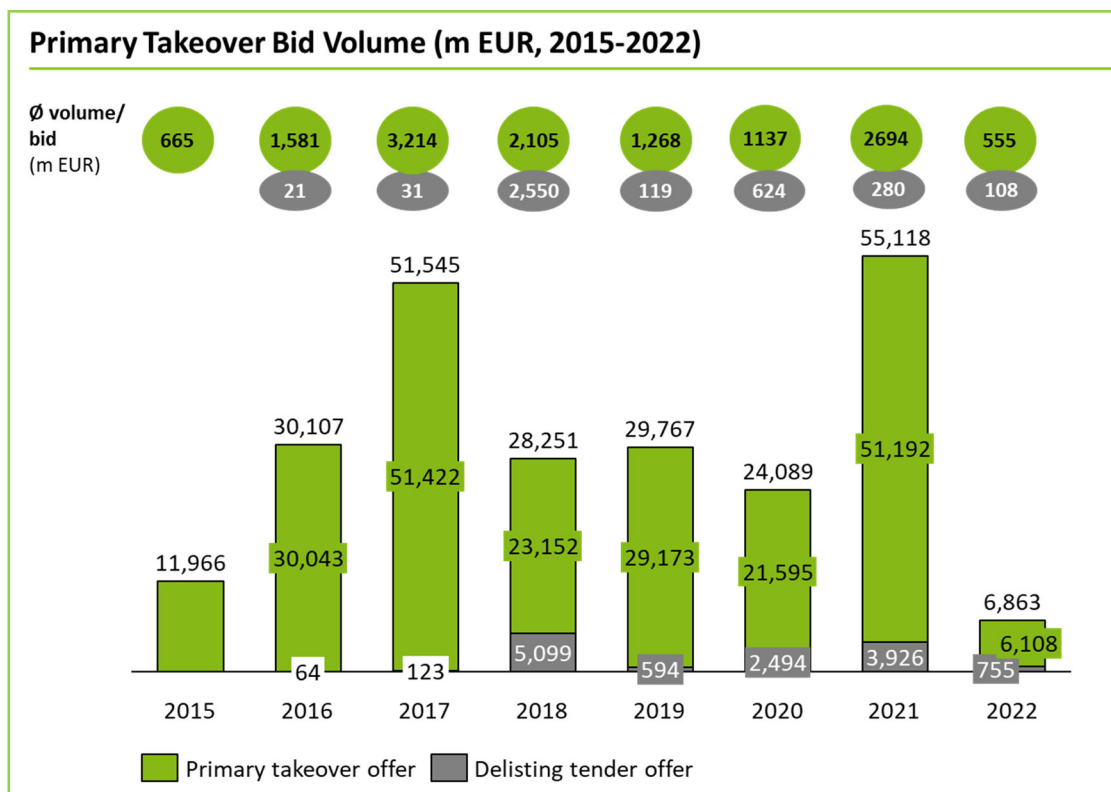


Figure 2: Primary Takeover Bid Volume (m EUR, 2015-2022)

Market Overview

When comparing financial and strategic investors in the public M&A market, we found that both groups had a similar number of offers, with 55% of primary takeover bids coming from financial investors. The average volume of strategic bids slightly exceeded the volume of bids made by financial investors, with EUR 595m and EUR 522m, respectively. Furthermore, the proportion of bids made by foreign investors remained high, with 67% of financial investors and 60% of strategic investors being foreign in 2022.

Figure 3 shows the distribution of primary takeover bids by the type and origin of investor over the last five years. Strategic investors were responsible for 45% of all primary takeover bids, representing 49% of the total bid volume. It is worth noting that we have excluded the delisting tender offers from our analysis.

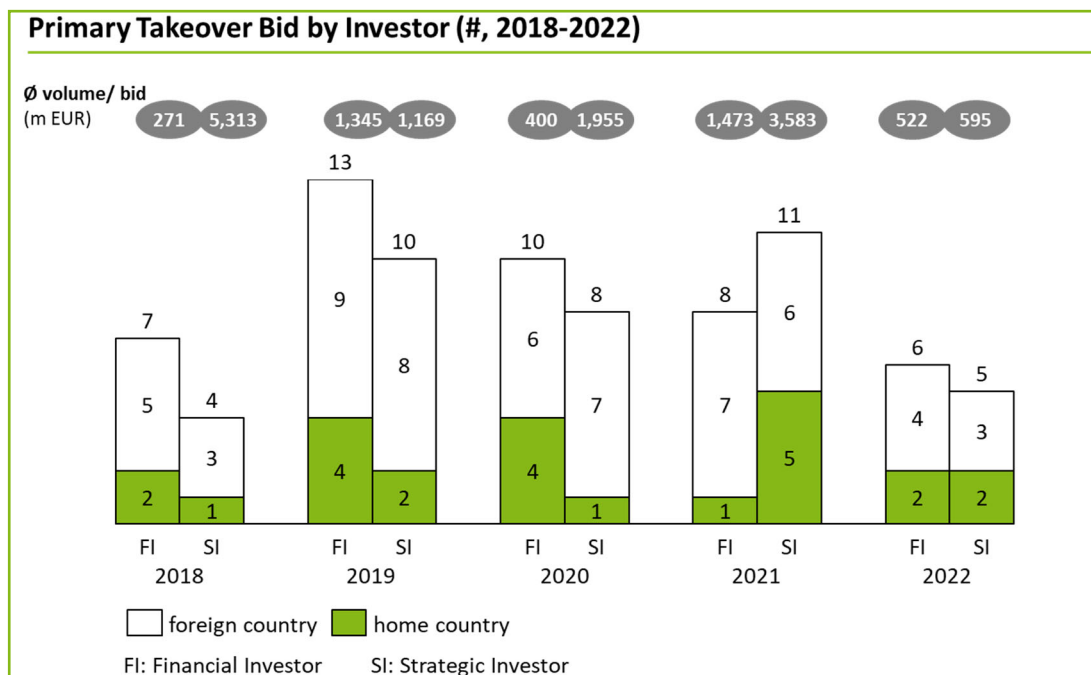


Figure 3: Primary Takeover Bid by Investor (#, 2018-2022) w/o delisting offers

Market Overview

Figure 4 shows the distribution of delisting tender offers by financial and strategic bidders. In 2022, the average volume of delisting offers made by financial investors was 11% of the volume of offers made by strategic investors. Out of the seven delisting offers made in 2022, three were launched by strategic investors. Additionally, foreign investors were responsible for 14% of the offers, making a single offer in total.

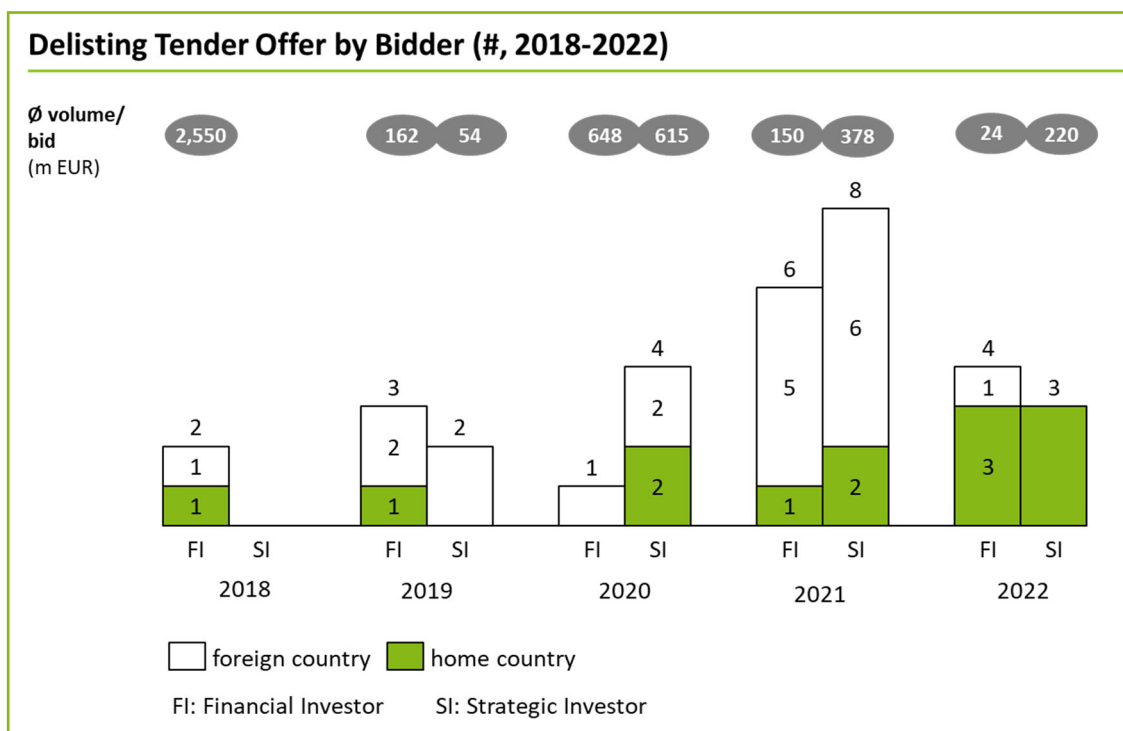


Figure 4: Delisting Tender Offer by Bidder (#, 2018-2022)

Market Overview

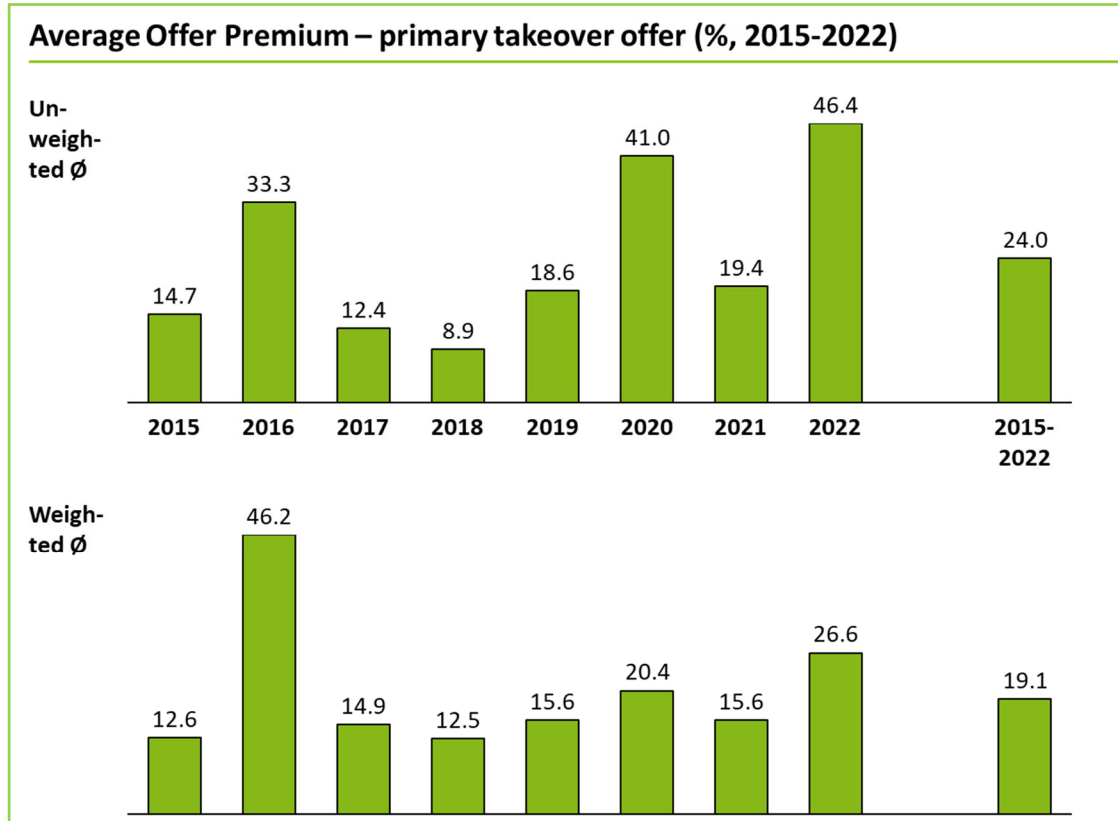


Figure 5: Average Offer Premium (% , 2015-2022)³

The bid premiums offered in 2022, both weighted⁴ and unweighted, were significantly higher than in the previous year, reaching a record high. This increase may have been driven by the sharp drop in stock prices in 2022 resulting from the Ukraine crisis and energy concerns. The bid premium is defined as the mark-up of the bid price compared to the three-month average stock price of the target firm before the announcement of the bid, in line with the WpÜG.⁵ The average weighted offer premium in 2022 was 26.6%, which was 11.0 percentage points higher than in 2021. The unweighted premium also increased significantly to 46.4%, representing a 27.0 percentage point increase. With high values in 2016 and 2020, the average offer premium for the period 2015-2022 remains relatively large, both in weighted and unweighted terms, at 24.0% and 19.1%, respectively.

³ The values reported for 2016-2018 slightly diverge from those reported in Takeover Report 2019 due to exclusion of delisting tender offers from this overview.

⁴ Weighted bid premiums account for the takeover value (outstanding shares not owned by the bidder times the bid price), i.e. bids with a higher takeover value are assigned a higher weight.

⁵ The three-month average stock price prior to the bid is the minimum required bid price defined by the WpÜG and, thus, the basis for premium calculation. If the three-month average stock price is not available or not reliable, the highest price of preemptions is taken or a valuation by an independent third party in accordance with § 5 para. 4 WpÜG-AV is done.

Market Overview

The premium amount and distribution confirm that 2022 was a rather untypical public M&A year. Analyzing the offer premiums in grouped intervals of 5% reveals that over 36% of all delisting tender offers in 2022 presented a premium between 0% and 5%. Additionally, in 9.1% of primary takeover bids, there was no premium included, while in 18.2% of cases, the premium was below 5%. Usually, zero-premium bids are mandatory when required by the WpÜG or if the target company is experiencing financial constraints or distress. However, in 2022, there was one voluntary takeover offer by RAS Beteiligungen GmbH & LSW GmbH & SGW-Immo-GmbH for home24 SE, which presented an exceptionally high premium of 141%. The second-highest premium (127%) was offered by Voltaire Finance B.V. for Wild Bunch AG.

Overall, the offer premiums over the last eight years have been distributed similarly, with a large proportion falling within the range of 0-5%. Figure 6 illustrates the distribution of offer premiums for 2022 and cumulatively from 2015 to 2022.

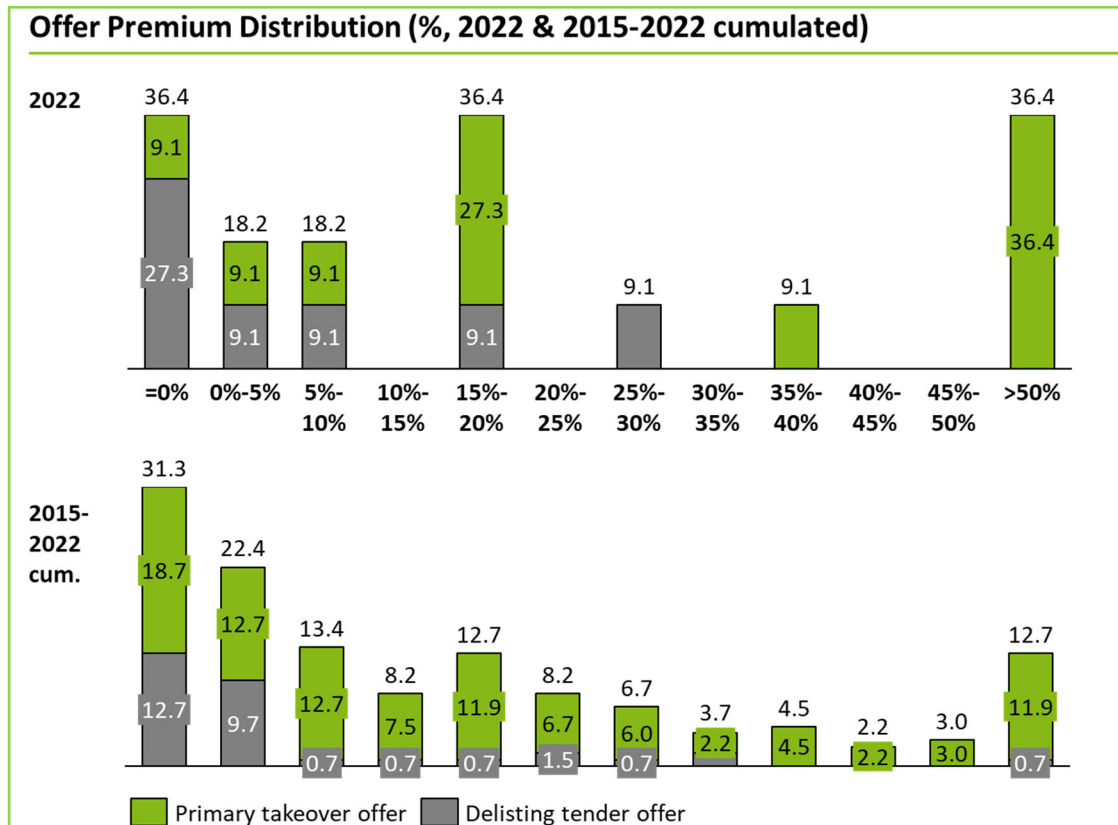


Figure 6: Offer Premium Distribution (% , 2022 & 2015-2022 cumulated)

Market Overview

The German takeover code stipulates that an ownership stake above 30% is the threshold for having or acquiring control over a company. As we are particularly interested in the characteristics of control-taking offers, Figure 7 illustrates the distribution of premiums for bids made by a bidder with a toehold below 30% ownership of the target company.

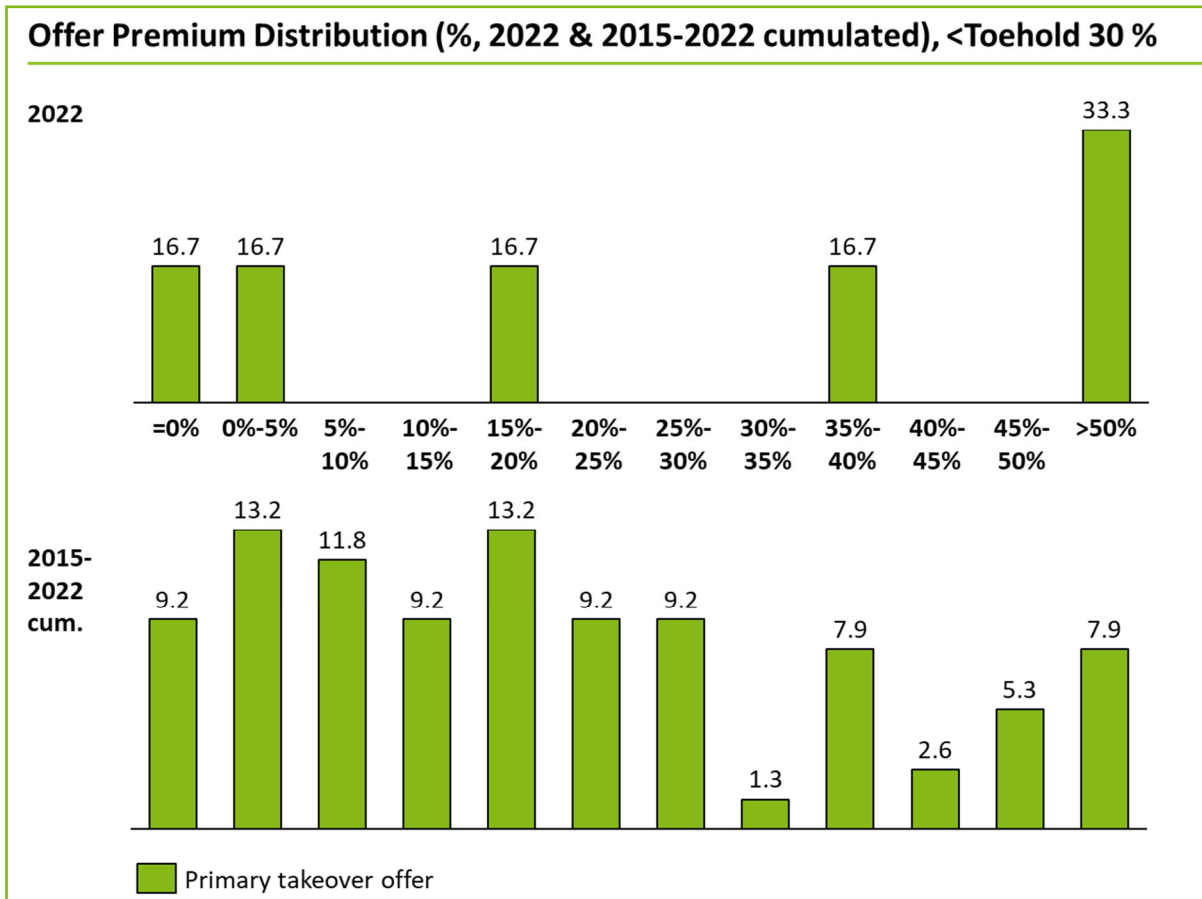


Figure 7: Offer Premium Distribution (% , 2022 & 2015-2022 cumulated; toehold <30%)

A closer look at the data reveals a significant divergence in premium payments between strategic and financial investors in 2022. Unlike the previous year, financial investors paid notably lower premiums, while strategic investors paid considerably higher ones. Financial investors in 2022 had an average premium of 34.5%, which was similar to the previous year's level. In contrast, strategic investors paid an average premium of 60.6%, representing a significant increase of 446%. When analyzing the weighted offer premiums by investor type, the results are consistent with the unweighted data, showing that strategic investors offered higher premiums than financial investors in 2022 (not reported: 30.1% vs. 23.5%). However, the five-year average values of weighted offer premiums present a different scenario, showing that there was not much difference in premium payments between the two investor types for the period 2018-2022 (15.0% vs. 19.4%).

Market Overview

Figure 8 provides the average unweighted offer premiums by investor type over the last 5 years.

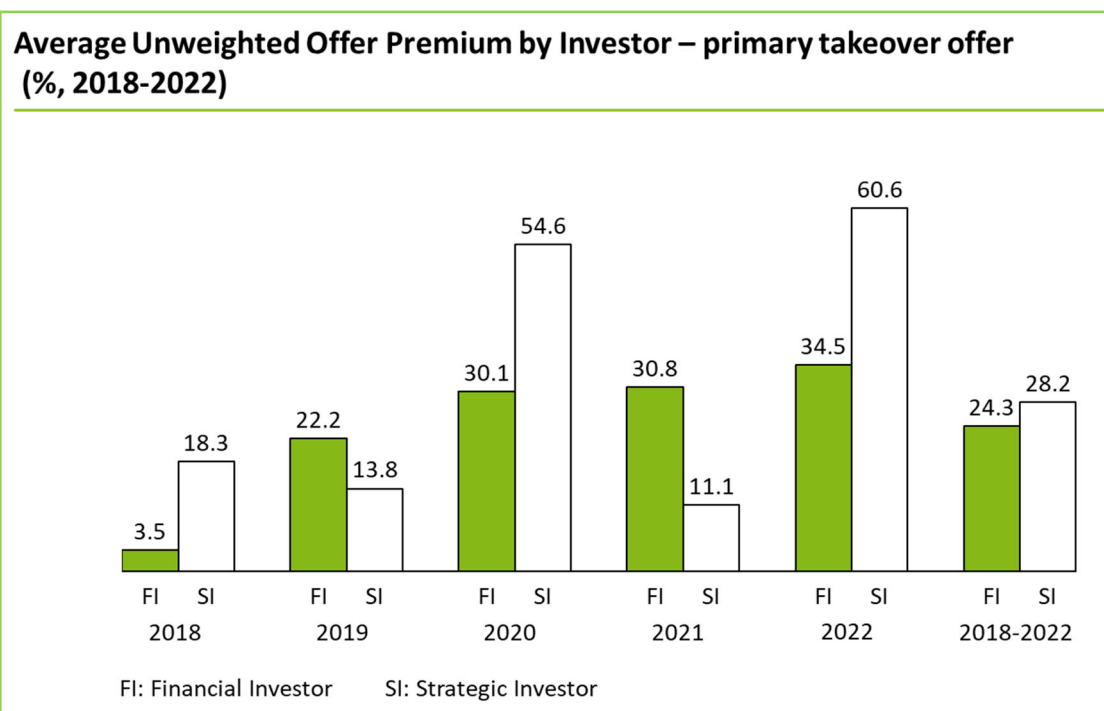


Figure 8: Average Unweighted Offer Premium by Investor (% , 2018-2022)⁶

As in previous years, takeover offers are most frequently proposed with cash as the method of payment. The proportion of cash payment in primary tender offers amounts to 100% in the 2022 bids. Correspondingly, no acquisition offer in 2022 was made in return for a combination of cash and shares or only shares.

⁶ Delisting tender offers are excluded from this overview.

Market Overview

Figure 9 depicts the overview of the annual distribution of different payment methods with respect to all takeover bids in the previous five years.

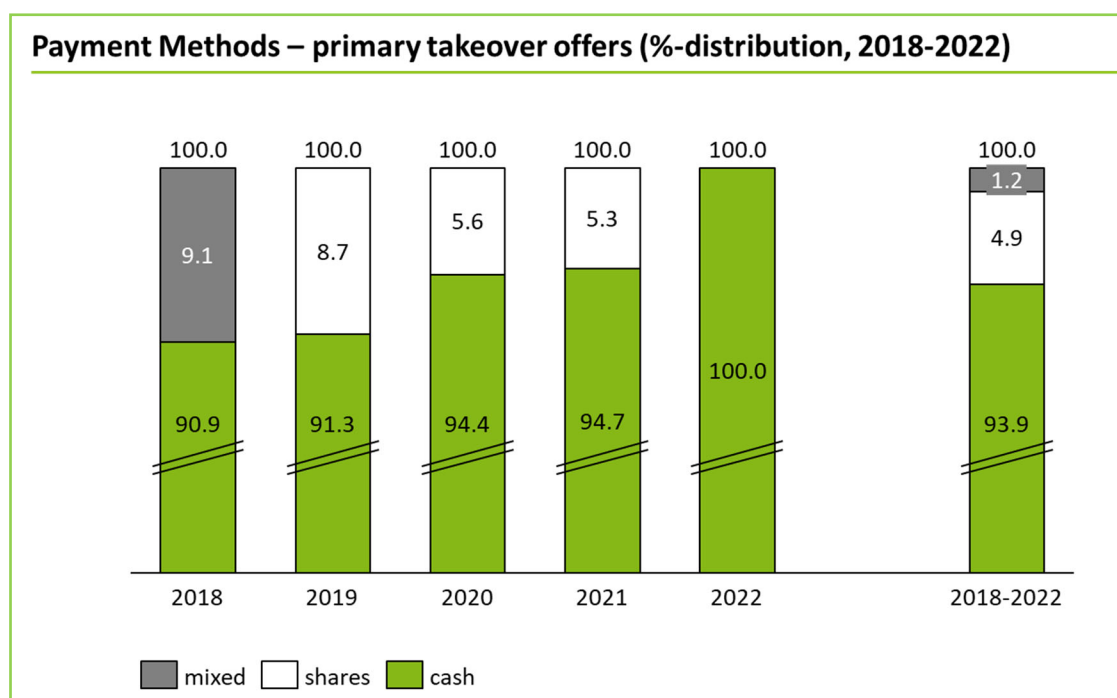


Figure 9: Payment Methods (%-distribution, 2018-2022)

Capital Market Reaction

To analyze how the market responded to the takeover offers, we computed the cumulative abnormal returns (CARs) for both the bidder and target firms around the day the offer was made public. We focused on primary bids where the bidder held less than 75% of the target company before the offer, as a 75% majority stake allows the majority shareholder to sign a domination agreement and assume full control of the corporation. We excluded bids made with an ownership stake above 75% as these are not considered to be control-taking offers. We calculated CARs for two event windows: -1 to +1 days and -7 to +7 days around the day of offer publication. We used the DAX Prime All Share index as a benchmark for the computation of CARs, as this index is domestic, broad, and the listed companies comply with the highest level of reporting requirements of Deutsche Börse AG.

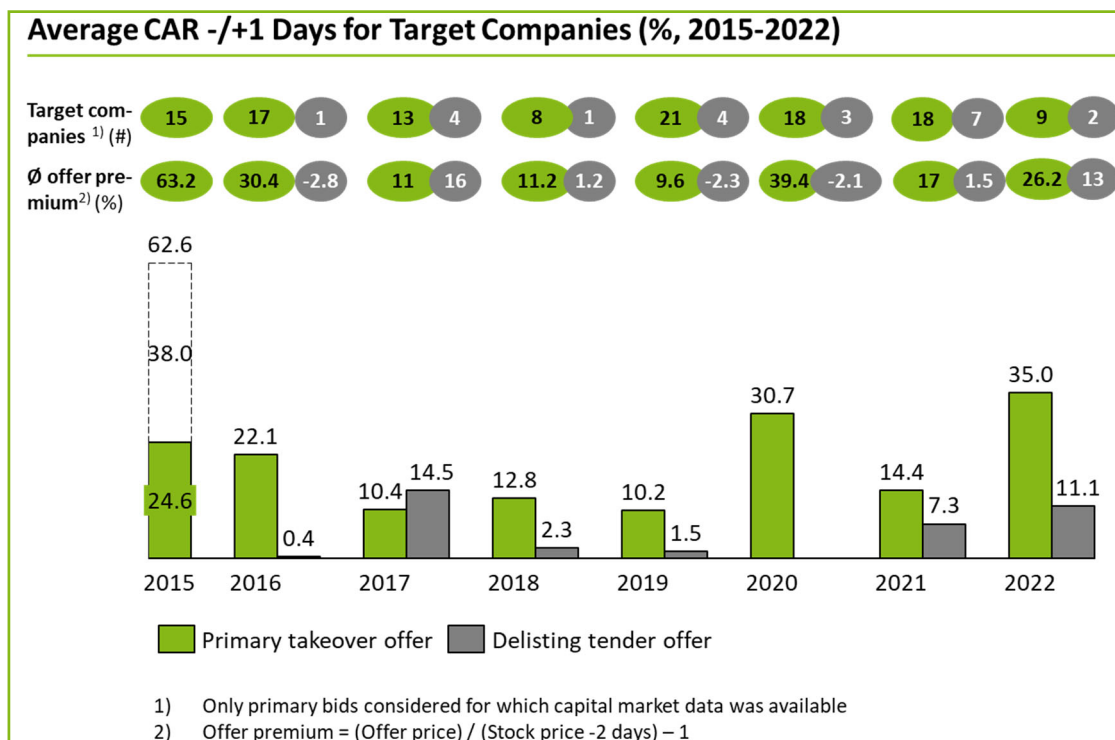


Figure 10: Average cumulated abnormal return -/+1 days for target companies (% , 2015-2022)^{7,8,9}

⁷The market reactions in 2015 contain one exceptional case: When Livia Corporate Development Group SE submitted a bid of EUR 13.49 per share (highest price of preemptions) to the owners of the insolvent Softmatic AG, the share price spiked up from EUR 2.43 (-1 day) to EUR 12.50 (+1 day). The dotted boxes in figure 10 and 11 highlight the effect.

⁸The difference of the displayed takeover offers in 2020 to the total amount of 19 takeover offer appears because ADO Properties S.A. had 97% of the shares of the target company under control before the start of the offer period.

⁹The extraordinarily high CAR value for targets of delisting tender offers in 2017 is driven by one case. The price of Viton Wireless Technology was trading around EUR 0.3 until the date of the offer announcement when it adjusted to the offer price of EUR 0.53.

Capital Market Reaction

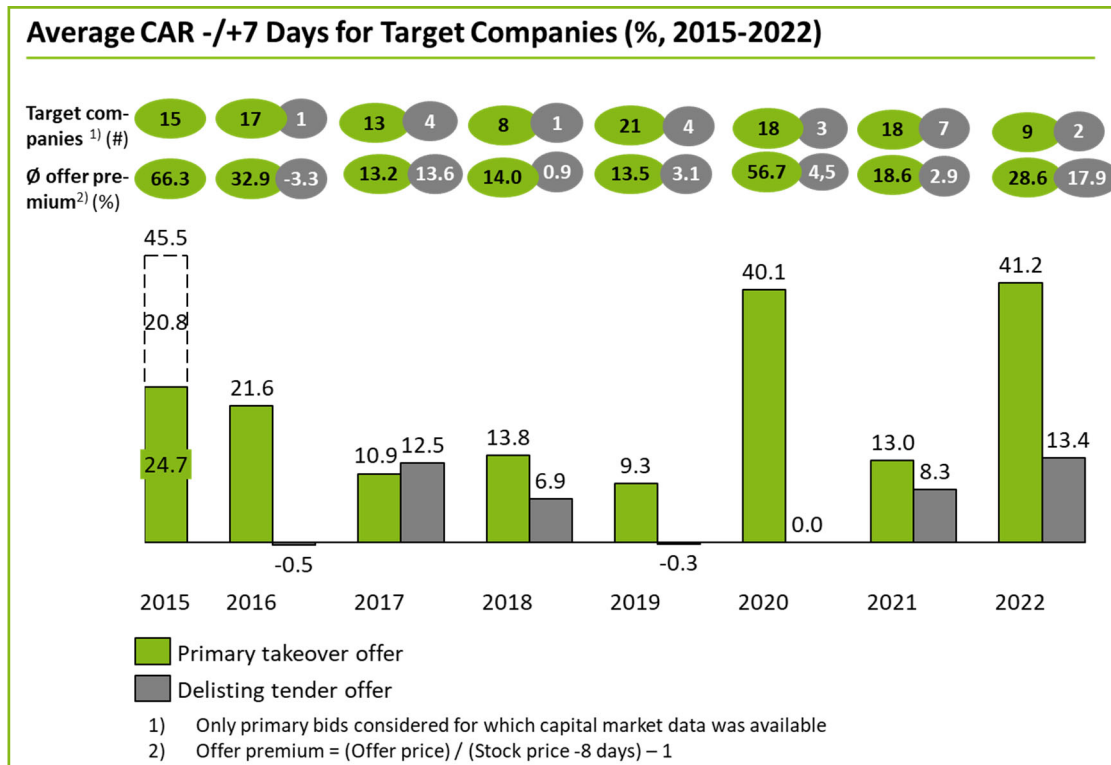


Figure 11: Average cumulated abnormal return +/-7 days for target companies (% , 2015-2022)

Based on our analysis of the capital market reaction to takeover offers, we have found that the average CARs for target companies are generally positive and closely related to the average offer premiums, with delisting offers being an exception to this trend. The CAR values for primary takeover offers in 2022 were comparatively high for target companies, while the results for delisting tender offers were also relatively high.

For the bidding firms, the results are mixed. We find a negative capital market reaction at the offer announcements for the year 2022, but the results are below a statistically meaningful level of confidence due to the low number of listed bidder companies. Figures 12 and 13 show the average CARs for bidding firms in the previous five years, which were negative in most years.

Capital Market Reaction

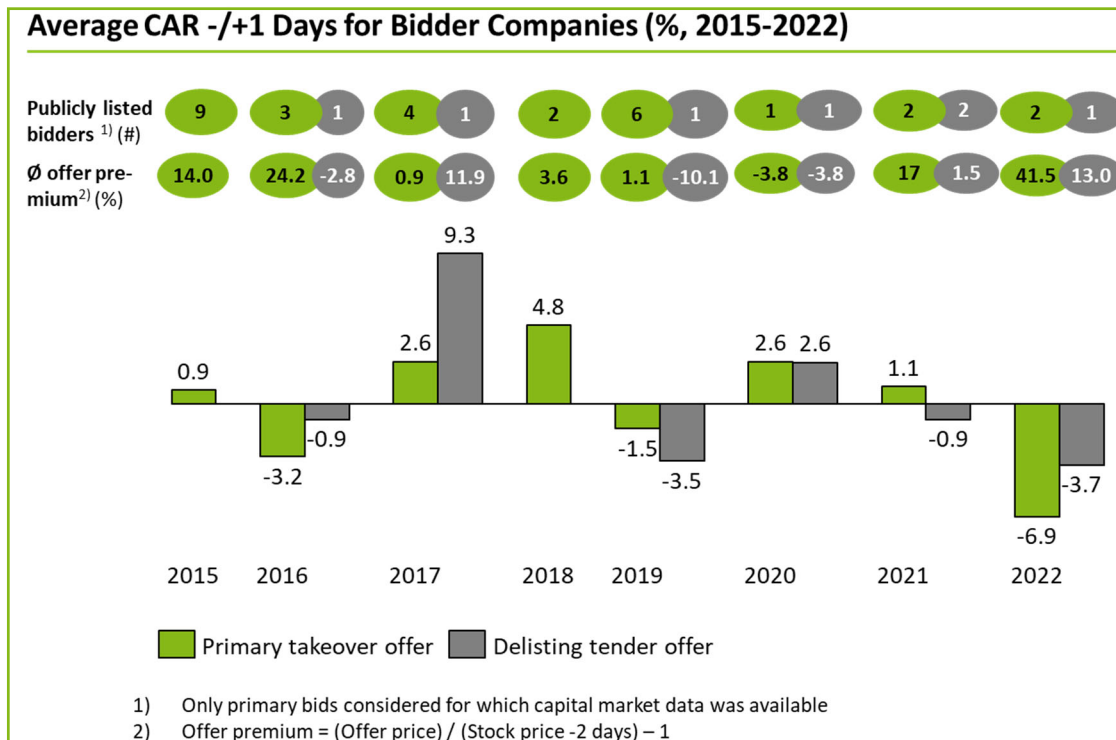


Figure 12: Average cumulated abnormal return +/-1 days for bidder companies (% , 2015-2022)

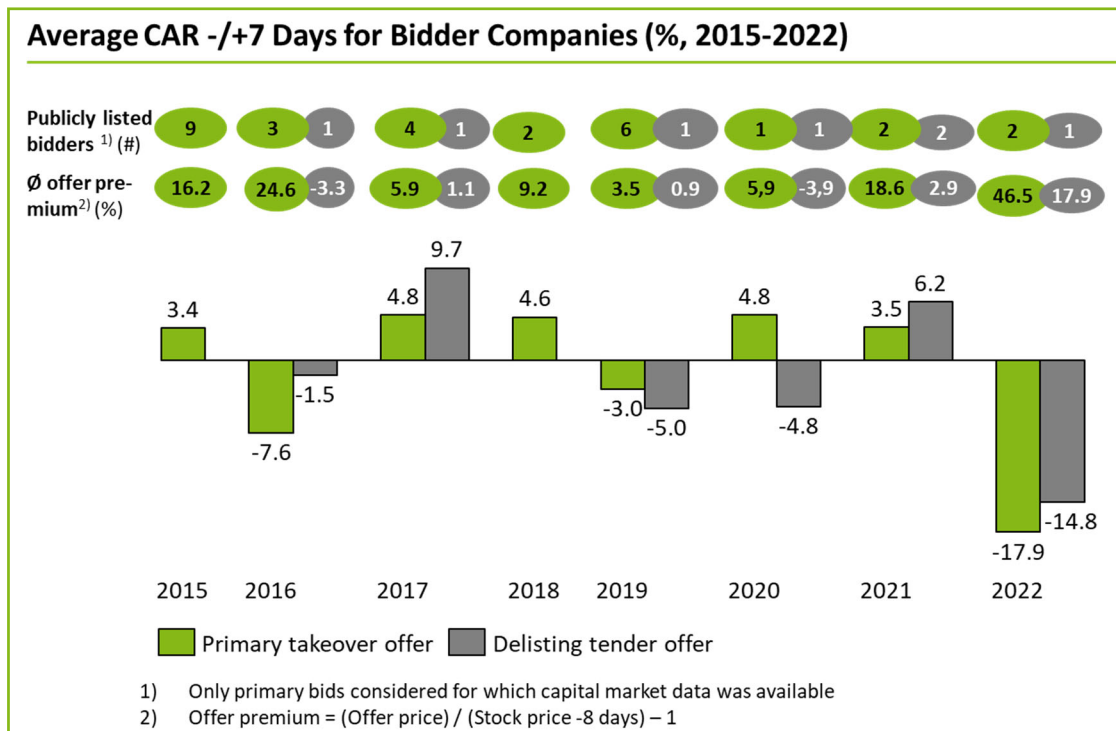


Figure 13: Average cumulated abnormal return +/-7 days for bidder companies (% , 2015-2022)

Capital Market Reaction

Finally, we plotted the individual offer premiums against target CARs for the event window of $-1/+1$ day and found a strong positive relationship (correlation coefficient of 85.67%).

This analysis provides insights into the market's expectation of bid success and is interpreted as follows: if the target CAR lags behind the offer premium, the market attaches a low probability to a successful deal execution. On the other hand, if the target CAR is significantly above the offer premium, the capital market expects an improved offer. When target CAR and offer premium are in line, there is a significant probability for the original bid's success.

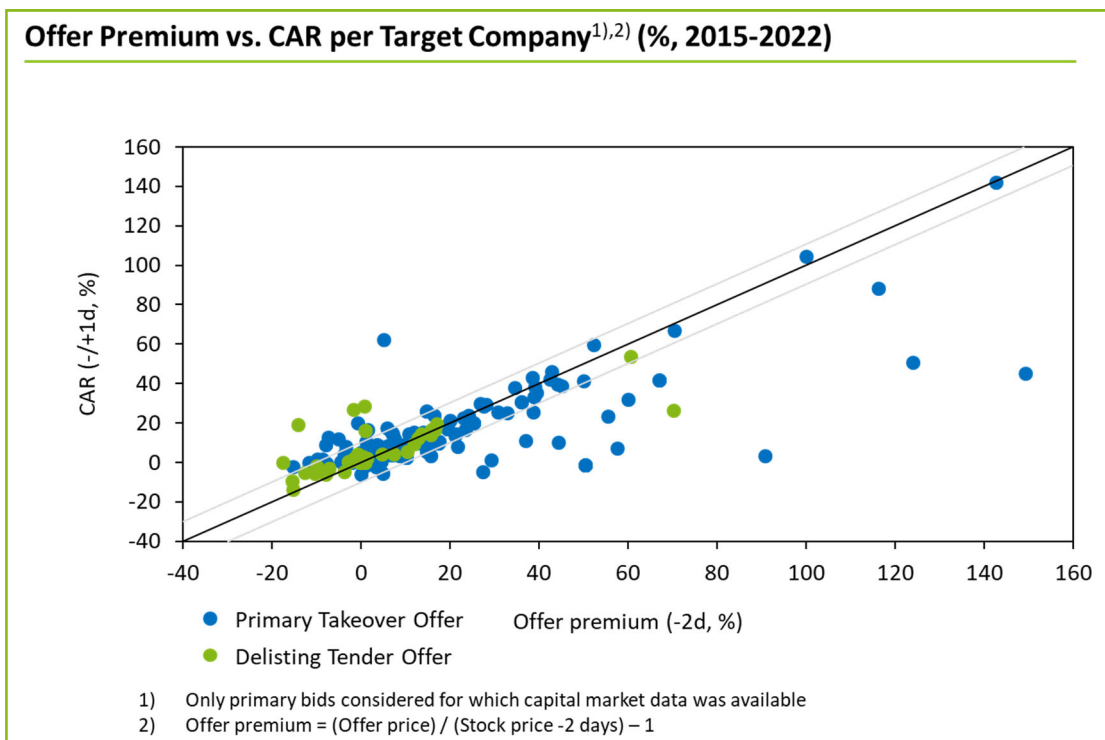


Figure 14: Offer premium vs. cumulated abnormal return per target company (% , 2015-2022)

Statements & Fairness Opinions

According to §27 WpÜG, both the supervisory board and executive board of the target company are required to provide an opinion statement regarding the adequacy of the takeover bid. In recent years, an increasing number of target companies have also requested a Fairness Opinion from a third party to assess the adequacy of the offer. The target company's statements and the Fairness Opinion are essential tools for communication between management and shareholders of the target company, and they influence the success of the takeover bid. Typically, the supervisory and executive boards issue a joint statement (97.0% of all statements from 2018 to 2022). However, in 2020, one takeover bid had separate statements from the supervisory and executive boards, and in 2021, there was one offer for which the executive board issued an individual statement. In 2022, all statements were joint statements again.

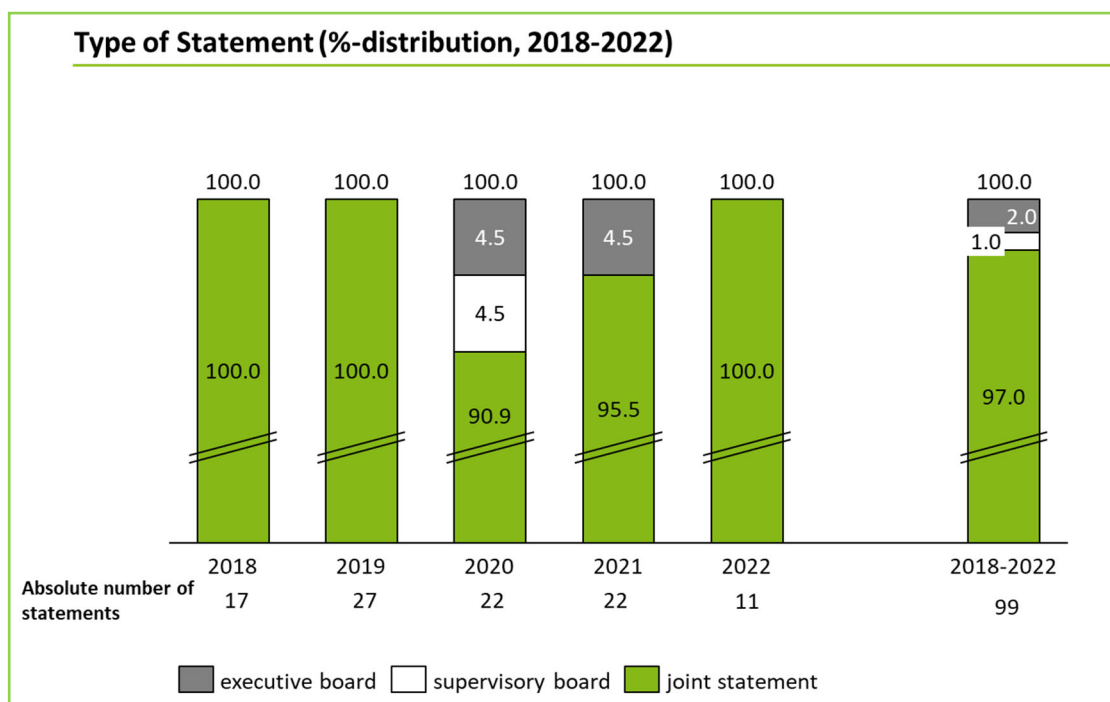


Figure 15: Type of Statement (%-distribution, 2018-2022)

Statements & Fairness Opinions

§27 WpÜG requires that the opinion statement includes a recommendation to shareholders on whether to accept or reject the takeover bid. Between 2018 and 2022, 79.8% of supervisory and executive board statements provided a clear suggestion, with 59.6% recommending acceptance of the offer and 20.2% suggesting rejection. In 20.2% of cases, no recommendation was made. The proportion of statements without a recommendation decreased in 2022 to 9.1%. The majority of recommendations in 2022 were to accept the offer.

Regarding delisting tender offers, the opinion statements recommended accepting the offer in 57% of cases. In 28.6% of cases, no recommendation was given, and in one case, the recommendation was to reject the offer.

Figure 16 illustrates the trend in recommendation statements for takeover bids over the past five years.

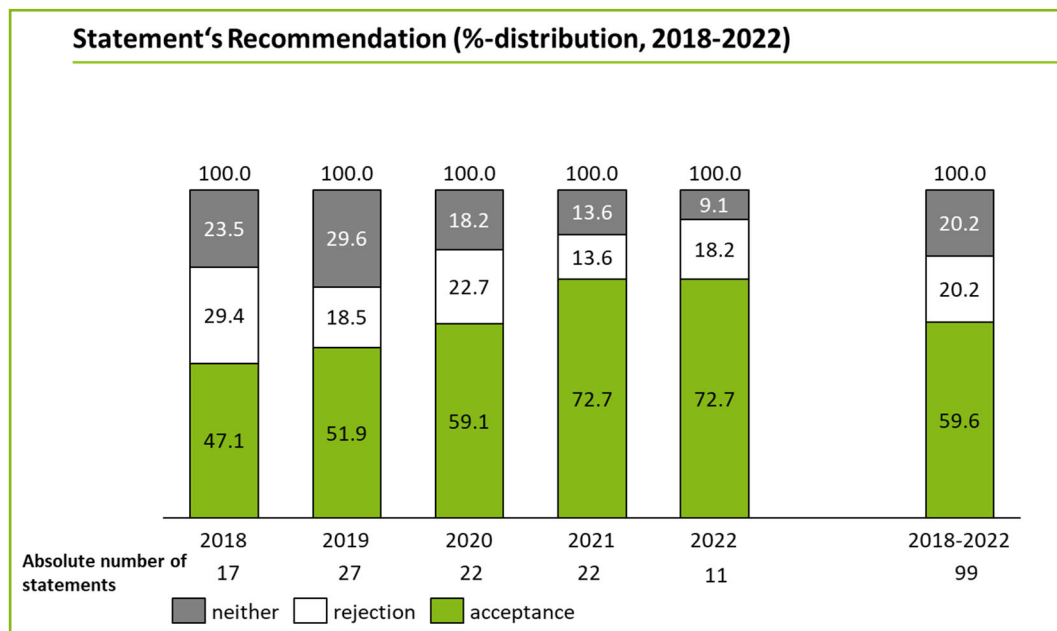


Figure 16: Statement's Recommendation (%-distribution, 2018-2022)¹⁰

¹⁰ Delisting tender offers are excluded from this overview.

Statements & Fairness Opinions

A Fairness Opinion is a statement provided by an external expert assessing the adequacy of a takeover bid or another company transaction. These opinions are usually issued by investment banks or financial advisers who are consulting the management regarding the transaction in question. In Germany, target companies typically obtain Fairness Opinions to ensure legal coverage and receive an independent third-party opinion. There is no legal regulation regarding the content and requirements of a Fairness Opinion, but guidelines concerning its content, publication, and the handling of conflicts of interest have been published by DVFA¹¹ and IDW¹².

In 2022, external experts provided Fairness Opinions assessing the adequacy of 54.5% of the takeover bids, and for two takeover offers, more than one external expert was consulted. Over the past five years, 74.0% of the target company's statements to takeover offers were complemented by Fairness Opinions. Figure 17 displays the development of the use of Fairness Opinions since 2015, excluding delisting tender offers.

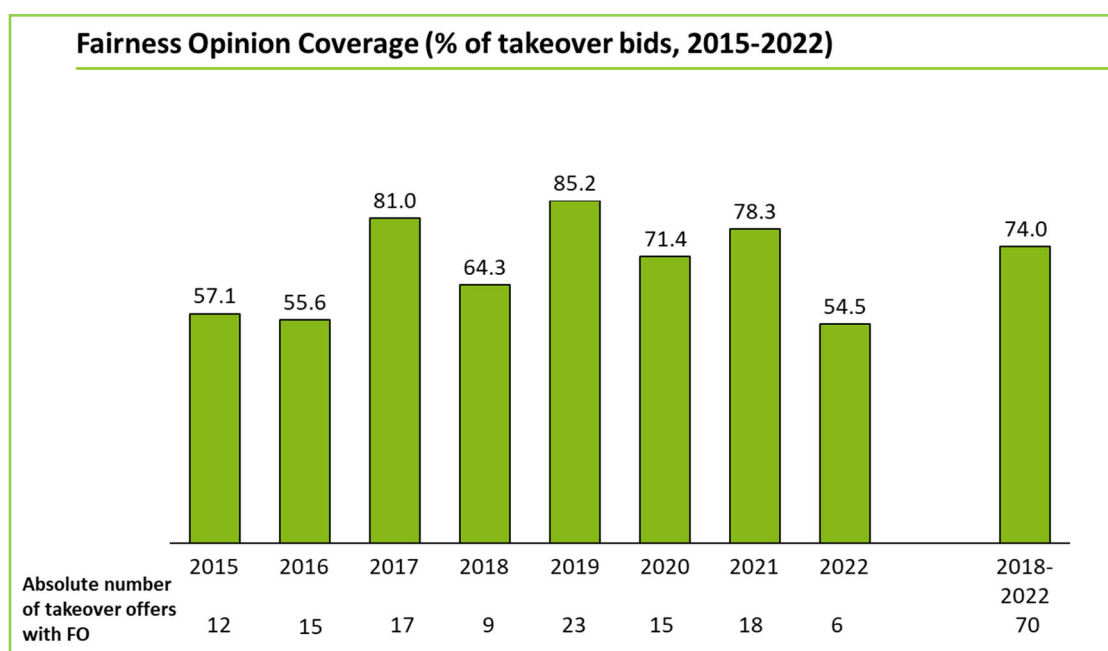


Figure 17: Fairness Opinion Coverage (% of takeover bids, 2015-2022)¹³

¹¹ DVFA Expert Group „Fairness Opinions“, The principles of compiling a Fairness Opinions, available online at http://www.dvfa.de/files/die_dvfa/kommissionen/application/pdf/grundsaeetze_fairness_opinions.pdf

¹² IDW S8 „Grundsätze für die Erstellung von Fairness Opinions“

¹³ The figures for the year 2020 slightly diverge from the numbers quoted in our last report. This is due to the reclassification of one takeover bid as delisting tender offer. Additionally, one offer which was announced in 2020 entered the second round in January 2021 which also counts to 2020.

Statements & Fairness Opinions

The Fairness Opinions were issued for 28.6% of delisting offers in 2022. Correspondingly, since 2018 the compensation adequacy for only 39.4% of delisting offers was assessed by an external Fairness Opinion.

In 2022, all Fairness Opinions that were issued claimed that the bidder's takeover offer was appropriate. Similarly, over the period of 2018 to 2022, 72.1% of the evaluated takeover bids were considered adequate by the external experts providing Fairness Opinions.

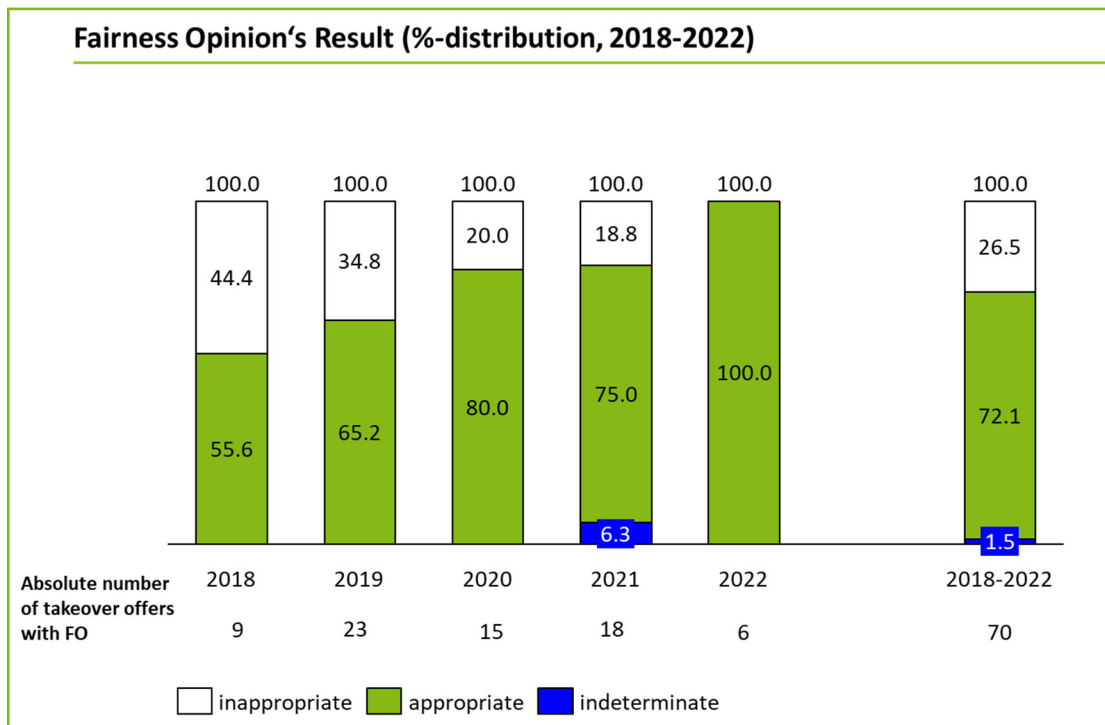


Figure 18: Fairness Opinion's Result (%-distribution, 2018-2022)

Statements & Fairness Opinions

The results of the Fairness Opinions are typically in line with the recommendations made in the target company's statements, as demonstrated in Figure 19. In 2022, there was complete agreement between the Fairness Opinion's and the statement's recommendations in all cases. However, in previous years, there was an increasing number of cases where the supervisory board and executive board did not provide a recommendation to shareholders regarding the acceptance or rejection of the bid. This contributed to the higher proportion of cases in which there was a divergence between the statement and the Fairness Opinion.

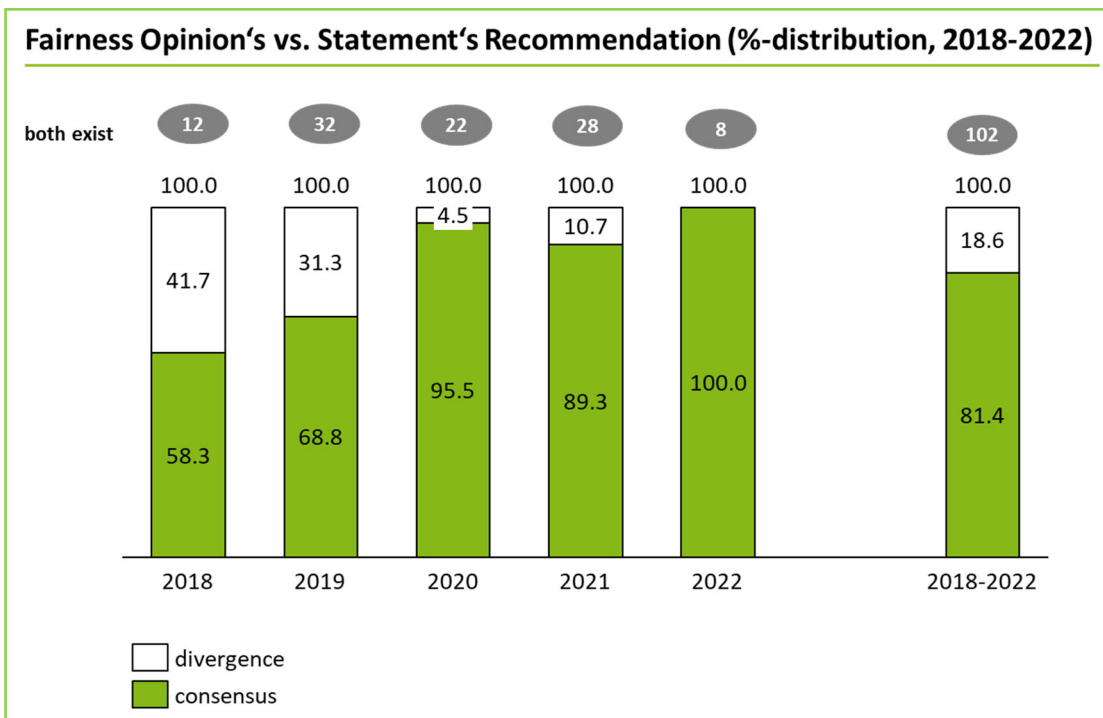


Figure 19: Fairness Opinion's vs. Statement's Recommendation (%-distribution, 2018-2022)

Statements & Fairness Opinions

Fairness Opinions can be provided by consultants, auditors, private banks, and major banks (commercial/investment banks). Commercial/investment banks remained the predominant provider, accounting for 75.0% of Fairness Opinions in 2022. Consultants won a 12.5% share of the market, while auditors lost their market share completely. Private banks improved their market position to provide 12.5% of the Fairness Opinions. Between 2018 and 2022, major banks provided 61.8% of all Fairness Opinions, with consultants and auditors following with 17.6% and 15.7%, respectively. Private banks had the lowest market share. The development over the past 5 years is displayed in Figure 20¹⁴.

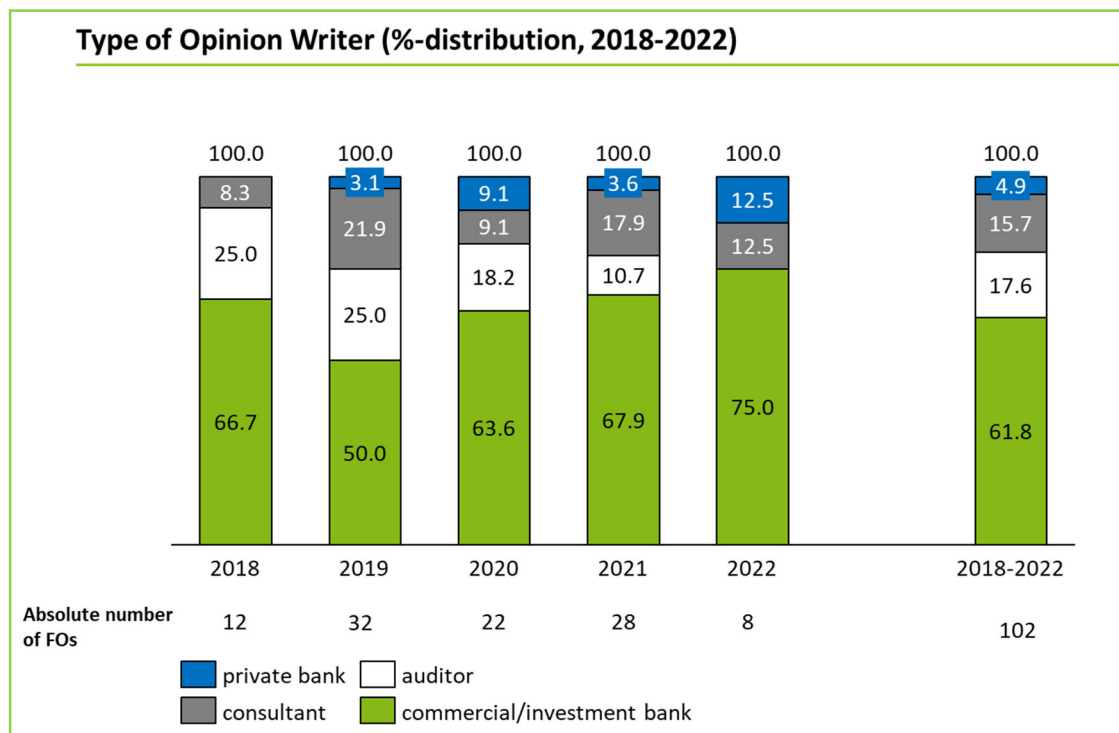


Figure 20: Type of Opinion Writer (%-distribution, 2018-2022)

¹⁴ Delisting tender offers are excluded from this overview.

Statements & Fairness Opinions

The significance of a Fairness Opinion majorly hinges on the impartiality of the opinion writer. Only if the opinion writer is neither affiliated with the target company nor with the bidder company the trustworthiness of the fairness statement can be granted. Yet, it is particularly the two transaction partners who commission Fairness Opinions. When the Fairness Opinion writer is not only dependent on the transaction partners but also is involved in the transaction as an advisor on success fee basis, the problem of a potential bias aggravates.

Figure 21 shows that on average over the last 5 years 69% of all Fairness Opinions to takeover bids were issued by transaction advisors of a target company. Therefore only 31% of Fairness Opinions were issued by independent opinion writers (i.e. those that were not involved in the transaction). In fact, transaction advisors have been mandated in majority of Fairness Opinion requests for several years.

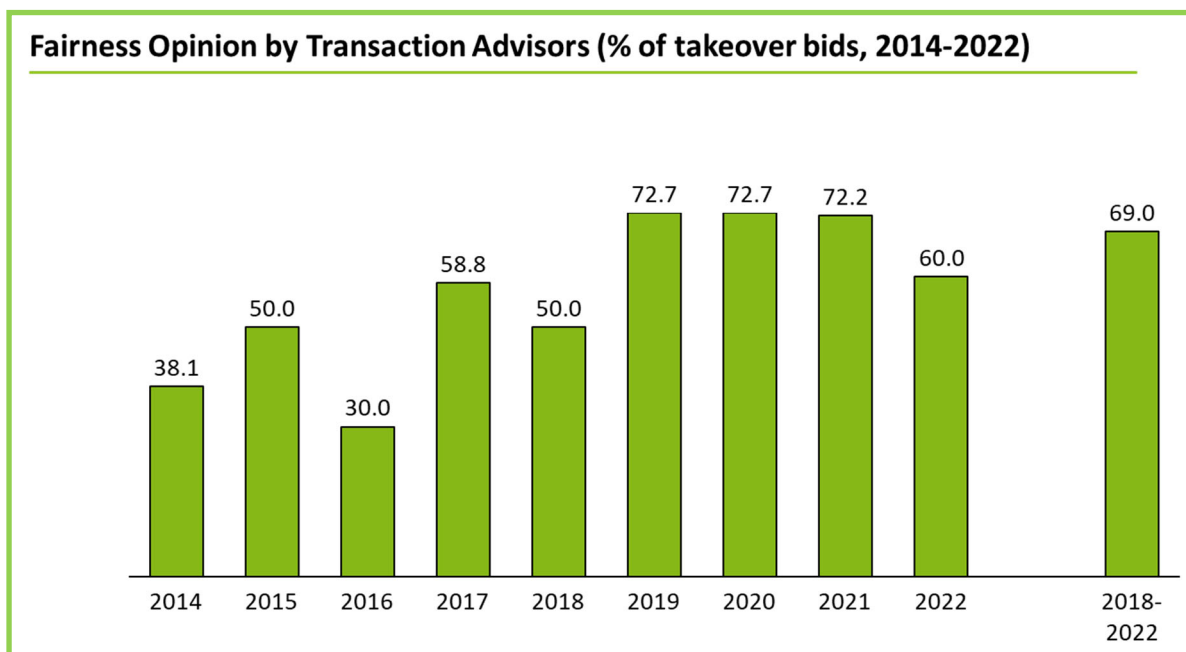


Figure 21: Fairness Opinions by Transaction Advisors (%-distribution, 2018-2022)

Statements & Fairness Opinions

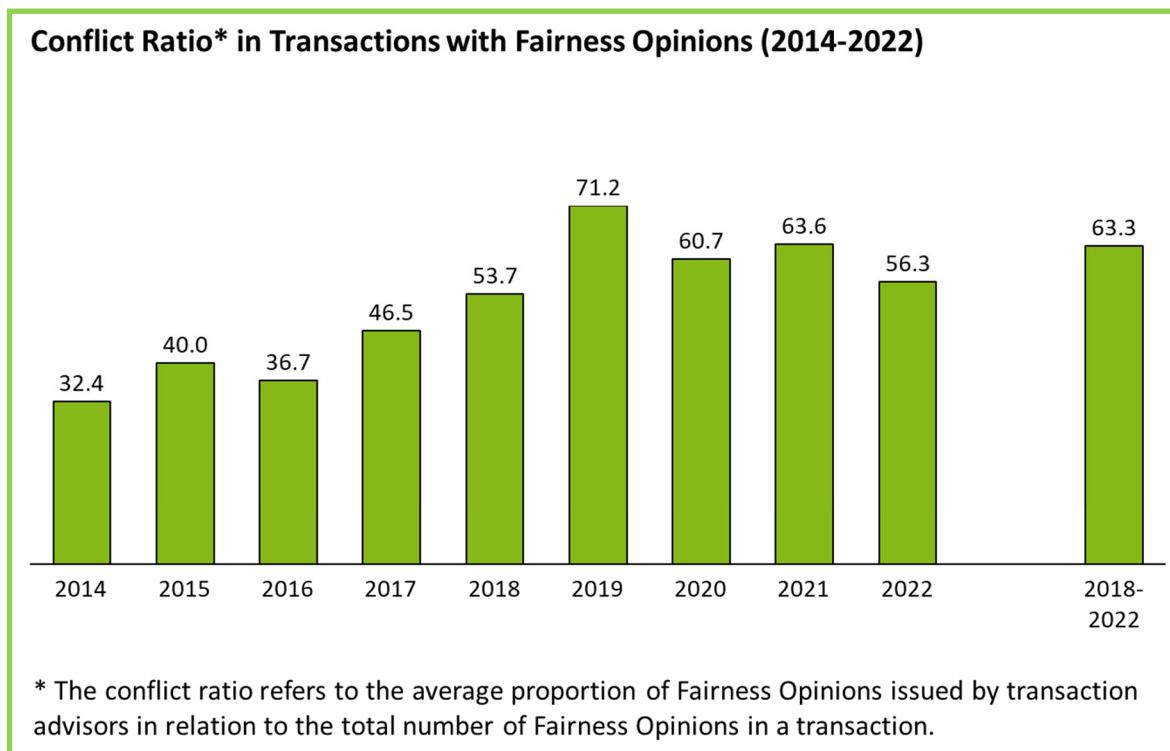


Figure 22: Conflict Ratio* in Transactions with Fairness Opinions (2014-2022)

In some cases, there are several Fairness Opinions that are commissioned for assessing the financial adequacy of a single takeover bid. In a transaction, the trustworthiness of a conclusion regarding financial adequacy of the offer can be viewed as compromised, even if at least one of the provided Fairness Opinions in this transaction was issued by a transaction advisor. We find that in ca. 60% of the transactions that rely on Fairness Opinion(s) at least one of these Fairness Opinions was issued by the involved transaction advisor.

To evaluate the impartiality of the overall fairness conclusions we calculate the average conflict ratios* for transactions (figure 22). If all Fairness Opinions in one transaction are written by independent opinion writers that are not transaction advisors, then the conflict ratio is zero. Whereas, if transaction advisor issued a Fairness Opinion and no additional independent opinion was obtained, then the transaction has a conflict ratio of 100%. Figure 22 shows that the average conflict ratio in transactions over the last five years is 63.3%, i.e. on average 36.7% of Fairness Opinions in each transaction are issued by independent issuers. Thus, even if several Fairness Opinions are issued on a single offer, the impartiality is not guaranteed, as the majority of these Fairness Opinions still come from transaction advisors and are therefore potentially biased. In the last 5 years the average conflict ratios were particularly high.

Success Rates

In order to measure the success of takeover bids, it is important to use meaningful metrics. In this report, we utilize two different measures for "success", as in previous reports. The first measure is based on two states: completed or discontinued acquisitions¹⁵. We define a binary variable called "success", which is equal to one if a bidder reaches an ownership share of at least 50% or the minimum acceptance threshold specified by the bidder within the defined term of acceptance as per WpÜG¹⁶, and zero otherwise. Delisting offers, which usually do not aim to gain control of the target by takeover, are excluded from this analysis.

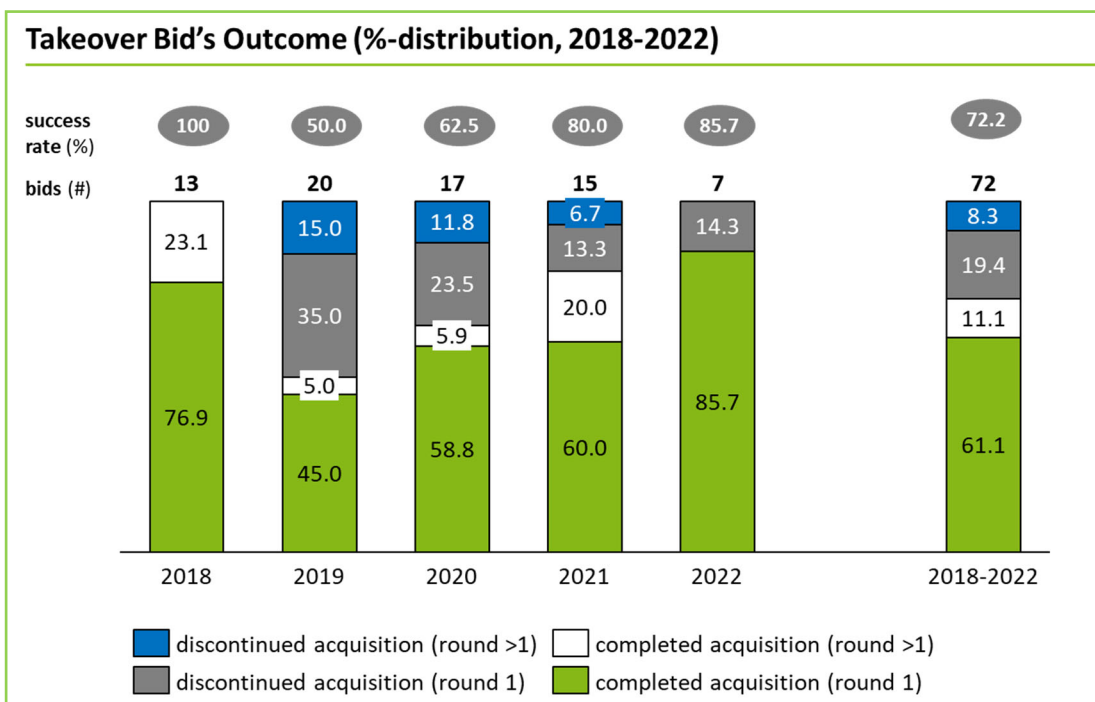


Figure 23: Takeover Bid's Outcome (%-distribution, 2018-2022)

¹⁵Any transaction in which the minimum acceptance level or an ownership stake of 50% is reached are considered as completed. The remaining cases are classified as discontinued if no renegotiations took place.

¹⁶We exclude cases where the ownership share has already been above 50% prior to the six months period before the bid. Cases where the bidder has gained a majority within the six months before the bid due to buying arrangements with blockholders are considered as successful.

Success Rates

Using this definition, the report finds that 72.2% of takeover offers from 2018 to 2022 were successful, with 19.4% failing in the first round and 8.3% failing in subsequent rounds. Figure 23 displays the distribution of takeover bid outcomes from 2018-2022, as well as the cumulated results. The report notes that the ratio of takeover offers crossing the 50% threshold in 2022 was higher than the average for the last five years, with 85.7% of offers achieving success.

We investigate the factors that influence the success of a takeover bid, with the offer premium identified as the most important impact factor. Our hypothesis is that bids with a higher premium have a higher probability of success. The "success" measure used in the report reflects the consummation of the deal regardless of the intermediate negotiation process. For 2015-2022 we find a remarkably high share of acquisitions among takeover bids considered completed and successful, which can be explained by the bidder's prior arrangements with blockholders of the target company. On average, takeover offers with a premium of 10-15% have the highest fraction of successful offers. In 2022, all bids with a premium between 5-10%, 15-20%, and >25% were successful.

Success Rates

Figure 24 depicts the distribution of takeover bid success in 2022 compared to the cumulated percentages of 2015 to 2022.



Figure 24: Takeover Bid Success per Offer Premium Range (% , 2022 & 2015-2022 cumulated)

* We aligned the clustering for the success rate to the one for the premium from above.

Success Rates

As an alternative measure of success, we also use a "success rate" variable that takes into account the bidder's toehold. This variable is defined as the number of shares acquired by the bidder during the acceptance period divided by the number of shares not under the bidder's control when the offer is launched. It ranges from 0% to 100% for all offers.

To examine the relationship between success rate and offer premium, we plotted a scatter plot with the trend line (line of best fit) for the cases from 2015 to 2022. Figure 25 shows that there is a positive correlation between premium and success rate, which supports the hypothesis. However, the graph also reveals that also other factors may impact the success of takeover bids.

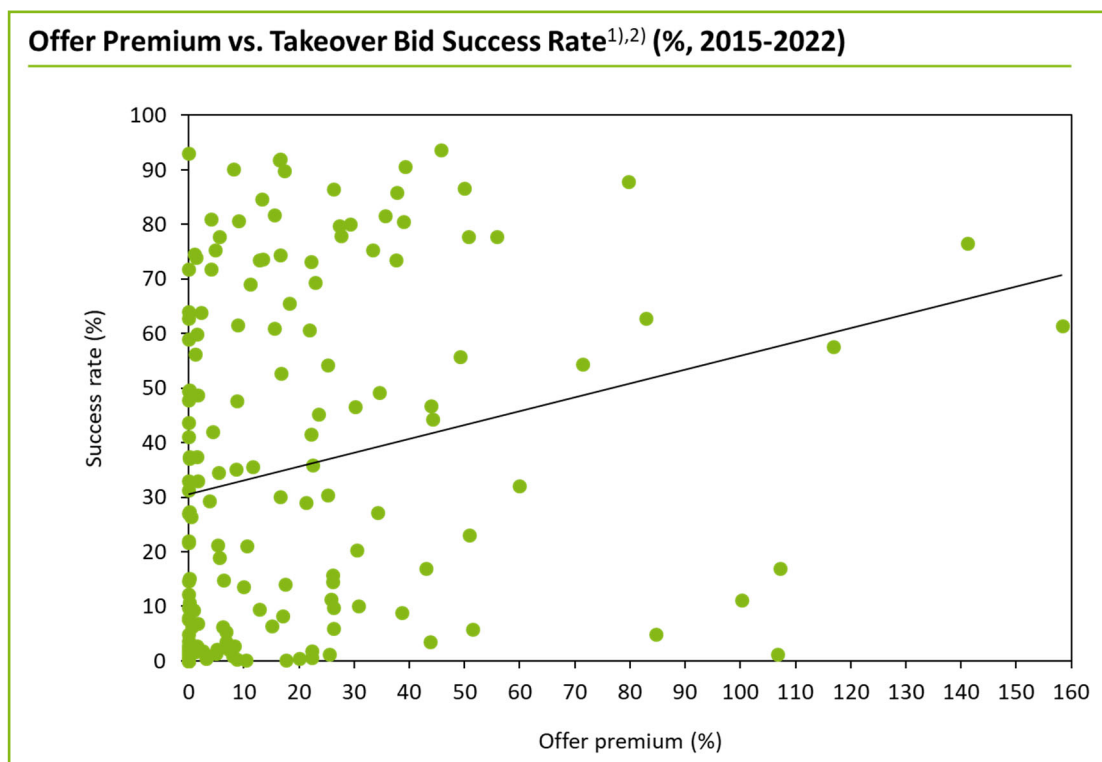


Figure 25: Offer Premium vs. Takeover Bid Success Rate (% , 2015-2022)

- 1) Only takeover bids considered where the ownership share has already been below 50% prior to the six months period before the bid
- 2) $\text{Offer premium} = (\text{Offer price}) / (3\text{-Month Weighted Average Stock Price}) - 1$

Success Rates

The analysis of the connection between the statement's recommendations and the Fairness Opinion's results on the success rate of takeover bids is presented in Figure 26. The cross table illustrates that the success rate tends to increase when both the statement and the Fairness Opinion give a positive recommendation (2018-2022: 78.7%). One possible explanation for this is that target companies that recommend accepting an offer in their statement have no incentive to publish a Fairness Opinion that might have a negative view of the offer's adequacy. In cases where both the target company's statement and the Fairness Opinion took a negative position, the success rate is relatively low (9.1%), but not insignificant. A closer analysis of these cases reveals that a prior agreement with a large blockholder of the target company was the basis for the bid's acceptance. Specifically, before announcing the public takeover bid, the bidder had already secured enough selling commitments from target blockholders to attain a majority.

Success Rate by Statement & FO recommendation (% , 2018-2022 cumulated)				
Statement		Fairness Opinion		
		fair	not mentioned	inadequate
	acceptance	78.7%	NA	0.0 %
	neither	53.8%	NA	75.0 %
	rejection	NA	NA	9.1 %

Figure 26: Success Rate by Statement & FO recommendation (% , 2018-2022 cumulated)

Takeover Case Study: ADVA Optical Networking SE

On August 30, 2021, ADTRAN, Inc. (hereinafter “ADTRAN”) and ADVA Optical Networking SE (hereinafter “ADVA”) announced the entry into a business combination agreement to combine the two companies. Both companies are global providers of fiber networking solutions: ADTRAN is a US-based company specializing in fiber access, fiber extension and subscriber connectivity solutions whereas ADVA is a Germany-based company specializing in metro wavelength division multiplexing, business ethernet and network synchronization solutions.

ADVA and ADTRAN were to be combined under a new holding company Acorn HoldCo, Inc (“Acorn”) that was incorporated by ADTRAN as its subsidiary and made a voluntary public exchange offer to the shareholders of ADVA. According to the recent decision of the Frankfurt/Main Higher Regional Court (Case No. WpÜG 1/20, 11.01.2021), an exchange share needs to meet the liquidity criteria within the meaning of Art. 22 para. 1 of Regulation (EC) No. 1287/2006. Thus, before making a public bid the bidder performed a thorough liquidity analysis of ADTRAN-shares.

The offer document was published on November 12, 2021 according to which each ADVA share could be exchanged for 0.8244 shares of common stock in Acorn. The offer is equivalent to EUR 15.00 per ADVA share based on ADTRAN’s 3-month VWAP as of August 27, 2021, representing a premium of 22% to ADVA’s 3-month VWAP for the same time period, an equity value of EUR 789 million, and an enterprise value of EUR 759 million for an implied multiple of 1.3x LTM Revenue. ADTRAN shares were to be exchanged for shares in the new holding company on a one-for-one basis.

The offer was considered financially adequate by the Supervisory Board and the Executive Board of ADVA. In their joint opinion statement, the boards relied on the fairness opinions of Jefferies and KPMG confirming the financial adequacy of the consideration and recommended the shareholders to accept the offer. The takeover bid was conditional to the minimum acceptance rate of 70%, which was later reduced to 60%. As of the publication date, the bidder has entered into the irrevocable undertaking agreement and with that directly held an instrument with respect to 13.7% of the share capital and voting rights of the target company. As of the final date of the acceptance period on February 14, 2022 the acceptance rate was 66.01% including shares tendered under the irrevocable agreement.

Takeover Case Study: ADVA Optical Networking SE

In 2022 the taking private process continued: On July 6, 2022, ADTRAN and ADVA announced their intention to close a domination and profit and loss transfer agreement (“DPLTA”) with Acorn HoldCo, Inc as the dominating entity. The ADVA share price on the day before the announcement was EUR 16.40 and the three-month average price calculated by BaFin was EUR 15.85. Based on the value ranges determined by ValueTrust, the agreement offered minority shareholders a cash compensation of EUR 17.21 per ADVA share and a recurring cash compensation of EUR 0.59 per ADVA share. On November 30, 2022, the extraordinary general meeting of ADVA approved the conclusion of the DPLTA with a majority of 81.2% of all voting shares present at the general meeting. The DPLTA became effective on January 16, 2023.

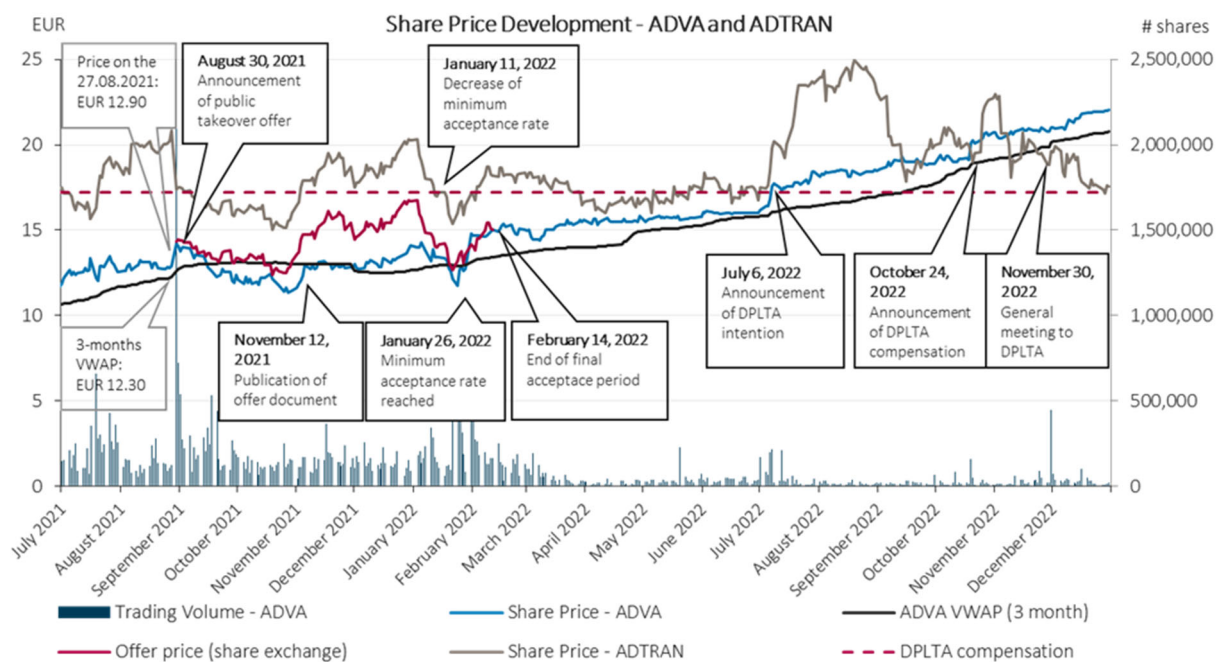


Figure 27: Share price development—ADVA and ADTRAN

Endgame Analysis

Post-offer structural measures

After the completion of the takeover procedure the bidder has several measures at hand to finally reach the 100% ownership in the target company. The signing of a domination and profit- and loss transfer agreement (DPLTA) between the company and the majority shareholder requires a 75% vote in a shareholder meeting. German corporate law requires to offer a compensation to the minority shareholders (§305 AktG) that decide to leave the company (and accept the compensation) and a guaranteed dividend payment (§304 AktG) to those who decide to stay. The law requires the minimum compensation to be offered to be the highest of two values: the VWAP relating to the 3 months before the DPLTA announcement and the intrinsic value of the share calculated by a corporate valuation. In our sample we find that almost all compensation offers related to DPLTA were just equal to the minimum required by law. Finally, the German corporate law offers several options to Squeeze-Out¹⁷ the remaining minority shareholders against payment of a fair compensation for the compulsory sale of their shares. We find that in the vast majority of cases the compensation offer is again just to meet the minimum requirement.

The cash compensation and the guaranteed dividend are determined by the majority shareholder and are subject to a review by the court in an appraisal proceeding subsequent to the measure becoming effective.

¹⁷ German corporate law recognizes three types of Squeeze-Out based on the corresponding legal framework: Takeover Act (WpÜG), Stock Corporation Act (AktG) and Transformation Act (UmwG).

Endgame Analysis

Our databank contains information on 452 primary takeover bids from 2005 to 2022 and the data on all structural measures following these bids. Of these, 209 takeover offers had subsequent structural measures. In total, for 195 structural measures minority shareholders initiated appraisal proceedings. 140 of these proceedings were finalized, i.e. there is no (further) appeal against the court decision. The other 55 appraisal proceedings are currently under court review. Figure 28 provides an overview of the takeover offers, structural measures, and related appraisal proceedings that constitute the databank and serve as a basis for the takeover endgame analysis.

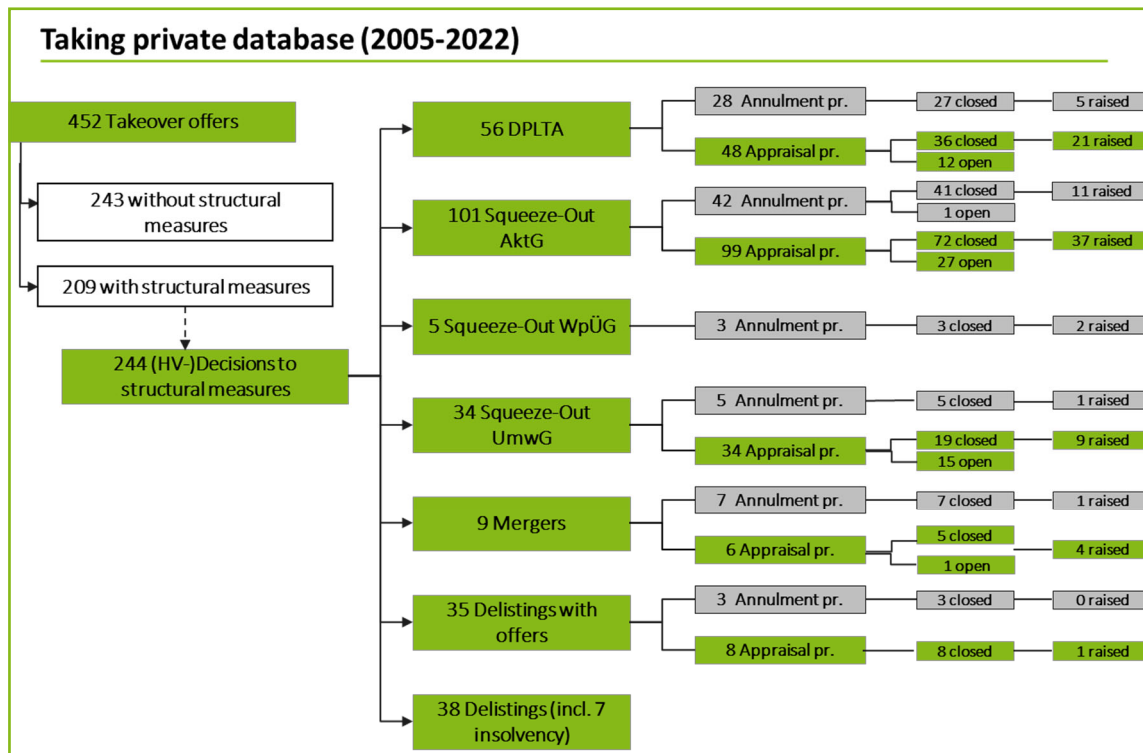


Figure 28: Overview of the taking-private database (with structural measures as of 31.12.2022)

Endgame Analysis

Out of 452 primary takeover bids published in 2005-2022 149 acquirers eventually obtained full ownership of the target company. We observe 17 different paths in taking-private strategies. Figure 5 presents the frequency of these paths and the number of completed takeovers (including closing of appraisal proceeding). The equal-sign (=) indicates that measures were taken concurrently, and the arrow-sign (➔) shows the sequence of events. In 101 out of 149 cases, acquirers enforced a Stock Corporation Squeeze-Out. In the majority of cases there are no prior structural measures before the final squeeze-out (59 cases). Yet, in 35 takeovers, the signing of a DPLTA was concluded within the frame of the chosen taking-private strategy. Takeover Act Squeeze-Out was rarely implemented in practice (only 5 cases)¹⁸. In 9 cases the takeover was resolved by a merger, of which the two most recent cases were in 2022. Being not a structural action per se, delisting also plays an important role in taking-private strategies, and is used more and more in parallel with other structural measures.

Taking private strategies post takeover offers of 2005-2022			
	Structural measures post takeover offer	Frequency	Completed takeover (incl. appraisal proceeding)
1	Stock Corporation Squeeze-Out (AktG)	59	45
2	Transformation Squeeze-Out (UmwG)	27	17
3	Merger	4	4
4	Takeover Act Squeeze-Out (WpÜG)	1	1
5	1. Takeover Act Squeeze-Out (WpÜG) ➔ 2. DPLTA	3	3
6	DPLTA = Stock Corporation Squeeze-Out (AktG)	5	5
7	1. DPLTA ➔ 2. Stock Corporation Squeeze-Out (AktG)	14	11
8	1. DPLTA ➔ 2. Merger	3	2
9	1. DPLTA ➔ 2. Transformation Squeeze-Out (UmwG)	2	0
10	1. DPLTA = 1. Delisting ➔ 2. Stock Corporation Squeeze-Out (AktG)	3	3
11	1. DPLTA ➔ 1. Delisting ➔ 2. Stock Corporation Squeeze-Out (AktG)	2	2
12	1. Delisting ➔ 2. Stock Corporation Squeeze-Out (AktG)	16	5
13	1. Delisting ➔ 2. Transformation Squeeze-Out (UmwG)	4	2
14	1. Delisting ➔ 2. Takeover Act Squeeze-Out (WpÜG)	1	1
15	1. Delisting ➔ 2. Merger	2	0
16	1. Delisting ➔ 2. DPLTA ➔ 3. Stock Corporation Squeeze-Out (AktG)	2	1
17	1. DPLTA ➔ 3. Transformation Squeeze-Out (UmwG)	1	0
		149	102

Figure 29: Taking-private strategies post takeover offers (2005-2022)

¹⁸ In some of these cases a DPLTA was signed after the squeeze-out. The reason for this seemingly odd strategy was that some minority shareholders tried to challenge and block the squeeze-out.

Endgame Analysis

An appropriate compensation for the shares of minority shareholders shall be not less than the VWAP for 3 months prior announcement of structural measure, and not less than the dividend discount value (“Ertragswert”) per share determined by a verified company valuation. Thus, the maximum of these two limits is considered to be the minimum appropriate compensation. We analyze the distribution of the premium over VWAP. We exclude the cases where VWAP was not available due to extremely low trading volume or shares not being listed in the regulated market. Subsuming over all structural measures, the average premium over VWAP amounts to 11.76%.

Minority shareholders may start appraisal proceedings under which the fairness of the DPLTA guarantee dividends, DPLTA compensation, Merger exchange ratio and/or Squeeze-Out compensation shall be verified (Spruchverfahren). Appraisal proceedings cannot delay or block the enforcement of a structural measure. In contrast, an annulment proceeding against the General Meeting decision blocks the enforcement of a structural measure. The proceeding is carried out under the regional court (first instance) and can be resolved by a judicial compromised agreement or a court ruling. The compensation offer cannot be decreased in appraisal proceeding, and the majority shareholder shall carry all costs of litigation. The regional court decision is a subject to appeal under the higher regional court (second instance) whose decision is final. The higher regional court has a right to increase, decrease or annul the first instance ruling.

Endgame Analysis

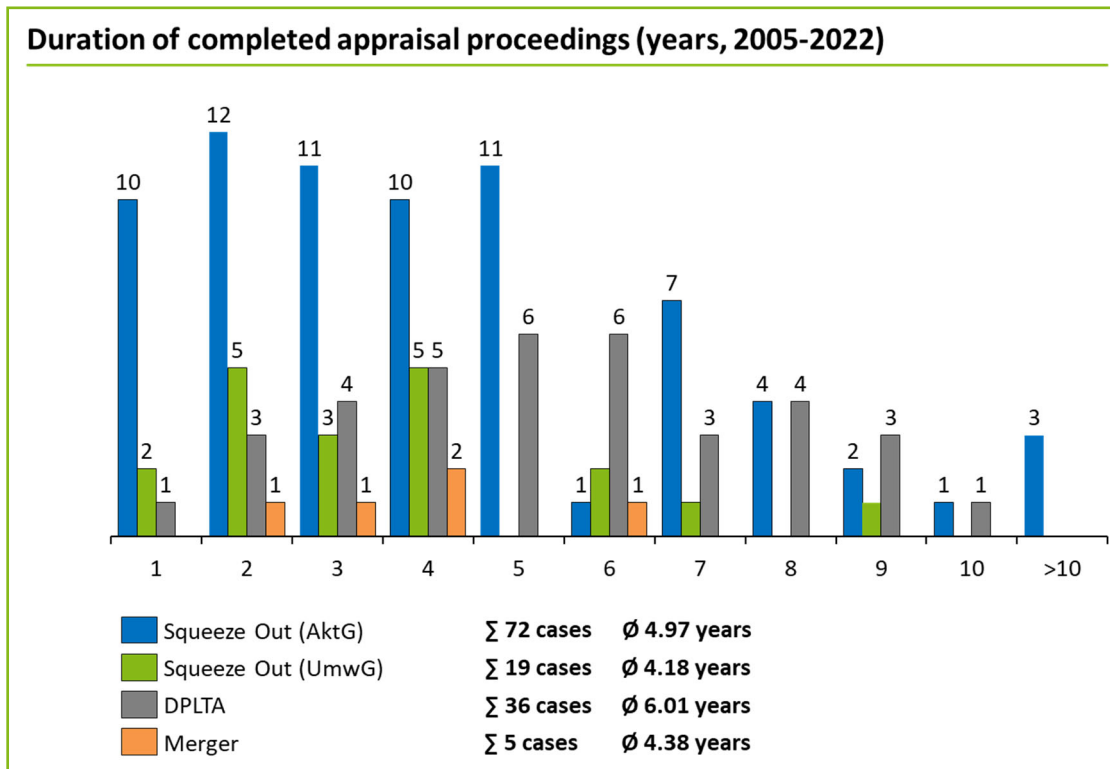


Figure 30: Duration of completed appraisal proceedings (years, 2005-2022)

In Figure 30, we first evaluate the duration of appraisal proceedings. On average, the appraisal proceedings to a compensation offer related to a DPLTA run significantly longer than in other cases (6.01 years). In 8 DPLTA proceedings the duration exceeded 8 years and only small number of cases could be resolved within 2 years. Appraisal proceedings of Stock Corporation Squeeze-Outs last on average 4.97 years; however, the data show that the length of the proceeding spreads almost evenly over the first 5 years. The proceedings related to Transformation Squeeze-Outs display the shortest duration: 4.18 years on average. There are only 5 completed appraisal proceedings to Merger compensations with an average duration of 4.38 years. One further proceeding to Merger is still carried out since 2009 (since 2013 by second instance).

Finally, our analysis revealed, that, on average, minority shareholders received a compensation increase of 7.57% as compared to before the proceeding.

Transaction Details 2022

The last chapter of this report gives a detailed overview of all takeovers and takeover bids in 2022, see figure 31. For each transaction we provide all parameters that have been analyzed on an aggregated level in the previous chapters.

Offer date	Bidder	Target	Offer type	Investor type	Bid round	Payment method	Share before offer	Share before offer from major inv.	Acceptance rate
13/01/2022	Voltaire Finance B.V. (weiterer Bieter: Ingmarus Johannes Maria Snijder)	Wild Bunch AG	Takeover	FI	1	Cash	97,6%	95,7%	0,5%
14/01/2022	HORNBACH Holding AG & Co. KGaA	HORNBACH Baumarkt AG	Delisting	SI	1	Cash	77,1%	76,4%	12,6%
17/01/2022	Genius Brands International, Inc.	Your Family Entertainment AG	Takeover	SI	1	Cash	66,9%	38,2%	25,2%
19/01/2022	Rhine Rail Investment AG	Aves One AG	Delisting	FI	1	Cash	88,3%	88,3%	0,0%
31/01/2022	Bernd Luft Familien-Vermögensverwaltung GmbH	Nucletron Electronic Aktiengesellschaft	Delisting	FI	1	Cash	85,7%	85,7%	6,1%
22/03/2022	Herr Prof. Dr. Klaus Fleischer	RAVENO Capital AG	Takeover	FI	1	Cash	91,9%	0,0%	0,1%
26/04/2022	Atlantic BidCo GmbH	Aareal Bank AG	Takeover	FI	1	Cash	0,4%	0,4%	83,4%
11/05/2022	Jotwe GmbH	Geratherm Medical AG	Delisting	FI	1	Cash	25,5%	16,4%	22,1%
02/06/2022	Capana Swiss Advisors AG	PHILOMAXCAP AG	Takeover	FI	1	Cash	72,6%	72,6%	3,6%
09/06/2022	Hercules Bidco GmbH	Deutsche Euroshop AG	Takeover	FI	1	Cash	20,0%	20,0%	64,4%
14/07/2022	Elbstein AG	ERWE Immobilien AG	Delisting	FI	1	Cash	33,8%	9,7%	3,5%
15/07/2022	Deutsche Balaton Aktiengesellschaft	Biofrontera AG	Takeover	FI	1	Cash	30,0%	30,0%	0,5%
30/09/2022	Nikon AM. AG	SLM Solutions Group AG	Takeover	SI	1	Cash	9,1%	0,0%	82,0%
14/10/2022	Weng Fine Art AG	artnet AG	Takeover	SI	1	Cash	26,5%	24,2%	1,3%
02/11/2022	Deutsche Wohnen SE	GSW Immobilien	Delisting	SI	1	Cash	94,0%	94,0%	0,0%
11/11/2022	RAS Beteiligungen GmbH & LSW GmbH	home24 SE	Takeover	SI	1	Cash	23,4%	14,3%	69,3%
21/11/2022	a.a.a. aktiengesellschaft allgemeine anlageverwaltung	a.a.a. aktiengesellschaft allgemeine anlageverwaltung	Delisting	SI	1	Cash	89,6%	89,6%	0,0%
13/12/2022	Oak Holdings GmbH	Vantage Towers AG	Takeover	SI	1	Cash	85,8%	81,7%	7,5%

Offer date	Bidder	Target	Offer premium	Take-over-value (m EUR)	Joint Statement Recomm.	FO exists	FO result (Adequacy)
13/01/2022	Voltaire Finance B.V. (weiterer Bieter: Ingmarus Johannes Maria Snijder)	Wild Bunch AG	127,1%	5,8	Accept	yes	yes
14/01/2022	HORNBACH Holding AG & Co. KGaA	HORNBACH Baumarkt AG	29,3%	345,5	Accept	no	
17/01/2022	Genius Brands International, Inc.	Your Family Entertainment AG	57,5%	6,9	Accept	no	
19/01/2022	Rhine Rail Investment AG	Aves One AG	0,9%	19,4	Accept	no	
31/01/2022	Bernd Luft Familien-Vermögensverwaltung GmbH	Nucletron Electronic Aktiengesellschaft	0,0%	3,1	Accept	no	
22/03/2022	Herr Prof. Dr. Klaus Fleischer	RAVENO Capital AG	7,6%	0,0	Accept	no	
26/04/2022	Atlantic BidCo GmbH	Aareal Bank AG	16,6%	1.967,0	Accept	yes	yes
11/05/2022	Jotwe GmbH	Geratherm Medical AG	15,5%	34,5	Accept	yes	yes
02/06/2022	Capana Swiss Advisors AG	PHILOMAXCAP AG	16,5%	0,5	Neither nor	no	
09/06/2022	Hercules Bidco GmbH	Deutsche Euroshop AG	39,0%	1.111,7	Accept	yes	yes
14/07/2022	Elbstein AG	ERWE Immobilien AG	6,8%	38,4	Reject	yes	no
15/07/2022	Deutsche Balaton Aktiengesellschaft	Biofrontera AG	0,0%	46,9	Reject	no	
30/09/2022	Nikon AM. AG	SLM Solutions Group AG	82,8%	455,0	Accept	yes	yes
14/10/2022	Weng Fine Art AG	artnet AG	2,6%	30,2	Reject	no	
02/11/2022	Deutsche Wohnen SE	GSW Immobilien	0,0%	309,5	Neither nor	no	
11/11/2022	RAS Beteiligungen GmbH & LSW GmbH	home24 SE	141,2%	192,8	Accept	yes	yes
21/11/2022	a.a.a. aktiengesellschaft allgemeine anlageverwaltung	a.a.a. aktiengesellschaft allgemeine anlageverwaltung	0,0%	4,5	Neither nor	no	
13/12/2022	Oak Holdings GmbH	Vantage Towers AG	19,0%	2.291,2	Accept	yes	yes

Figure 31: Transaction Details