



A&M Valuation Insights

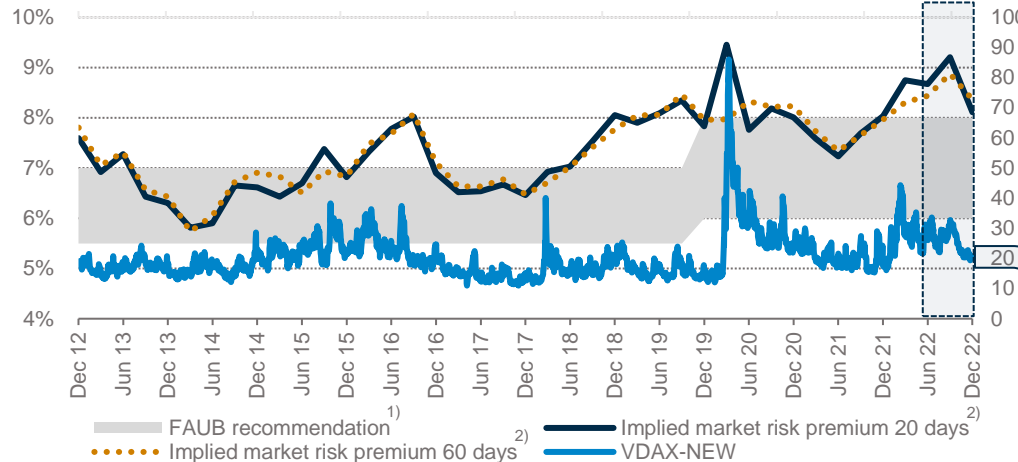
March 2023



The price for taking equity risk in Germany remains high but dropped from its latest peak in Q3 2022

The price for taking the risk of equity investments in Germany

The calculated German market risk premium (MRP) represents a real-time illustration of investors' current risk appetite reflecting German capital market data and analyst forecasts.



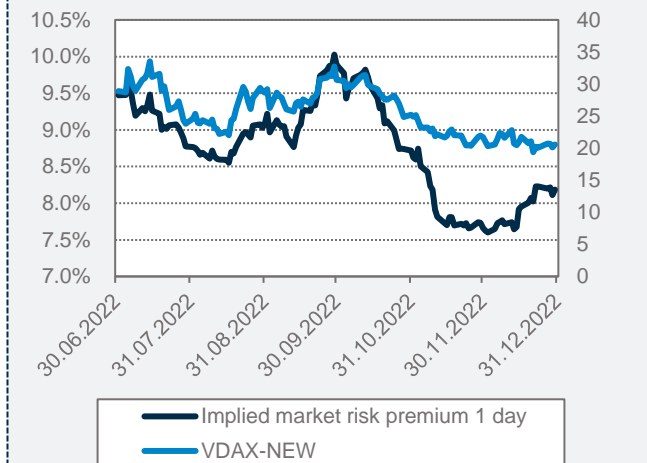
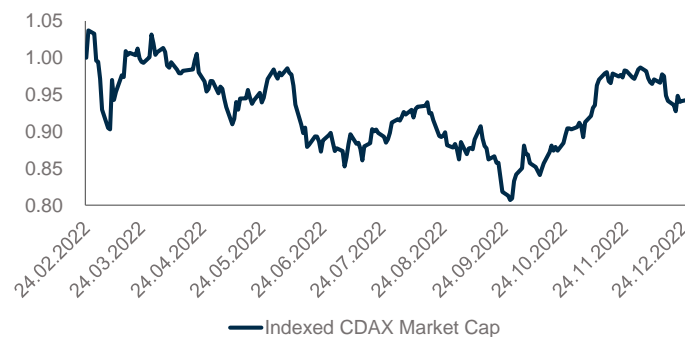
Results are subject to information deficiencies and capital market exaggerations:

- The MRP is calculated by relating the market capitalization of CDAX companies to analyst forecasts. Whereas stock prices are volatile, analyst forecasts are adjusted with a time lag.
- The use of MRP in corporate valuation needs to be judged against underlying risk profiles of cash flows, the overall cost of capital applied and other methods to obtain MRP estimates.
- Current market volatility, as measured by the VDAX-NEW index, remains high amid the Ukraine-crisis.

Risk perception is driven by high volatility levels of asset prices

Change in CDAX market cap³⁾ | Post Russian Invasion

Following the drop in equity markets related to the war in the Ukraine, asset prices remain below pre-Covid levels.



1) Fachausschuss für Unternehmensbewertung und Betriebswirtschaft (FAUB) of the German Institute of Chartered Accountants (IDW).

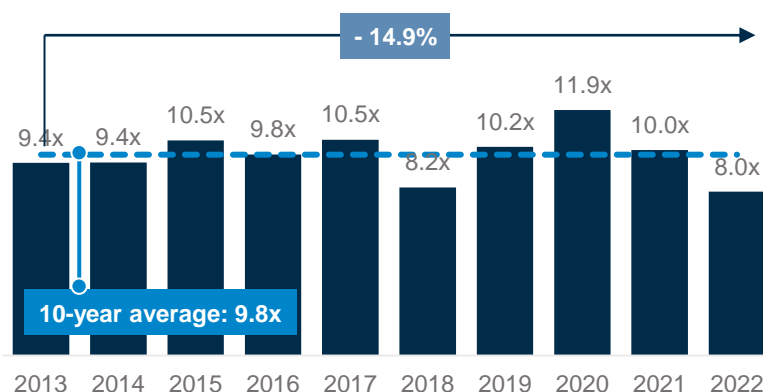
2) The A&M implied MRP model considers capital market data as well as consensus earnings estimates as of 31 December 2022 and is updated on a quarterly basis. The results might be affected by a timing lag with regards to updates of consensus estimates by the equity research community. The range of the MRP shown is derived by varying stock price data from 60 trading days to 20 trading days.

3) The A&M implied MRP model generally analyses firm level data for all CDAX firms with sufficient data availability. As of 31 December 2022 about 96% of the total market cap of CDAX is covered.

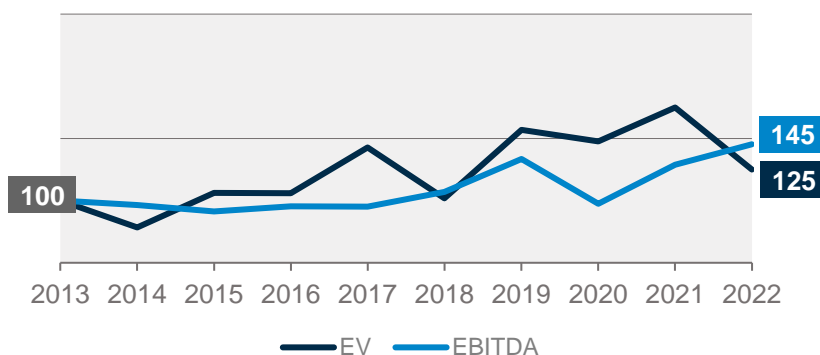
In a 10-year comparison, forward trading pricing levels reached a record low at year-end 2022

Forward EV/EBITDA trading multiple analysis based on firm level data of CDAX firms¹

CDAX forward EV/EBITDA multiple | Dec 2013 to Dec 2022

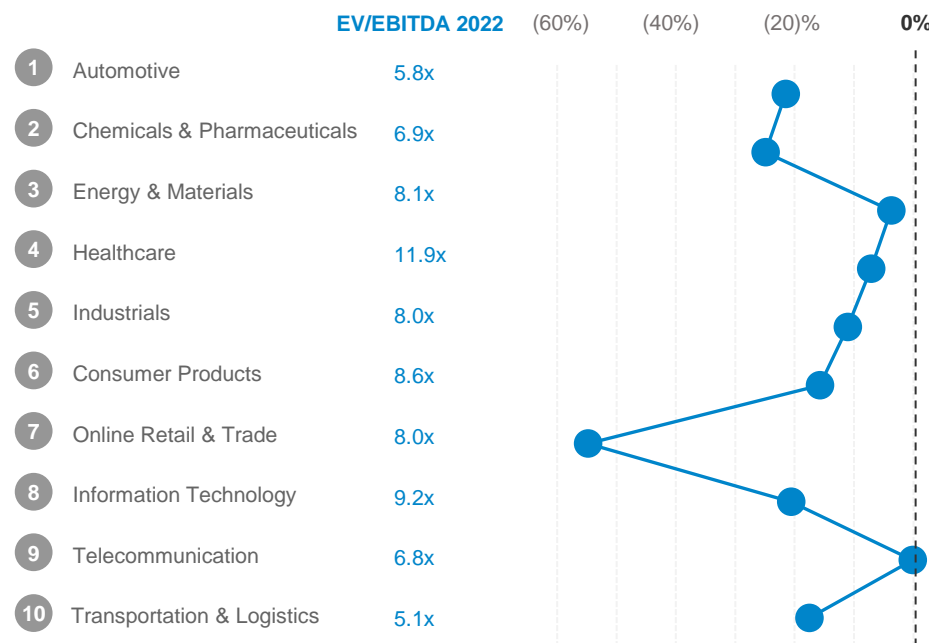


EV and EBITDA Development | Dec 2013 to Dec 2022



- The CDAX forward EV/EBITDA multiple declined to 8.0x in Dec 2022, marking the third annual decline since 2020.
- In a 10-year comparison, all industries analysed currently trade at a discount.
- Online Retail & Trade experienced the highest discount while Energy & Materials as well as Telecommunication are placed at the upper end of observed discounts.

Forward EV/EBITDA 2022 multiple vs 10y average deviation as of Dec 2022

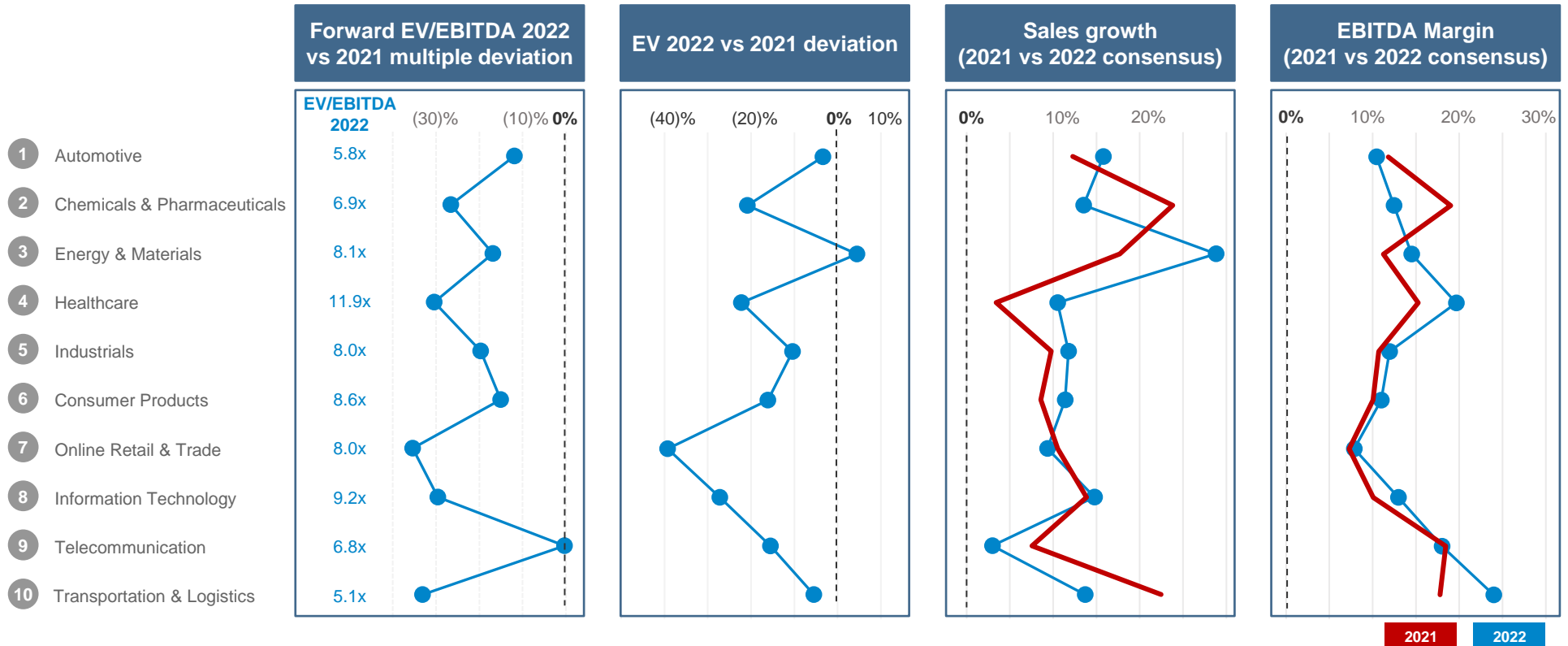


1) The analysis of forward EV/EBITDA trading multiple levels is based on all CDAX firms and compares median EV/EBITDA trading multiple levels by industry as of Dec 31, 2022. Only firm years considered for which consistent data was available across analysed variables. The 10-year average EV/EBITDA multiple was derived by analysing the CDAX on firm level data as at Dec 31 for each year going back to 2013.
Source: S&P Capital IQ, A&M Analysis.

In a one-year comparison, forward trading pricing levels decreased across all industries to record low levels

One-year comparison of forward 2022 EV/EBITDA trading multiple by industry (CDAX)

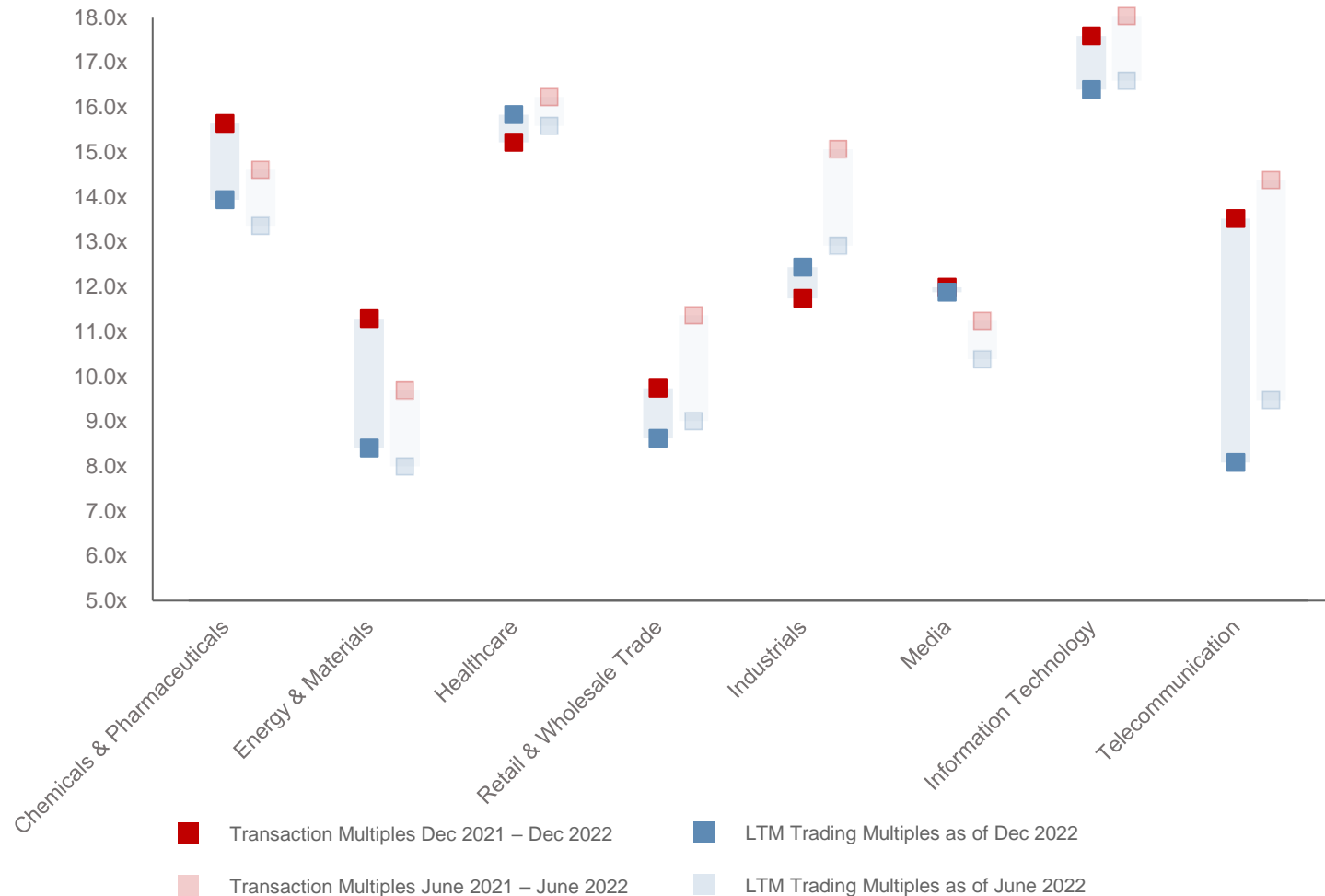
- A one-year comparison shows declining pricing levels across all industries.
 - From December this year compared to December last year, Enterprise Values (EV) are down across industries caused by dramatic drops in asset prices, except for Energy & Materials.
 - Previously pandemic-driven suppressed growth and earnings levels (red lines below) seem to have slightly recovered compared to a year ago.
- As such, it seems that asset prices declined disproportionately compared to still relatively stable earnings levels. Hence, pricing tags are far off from normalized levels.



Note: The analysis of forward EV/EBITDA trading multiple levels is based on all CDAX firms and compares median EV/EBITDA trading multiple levels by industry as of Dec 31, 2022. Only firm years considered for which consistent data was available across analyzed variables. Sales growth and EBITDA margin analysis compares 2021 sales growth and EBITDA consensus as of 31 Dec 2021 with 2022 sales growth and EBITDA consensus as of 31 Dec 2022.
Source: S&P Capital IQ, A&M Analysis.

In a one-year time frame, price tags were highest in IT and Chems & Pharma across European M&A transactions

Comparison of LTM transaction and LTM trading multiple pricing levels (EV/EBITDA) by industry in Europe (S&P Europe 350)



- We compare Last-Twelve-Month (LTM) EV/EBITDA multiples paid in European M&A transactions with LTM European trading pricing levels (S&P Europe 350).
- Highest multiples were paid in Information Technology at 17.6x and Chems & Pharma at 15.6x whereas Retail & Wholesale Trade at 9.7x exhibits the lowest price tag among industries.
- Premia, as measured by the spread between LTM transaction and LTM trading multiple pricing levels, have been highest in Telecommunications at 67% and lowest in Industrials at a discount of 6%.
- When compared to a six month lagged time frame (June 2022 to June 2021) spreads between transaction and trading price tags have widened significantly in Energy & Materials.
- It appears that Chems & Pharma and IT stocks included in the S&P Europe 350 are priced at a trading multiple premium compared to stocks included in CDAX.

Note: Transaction pricing levels are defined as LTM EV/EBITDA at closing and consist of all closed M&A transactions in Europe with a transaction value greater than EUR 25 Mio., data clustered by industry for the December 2021 to December 2022 period. The trading pricing level is based on LTM EV/EBITDA trading multiples for all S&P Europe 350 firms, data clustered by industry as of December 31, 2022. Source: S&P Capital IQ, A&M Analysis.

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