

Buy EUR 52.30 Price EUR 26.30 Upside 98.9 %	Value Indicators: EUR DCF: 52.35	Warburg ESG Risk Score: 2.8 ESG Score (MSCI based): 3.0 Balance Sheet Score: 5.0 Market Liquidity Score: 0.5	Description: Online broker specialized on heavy traders
	Market Snapshot: EUR m Market cap: 61.5 No. of shares (m): 2.3 EV: 41.0 Freefloat MC: 39.4 Ø Trad. Vol. (30d): 51.89 th	Shareholders: Freefloat 64.10 % Ingo Hillen 11.00 % HSBC Trinkaus & Burkhardt 24.90 %	Key Figures (WRe): 2021/22e Beta: 1.4 Price / Book: 2.4 x Equity Ratio: 84 %

Taking a closer look at Trade Republic; Buy rating confirmed

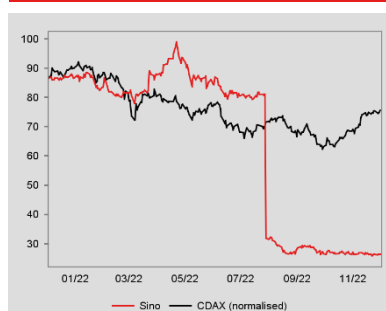
Sino AG has reported figures for the full year 2021/22. In the adverse market environment, sales declined by -28.6% to EUR 8.1m (WRe EUR 8.9m). The operating result declined by -48.5% to EUR 1.1m. Including one-off costs from the Baader Bank migration, the postponed AGM and accrued custodian fees, EBT amounted to EUR 0.4m (WRe EUR 0.6m). Furthermore, the company reported a cash position of EUR 12.4m, which could presumably result in a dividend proposal of about EUR 2 to 3 per share in January 2023.

Sino AG's remaining stake in Trade Republic AG is still the main driver behind the valuation of sino AG and, in this publication, we conduct a more detailed analysis of Trade Republic to derive a financial model and a better understanding of its current valuation especially in the current, more adverse, market environment following several down-rounds in the private market (i.e. lower than the previous financing round).

Even though Trade Republic provides little information, several other indicators allow us to make assumptions regarding the company's KPIs:

- From time to time, Trade Republic comments on the number of customers and the development of this number over time. The latest official wording was more than one million, but market rumours suggest that the company has already significantly more than two million customers.
- The trading volume and customer activity is rarely commented on by Trade Republic. However, Lang & Schwarz acts as its exclusive transaction partner and frequently reports on the number of handled transactions. With the start of Trade Republic in 2019, L&S experienced significant growth in the number of transactions, which allows us to draw conclusions on the trading activity. In 2021, Trade Republic should have exceeded 40m transactions for the first time. However, in the long run, we estimate an average number of about 30 transactions per customer and year.
- Trade Republic should be able to show significant economies of scale over the next years and we expect the company to turn positive on EBITDA level in 2023e. Thereafter, a steep margin expansion should become visible, depending on the development of customer acquisition costs which tend to be the main cost driver.
- Even though a specific value for Trade Republic is difficult to determine given the limited data available, we expect values of more than EUR 1.5bn after the end of the lock-up agreements to be value-accretive for sino shareholders.

Assessment: Even though there is little information on the actual and recent performance of Trade Republic, there are indications that the company has been able to outgrow flatexDEGIRO, its main competitor on a European scale, in terms of customer numbers. Although, we also expect the fair value of Trade Republic to be lower than the latest financing round in June, the implicit valuation in the current share price of sino AG appears too low in light of the expected operating performance. A sale of the remaining shares by sino would be possible by the end of 2023, which offers the potential for another special dividend in 2024. Finally, our valuation approach at a 20% decline in the valuation of Trade Republic since the last financing round remains unchanged until there is further indication of a lower or higher valuation. This said, the valuation of sino AG appears far too low and our Buy rating and PT of EUR 52.30 are reiterated.

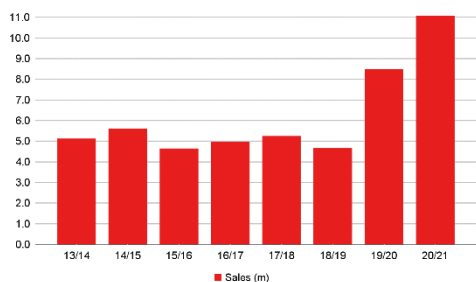


Rel. Performance vs CDAX:	
1 month:	-10.6 %
6 months:	-66.0 %
Year to date:	-53.5 %
Trailing 12 months:	-56.2 %

Company events:	

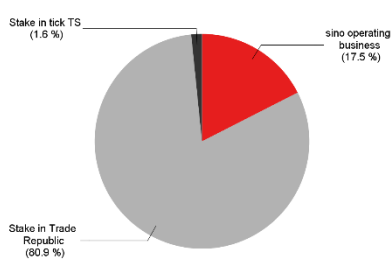
FY End: 30.9. in EUR m	CAGR (20/21-23/24e)	2017/18	2018/19	2019/20	2020/21	2021/22e	2022/23e	2023/24e
Sales	-6.2 %	5.3	4.7	8.5	11.1	8.9	9.0	9.1
Change Sales yoy		5.8 %	-11.1 %	82.0 %	30.3 %	-19.9 %	1.5 %	1.4 %
Gross profit margin		100.0 %	95.8 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %
EBITDA	-	-1.4	-3.1	2.4	-2.0	0.6	1.4	1.9
Margin		-26.6 %	-66.6 %	28.4 %	-18.0 %	7.1 %	15.6 %	20.5 %
EBIT	-	-1.7	-3.5	2.1	-2.2	0.3	1.0	1.5
Margin		-31.6 %	-74.3 %	25.0 %	-20.2 %	3.1 %	11.6 %	16.5 %
Net income	-79.2 %	-1.0	-1.6	9.5	139.4	0.4	1.0	1.3
EPS	-79.2 %	-0.42	-0.69	4.07	59.65	0.19	0.42	0.54
EPS adj.	-79.2 %	-0.42	-0.69	4.07	59.65	0.19	0.42	0.54
DPS	-	0.00	0.64	2.92	0.00	53.00	0.00	0.00
Dividend Yield		n.a.	15.0 %	33.7 %	n.a.	201.5 %	n.a.	n.a.
FCFPS		-0.36	-1.01	1.43	-2.27	0.54	0.48	0.65
FCF / Market cap		-10.1 %	-23.8 %	16.5 %	-4.1 %	2.0 %	1.8 %	2.5 %
EV / Sales		1.6 x	2.1 x	2.4 x	n.a.	4.6 x	4.4 x	4.2 x
EV / EBITDA		n.a.	n.a.	8.4 x	n.a.	64.7 x	28.5 x	20.5 x
EV / EBIT		n.a.	n.a.	9.5 x	n.a.	147.0 x	38.3 x	25.5 x
P / E		n.a.	n.a.	2.1 x	0.9 x	138.4 x	62.6 x	48.7 x
P / E adj.		n.a.	n.a.	2.1 x	0.9 x	138.4 x	62.6 x	48.7 x
FCF Potential Yield		-11.7 %	-22.6 %	8.4 %	39.9 %	1.1 %	2.5 %	3.3 %
Net Debt		-0.3	0.0	0.0	-143.1	-20.5	-21.6	-23.1
ROCE (NOPAT)		n.a.	n.a.	19.1 %	n.a.	3.7 %	15.3 %	22.4 %
Guidance:		Net income between EUR 0.2m and 1.3m						

Sales development in EUR m



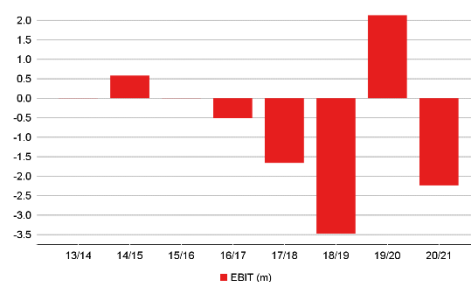
Source: Warburg Research

Valuation contributors in %



Source: Warburg Research

EBIT development in EUR m



Source: Warburg Research

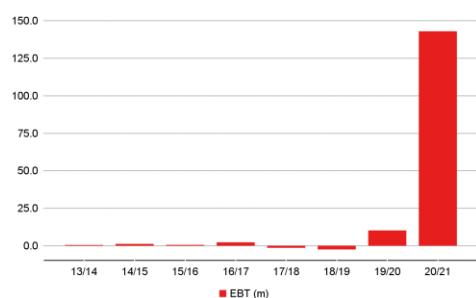
Company Background

- sino is a high end online brokerage company, specializing on providing services to heavy traders.
- The trading software tool MX-PRO is especially designed to fulfill the needs of heavy traders providing extraordinary high stability.
- In addition to common product offerings, such as stocks, bonds, futures, derivatives, ETFs, funds and forex, sino also grants access to IPOs and the ability to short-sale securities.
- The very experienced management team is actively contributing to the development of the industry with investments in the fintech startups Trade Republic and Quinn Technologies.

Competitive Quality

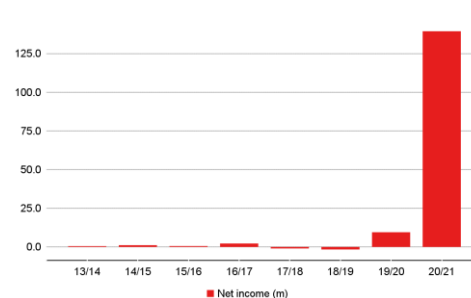
- High end trading platform provides extended scale of services through customizable software tools with access to a greater variety of financial products than usual brokerage businesses.
- sino operates in the niche market of heavy traders with few competitors and considerable entry barriers due to the loyalty of the customer base.
- The strong software and trading partners, HSBC Trinkaus and tick Trading Software, support sino through banking and operational frameworks.
- With the outsourcing of the IT and technical settlements to third-parties, sino is able to keep a lean corporate structure.
- Attractive shareholdings in Trade Republic, tick Trading Software and Quinn Technologies add significant value.

EBT development in EUR m



Source: Warburg Research

Net income development in EUR m



Source: Warburg Research

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Trade Republic KPI assumptions

- The current valuation of sino AG appears fairly low in light of the presumed operating performance of Trade Republic.
- With an appealing product, entry to further markets and ongoing marketing efforts, the average number of customers should increase steadily at an expected CAGR of 47.6% in 2021-25
- Based on the small amount of publicly available information and KPIs of peer companies, we derive a financial model which indicates positive EBITDA contributions from 2023e onwards.
- An adverse environment in the private market following several down-rounds, makes the valuation of the latest financing round of more than EUR 5bn appear ambitious. However, the current valuation of sino AG implies a valuation for Trade Republic of about EUR 2.6bn which does not reflect any value contributions from the operating business, other shareholdings or cash on balance.

The number of customers appears to be growing constantly

Customers

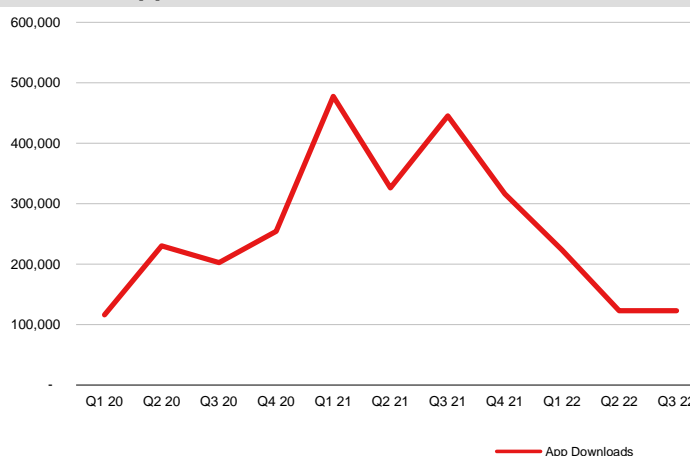
Besides the operating business with heavy traders, the remaining 2.3% (fully diluted) share in Trade Republic GmbH (TR) constitutes a significant value driver for sino's shares. Unfortunately, Trade Republic is still highly restrictive with regards to publishing data on customer development, customer activity, revenue per trade and other KPIs that could be used to derive a financial model.

With regards to customer numbers, the company usually remained silent in the past. The operating business started in 2019 and the customer base is expected to have increased strongly ever since. The rare company comments regarding its customers support this assumption:

- In January 2020, TR stated that it had a customer base of a significant five-digit figure.
- In April 2020, the company revealed that it had gained more than 150k customers only 11 months after the start of operations.
- In the course of the series C financing round in May 2021, a customer base of more than one million was mentioned.
- In October 2021, the wording was changed to "significantly" more than one million customers.

According to media speculation in June 2022, Trade Republic's customer base was reported to have exceeded two million and growing on the strength of the European expansion into several new countries.

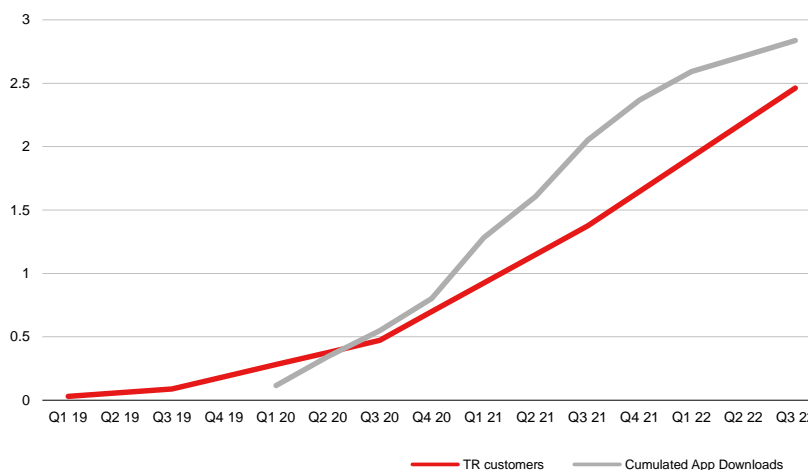
Quarterly German app downloads of TR



Source: Airmow Data, Warburg Research

As Trade Republic is offering its services exclusively on its app, the number of app downloads serves as one indication of customer growth. The chart above displays the number of quarterly app downloads of the Trade Republic app in Germany. Obviously, 2021 marked a year of strong customer gains in Germany, presumably driven by large marketing campaigns and further fuelled by a positive market environment. With the onset of bear markets at the end of 2021, the number of app downloads came down significantly.

Quarterly German app downloads of TR



Source: Airnow Data, Warburg Research

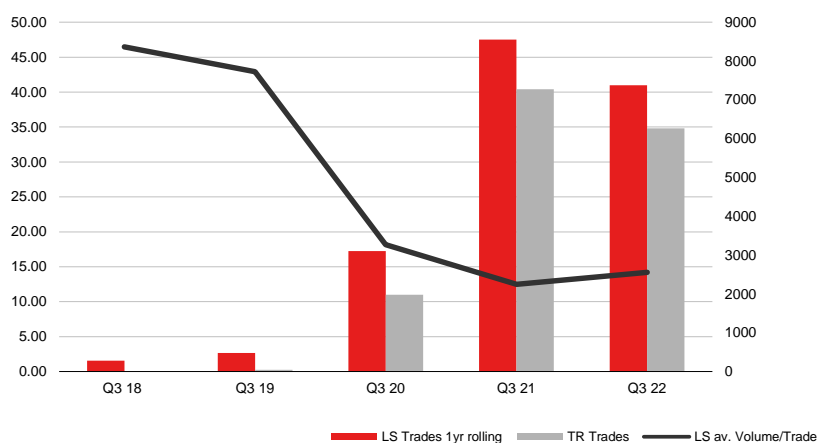
Based on the official statements and the app downloads from 2020 to Q3 2022, we derive assumptions on the development of Trade Republic customers as displayed above. The number of customers showed a stronger increase than the number of app downloads as TR has been expanding to other European countries since 2020. The data on app downloads concern the German market only. However, considering that the company is active in 17 European markets today, future customer growth is expected to stem mainly from outside Germany.

Executed transactions

Besides the number of customers, customer activity is crucial for brokerage providers as this determines the overall number of trades. Trade Republic keeps its trading figures an even greater secret than its number of customers. In its 2018/19 annual report, Trade Republic mentioned a total of 250k handled transactions. However, as the company only started operations in 2019, this number is of little relevance. In its 2019/20 report, TR does not mention the number of executed transactions at all.

Luckily, Trade Republic handles all of its customer transactions via Lang & Schwarz AG (LS), which frequently reports the number of total transactions since 2020. However, there is another publicly available dataset of transaction data which appears to track the LS activity based on the daily quotation lists by LS. While the original source of this data is unclear, the data appears fairly accurate when comparing the actual figures by Lang & Schwarz with the mentioned dataset. We accessed the data here: <https://docs.google.com/spreadsheets/d/1Cqz7R4EVuQwO6YbupM-AhqG1S7fNNqijAJ5iXCt74GpE/edit#gid=1524338957>

Number of transactions (left, in m) and average volume per trade (right, in EUR)



Source: Lang&Schwarz, Unknown, Warburg Research

Trade Republic's financial year ends in September and the chart above represents data from the past four quarters ending in September respectively. It becomes clear that prior to the start of Trade Republic, the number of transactions executed by Lang & Schwarz was at a significantly lower level at a low to mid-single-digit millions. With TR handling all of its transactions, the following conclusions are suggested:

- With the strong rise of TR in 2020 and 2021, the number of executed trades at Lang & Schwarz skyrocketed, indicating TR's customer activity as the main source.
- The average volume of executed transactions at LS dropped significantly in 2020. This speaks for a high number of low-volume trades which would point to Trade Republic. In a study which analysed trading data of TR customers, the average trading volume stood at EUR 1433.30 per trade.
- There is no indication that sources other than Trade Republic contributed significantly to the strong rise in transactions. Furthermore, the overlay of customer growth indicates that TR should be responsible for the majority of additional transactions.
- Nevertheless, the number of transactions at LS marks the maximum that can be expected for Trade Republic. Furthermore, a basis of transactions from other trading partners should be deducted (we estimate some 15% of total trades at LS).

Finally, the number of transactions should have peaked at about 40m in 2020/21, a period characterized by an exceedingly positive market environment. In 2021/23, Trade Republic is expected to have experienced a declining number of transactions, driven by the gloomy investor sentiment since the end of 2021.

Financial model

Based on the aforementioned assumptions and the publicly available data in the annual reports 2018/19 and 2019/20, we derived a financial model but this is subject to some uncertainty considering the very limited availability of public and reliable data. Nevertheless, comparing these figures with those of flatexDEGIRO or Smartbroker, the model appears at least plausible.

Financial model for Trade Republic

FY End: 30.09. in EUR m	CAGR 21e-25e	2019	2020	2021e	2022e	2023e	2024e	2025e
Average Customers (m)	47.6 %	0.05	0.28	0.92	1.92	2.91	3.72	4.38
yoy			525.8 %	228.2 %	107.6 %	51.8 %	27.8 %	17.7 %
Transactions per c. and year		5.60	39.06	43.71	18.15	25.00	28.00	30.00
Total transactions (m)	34.3 %	0.3	11.0	40.4	34.8	72.8	104.2	131.5
yoy			4265.1 %	267.3 %	-13.8 %	109.1 %	43.2 %	26.1 %
Revenue per Trade (EUR)		2.9	2.4	2.3	2.2	2.2	2.2	2.2
Sales	32.8 %	0.7	26.8	92.9	76.6	160.2	229.3	289.2
yoy			3587.3 %	246.2 %	-17.6 %	109.1 %	43.2 %	26.1 %
Interest income						29.0	39.2	48.7
yoy							34.9 %	24.3 %
Transaction costs	26.4 %	0.6	10.8	28.3	24.4	47.3	62.5	72.3
yoy			1837.6 %	162.5 %	-13.8 %	94.1 %	32.1 %	15.6 %
Gross profit	42.4 %	0.2	16.1	64.6	52.2	141.9	205.9	265.6
Gross margin		23.6 %	59.9 %	69.6 %	68.2 %	88.6 %	89.8 %	91.8 %
Personnel costs	26.6 %	1.7	6.7	24.5	49.0	56.0	59.5	63.0
yoy			298.6 %	263.1 %	100.0 %	14.3 %	6.3 %	5.9 %
Marketing costs	-18.4 %	2.5	17.1	67.7	54.3	45.0	36.0	30.0
yoy			580.1 %	295.3 %	-19.7 %	-17.2 %	-20.0 %	-16.7 %
Other costs	14.7 %	0.8	5.7	15.0	20.0	22.0	24.0	26.0
yoy			580.1 %	162.9 %	33.3 %	10.0 %	9.1 %	8.3 %
EBITDA	-	-4.9	-13.5	-42.5	-71.1	18.9	86.4	146.6
EBITDA margin		-669.9 %	-50.3 %	-45.8 %	-92.8 %	11.8 %	37.7 %	50.7 %

Source: Trade Republic, Warburg Research

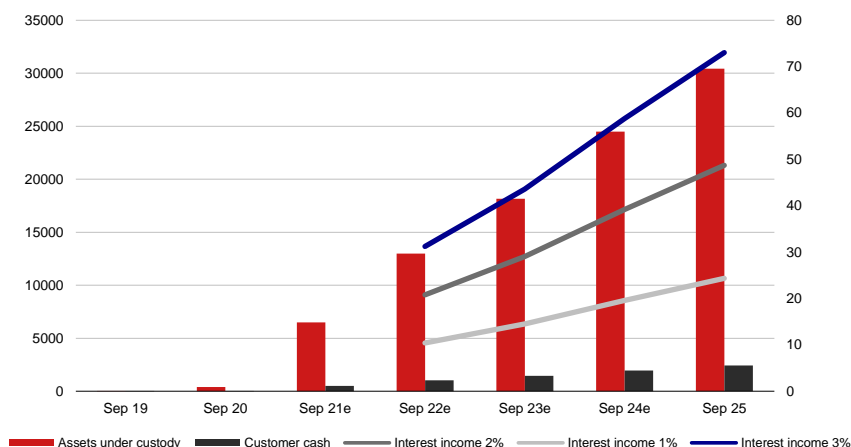
Additional to the data on customers and transactions, the following assumptions are included:

- Trade Republic is expected to gain an average of 75k new customers per month in 2023, 60k in 2024 and 50k in 2025.
- After the significant drop in average trades per customer and year in 2022, a normalization is expected to start in 2023 which is assumed to continue in the years ahead. We expect an approximation towards 30 transactions per customer and year. This is less than the level observed at flatexDEGIRO (35 to 40), which reflects the inexperience of Trade Republic's customers.
- Revenue per trade consists of EUR 1 flat fee, kick-backs from Lang&Schwarz and revenue shares in derivative products. A slightly decreasing trend is expected due to the growing importance of savings plans.
- Costs per trade should benefit from economies of scale and approximate best-in-class levels of about EUR 0.5 per trade over time.
- As of November 22, about 700 people on LinkedIn are showing Trade Republic as their employer. We expect the company to increase headcount at a slower pace over the next years.
- Marketing costs are a significant cost driver. Expensive television advertising campaigns should have significantly increased the CAC in 2021 but is expected to drop to a level of about EUR 50 per customer going forward. However, any higher or lower CAC could affect the point of break-even significantly.
- Based on the inexperience of new customers (about half have never owned shares before), a rather low portfolio value of about EUR 5k is assumed (about one-third of the value at flatexDEGIRO).
- About 8% of the portfolio value is expected to be held in cash.
- Sooner or later, Trade Republic should be able to acquire a banking license which puts the company in the position to earn interest on the cash held by customers. Hence, interest income of 2% on the cash position is included in the model from 2023e onwards.

Further upside scenarios

According to some press reports, two additional licenses, including for proprietary trading, were recently granted to Trade Republic. This should enable the company to monetize its trading book even further, which could be reflected in higher revenues per trade. However, the next logical step, in our view, would be the acquisition of its own banking license. Considering the rising interest environment, such a license would enable the company to yield a positive interest yield from the ECB.

Cash and assets from customers (left, EURm); interest income (right, EURm)



Source: Warburg Research

Currently, Trade Republic cooperates with Solarisbank, Deutsche Bank and Citibank to take care of customers' cash. Given its strong operating momentum and size, we expect TR to have sufficient negotiating power to already be earning positive interest income from customer deposits.

The chart above illustrates our assumptions for assets under custody, customer cash (we estimate about 8% of assets under custody) and interest income for the scenarios of 1%, 2% and 3% interest. Our base-case scenario is 2% in the current environment but could easily be exceeded under the following circumstances:

- 2% interest is our assumption for the deposit facility by the ECB. However, effective treasury could yield higher rates.
- Trade Republic could start offering loans to its customers based on the model of flatxDEGIRO. Such a product comes at very limited risk and yields an attractive interest income above the ECB rate.

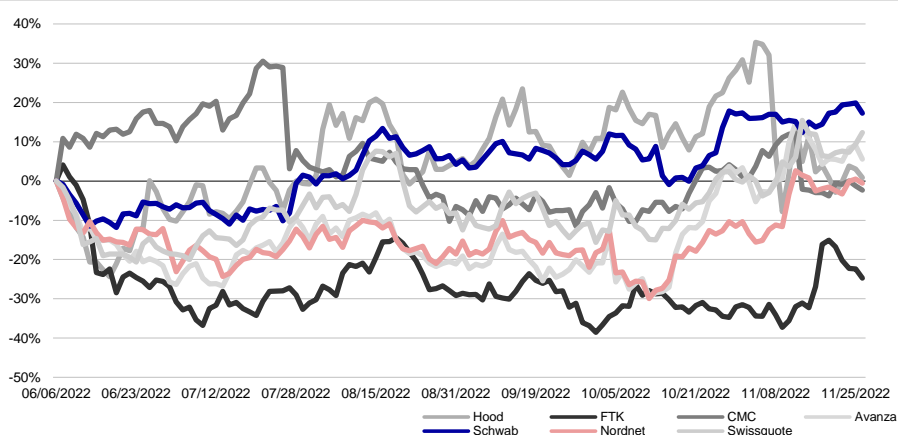
Furthermore, there is great potential in the implementation of product partnerships. Trade Republic could start partnering with other Fintechs in the fields of payment, insurance or other financial services. While no such plans have yet been announced, positive revenue and EBITDA contributions could be conceivable in the long run.

Valuation of Trade Republic

In its latest financing round in June 2022, the Ontario Teachers' Pension Plan and other investors invested EUR 250m in a series C financing round, bringing the post-money valuation to more than EUR 5bn. Since then, the private market has seen more restrictive investing and there have been several down-rounds. However, Trade Republic should be well capitalized, considering the fresh funds of EUR 250m, which should be sufficient to finance growth over the next years. Furthermore, our estimates assume positive EBITDA contributions from 2023 onwards, limiting the need for further cash injections.

The derivation of a fair value today appears challenging, considering the limited information currently available. From one perspective, the last financing round could be taken as a valuation indicator. However, the latest down-rounds in the private sector would suggest a slightly lower valuation.

Peer-group share-price performance (since June 03)



Source: Factset, Warburg Research

The chart above shows the one-year performance of listed peers of Trade Republic since the date of the last financing round of TR in June 2022. The respective performances ranged between -22% (flatexDEGIRO) to +16% (Charles Schwab). The most comparable in terms of business model is probably Robinhood which showed a relatively flat performance at +2%. However, as the market sentiment had turned significantly negative by the end of 2021, Robinhood's shares dropped to one-third of its 52-week high.

Considering the limited available data and the related uncertainties, it is currently difficult to assess a fair value based on multiples for Trade Republic. Given the presumed operating development of the company and assuming our estimates above paint a roughly realistic picture, a current valuation of EUR 3.5bn to 4bn appears conceivable. This would translate into about 40x-46x 2024e EBITDA, reflecting the growth and margin expansion prospects.

Overall, the assumption of a fair value of roughly EUR 4bn, as currently reflected in our financial model, remains unchanged. This would translate into about EUR 40 per share. The remaining shares of Trade Republic that are held by sino AG are currently subject to lock-up agreements that expire at the end of 2023. Therefore, a sale of the remaining shares and a respective special dividend could be expected in 2024. However, assuming that the current share price of sino only reflects the remaining shares of Trade Republic, a valuation for TR of EUR 2.6bn is implied. This does not even include any value contribution of the operating business, the cash on balance or the remaining shareholdings. Furthermore, a down-round of 50% does not appear very likely to us.

Acknowledging the uncertainties regarding the Trade Republic valuation, the following chart shows a scenario analysis and sum of the parts derivation of the fair value of sino AG, depending on the fair value assumption of the remaining 2.3% in Trade Republic.

Scenario analysis and sum of the parts

in EURm	Low case	Base case	High case
<i>Underlying FV of TR</i>	2643	4143	5643
Share in TR	60.78	95.28	129.78
TR management options	4.9	4.9	4.9
Cash on balance	12.4	12.4	12.4
Share in tick-TS	1.5	1.5	1.5
FV of operating business	8.3	8.3	8.3
Total Fair value	87.9	122.4	156.9
Fair value per share	37.6	52.4	67.1

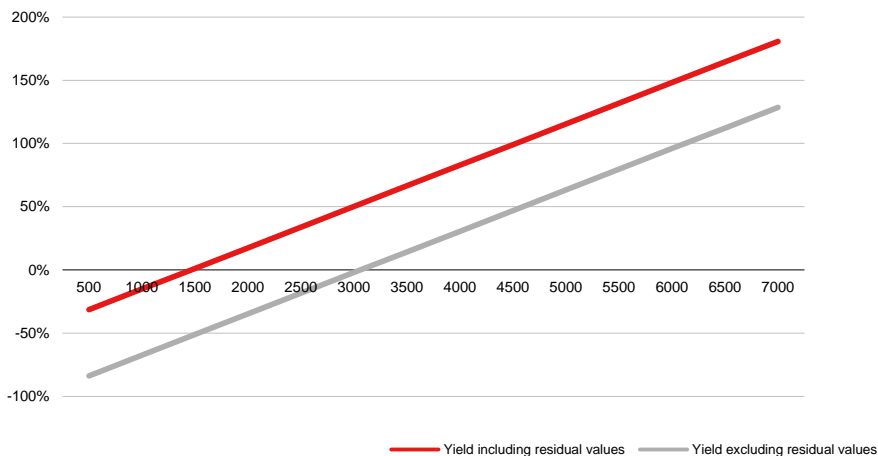
Source: sino, Warburg Research

- The low case is reflected in a fair value of Trade Republic of EUR 2.6bn, 4.1bn in the base case and 5.6bn in the high-case scenario.
- The official share of sino in Trade Republic stands at 2.8%. However, the existing management of TR has an option to increase its share in the company at the expense of other shareholders. The execution of this option appears almost certain and would result in a reduction in sino's share to 2.3%. In exchange, sino would contractually receive compensation of EUR 4.9m after tax.
- Sino holds a net cash position of about EUR 10m on its own balance sheet.
- The remaining share in tick-TS AG is currently worth about EUR 1.5m
- According to our DCF model, the fair value of the operating business amounts to at least EUR 10.7m.

Overall, the different scenarios in the sum-of-the-parts model yield respective fair values per share which are significantly above the current share price of slightly more than EUR 25. Hence, the current valuation appears highly appealing even under the assumption of a significant down-round for Trade Republic.

Following the example of the last sale of shares in TR, we expect sino AG to distribute potential profits from the sale of the remaining shares to the shareholders by a special dividend. As the lock-up agreements expire in January 2024, a sale of the remaining shares could be conceivable by then which would probably result in a special dividend in Q2 2025.

Total return analysis depending on the valuation of Trade Republic



Source: Warburg Research

The chart above shows two scenarios with an investment horizon until an expected distribution of a special dividend in Q2 2025 and a purchase price of sino shares of EUR 26. Thus, returns are discounted at the expected WACC of 10.34%. The red line includes the consideration of values from the operating business, cash on balance, the tick-TS shares and the management options as described above. The grey line neglects these values and reflects only cash returns by the sale of the TR share at a respective valuation.

Apparently, the points of breakeven lie just under EUR 1.5bn and 3.5bn respectively. At the valuation level of EUR 5bn (about the level of the last financing round), the yields would add up to 105% and 48%, which is highly appealing, in our view.

DCF model

Figures in EUR m	Detailed forecast period			Transitional period										Term. Value
	21/22e	22/23e	23/24e	24/25e	25/26e	26/27e	27/28e	28/29e	29/30e	30/31e	31/32e	32/33e	33/34e	
Sales	8.9	9.0	9.1	9.3	9.4	9.6	9.7	9.8	10.0	10.1	10.3	10.4	10.6	
Sales change	-19.9 %	1.5 %	1.4 %	1.5 %	1.5 %	1.5 %	1.5 %	1.5 %	1.5 %	1.5 %	1.5 %	1.5 %	1.5 %	1.5 %
EBIT	0.3	1.0	1.5	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.1	2.1	2.1	
EBIT-margin	3.1 %	11.6 %	16.5 %	20.0 %	20.0 %	20.0 %	20.0 %	20.0 %	20.0 %	20.0 %	20.0 %	20.0 %	20.0 %	
Tax rate (EBT)	30.0 %	30.0 %	32.0 %	32.0 %	32.0 %	32.0 %	32.0 %	32.0 %	32.0 %	32.0 %	32.0 %	32.0 %	32.0 %	
NOPAT	0.2	0.7	1.0	1.3	1.3	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.4	
Depreciation	0.4	0.4	0.4	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
in % of Sales	4.0 %	4.0 %	4.0 %	4.0 %	3.0 %	2.0 %	1.0 %	1.0 %	1.0 %	1.0 %	1.0 %	1.0 %	1.0 %	
Changes in provisions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Change in Liquidity from														
- Working Capital	-0.6	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
- Capex	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Capex in % of Sales	1.2 %	1.2 %	1.2 %	1.5 %	1.5 %	1.5 %	1.0 %	1.0 %	1.0 %	1.0 %	1.0 %	1.0 %	1.0 %	
- Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Free Cash Flow (WACC Model)	1.0	0.9	1.3	1.5	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.4	1.4	1
PV of FCF	1.0	0.8	1.0	1.1	0.9	0.8	0.7	0.6	0.6	0.5	0.5	0.4	0.4	5
share of PVs	19.86 %			46.37 %										33.77 %

Model parameter

Derivation of WACC:		Derivation of Beta:	
Debt ratio	0.00 %	Financial Strength	1.20
Cost of debt (after tax)	4.2 %	Liquidity (share)	1.50
Market return	8.25 %	Cyclicality	1.40
Risk free rate	2.75 %	Transparency	1.40
		Others	1.40
WACC	10.34 %	Beta	1.38

Valuation (m)

Present values 2033/34e	9		
Terminal Value	5		
Financial liabilities	0		
Pension liabilities	0		
Hybrid capital	0		
Minority interest	0		
Market val. of investments	94		
Liquidity	14	No. of shares (m)	2.3
Equity Value	122	Value per share (EUR)	52.35

Sensitivity Value per Share (EUR)

Beta	WACC	Terminal Growth							Beta	WACC	Delta EBIT-margin						
		0.75 %	1.00 %	1.25 %	1.50 %	1.75 %	2.00 %	2.25 %			-1.5 pp	-1.0 pp	-0.5 pp	+0.0 pp	+0.5 pp	+1.0 pp	+1.5 pp
1.56	11.3 %	51.66	51.69	51.73	51.77	51.81	51.86	51.91	1.56	11.3 %	51.34	51.49	51.63	51.77	51.91	52.06	52.20
1.47	10.8 %	51.91	51.95	52.00	52.05	52.10	52.15	52.20	1.47	10.8 %	51.60	51.75	51.90	52.05	52.20	52.35	52.50
1.43	10.6 %	52.05	52.09	52.14	52.19	52.25	52.31	52.37	1.43	10.6 %	51.73	51.89	52.04	52.19	52.35	52.50	52.65
1.38	10.3 %	52.19	52.24	52.29	52.35	52.41	52.47	52.54	1.38	10.3 %	51.88	52.03	52.19	52.35	52.51	52.67	52.82
1.33	10.1 %	52.34	52.40	52.45	52.52	52.58	52.65	52.72	1.33	10.1 %	52.03	52.19	52.35	52.52	52.68	52.84	53.00
1.29	9.8 %	52.50	52.56	52.62	52.69	52.76	52.84	52.92	1.29	9.8 %	52.19	52.36	52.52	52.69	52.86	53.02	53.19
1.20	9.3 %	52.85	52.92	53.00	53.07	53.16	53.25	53.35	1.20	9.3 %	52.54	52.72	52.90	53.07	53.25	53.43	53.60

- Strong top-line growth in 2021 is triggered by a favourable market environment
- A normalisation is assumed thereafter, resulting in declining revenues in 2022e
- The remaining stakes in Trade Republic and tick TS AG are reflected in market value of investments
- The value of the remaining share in Trade Republic bases on the last financing round

Valuation	2017/18	2018/19	2019/20	2020/21	2021/22e	2022/23e	2023/24e
Price / Book	1.2 x	2.2 x	1.2 x	0.9 x	2.4 x	2.3 x	2.2 x
Book value per share ex intangibles	2.63	1.72	6.83	63.57	10.72	11.13	11.67
EV / Sales	1.6 x	2.1 x	2.4 x	n.a.	4.6 x	4.4 x	4.2 x
EV / EBITDA	n.a.	n.a.	8.4 x	n.a.	64.7 x	28.5 x	20.5 x
EV / EBIT	n.a.	n.a.	9.5 x	n.a.	147.0 x	38.3 x	25.5 x
EV / EBIT adj.*	n.a.	n.a.	9.5 x	n.a.	147.0 x	38.3 x	25.5 x
P / FCF	n.a.	n.a.	6.1 x	n.a.	49.1 x	54.5 x	40.4 x
P / E	n.a.	n.a.	2.1 x	0.9 x	138.4 x	62.6 x	48.7 x
P / E adj.*	n.a.	n.a.	2.1 x	0.9 x	138.4 x	62.6 x	48.7 x
Dividend Yield	n.a.	15.0 %	33.7 %	n.a.	201.5 %	n.a.	n.a.
FCF Potential Yield (on market EV)	-11.7 %	-22.6 %	8.4 %	39.9 %	1.1 %	2.5 %	3.3 %

*Adjustments made for: -

Consolidated profit & loss

In EUR m	2017/18	2018/19	2019/20	2020/21	2021/22e	2022/23e	2023/24e
Sales	5.3	4.7	8.5	11.1	8.9	9.0	9.1
Change Sales yoy	5.8 %	-11.1 %	82.0 %	30.3 %	-19.9 %	1.5 %	1.4 %
Increase / decrease in inventory	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Own work capitalised	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Sales	5.3	4.7	8.5	11.1	8.9	9.0	9.1
Material expenses	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Gross profit	5.3	4.5	8.5	11.1	8.9	9.0	9.1
<i>Gross profit margin</i>	<i>100.0 %</i>	<i>95.8 %</i>	<i>100.0 %</i>	<i>100.0 %</i>	<i>100.0 %</i>	<i>100.0 %</i>	<i>100.0 %</i>
Personnel expenses	2.6	2.9	2.7	3.4	3.5	3.4	3.2
Other operating income	0.5	0.5	0.3	0.5	0.9	0.5	0.5
Other operating expenses	4.6	5.1	3.7	10.2	5.6	4.7	4.6
Unfrequent items	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EBITDA	-1.4	-3.1	2.4	-2.0	0.6	1.4	1.9
<i>Margin</i>	<i>-26.6 %</i>	<i>-66.6 %</i>	<i>28.4 %</i>	<i>-18.0 %</i>	<i>7.1 %</i>	<i>15.6 %</i>	<i>20.5 %</i>
Depreciation of fixed assets	0.3	0.4	0.3	0.2	0.4	0.4	0.4
EBITA	-1.7	-3.5	2.1	-2.2	0.3	1.0	1.5
Amortisation of intangible assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Goodwill amortisation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EBIT	-1.7	-3.5	2.1	-2.2	0.3	1.0	1.5
<i>Margin</i>	<i>-31.6 %</i>	<i>-74.3 %</i>	<i>25.0 %</i>	<i>-20.2 %</i>	<i>3.1 %</i>	<i>11.6 %</i>	<i>16.5 %</i>
EBIT adj.	-1.7	-3.5	2.1	-2.2	0.3	1.0	1.5
Interest income	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Interest expenses	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other financial income (loss)	0.6	1.2	8.1	145.3	0.5	0.5	0.5
EBT	-1.4	-2.5	10.2	143.0	0.6	1.4	1.9
<i>Margin</i>	<i>-26.8 %</i>	<i>-53.1 %</i>	<i>120.5 %</i>	<i>1291.3 %</i>	<i>7.1 %</i>	<i>15.4 %</i>	<i>20.3 %</i>
Total taxes	-0.4	-0.9	0.7	3.6	0.2	0.4	0.6
Net income from continuing operations	-1.0	-1.6	9.5	139.4	0.4	1.0	1.3
Income from discontinued operations (net of tax)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net income before minorities	-1.0	-1.6	9.5	139.4	0.4	1.0	1.3
Minority interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net income	-1.0	-1.6	9.5	139.4	0.4	1.0	1.3
<i>Margin</i>	<i>-18.5 %</i>	<i>-34.7 %</i>	<i>112.0 %</i>	<i>1258.9 %</i>	<i>5.0 %</i>	<i>10.8 %</i>	<i>13.8 %</i>
Number of shares, average	2.3	2.3	2.3	2.3	2.3	2.3	2.3
EPS	-0.42	-0.69	4.07	59.65	0.19	0.42	0.54
EPS adj.	-0.42	-0.69	4.07	59.65	0.19	0.42	0.54

*Adjustments made for:

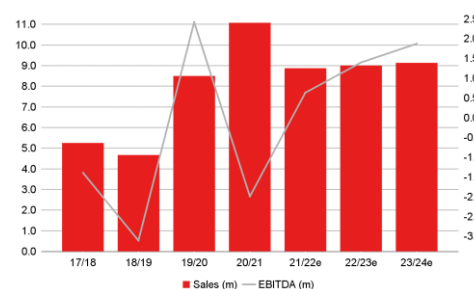
Guidance: Net income between EUR 0.2m and 1.3m

Financial Ratios

	2017/18	2018/19	2019/20	2020/21	2021/22e	2022/23e	2023/24e
Total Operating Costs / Sales	126.6 %	166.6 %	71.6 %	118.0 %	92.9 %	84.4 %	79.5 %
Operating Leverage	38.4 x	-9.8 x	n.a.	n.a.	n.a.	185.7 x	30.8 x
EBITDA / Interest expenses	n.m.	n.m.	490.4 x	n.m.	n.a.	n.a.	n.a.
Tax rate (EBT)	31.0 %	34.7 %	7.1 %	2.5 %	30.0 %	30.0 %	32.0 %
Dividend Payout Ratio	0.0 %	n.m.	71.7 %	0.0 %	28145.1 %	0.0 %	0.0 %
Sales per Employee	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

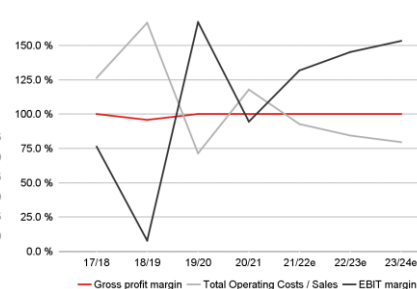
Sales, EBITDA

in EUR m

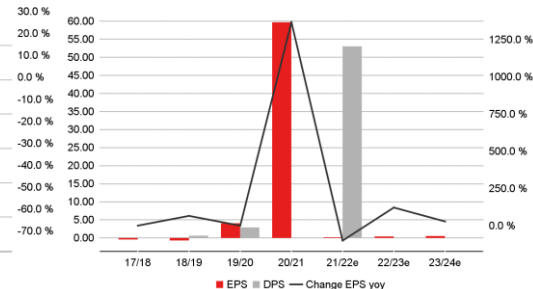


Operating Performance

in %



Performance per Share



Source: Warburg Research

Source: Warburg Research

Source: Warburg Research

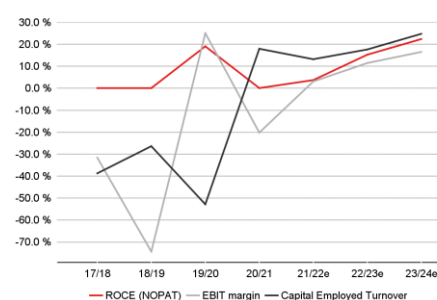
Consolidated balance sheet

In EUR m	2017/18	2018/19	2019/20	2020/21	2021/22e	2022/23e	2023/24e
Assets							
Goodwill and other intangible assets	0.7	0.5	0.3	0.3	0.3	0.3	0.3
thereof other intangible assets	0.5	0.5	0.3	0.3	0.3	0.3	0.3
thereof Goodwill	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Property, plant and equipment	0.4	0.3	0.2	0.4	0.1	-0.1	-0.4
Financial assets	0.6	2.5	9.4	5.6	5.5	5.5	5.4
Other long-term assets	0.3	0.3	1.3	0.0	0.0	0.0	0.0
Fixed assets	2.0	3.6	11.2	6.2	5.9	5.6	5.3
Inventories	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Accounts receivable	5.4	1.9	7.7	4.2	3.6	3.7	3.7
Liquid assets	0.3	0.0	0.0	143.1	20.5	21.6	23.1
Other short-term assets	0.8	0.1	0.1	0.1	0.1	0.1	0.1
Current assets	6.4	2.0	7.9	147.4	24.2	25.4	26.9
Total Assets	8.4	5.6	19.1	153.6	30.1	31.0	32.3
Liabilities and shareholders' equity							
Subscribed capital	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Capital reserve	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Retained earnings	0.2	0.2	1.4	1.4	-122.1	-121.1	-119.8
Other equity components	4.2	1.9	12.5	145.1	145.0	145.0	145.0
Shareholders' equity	6.8	4.5	16.3	148.9	25.3	26.3	27.6
Minority interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total equity	6.8	4.5	16.3	148.9	25.3	26.3	27.6
Provisions	0.7	0.6	1.5	4.3	4.3	4.3	4.3
thereof provisions for pensions and similar obligations	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial liabilities (total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Short-term financial liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Accounts payable	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other liabilities	0.8	0.5	1.3	0.5	0.5	0.5	0.5
Liabilities	1.5	1.1	2.8	4.7	4.7	4.7	4.7
Total liabilities and shareholders' equity	8.4	5.6	19.1	153.6	30.1	31.0	32.3

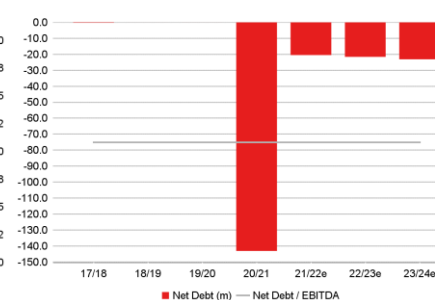
Financial Ratios

	2017/18	2018/19	2019/20	2020/21	2021/22e	2022/23e	2023/24e
Efficiency of Capital Employment							
Operating Assets Turnover	0.9 x	2.1 x	1.1 x	2.4 x	2.4 x	2.5 x	2.8 x
Capital Employed Turnover	0.8 x	1.0 x	0.5 x	1.9 x	1.8 x	1.9 x	2.1 x
ROA	-47.8 %	-45.2 %	85.0 %	2240.7 %	7.4 %	17.3 %	23.8 %
Return on Capital							
ROCE (NOPAT)	n.a.	n.a.	19.1 %	n.a.	3.7 %	15.3 %	22.4 %
ROE	-15.5 %	-28.7 %	91.8 %	168.8 %	0.5 %	3.8 %	4.7 %
Adj. ROE	-15.5 %	-28.7 %	91.8 %	168.8 %	0.5 %	3.8 %	4.7 %
Balance sheet quality							
Net Debt	-0.3	0.0	0.0	-143.1	-20.5	-21.6	-23.1
Net Financial Debt	-0.3	0.0	0.0	-143.1	-20.5	-21.6	-23.1
Net Gearing	-3.8 %	-0.2 %	-0.1 %	-96.1 %	-80.9 %	-82.2 %	-83.9 %
Net Fin. Debt / EBITDA	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Book Value / Share	2.9	1.9	7.0	63.7	10.8	11.3	11.8
Book value per share ex intangibles	2.6	1.7	6.8	63.6	10.7	11.1	11.7

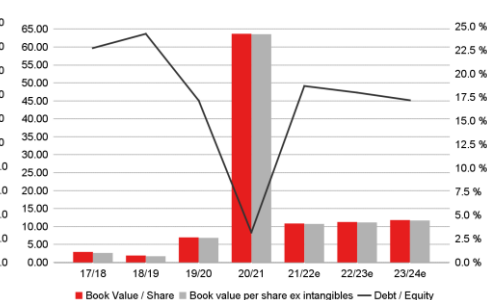
ROCE Development



Net debt in EUR m



Book Value per Share in EUR



Source: Warburg Research

Source: Warburg Research

Source: Warburg Research

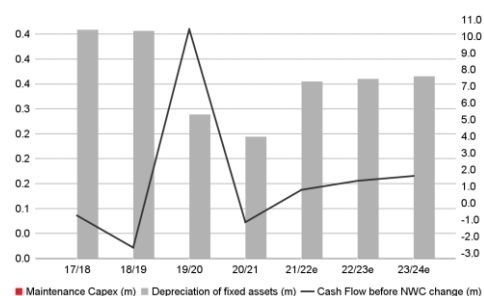
Consolidated cash flow statement

In EUR m	2017/18	2018/19	2019/20	2020/21	2021/22e	2022/23e	2023/24e
Net income	-1.0	-1.6	9.5	139.4	0.4	1.0	1.3
Depreciation of fixed assets	0.5	0.5	0.3	0.2	0.4	0.4	0.4
Amortisation of goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Amortisation of intangible assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Increase/decrease in long-term provisions	-0.2	0.2	0.6	0.0	0.0	0.0	0.0
Other non-cash income and expenses	-0.1	-1.7	0.0	-140.8	0.0	0.0	0.0
Cash Flow before NWC change	-0.8	-2.7	10.4	-1.1	0.8	1.3	1.6
Increase / decrease in inventory	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Increase / decrease in accounts receivable	0.2	0.4	-0.1	-2.8	0.6	-0.1	0.0
Increase / decrease in accounts payable	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Increase / decrease in other working capital positions	0.4	-0.1	-6.9	-1.2	0.0	0.0	0.0
Increase / decrease in working capital (total)	0.6	0.7	-6.9	-4.0	0.6	-0.1	0.0
Net cash provided by operating activities [1]	-0.1	-2.0	3.5	-5.2	1.4	1.2	1.6
Investments in intangible assets	-0.5	-0.3	0.0	0.0	0.0	0.0	0.0
Investments in property, plant and equipment	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Payments for acquisitions	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Financial investments	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Income from asset disposals	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net cash provided by investing activities [2]	-0.7	-0.4	-0.1	-0.1	-0.1	-0.1	-0.1
Change in financial liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dividends paid	-0.2	0.0	-2.1	0.0	-123.9	0.0	0.0
Purchase of own shares	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capital measures	2.3	2.5	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net cash provided by financing activities [3]	2.1	2.5	-2.1	0.0	-123.9	0.0	0.0
Change in liquid funds [1]+[2]+[3]	1.3	0.1	1.4	-5.3	-122.6	1.1	1.5
Effects of exchange-rate changes on cash	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cash and cash equivalent at end of period	1.3	0.1	2.0	-5.3	-122.6	2.4	3.9

Financial Ratios

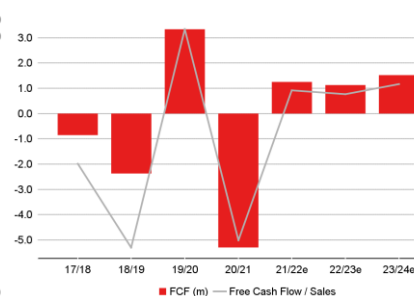
	2017/18	2018/19	2019/20	2020/21	2021/22e	2022/23e	2023/24e
Cash Flow							
FCF	-0.9	-2.4	3.3	-5.3	1.3	1.1	1.5
Free Cash Flow / Sales	-16.2 %	-50.8 %	39.2 %	-47.8 %	14.1 %	12.5 %	16.6 %
Free Cash Flow Potential	-1.0	-2.2	1.7	-5.6	0.4	1.0	1.3
Free Cash Flow / Net Profit	87.8 %	146.3 %	35.0 %	-3.8 %	284.2 %	115.9 %	120.6 %
Interest Received / Avg. Cash	0.1 %	0.5 %	33.3 %	0.0 %	0.0 %	0.0 %	0.0 %
Interest Paid / Avg. Debt	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Management of Funds							
Investment ratio	13.7 %	8.6 %	1.2 %	1.0 %	1.2 %	1.2 %	1.2 %
Maint. Capex / Sales	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Capex / Dep	274.0 %	111.6 %	36.8 %	43.4 %	29.8 %	29.4 %	29.0 %
Avg. Working Capital / Sales	94.6 %	77.8 %	56.5 %	53.5 %	43.7 %	40.5 %	40.5 %
Trade Debtors / Trade Creditors	34370.0 %	103903.5 %	22554.0 %	n.a.	n.a.	n.a.	n.a.
Inventory Turnover	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Receivables collection period (days)	373	149	332	137	148	150	148
Payables payment period (days)	n.a.	3	n.a.	n.a.	n.a.	n.a.	n.a.
Cash conversion cycle (Days)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

CAPEX and Cash Flow in EUR m



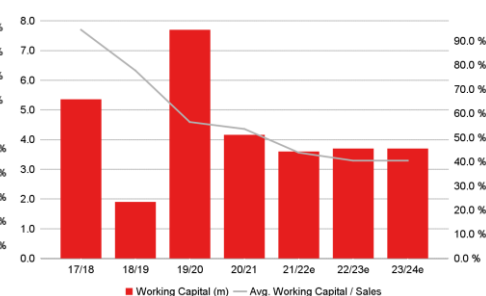
Source: Warburg Research

Free Cash Flow Generation



Source: Warburg Research

Working Capital



Source: Warburg Research

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Company	Disclosure	Link to the historical price targets and rating changes (last 12 months)
sino	5	http://www.mmwarburg.com/disclaimer/disclaimer_en/DE0005765507.htm

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-B-	Buy:	The price of the analysed financial instrument is expected to rise over the next 12 months.
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“-“	Rating suspended:	The available information currently does not permit an evaluation of the company.

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Rating	Number of stocks	% of Universe
Buy	163	76
Hold	42	20
Sell	6	3
Rating suspended	3	1
Total	214	100

WARBURG RESEARCH GMBH – ANALYSED RESEARCH UNIVERSE BY RATING ...

... taking into account only those companies which were provided with major investment services in the last twelve months.

Rating	Number of stocks	% of Universe
Buy	45	83
Hold	7	13
Sell	1	2
Rating suspended	1	2
Total	54	100

PRICE AND RATING HISTORY SINO AS OF 02.12.2022



Markings in the chart show rating changes by Warburg Research GmbH in the last 12 months. Every marking details the date and closing price on the day of the rating change.

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