M.M.WARBURG & CO
BANK

ECONOMIC SITUATION AND STRATEGY

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Coup de Grace for the 200 Day Line

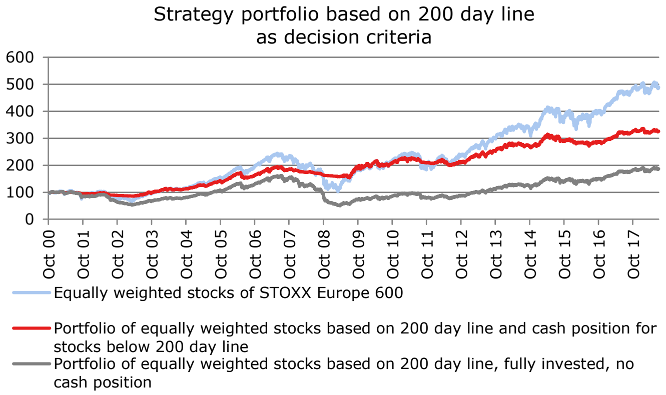
Just to be perfectly clear about it: Warburg's asset management has no problem with technical chart analyses – on the contrary. Investors would make a grave mistake ignoring such information in timing their market investments and select stock purchases. After all, investors around the globe use technical market analysis instruments making it only reasonable to keep a close eye on the key technical instruments, as they are prone to create self-fulfilling prophecies. When a significant number of investors start seeing a chart pattern that triggers a standard response, analysts have to recognize this and consider it in their own actions.

However, can one beat the market and make money by following very simple chart movement rules? Is it really possible to decide whether to buy or sell an index or stock based on the 200 day line? Both private investors and professionals often debate this decision making tool. Even journalists frequently mention that, for instance, the DAX has broken out of the 200 day line and caution is advised. It would be surprising indeed if asset management was actually that simple. Markets are highly efficient. How could one be able to beat the market with simplistic methods if myriads of mathematicians and physicist have to devise highly complex algorhythms to do so and that with only meager results, as many hedge fund indices suggest?

The question is relatively easy to answer by checking how well this rule has actually worked in the recent past. We have run through the figures for Europe's largest 600 stocks going back to the beginning of January 2000 to see what advantage one may have gained from using the 200 day line as a criterion for buying or selling stock. To this end, we have calculated 200 day lines using the stocks' daily closing prices for the observation period and derived from that buy or sell signals for the respective stocks.

In our first approach we calculated the performance of a portfolio consisting entirely of stocks quoting above their 200 day line. In the extreme case this could result in the entire portfolio assets being invested into only a few stocks at a given time (for example after the Lehman Brothers' insolvency in 2008) when the vast majority of other stocks quoted below their 200 day line. The resulting portfolio performance fell clearly short of a plain, equal-weighted STOXX Europe 600 portfolio for the same period. One could already end the analysis at this point and conclude that such a clear underperformance of the 200 day line strategy obviously cannot possibly produce profits. Yet, that would be as simplistic as the strategy itself because the charm of this simple approach is that it can also generate sell signals and the alternative is not limited to reinvesting the sell proceeds into other stocks but possibly keeping the money in cash.

Applying this modified approach (investing into stocks that quote above their 200 day lines and putting the proceeds from selling stocks that fell below their 200 day lines into cash reserves) yields a substantially better performance as the figure below illustrates.

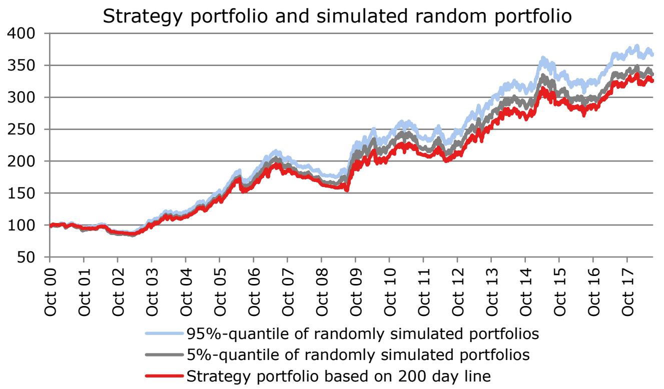


Performance in this approach, too, does not measure up to an equal-weighted index portfolio. As such, it also suggests that an asset management strategy based on the 200 day line does not make much sense. However, this interpretation is not unconditionally correct, as the rise and fall of the cash position will structurally result in portfolio underperformance when the markets go up. Carrying the modified method over the entire observation period yielded an investment ratio of "only" 60% because almost 40% of the stocks on average quoted below their 200 day lines. It is hardly conceivable that using this approach for stock selection is so good that it can make up for their high cash positions in sustained boom markets.

This is why the strategy's weaker performance at this point is not yet clear-cut proof of its lacking merit especially since its risk-adjusted performance (measured against the Sharpe ratio) is actually a little better than the fully invested control portfolio. The better result in risk-adjusted performance mainly stemmed from the periods of 2001-2002 and 2008-2009. In both instances, the modification of selling stocks that quoted below their 200 day lines substantially stabilized portfolio value relative to the control portfolio.

Yet, does this vindicate the 200 day line strategy? We are not sure. It obviously takes a massive crisis for this strategy to play out. Even then, the method does not improve stock selection but rather generates an advantage via allocation effects. This allocation effect fades when markets are more stable as they tended to be in the past few years. To thoroughly test the strategy's merits we have written a program that pits the 200 day line portfolio against random portfolios. Of course, we want the comparison to be fair and thus ensured that all random portfolios had the exact same cash ratio as the 200 day line portfolio at any given time. We furthermore made sure that the signal structure precisely matched the typical patterns of the 200 day line strategy.

Signals based on the 200 day line have some peculiarities: Stocks relatively frequently quote above or below their 200 day lines for many weeks running and give the respective buy or sell signals while in sideways trends they occasionally change their signal direction on a weekly basis.



Here is the problem: We simulated 500 portfolios that all could have existed just like that in the past and almost all of our random portfolios outperformed the 200 day line strategy. Actually, the 200 day line portfolio more or less consistently ranked in the bottom 5% measured against the random portfolios.

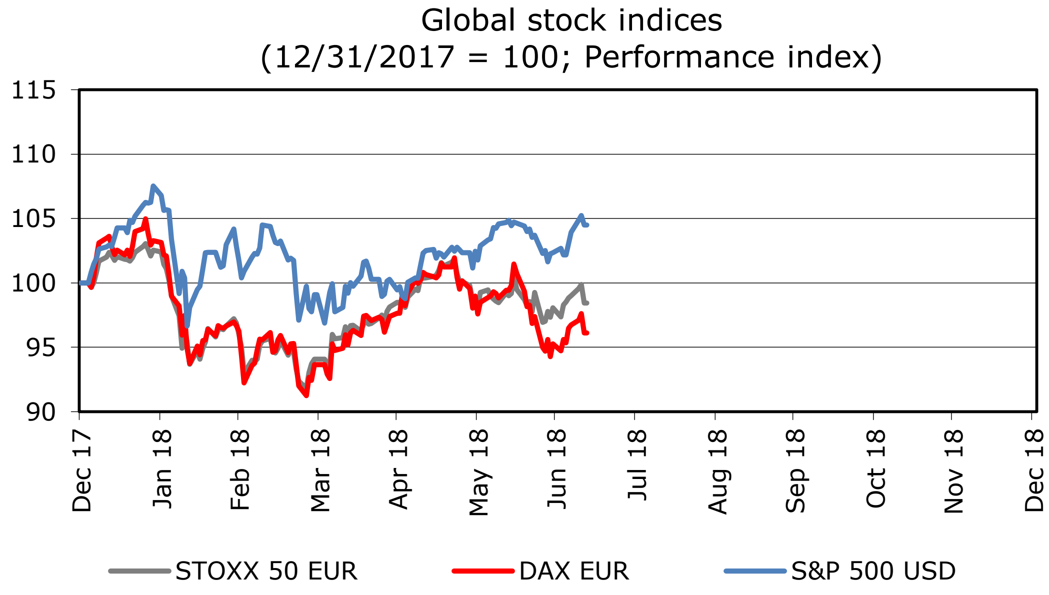
To put it bluntly: A monkey throwing darts marked buy and sell at a stock list has in an identical market environment an excellent chance of beating the 200-day-line strategy. In light of these findings we are hard pressed to take this approach seriously in our day-to-day asset management practice.

Weekly outlook for the July, 16-20 2018

	Jan	Feb	Mar	Apr	May	June	Release
DE: Producer prices, m/m	0.5%	-0.1%	0.1%	0.5%	0.5%	0.2%	July, 20
DE: Producer prices, y/y	2.1%	1.8%	1.9%	2.0%	2.7%	2.9%	July, 20
EUR-19: Consumer prices, y/y - final	1.3%	1.1%	1.3%	1.3%	1.9%	2.0%	July, 18
EUR-19: Core inflation, y/y - final	1.0%	1.0%	1.0%	0.8%	1.1%	1.1%	July, 18

MMWB estimates in red

Chart of the Week: Will the Reporting Season Save Our Souls?



After a good start into 2018 and new record highs, for instance, in the DAX, S&P 500, and Dow Jones 30 stock prices have come under pressure in February/March and mid-June to date. Worries of a trade war escalation are driving down the market. Germany is especially affected being an export-oriented economy whose main customer country is the US. Moreover, the Italian government's anti-EU sentiments have sparked new uncertainties while the debate over immigration limits in Germany is putting a strain on the ruling Christian Democrat / Social Democrat coalition. It therefore comes as no surprise that the DAX is Europe's most ailing stock index. Besides all the negative factors above depressing market sentiment, fundamental prospects for the stock market remain good. As long as there is no new recession looming, stocks should prosper as earnings expectations are rising despite the plethora of bad news. On a twelve month horizon corporate profit expectations are at an all-time high. When the Q2 reporting season starts next week, we will see how realistic these expectations actually are. We remain somewhat more optimistic for the US than for the euro area. The tax reform, higher government spending, and – last but not least – deregulation of key industries are boosting the US economy with corresponding effects in corporate interim reports. This should give US stocks further tail wind. Assuming somewhat higher valuations, the S&P 500 has a fighting chance of passing the 3,000-point mark. We also remain optimistic for Germany and the euro area, albeit with some more ups and downs in the wake of POTUS tweets.

Market data overview

Stock marktes	As of 13.07.2018 15:37	Change versus 05.07.2018 -1 week	11.06.2018 -1 month	11.04.2018 -3 months	11.07.2017 -1 year	29.12.2017 YTD
Dow Jones	24961	2,5%	-1,4%	3,2%	16,6%	1,0%
S&P 500	2798	2,3%	0,6%	5,9%	15,4%	4,7%
Nasdaq	7717	1,7%	0,7%	9,2%	24,6%	11,8%
DAX	12542	0,6%	-2,3%	2,0%	0,8%	-2,9%
MDAX	26434	2,4%	-1,0%	3,2%	7,0%	0,9%
TecDAX	2823	2,9%	-0,7%	10,1%	26,2%	11,6%
EuroStoxx 50	3457	0,5%	-0,7%	1,1%	-0,2%	-1,3%
Stoxx 50	3091	0,8%	0,3%	2,2%	-0,5%	-2,7%
SMI (Swiss Market Index)	8856	2,1%	2,7%	1,7%	-0,2%	-5,6%
Nikkei 225	22597	4,9%	-0,9%	4,2%	11,9%	-0,7%
Brasilien BOVESPA	75742	1,6%	4,7%	-11,1%	18,7%	-0,9%
Russland RTS	1183	1,0%	3,6%	9,2%	18,1%	2,5%
Indien BSE 30	36542	2,7%	3,0%	7,7%	15,1%	7,3%
China Shanghai Composite	2832	3,6%	-7,2%	-11,7%	-11,6%	-14,4%
MSCI Welt (in €)	2131	2,3%	0,7%	8,9%	9,0%	4,4%
MSCI Emerging Markets (in €)	1070	2,1%	-4,9%	-3,1%	3,0%	-4,8%
Bond markets						
Bund-Future	163,14	44	340	364	245	146
Bobl-Future	132,24	10	116	112	81	63
Schatz-Future	112,04	-1	9	14	16	6
3 Monats Euribor	-0,32	0	0	1	1	1
3M Euribor Future, Dec 2017	-0,30	-1	-3	0	-23	0
3 Monats $ Libor	2,34	0	0	0	103	64
Fed Funds Future, Dec 2017	2,19	0	2	10	63	0
10 year US Treasuries	2,85	1	-11	5	48	43
10 year Bunds	0,28	-1	-21	-22	-27	-14
10 year JGB	0,04	2	0	1	-6	-1
10 year Swiss Government	-0,08	2	-15	-9	-9	5
US Treas 10Y Performance	565,21	0,0%	1,3%	-0,1%	-1,9%	-2,8%
Bund 10Y Performance	618,77	-0,1%	1,8%	1,9%	4,0%	1,9%
REX Performance Index	486,01	0,3%	0,8%	1,2%	1,6%	1,1%
US mortgage rate	0,00	0	0	0	0	0
IBOXX AA, €	0,76	0	-15	-5	-16	8
IBOXX BBB, €	1,59	-4	-8	19	11	36
ML US High Yield	6,66	-6	18	23	48	50
JPM EMBI+, Index	795	0,3%	1,0%	-2,9%	-2,5%	-4,9%
Convertible Bonds, Exane 25	7374	0,2%	-1,0%	0,6%	3,0%	-0,3%
Commodities						
CRB Spot Index	434,89	-0,3%	-3,4%	-1,3%	-2,4%	0,6%
MG Base Metal Index	318,00	-3,1%	-13,0%	-10,3%	6,6%	-11,4%
Crude oil Brent	74,39	-5,0%	-2,9%	2,3%	57,7%	11,7%
Gold	1241,00	-1,4%	-4,6%	-8,7%	2,5%	-4,8%
Silver	15,85	-1,3%	-6,4%	-5,7%	1,0%	-6,8%
Aluminium	2097,50	-0,2%	-8,9%	-7,1%	11,4%	-7,0%
Copper	6130,00	-3,4%	-15,5%	-11,3%	4,8%	-14,9%
Iron ore	63,21	0,2%	-3,0%	-1,7%	-2,0%	-11,3%
Freight rates Baltic Dry Index	1632	1,2%	17,7%	66,7%	96,6%	19,5%
Currencies						
EUR/ USD	1,1639	-0,6%	-1,3%	-6,0%	2,1%	-3,0%
EUR/ GBP	0,8835	-0,2%	0,2%	1,3%	-0,6%	-0,5%
EUR/ JPY	130,96	1,1%	1,0%	-1,0%	0,5%	-3,0%
EUR/ CHF	1,1695	0,7%	0,6%	-1,3%	5,9%	-0,1%
USD/ CNY	6,6921	0,8%	4,5%	6,7%	-1,6%	2,9%
USD/ JPY	112,02	1,3%	1,8%	4,9%	-1,7%	-0,6%
USD/ GBP	0,76	0,4%	1,7%	7,9%	-2,5%	2,7%

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