M.M.WARBURG & CO
BANK

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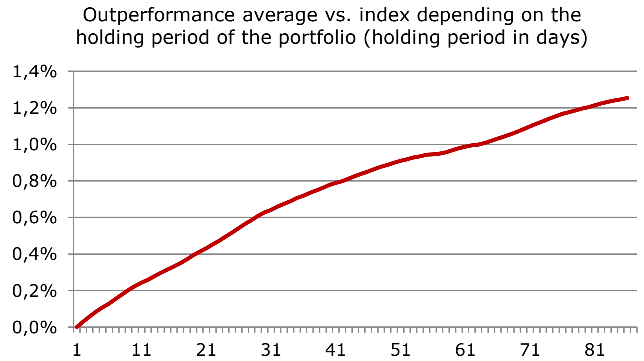
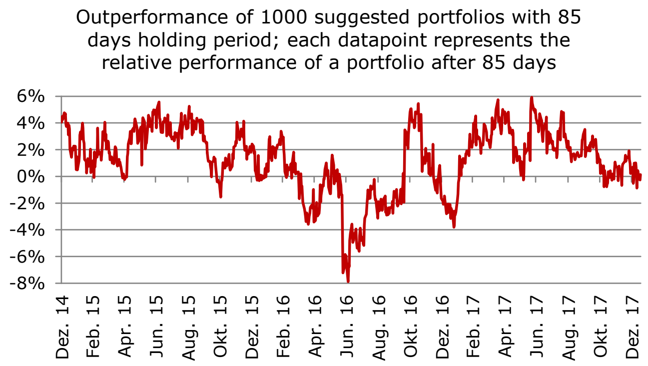
Two legs are better than one: What fundamental strategies combined with technical analysis can accomplish in selecting stocks

A few weeks ago, we considered to what extent a fundamentally oriented and purely rule-based pre-selection of stocks can provide added value. We did not take back-calculations as our point of reference, but instead evaluated just the top recommendations that we have actually generated and distributed in-house in recent years. Our rule-based approach resulted in stock portfolios that exhibited simultaneously good and homogeneous fundamental properties (and still do). If we had to characterize our rule-based approach in a few words, "quality at a reasonable price" would be quite apt. But how good and reliable was this pre-selection? We can identify a quantitative pre-selection as superior if the majority of the portfolios with the pre-selected stocks beat the market. But evidence that the outperformance developed systematically and uniformly over time would be similarly important.

We have found that evidence. We calculated, for example, the average outperformance of almost 1,000 daily suggested portfolios with the top stocks as a function of investment duration and arrived at per annum outperformance of over 3 percentage points. Even after costs, it was possible to keep a considerable part of that, especially since this outperformance was comparatively uniform on average across sub-portfolios and did not completely subside even after relatively long holding periods, which we believe again indicates the quality of the pre-selection. Even though this outperformance proved steady on average, that does not mean, of course, that outperformance could be "guaranteed" at any time with every portfolio.



To demonstrate this, we calculated for each day from December 2014 onward the performance that would have resulted at the end of a top portfolio's holding period (assuming that a portfolio of top stocks is held without change for four months). The chart (see below) also shows that the majority of the generated portfolios with top stocks would have beaten the benchmark, even though the purely fundamental, rule-based pre-selection would not have worked well in the Brexit phase, for example. But even if such an approach does not create added value in every market phase, we can demonstrate generally that an appropriate pre-selection based on purely fundamental data and evaluations promotes value and is a good foundation for a final, qualitative selection of stocks.



Nevertheless, we did not rest content with this result. Just as a Formula One racecar is placed repeatedly in the wind tunnel to be further optimized, there is also no stage of development in the case of quantitative methods that can be regarded as satisfactory and sufficient for all time.

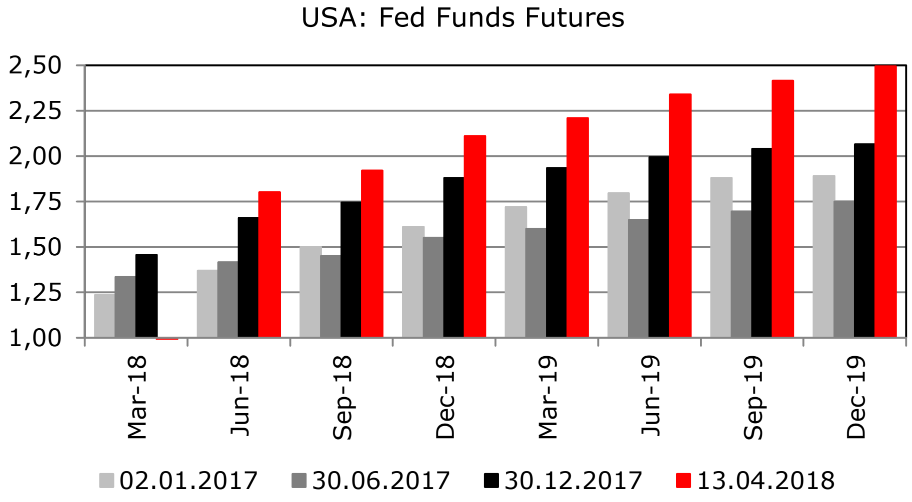
For this reason, we have asked ourselves to what extent it makes sense to supplement this approach, which works well as such but is purely fundamental, with a timing approach oriented to technical analysis. Some time ago, we developed and implemented what we consider to be a comparatively innovative timing approach that practically suggests itself here as a "candidate" (see Economic Situation and Strategy of November 9, 2017). In outline, the basic idea of this timing model is that publicly available information is processed in prices comparatively quickly and markets are not as irrational in the medium term as people often assume. But that also means that price movements that publicly available information cannot explain might be especially interesting, since they are an indication that "smart money" is in play and influencing price development. This is exactly the basis for our present idea. We use a statistical method and a large number of ratios to calculate at each time a (supposedly) fair price for each stock. Thereby we apply a stock-specific regression model with which we try to explain the relevant price trend and identify deviations individually based on available data. As far as possible, we have "intercepted" the statistical problems that typically arise in such time series analyses. For our data, we rely on the global consensus estimates of analysts for a large number of ratios based on the IBES databank. Our hypothesis is that a stock quoting above its statistically derived fair price should be bought because "smart money" evidently is in play and it would therefore be advisable simply to join it and participate in this development. This notion is quite compatible with the efficient market hypothesis, since it is precisely the knowledge and deliberations of well-informed investors that make the market "search-and-discover process" into an efficient information-processing tool. We have managed here by statistical means to render some of these movements visible and participate in them. But can this knowledge be combined with our purely fundamental approach? To answer this question, we again resorted to the historical database of our actual recommendations. But instead of buying all the top stocks that our rule-based system suggests on a given day, we bought and added to a portfolio only the stocks that were attractive from the timing model's perspective in addition to the fundamental characteristics. We did not perform any complicated optimization and calibration, but simply allowed for purchase all stocks from our fundamental top list whose actual prices were above the statistically derived "fair" prices and therefore pointed to the existence of smart money. We know from our calculations that we could further optimize this procedure by not buying the stocks that appear very overvalued, but for the sake of simplicity we have not done so in this analysis. It is gratifying that even without this form of optimization (which also runs the risk of ending in undesirable curve-fitting), considerable added value can nevertheless be generated. Our calculations suggest that when our timing model is consistently applied, another increase in outperformance by about 2 percentage points per year appears realistic. That may not sound like much, but it makes a great difference in highly competitive markets. We are therefore going to integrate this approach into our pre-selection of stocks.

Weekly outlook for April 16-20, 2018

	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Release
DE: ZEW economic expectations	18.7	17.4	20.4	17.8	5.1	7.0	
DE: ZEW current conditions	88.8	89.3	95.2	92.3	90.7	91.0	
DE: Producer prices, m/m	0.1%	0.2%	0.5%	-0.1%	0.3%		
DE: Producer prices, y/y	2.5%	2.3%	2.1%	1.8%	2.1%		
EUR19: Consumer prices, y/y - final	1.5%	1.4%	1.3%	1.1%	1.4%		
EUR19: Core inflation rate, y/y - final	0.9%	0.9%	1.0%	1.0%	1.0%		
EUR19: Consumer confidence - flash	0.0	0.5	1.4	0.1	0.1	0.0	

MMWB estimates in red

Chart of the Week: Fed somewhat more hawkish



At his first press conference as Fed chair on March 21, Jerome Powell announced a key interest rate increase by 25 basis points to 1.50-1.75%. Based on the dot plot released, the Fed expects two further interest rate steps in 2018. The majority of FOMC members foresee three rate steps in 2019, which represents a faster pace of normalizing monetary policy. The minutes of the FOMC meeting released yesterday permit deeper insights into the committee's assessment. They show agreement among the members about the necessity of further future rate hikes. The view of several members that "the appropriate path for the federal funds rate over the next few years would likely be slightly steeper than they had previously expected" was also noted. The good economic trend and impetus from US tax reform constitute the main background for that. The members agree that the economic outlook for the United States has improved in recent months. Some also discussed the possibility in this connection of adjusting future communication to express the probable gradual movement of monetary policy in the future from its current accommodative stance to one that is economically neutral or even restraining. Overall, we find that a slightly more hawkish mood emerges in the FOMC minutes than at the press conference in March. Accordingly, the US dollar showed more strength after the release of the minutes. We will get further clues to the Fed's future interest rate policy when the PCE deflator, the most important measure of inflation for the Fed, is published at the end of April. The consumer price data released yesterday already show stronger price momentum. However, even if the inflation rate reaches or exceeds 2% in the coming months, one should not read too much into that because of the base effects involved.

Market data overview

	As of	Change versus			
Stock marktes	13.04.2018 11:26	05.04.2018 -1 week	09.03.2018 -1 month	11.01.2018 -3 months	29.12.2017 YTD
Dow Jones	24483	-0,1%	-3,4%	-4,3%	-1,0%
S&P 500	2664	0,0%	-4,4%	-3,7%	-0,4%
Nasdaq	7069	-0,1%	-6,5%	-2,0%	2,4%
DAX	12465	1,3%	1,0%	-5,6%	-3,5%
MDAX	25729	0,2%	-1,5%	-4,2%	-1,8%
TecDAX	2619	4,2%	-2,7%	-1,2%	3,5%
EuroStoxx 50	3453	0,7%	0,9%	-4,0%	-1,5%
Stoxx 50	3045	0,6%	0,9%	-5,8%	-4,2%
SMI (Swiss Market Index)	8766	0,3%	-1,9%	-7,8%	-6,6%
Nikkei 225	21779	0,6%	1,4%	-8,1%	-4,3%
Brasilien BOVESPA	85444	0,3%	-1,1%	7,7%	11,8%
Russland RTS	1121	-10,6%	-12,8%	-10,2%	-2,9%
Indien BSE 30	34200	1,8%	2,7%	-0,9%	0,4%
China Shanghai Composite	3159	0,9%	-4,5%	-7,8%	-4,5%
MSCI Welt (in €)	2091	-0,1%	-3,0%	-6,2%	-3,3%
MSCI Emerging Markets (in €)	1177	0,3%	-2,8%	-4,2%	-1,2%
Bond markets					
Bund-Future	163,14	403	616	283	146
Bobl-Future	131,09	0	85	-3	-52
Schatz-Future	111,91	-2	9	5	-7
3 Monats Euribor	-0,33	0	0	0	0
3M Euribor Future, Dec 2017	-0,31	-1	-3	-7	0
3 Monats $ Libor	2,34	1	25	62	65
Fed Funds Future, Dec 2017	2,11	2	2	17	0
10 year US Treasuries	2,82	-1	-7	29	41
10 year Bunds	0,52	-1	-13	-1	10
10 year JGB	0,03	-1	0	-4	-2
10 year Swiss Government	0,01	0	-4	8	14
US Treas 10Y Performance	565,51	0,4%	1,1%	-1,8%	-2,7%
Bund 10Y Performance	607,24	0,3%	1,6%	0,9%	0,0%
REX Performance Index	480,70	0,1%	0,6%	0,1%	0,0%
US mortgage rate	0,00	0	0	0	0
IBOXX AA, €	0,81	-2	5	8	13
IBOXX BBB, €	1,40	-3	5	15	17
ML US High Yield	6,42	-9	-6	32	27
JPM EMBI+, Index	819	-0,2%	0,4%	-1,8%	-2,1%
Convertible Bonds, Exane 25	7339	0,1%	0,1%	-1,9%	-0,8%
Commodities					
CRB Spot Index	440,65	0,9%	-1,0%	-0,2%	1,9%
MG Base Metal Index	354,49	4,3%	2,9%	-1,3%	-1,2%
Crude oil Brent	72,56	6,3%	10,9%	3,7%	8,9%
Gold	1341,19	1,2%	1,5%	1,5%	2,9%
Silver	16,81	2,6%	0,9%	-0,9%	-1,2%
Aluminium	2259,00	13,7%	7,6%	4,4%	0,1%
Copper	6912,25	1,9%	-0,4%	-2,7%	-4,1%
Iron ore	64,19	2,4%	-10,9%	-17,4%	-9,9%
Freight rates Baltic Dry Index	993	4,2%	-17,3%	-23,8%	-27,3%
Currencies					
EUR/ USD	1,2331	0,6%	0,3%	2,6%	2,8%
EUR/ GBP	0,8633	-1,2%	-2,8%	-3,0%	-2,7%
EUR/ JPY	132,62	1,0%	1,0%	-1,2%	-1,8%
EUR/ CHF	1,1850	0,5%	1,3%	1,0%	1,3%
USD/ CNY	6,2786	-0,4%	-0,9%	-3,4%	-3,5%
USD/ JPY	106,80	-0,5%	0,0%	-4,0%	-5,2%
USD/ GBP	0,70	-2,0%	-2,9%	-5,2%	-5,3%

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