M.M.WARBURG & CO
BANK

ECONOMIC SITUATION AND STRATEGY

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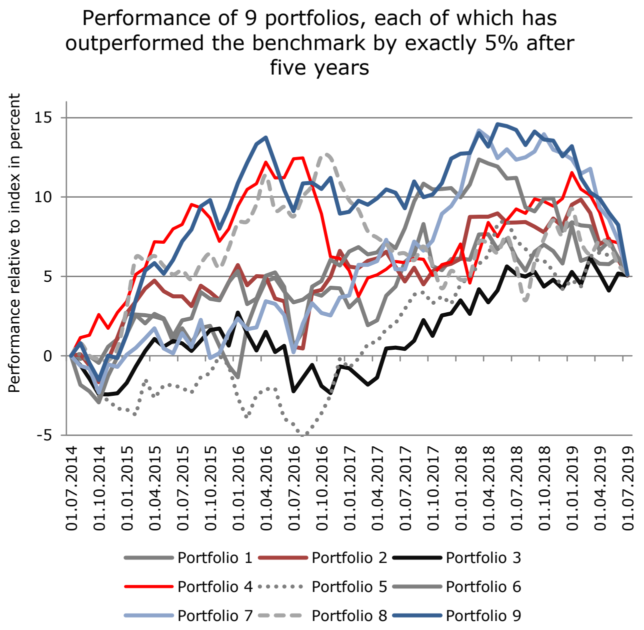
What If God Were a Portfolio Manager?

A few days ago, we happened upon an article that we found so fascinating and inspiring that we decided to take up the subject and make our own calculations in this vein. The article pursues the following thought experiment: Imagine God becomes a portfolio manager for a few years and in His graciousness tries to make investors as happy as possible.[1] The experiment will be quantified over a period of five years in which He may compile His divine portfolio only at the start with no later changes (the only exceptions would be stocks that cease to exist, in which case the freed up funds would then be distributed to the remaining positions). God should have an easy time compiling excellent portfolios as He is omniscient and thus knows what stocks will have beaten the benchmark at the end of the observation period. But would A.O. Yahweh be already hailed as a star portfolio manager on the way to the finish line? The article hypothesizes that even the divine portfolios would have intermittently such poor performance that investors may lose patience even though (on a medium term perspective) they invested in an apparently perfect portfolio. The author supports his article with calculations and simulations that he ran for the U.S. market. We were inspired by his remarkable conclusions to run similar calculations for the European stock market to see whether these at first glance astounding findings are recreatable and solid.

To this end, we started out by identifying stocks that were already included in the STOXX 600 five years ago and are thus representative of the European stock market at large. We then used a randomness generator to compile 5.000 portfolios that each contained 60 to 100 shares from this investment universe. All portfolios thus generated could have existed just like this in real life. In step two we calculated for each of these portfolios their performance relative to the benchmark (the STOXX 600). Not even quite 1.000 of the 5.000 portfolios managed to beat the benchmark – a rather low figure that might be surprising at first glance. The reason for this relatively weak result is not the efficiency of a market capitalization weighted index but mainly that the investment universe remained constant while the index is regularly updated by adding new, successful companies and dropping old, less successful ones. However, we were less interested in the 4.000 plus underperforming portfolios and more curious about the about 1.000 outperforming ones because we know from today's vantage point that these beat the benchmark. Portfolio Manager A.O. Yahweh, of course, already knew that five years ago and was thus able to compile such divine portfolios with this knowledge.

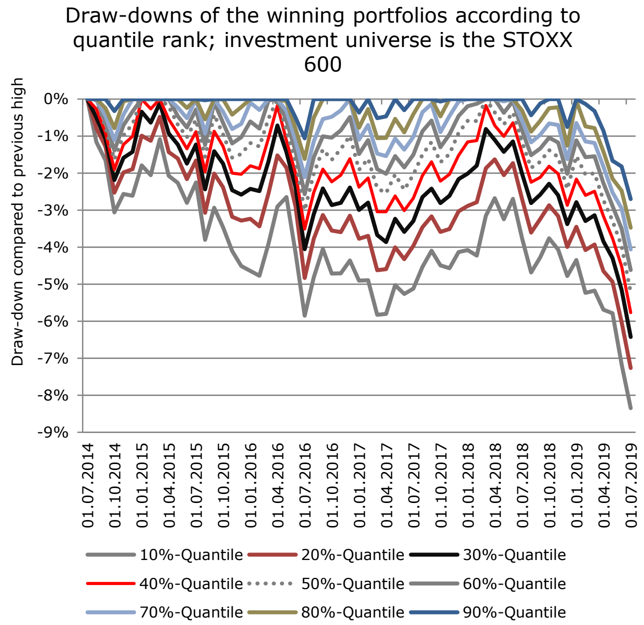
Yet, how did these portfolios perform over time? Were they always obvious winner portfolios? The answer is a definitive no and correspondingly supports the hypothesis of the original article. Let us look at nine of these almost 1.000 portfolios that each beat the benchmark by around five percent in the five-year observation period.

[1] Wesley Gray (2016): Even God would get fired as an active manager, https://alphaarchitect.com/2016/02/02/even-god-would-get-fired-as-an-active-investor/



None of these portfolios outperformed the benchmark at all times. Indeed, all the winner portfolios had some temporary setbacks relative to the benchmark. Let us look at portfolio number 4 in the chart above. Investors buying into that portfolio in the summer of 2016 would probably have threatened to terminate the account by fall of the subsequent year because the portfolio underperformed the benchmark by more than seven percent in that period – and that although this is a good and successful portfolio structure in the long term!

A more systematic approach to the phenomenon is to analyze the so-called draw-down charts for each portfolio. The draw-down chart illustrates how much a portfolio's value will dip below a previously attained peak over time. The area of the underwater chart is in a way, a measure of the "suffering" that an investor can experience to endure temporarily. As our portfolio analysis focuses on performance relative to the benchmark, we calculated draw-down charts for the relative value development of all portfolios that outperformed the benchmark at the five-year point. And, since it makes little sense to show draw-down charts for almost 1.000 portfolios, we have limited ourselves to analyzing the development of the various quantiles in the following chart.



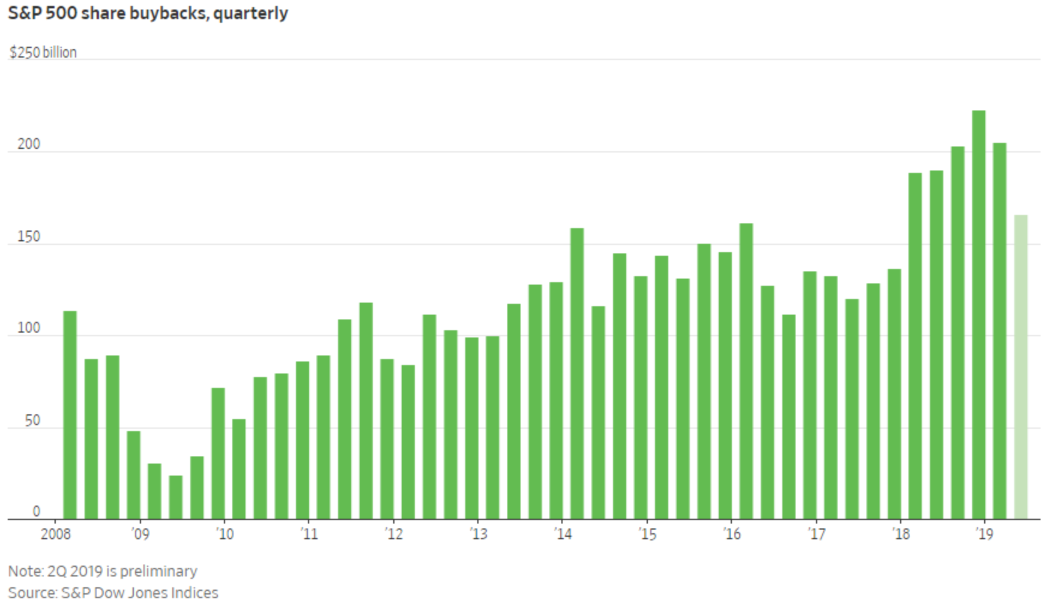
We came to the result that the relative performance even of divine portfolios, which should be perfect by all accounts, will on average drop some percentage points below their previous peaks. Individual cases may be even more pronounced: Relative setbacks by eight percent or more are quite conceivable even if the portfolio outperforms the benchmark in the end. What lessons can we learn from this? We think the most important insight is that even the best possible portfolios are far from perfect. In real life there simply is no stock combination that outperforms the benchmark at all times. Another key lesson is that outperformance always goes hand in hand with a certain degree of tracking error. That is the price one has to pay for beating the benchmark at all. Moreover, one should advise God against taking a job as portfolio manager. Omniscience will not protect against temporarily ungrateful customers.

Weekly Outlook for August 26-30, 2019

	Mar	Apr	May	June	July	Aug	Release
DE: Ifo Business Climate Index	99.8	99.2	98.2	97.5	95.7	96.0	August, 26
DE: GfK consumer climate	10.4	10.2	10.1	9.8	9.7	9.8	August, 28
DE: Prelim. Consumer prices, m/m	0.4%	1.0%	0.2%	0.3%	0.5%	-0.1%	August, 29
DE: Prelim. Consumer prices, y/y	1.3%	2.0%	1.4%	1.6%	1.7%	1.5%	August, 29
DE: Import prices, m/m	0.0%	0.3%	-0.1%	-1.4%	0.4%		August, 29
DE: Import prices, y/y	1.7%	1.4%	-0.2%	-2.0%	-1.5%		August, 29
DE: Unemployed, change in thousands	-7	-11	61	0	0	1	August, 29
DE: Unemployment rate	4.9%	4.9%	5.0%	5.0%	5.0%	5.0%	August, 29
DE: Retail sales, m/m	0.2%	-0.3%	-1.2%	3.1%	-0.7%		August, 29
EUR-19: M3 money supply, y/y	4.6%	4.7%	4.8%	4.5%	4.7%		August, 28
EUR-19: Industry confidence	-1.6	-4.3	-2.9	-5.6	-7.4	-6.8	August, 29
EUR-19: Consumer confidence	-6.6	-7.3	-6.5	-7.2	-6.6	-6.3	August, 29
EUR-19: Unemployment rate	7.7%	7.6%	7.6%	7.5%	7.5%		August, 30
EUR-19: Prelim. Consumer prices, y/y	1.4%	1.7%	1.2%	1.3%	1.0%	1.0%	August, 30
EUR-19: Prelim. Core inflation, y/y	0.8%	1.3%	0.8%	1.1%	0.9%	1.0%	August, 30

MMWB estimates in red

Chart of the Week: What is Causing the S&P 500 Surge?



Source: The Wall Street Journal, August, 22, 2019

The stock-buy-back programs of many companies in the U.S. have provided a steady stream of liquidity in the past few years. According to Bank of America calculations, U.S. enterprises have bought back their own stock to the tune of some 4.2 trillion U.S. dollars since 2013. In contrast, during the same period, private investors sold equity funds and ETFs in a volume of 84 billion US dollars (net). Stock buy backs are thus the main reason for the current bull market in U.S. stocks. In the first two quarters of this year U.S. companies have bought back less of their stock than in the record year 2018. Considering the uncertainties stemming from the ongoing trade war, weaker global economic growth, and increasing economic risks in the U.S., companies may continue to spend less on stock buy backs going forward. This should make it more difficult for U.S. indices to reach new highs in the foreseeable future.

Market Data Overview

Stock marktes	As of 23.08.2019 15:44	Change versus 16.08.2019 -1 week	22.07.2019 -1 month	22.05.2019 -3 months	22.08.2018 -1 year	31.12.2018 YTD
Dow Jones	26157	1,0%	-3,7%	1,5%	1,6%	12,1%
S&P 500	2923	1,2%	-2,1%	2,3%	2,1%	16,6%
Nasdaq	7991	1,2%	-2,6%	3,1%	1,3%	20,4%
DAX	11746	1,6%	-4,4%	-3,5%	-5,2%	11,2%
MDAX	25275	1,8%	-2,2%	-1,2%	-5,3%	17,1%
TecDAX	2748	1,6%	-5,1%	-5,7%	-6,4%	12,1%
EuroStoxx 50	3366	1,1%	-3,6%	-0,6%	-1,6%	12,1%
Stoxx 50	3095	1,0%	-3,0%	-0,7%	0,6%	12,1%
SMI (Swiss Market Index)	9830	1,0%	-0,9%	1,9%	8,6%	16,6%
Nikkei 225	20711	1,4%	-3,3%	-2,7%	-7,4%	3,5%
Brasilien BOVESPA	99194	-0,6%	-4,6%	5,1%	29,0%	12,9%
Russland RTS	1273	2,7%	-5,1%	-1,5%	19,5%	19,4%
Indien BSE 30	36701	-1,7%	-3,5%	-6,2%	-4,1%	1,8%
China Shanghai Composite	2897	2,6%	0,4%	0,2%	6,7%	16,2%
MSCI Welt (in €)	2132	1,2%	-1,7%	1,9%	3,8%	17,1%
MSCI Emerging Markets (in €)	976	0,6%	-6,2%	-1,3%	-2,5%	4,5%
Bond markets						
Bund-Future	178,04	-56	426	1132	1504	1450
Bobl-Future	135,94	-8	113	249	373	342
Schatz-Future	112,53	-6	20	51	54	59
3 Monats Euribor	-0,42	0	-4	-11	-10	-11
3M Euribor Future, Dec 2017	-0,53	5	-2	-18	-41	0
3 Monats $ Libor	2,13	0	-15	-39	-18	-68
Fed Funds Future, Dec 2017	1,60	11	-13	-58	-103	-1
10 year US Treasuries	1,60	6	-44	-79	-123	-108
10 year Bunds	-0,66	2	-27	-57	-101	-90
10 year JGB	-0,23	0	-9	-18	-33	-23
10 year Swiss Government	-0,91	19	-28	-53	-79	-74
US Treas 10Y Performance	650,47	-0,6%	4,4%	8,1%	14,7%	12,0%
Bund 10Y Performance	689,32	-0,4%	2,9%	5,9%	11,1%	9,9%
REX Performance Index	504,12	-0,4%	1,0%	2,2%	3,8%	3,4%
US mortgage rate	0,00	0	0	0	0	0
IBOXX AA, €	-0,03	2	-17	-49	-73	-91
IBOXX BBB, €	0,69	-2	-17	-67	-90	-137
ML US High Yield	6,39	-17	-9	-29	-11	-162
JPM EMBI+, Index	865	-0,6%	-1,9%	2,9%	10,0%	9,3%
Convertible Bonds, Exane 25	7536	0,0%	1,0%	3,3%	2,0%	9,3%
Commodities						
CRB Spot Index	394,51	-0,8%	-2,8%	-4,6%	-4,6%	-3,6%
MG Base Metal Index	289,55	-1,0%	-3,5%	-1,1%	-6,2%	-1,7%
Crude oil Brent	59,14	0,8%	-6,4%	-16,9%	-20,4%	11,3%
Gold	1506,48	-0,1%	5,6%	18,1%	26,0%	17,6%
Silver	17,12	0,0%	4,4%	18,2%	16,0%	10,4%
Aluminium	1740,50	-1,1%	-2,7%	-0,3%	-14,7%	-6,6%
Copper	5660,50	-1,0%	-5,6%	-4,0%	-5,3%	-4,8%
Iron ore	92,73	-0,9%	-22,7%	-4,4%	37,0%	34,0%
Freight rates Baltic Dry Index	2118	1,4%	-3,3%	100,0%	22,1%	66,6%
Currencies						
EUR/ USD	1,1068	-0,1%	-1,3%	-0,9%	-4,7%	-3,3%
EUR/ GBP	0,9038	-1,2%	0,6%	2,6%	0,6%	0,7%
EUR/ JPY	117,81	0,0%	-2,7%	-4,4%	-8,0%	-6,4%
EUR/ CHF	1,0885	0,3%	-1,1%	-3,3%	-4,5%	-3,4%
USD/ CNY	7,0848	0,6%	2,9%	2,6%	3,5%	3,0%
USD/ JPY	106,44	0,1%	-1,3%	-3,6%	-3,7%	-2,9%
USD/ GBP	0,82	-0,8%	2,1%	3,4%	5,5%	4,0%

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