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## "If you are in trouble, double"

Anyone who has ever dealt with roulette has probably come across the so-called Martingale strategy. The idea behind this strategy is simple: a player always bets, for example, on red. If they win, they receive double their stake. If they lose, they play again but double their stake. They stick to this calculation until they win. A simple numerical example illustrates this strategy:

table 1: martingale strategy (exemplary)

round	stake	outcome	payout	profit
1	100 €	lost	-100 €	-100 €
2	200 €	lost	-200 €	-300 €
3	400 €	lost	-400 €	-700 €
4	800 €	won	1.600 €	100 €

own representation

In the first round, the player bets 100 euros and loses their entire stake. In the second round, the player doubles the stake to 200 euros and loses again, bringing their total loss to 300 euros. Their losing streak continues until the fourth round, at which point their loss amounts to 700 euros. After increasing their stake to 800 euros in the fourth round, fortune smiles upon them and they receive 1,600 euros. Subtracting their stake of 800 euros and the accumulated losses of 700 euros, they end up with a profit of 100 euros.

A similar strategy can be applied to the stock market and is known as the investment principle: "If you are in trouble, double." The approach is quite simple. As soon as the value of the portfolio or individual stocks crosses a certain loss threshold, more is invested. In retrospect, such an approach often seems entirely logical. However, the situation is different in real time. For example, who would have predicted a rapid and steep recovery in stock markets at the peak of the COVID-19 pandemic? At that

time, not only were the health consequences of the virus hard to assess, but also the economic implications.

### Market crashes as buying opportunities?

To clarify whether the "If you are in trouble, double" investment strategy can outperform a buy-and-hold strategy in practice, we calculated the difference in money-weighted returns between the two strategies (period 2000 to 2025). The S&P 500 and STOXX Europe 600 indices served as the investment universe. To achieve the most robust results possible, we assumed different loss thresholds and investment horizons.

 $table\ 2: average\ return\ difference\ in\ \%-points\ compared\ to\ buy-and-hold$ 

loss limit		time horizon (in months)							
		12	24	36	48	60	120		
S&P 500	-5.0%	3.9%	6.1%	6.1%	6.3%	7.8%	19.8%		
	-7.5%	4.8%	6.6%	7.2%	7.7%	9.7%	27.1%		
	-10.0%	5.9%	7.9%	9.1%	9.5%	11.7%	29.8%		
	-15.0%	7.3%	10.0%	11.4%	11.8%	15.4%	36.1%		
	-20.0%	9.8%	11.6%	12.6%	14.2%	19.0%	42.2%		
	-25.0%	9.7%	10.5%	13.5%	17.5%	21.6%	46.8%		
STOXX Europe 600	-5.0%	2.8%	3.9%	4.3%	5.2%	7.1%	12.1%		
	-7.5%	3.5%	5.2%	5.3%	7.2%	9.4%	15.1%		
	-10.0%	4.2%	6.4%	6.7%	8.6%	11.0%	17.4%		
	-15.0%	6.5%	8.7%	10.2%	12.9%	15.2%	21.2%		
	-20.0%	8.4%	10.7%	11.5%	14.8%	17.5%	24.9%		
	-25.0%	8.8%	9.4%	11.0%	14.6%	19.6%	27.6%		

source: LSEG Datastream and own calculations; data: 2000 to 2025

Our results are clear: on average, the difference in money-weighted returns between the "buying more" strategy and buy-and-hold is positive. Two key observations can be made. First, the longer the investment horizon, the greater the difference in returns. While the return for a US investor using the "If you are in trouble, double" strategy with a one-year investment horizon is on average 3.9 percentage points higher, the difference rises to 19.8 percentage points over a ten-year period (buying more at a five percent loss threshold). A

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# **Economic Situation and Strategy**

similar picture emerges for the STOXX Europe 600. Since both stock indices show positive trend growth and we are not comparing annualized returns, the result is plausible. Once again, it becomes clear that patience pays off in the stock market. Secondly, the return difference is greater when the loss threshold is set lower. For example, a US investor can increase the average return difference from 19.8 to 46.8 percentage points if they buy more not at a five percent loss, but at a 25 percent loss.

## Too good to be true?

Regarding our roulette example, several pitfalls arise: the Martingale strategy only works if the player has sufficient financial reserves and can double their stake indefinitely. If they start with a 100 euro stake in the first round, they would have to bet 51,200 euros in the tenth round. While the probability of losing ten times in a row is only 0.1 percent, the possible profit of 100 euros is very small compared to the stake. Basically, the Martingale strategy may work a few times, but once luck runs out, it becomes extremely expensive. It's also important that each result is independent of the others. This means that previous rounds do not influence the outcome of the next one. In other words: just because you have lost three times in a row does not make it more likely that you will win the next round. Furthermore, the odds of winning and losing at roulette are not symmetrical. Since the number "zero" can also come up, losses occur more frequently on average. Please do not interpret our analysis as an encouragement to gamble.

The "If you are in trouble, double" investment strategy also has its pitfalls: for one, we used stock indices for our simulation. At the level of individual stocks, the results are likely to be less clear and advantageous since, compared to broadly diversified indices, the risk of loss is higher for individual stocks and diversification effects

at the portfolio level do not come into play. In the worst case, as with the German battery manufacturer Varta or the Chinese property developer China Evergrande, there can be an almost total loss—buying more would have been fatal. Secondly, the investment strategy only works if there are sufficient financial reserves. Furthermore, when comparing the two investment strategies, one should, strictly speaking, also consider the opportunity costs that arise from not being 100 percent invested from the beginning and thus not participating in potential stock price increases.

## What is our conclusion?

Whether one should buy more during market downturns depends heavily on personal risk tolerance, possible payment obligations, and one's own market expectations. If you expect a prolonged bear market, it is certainly legitimate to question your investments. Otherwise, you should be able to withstand increasing market volatility and keep a cool head. The rule is: long-term investors should not let short-term fluctuations throw them off course. As our simulation results show, it is instead worthwhile to use larger market setbacks as buying opportunities and to expand broadly diversified positions. Why? In the long term, stock markets have trended upwards. In other words: the "probability of winning" from investing in broadly diversified stock indices is higher than from playing roulette.

How can investors act as emotion-free as possible and keep a cool head even in turbulent market phases? Savings plans are a good solution. They help maintain discipline and invest automatically, regardless of the market phase. This means that with a fixed investment amount, relatively fewer shares are bought at higher prices and relatively more at lower prices.

Simon Landt

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#### Market data

				CT.		
	As of 25.07.2025	18.07.2025	24.06.2025	Change versus 24.04.2025	24.07.2024	31.12.2024
Stock marktes	09:43	-1 week	-1 month	-3 months	-1 year	YTD
Stock Hair Rees	07.43	1 WCCR	1 Honen	Juonens	1 yeur	112
Dow Jones	44694	0,8%	3,7%	11,5%	12,1%	5,1%
S&P 500	6404	1,7%	5,1%	16,8%	18,0%	8,9%
Nasdaq	21058	0,8%	5,8%	22,7%	21,4%	9,0%
DAX	24102	-0,8%	1,9%	9,2%	31,1%	21,1%
MDAX	31389	0,9%	4,8%	12,5%	25,3%	22,7%
TecDAX	3848	-2,4%	0,3%	7,4%	16,0%	12,6%
EuroStoxx 50	5320	-0,7%	0,4%	4,0%	9,4%	8,7%
Stoxx 50	4505		0,7%	3,8%	1,4%	4,6%
		0,1%				
SMI (Swiss Market Index)	11991	0,1%	0,0%	0,6%	-1,7%	3,4%
Nikkei 225	41456	4,1%	6,9%	18,3%	5,9%	3,9%
Brasilien BOVESPA	133808	0,3%	-2,4%	-0,6%	5,8%	11,2%
Indien BSE 30	81571	-0,2%	-0,6%	2,2%	1,8%	4,4%
China CSI 300	4127	1,7%	5,7%	9,1%	20,7%	4,9%
MSCI Welt	4124	1,4%	4,2%	14,7%	17,3%	11,2%
MSCI Emerging Markets	1267	1,4%	4,6%	15,9%	17,1%	17,8%
Bond markets						
Bund-Future	129,58	3	-126	-230	-276	-386
Bobl-Future	117,00	-53	-120 -89	-268	18	-360 -86
Schatz-Future		-22				3
	107,02		-25	-58	117	
3 Monats Euribor	1,94	-6	-6	-22	-176	-78
3M Euribor Future, Dec 2025	1,87	5	6	25	-57	-2
3 Monats \$ Libor	4,42	2	4	10	-98	5
Fed Funds Future, Dec 2025	3,96	2	17	44	30	5
10 year US Treasuries	4,41	-1	13	10	13	-16
10 year Bunds	2,76	11	23	36	38	40
10 year JGB	1,61	11	19	32	56	52
10 year Swiss Government	0,46	1	8	1	-9	18
US Treas 10Y Performance	614,39	0,2%	-0,6%	0,3%	3,3%	3,8%
Bund 10Y Performance	559,09	0,0%	-0,8%	-1,2%	0,6%	-1,0%
REX Performance Index	459,08	0,2%	-0,1%	-0,1%	3,2%	1,4%
IBOXX AA,€	3,09	-1	2	14	-21	5
IBOXX BBB,€	3,40	-1	-3	-5	-42	-6
Commodities						
MG Base Metal Index	126 17	2.20/	2.60/	5.70/	9.20/	7.60/
	436,47	2,2%	2,6%	5,7%	8,3%	7,6%
Crude oil Brent	69,63	0,5%	3,5%	4,5%	-15,0%	-6,8%
Gold	3353,53	0,0%	1,6%	0,8%	38,2%	27,7%
Silver	32,54	0,0%	0,0%	-2,8%	11,0%	9,6%
Aluminium	2649,26	0,8%	2,8%	9,5%	17,7%	4,8%
Copper	9827,08	1,1%	0,1%	4,6%	9,5%	13,6%
Iron ore	98,58	1,4%	4,2%	-1,4%	-8,3%	-4,9%
Freight rates Baltic Dry Index	2258	10,0%	34,3%	66,9%	21,1%	126,5%
Currencies						
EUR/ USD	1,1757	0,9%	1,3%	3,3%	8,4%	13,2%
EUR USD EUR/ GBP	0,8721	0,7%	2,3%	2,1%	3,8%	5,5%
EUR/ JPY	173,20	0,2%	2,9%	6,8%	3,6%	6,2%
EUR/ CHF	0,9346	0,2%	-0,4%	-0,5%	-2,7%	-0,7%
USD/ CNY	7,1669	-0,2%	-0,1%	-1,7%	-1,4%	-1,9%
USD/ JPY	147,01	-1,2%	1,4%	3,1%	-4,5%	-6,5%
USD/ GBP	0,74	-0,3%	1,1%	-1,2%	-4,1%	-7,1% Source: LSEG Datastream

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