



ECONOMIC SITUATION AND STRATEGY

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Growth In a Sustainable World: How Does That Work?

Summer is the season of freedom for thought experiments in fundamental but crucial topics rather than relentless focus on the daily rat race. It is the time when one may find books or articles that at any other time would have escaped one's attention or appreciation. One such article that decidedly should deserve anyone's attention and might even be mandatory reading for aspiring economists is 'How the World Folds' (Die Faltung der Welt) by Andreas Levermann published in the Frankfurter Allgemeine Zeitung on 7 July 2021.¹ Andreas Levermann is a physicist and climate expert at the Potsdam Institute for Climate Impact Research.

The article discusses, for instance, to what extent climate change will curb economic development and how this issue could and should be addressed from a growth perspective. Even though the author is taking a rather mathematical and academic approach to the question, his insights are highly relevant and go a long way in explaining whether necessary limitation may really lead to falling profit margins in the next few decades, which would have significant impact on long-term stock price development. Levermann argues thus: Unlimited consumption of resources and unlimited emissions of noxious gases are no longer an option if mankind wishes to keep earth habitable. That means the unlimited growth as we used to think about it is no longer feasible, as unlimited growth in closed systems results in explosion or collapse – neither one of which are particularly desirable for ecosystems and societies.

On the other hand, static and stagnating societies are similarly undesirable. After all, mankind does not live in paradise where the static environment is a state of perpetual bliss. Major parts of mankind are poor and many diseases are still not curable. At the same time, the human brain is programmed for creativity and ambition. From the view of this mindset, a mandatory stagnation is not an acceptable alternative after a long history of human conquest and industry that resulted in growth. Then how can we reconcile growth and resource scarcity? Or, to put it mathematically: How can one achieve unlimited growth in a limited space? The Theory of Dynamic Systems includes the concept of folding: A system can grow in a limited space without exploding by folding. One must recognize the boundaries and use the space between these boundaries ever more efficiently. Levermann is talking about growth into multiplicity that occupies the space without exploding it. This not only makes for very elegant mathematics, it also transposes well into economics. Indeed, economic systems can grow within boundaries. An excellent example for such boundaries is the European emissions market. Trading in CO₂ emission rights ensures that certain sectors of the economy cannot exceed statutory emission limits in the next few decades. It is not known from the start what these rights will cost in the coming years but prices will rather result from free market trading. However, the quantitative effect is guaranteed and constitutes a boundary. Since all market players know and recognize this boundary it becomes (mathematically speaking) part of the dynamic system. One just learns to work, heed, and

¹ <https://www.faz.net/aktuell/wissen/erde-klima/klimakrise-loesungen-durch-einen-mathematischen-blick-17422986.html>

live with such boundary. Ideally, the world should have a global emissions market with global caps and a steady reduction in emission volume. The world made its first step in this direction when China started creating its own emissions market following the European model. Mathematical folding corresponds in real life to innovation and creativity for achieving the best possible result within the given boundaries.

Creativity and value creation always flourish when the action parameters are clear to all. It is not the mandate of politics to limit growth but to set boundaries and particularly the parameters within which growth can occur. Economic history, too, shows that boundaries have never been a growth killer in the long run. Especially times of war, pestilence, or natural disaster challenged human ingenuity and resulted in technological breakthroughs that may not have been made in steadier times. The current Covid crisis is the most recent example. Who would have guessed that the temporary collapse of supply chains would have only such a short-term effect on global value creation? And who would have guessed that value creation levels would be back to pre-pandemic levels less than 18 months after the virus struck and whole countries were locked down for months on end? Moreover, the Covid crisis probably did more to advance societal digitalization than all previous political and entrepreneurial attempts in the past 20 years. Medicine, too, made great progress in pandemic mode with RNA vaccines being developed in record time and the technology may now make large strides to being used in all kinds of indications. Another good example are Germany's war reparations and loss of its heavy industry after World War II. The allies wanted to weaken Germany's industrial capacity by dismantling and confiscating machinery. However, it became the spark of ingenuity for Germany's economic

miracle born by technological innovation that made German industry much more productive leading to explosive economic growth. As the old adage says: Necessity is the mother of invention! And one should never underestimate the power of decentralized market systems when facing a challenge.

We should therefore not fear scarcity and restrictions but rather that politicians do not clearly define them or that they have different definitions and interpretations around the world. It is also problematic should politics directly interfere rather than just creating the prerequisites. Climate protection is a good example in this respect. The EU introduced a highly efficient system for emission rights trading, but the EU and some nations interfere with unnecessary and sometimes counterproductive micromanagement that promotes some technologies and prohibits others. Mathematically speaking, this tends to prevent efficient folding. These interventions mostly just cause benefit losses without meeting their intended goal of improving target achievement.

Even though all this may sound somewhat political, these concepts are highly relevant to capital markets. As Europe will probably not see a normalization of interest rate policy in the next few decades, equities are becoming ever more important in portfolio allocation. That, however, is only an attractive option if expected profit growth is not going to substantially drop below its historic trajectory. In that case, expected returns would no longer be sufficiently attractive relative to the inherent risks. We do not see cause for alarm in this respect. Just as mathematics allows limited space to fold, companies can deal with restrictions if these are clearly and sustainably defined. Growth, profit, and benefit increases are still possible in a sustainable world.

Market data

Stock marketes	As of	Change versus				
	16.07.2021 09:31	09.07.2021 -1 week	15.06.2021 -1 month	15.04.2021 -3 months	15.07.2020 -1 year	31.12.2020 YTD
Dow Jones	34987	0,3%	2,0%	2,8%	30,2%	14,3%
S&P 500	4360	-0,2%	2,7%	4,5%	35,1%	16,1%
Nasdaq	14543	-1,1%	3,3%	3,6%	37,8%	12,8%
DAX	15663	-0,2%	-0,4%	2,7%	21,1%	14,2%
MDAX	34639	-0,4%	1,5%	4,9%	27,9%	12,5%
TecDAX	3624	0,5%	3,4%	3,0%	17,9%	12,8%
EuroStoxx 50	4071	0,1%	-1,8%	1,9%	20,5%	14,6%
Stoxx 50	3546	0,1%	-0,5%	4,7%	14,8%	14,1%
SMI (Swiss Market Index)	12039	0,4%	1,0%	7,5%	15,1%	12,5%
Nikkei 225	28003	0,2%	-4,9%	-5,5%	22,0%	2,0%
Brasilien BOVESPA	127468	1,6%	-2,0%	5,6%	25,2%	7,1%
Russland RTS	1610	-1,6%	-3,3%	9,1%	32,0%	16,0%
Indien BSE 30	53116	1,4%	0,7%	8,8%	47,3%	11,2%
China CSI 300	5095	0,5%	-1,4%	2,9%	7,4%	-2,2%
MSCI Welt (in €)	3044	0,2%	3,5%	4,9%	28,4%	17,6%
MSCI Emerging Markets (in €)	1348	2,8%	0,4%	2,0%	22,6%	8,6%
Bond markets						
Bund-Future	174,58	68	226	325	-154	-306
Bobl-Future	134,67	19	42	-41	-8	-51
Schatz-Future	112,19	2	2	8	13	-9
3 Monats Euribor	-0,55	2	2	2	-10	4
3M Euribor Future, Dec 2017	-0,53	0	0	2	-6	0
3 Monats \$ Libor	0,13	0	0	-6	-15	-11
Fed Funds Future, Dec 2017	0,08	-1	-1	-1	10	0
10 year US Treasuries	1,32	-4	-18	-22	69	40
10 year Bunds	-0,35	-1	-11	-1	13	23
10 year JGB	0,02	1	-3	-6	1	0
10 year Swiss Government	-0,32	-3	-11	-7	13	18
US Treas 10Y Performance	703,04	0,5%	2,0%	2,7%	-3,9%	-1,8%
Bund 10Y Performance	673,50	0,4%	1,4%	0,8%	-0,6%	-1,6%
REX Performance Index	496,51	0,1%	0,5%	0,6%	-0,1%	-0,5%
US mortgage rate	0,00	0	0	0	0	0
IBOXX AA, €	0,19	-3	-7	-2	-13	17
IBOXX BBB, €	0,56	-3	-9	-9	-67	1
ML US High Yield	4,57	2	-5	-16	-195	-40
Convertible Bonds, Exane 25	8276	0,0%	-1,1%	-1,0%	8,1%	-0,6%
Commodities						
MG Base Metal Index	428,37	-0,3%	0,1%	5,9%	43,3%	20,8%
Crude oil Brent	73,25	-3,2%	-1,1%	9,3%	67,2%	41,2%
Gold	1822,73	0,8%	-2,0%	3,2%	0,9%	-4,0%
Silver	26,29	0,6%	-4,3%	1,3%	36,1%	-0,3%
Aluminium	2501,01	0,8%	1,6%	7,7%	51,7%	26,7%
Copper	9452,00	-0,3%	-0,9%	1,7%	48,2%	22,0%
Iron ore	218,68	1,3%	2,2%	26,4%	103,3%	40,3%
Freight rates Baltic Dry Index	3073	-6,9%	1,6%	32,3%	81,2%	125,0%
Currencies						
EUR/ USD	1,1803	-0,5%	-2,5%	-1,4%	3,1%	-3,8%
EUR/ GBP	0,8554	-0,3%	-0,6%	-1,4%	-5,4%	-4,4%
EUR/ JPY	129,90	-0,4%	-2,5%	-0,2%	6,3%	2,7%
EUR/ CHF	1,0848	0,0%	-0,5%	-1,8%	0,6%	0,4%
USD/ CNY	6,4666	-0,2%	1,0%	-0,9%	-7,5%	-1,0%
USD/ JPY	109,88	-0,3%	-0,2%	1,0%	2,7%	6,4%
USD/ GBP	0,72	0,3%	2,1%	0,0%	-8,5%	-0,9%

Source: Refinitiv Datastream

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