FINANCING OUR FUTURE

UNVEILING A PARALLEL DIGITAL CURRENCY SYSTEM TO FUND THE SDGs AND THE COMMON GOOD

STEFAN BRUNNHUBER

A Report to the World Academy of Art and Science

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palgrave
macmillan

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ISBN 978-3-030-64825-1 ISBN 978-3-030-64826-8 (eBook)
https://doi.org/10.1007/978-3-030-64826-8

This Palgrave Macmillan imprint is published by the registered company Springer Nature Switzerland AG.
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

The original version of this book was revised. The correction to this book can be found at https://doi.org/10.1007/978-3-030-64826-8_7

Isaac Newton once famously said: "If I have seen further, it is by standing on the shoulders of giants." Each generation plants the seeds that will be harvested by the next one.

This book is dedicated to Bernard Lietaer (February 7, 1942–February 4, 2019), whose shoulders we are now standing on as we look at the future of money and sustainability, and whose knowledge is now bearing fruit.

Preface

This book seeks to initiate a debate that has not taken place in monetary economics thus far. We have traditionally relied on a monetary monoculture to finance and regulate global commons. Despite all the intellectual and mathematical scrutiny devoted to the topic, the debate ultimately boils down to austerity on the one hand versus stimulus, regulation and redistributive efforts on the other hand. None of the official academic positions really tackle the nature of the monetary system itself and its negative impact upon sustainability. We thus have failed to provide an answer to how we can really finance common goods and our future. This is exemplified by the current debate on the 2015 UN Sustainable Development Goals (SDGs).

The present text argues for the introduction of new financial engineering to achieve the SDGs and our commons, using a stepped approach that integrates new forms of monetary incentives into the conventional system: a parallel, optional, complementary form of additional liquidity that does not compete with the existing system. The arguments go beyond regulatory efforts and co-financed redistribution.

There is a subtle but substantial difference to other suggested theories: while acknowledging that there are multiple lock-ins and constraints, which we are going to explain in this text, what we are proposing is not an "ideal-typical" solution for the financial system (such solutions are doomed to remain mere theoretical propositions). We are rather advocating for the best single practical next step in the development of our monetary system that will maximize our ability to finance our common future over the next 15 years. The advantages of implementing this or a similar mechanism are manifold: firstly, it could be implemented relatively inexpensively in a fast and targeted manner. Then, it would have an anti-cyclical, anti-inflationary and resilient impact on our trading and payment system. Moreover, it builds upon findings in systems theory, thus bypassing the discussions between the different schools of economics. Further, it addresses findings in the life sciences of neurobiology, clinical and social psychology in order to match real human behavior beyond the "homo economicus". And finally, it can address the magnitude, volume and significance of the global challenges ahead. In short: The Future Wealth of Nations is based on a new kind of thinking related to redesigning and creating a monetary ecosystem to make the world a better place.

Dresden, Germany — Stefan Brunnhuber

The TAO of Finance Team

The World Academy of Art and Science (WAAS) has organized several dozens of conferences, meetings, hearings and panels over the last years on "How we can finance our future?". The following members have substantially contributed, modified, improved and criticized the main argument explained in this text. Though I take the full responsibility, the results would not have been possible without the contribution and support from the entire "TAO Team", which includes:

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A Report to the World Academy of Art and Science

Impressum:
Author: Brunnhuber Stefan & TAO of Finance Team
Design: Wolf & Team (FFHD)—Alistair Bell
Language: Margaret Hiley
Literature/References: Sarah Heincke & Susanne Haase

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What This Book Is All About: Finance—Future—Balance and the Rest

Exploring the world and reflecting upon ourselves, we realize that we never know enough and often need to rely on the insights of past generations and different practices from other parts of the world. In this sense, we can see that no-one is ever 100% wrong. Consequently, we begin to defend and fight for the opinions of others, even though we do not support them. This engenders the reciprocal tolerance required in times when democracy, our society, the planet and our future are at stake—as they are now.

There have been times in the relation between the scientific community and society as a whole in which individual disciplines made significant contributions to the progress of mankind. The discoveries of the periodic system—Mendel's law, vitamins, and the structure of DNA—are some examples. In the field of social sciences, these achievements include the Keynes multiplier and negative income tax, and in the fields of behavioral science and neuroscience, they include Pavlov's conditioned reflex and Maslow's motivational hierarchy.

There have also been times when different disciplines, working concurrently but independently of one another, have generated insights, discovered laws of nature or similar patterns in our social world. The physicist Werner Heisenberg famously said that the most fruitful and creative developments in human thought occurred at points in history when two different lines of thinking met. These lines may have their roots in quite different disciplines, cultures, points in history or religious beliefs. Once they encounter and interact with one another, the result is a deeper understanding, a new development or a transformation benefiting mankind. We are currently living at such a point in time.

For the first time in history, humans are fundamentally changing the course of the planet through the use of land, global warming, biodiversity degradation, and nuclear armament among other factors. Humans are now in the driver's seat, as it were, determining the fate of the planet. Hence the name of the new geological era we find ourselves in: the "Anthropocene" (P. Crutzen).[1] In the previous era, the "Holocene", we did not really experience limits or boundaries of this kind, and thus were able to think and act in an exponential way. This way of thinking has reached its end point and we now find ourselves confronted with both relative and absolute

limits. Environmental science has identified at least nine planetary boundaries. However, this is just half of the story. In addition to these external limits, we also face internal limits—limits to the way we think and act under conditions of uncertainty. These include a tendency towards risk aversion, the limitations of our mental frames, a focus on short-termism, as well as a distorted perception of correlations and causalities. We therefore need a new mindset if we are to solve the problems of the Anthropocene, a new mindset that also will enable us to question our supposedly sacrosanct monetary system.

Financing Our Future is not a book about a new monetary theory. It explores the parallels between Eastern philosophies and ideas in Western economic thinking. It is kind of a TAO of Finance. This promises to provide both a better understanding of the economic process in general as well as links to a more sustainable future. Following the disappointment of the Western thought process and Western economic modeling in the 2008 financial crisis, we need to look at economic and monetary processes from a completely different perspective. Eastern thinking and Taoism in particular provide a promising approach with which to frame economic activities in the era of the Anthropocene.

The purpose of this book is to explore the interaction between two fields, finance and sustainability, using the information now available to us from different fields and practices. As well as being a psychiatrist and the Chief Medical Officer of a psychiatric hospital, I have engaged as an academic teacher in research on economics and finance and been involved in corporate and institutional consulting for over two decades. After spending time in China and Egypt, I became interested in the Eastern counterparts of the perennial mystical traditions in the West. This book argues that the concepts and philosophy of Taoism provide us with a deeper understanding of how finance can truly benefit humanity and the planet. Eastern ways of thinking reveal a more holistic view of the economic process and the impact of the monetary/financial system. This TAO of Finance attempts to provide an example of this interplay that touches upon some fields currently presenting humanity with its greatest challenges: money, sustainability and our common future.

This book is intended for a general readership with a dual interest in Eastern thinking, more specifically Taoism, and finance. However, no previous knowledge of finance is required to understand this book. The main concepts and theories are presented in non-technical language without mathematical equations. My hope nonetheless is that the book's readers will include some individuals with an expertise in finance and monetary theory or in politics who have not yet been exposed to the religious philosophy of the East. Some elements of Taoism are gaining momentum already, for example through a more cyclical understanding of our real economy. We are now focusing on cascade economics, where resources are reused over and over again; we are considering cyclical and recycling processes, which allow a steadier state with regard to resource depletion; and we are starting to reach out towards a more integral perspective that takes into account the entire value chain and its associated costs. And there is more to come, as is explained in this book.

The main text is written to be accessible to anyone who has a bank account, has ever made a financial transaction or simply has gone shopping. But it also addresses

professional players in the field. You could be the CEO of a global player, an investment or commercial banker, a day trader, work at an insurance company, or in the field of financial engineering or derivatives; you could be a lawyer, in the consulting business, work as a lobbyist, or hold a position in monetary regulation, accounting, philanthropy or the public finance sector. Even if you are a macro trader, are active in long/short equity, are a high-frequency trader, are a hostile activist, are an event driver, or manage a hedge fund, venture capital or a private equity fund, you may benefit from the TAO of Finance. Even if you have an MBA in economics or finance, or are pursuing an academic career in macroeconomics, you may find this book contains an additional perspective on the field. We all operate within the financial system but have different incentives, conflicting interests and opposing ideas about economics, finance and the future, and thus this book can offer all of us exciting and hitherto overlooked insights into the way we need to finance our future.

Note

1. Crutzen (2016) and Stoermer (2000).

Chapter 1
A New Narrative for the Anthropocene Era: On Boundaries, Interconnectedness and the Global Commons

1.1 A Bold Statement to Begin With

Imagine a mechanism, a thought process, a collective behavior or a social invention with the potential to overcome absolute poverty within 18 months. One that leads to the protection of biodiversity, halts global warming, reduces water depletion, and mitigates fraud and illicit financial transactions, while simultaneously expanding school education, increasing access to health care and fostering global peace—all in one. Imagine this process being expedited through democratic channels more quickly and easily than through a lengthy global governance approval process; imagine it starting in less than six months with fewer than 250 staff. Imagine a mechanism that enables billions and billions of human beings on this planet to sustain themselves and their neighborhoods and take better care of the environment—all at once and all the time.

And imagine this being achieved using new technologies, with a simultaneous change in our mindset. Suddenly, the insurmountable problems of ongoing ecological degradation and endless human suffering turn into goals and challenges that we as humans are capable of overcoming. Just imagine.

1.2 A New Mindset

The precondition for introducing such a revolutionary mechanism is a major change in mindset. It is not left or right, Keynesian or Austrian, Marxist, institutional or behavioral economics that will determine how to properly finance our future. Rather, it is the way we think, perceive, and evaluate the world that will make the difference. And it is easy to get lost in the false frames, which tell us the wrong stories, backed up by poor interdisciplinary evidence, leading political decisions astray.[1]

S. Brunnhuber, *Financing Our Future*,
https://doi.org/10.1007/978-3-030-64826-8_1

It is only when we start taking into account empirical evidence from systems theory, neurobiology, and both clinical and social psychology that we can begin to envision a completely different monetary system. Rather than following the paradigm of economic growth first and partial redistribution of revenue through taxation, fees or philanthropy to finance commons second, we advocate designing a parallel optional monetary system that is more compatible with the nature of the global commons and our common future. Our thinking will need to be bold, deep and far-reaching if we are to achieve a balance to the given financial system in order to safeguard our common future.

1.3 Living in the Anthropocene: Interconnectedness Within Boundaries

1.3.1 Major Characteristics of the Anthropocene

We now are living in the era of the Anthropocene, a period in which human activity has become the dominant influence on the climate and the environment.[2] Five factors in particular define this era. First, as long as we do not successfully adapt, we now are living within quantifiable and measurable planetary boundaries that have various geo-ecological tipping points. Once these boundaries have been transgressed, there can be no return to the previous state. Second, we are living in a state of ongoing interconnectedness of everything, everywhere.[3] Third, the increasing complexity of our world is forcing us to operate with greater uncertainty and ambiguity. Fourth, the growth of our economy at the expense of the ecosystem is causing non-linear, complex feedback loops.[4] We need to learn to abandon single cause–effect relations and replace them with circular, multi-looped processes that amplify, delay or curb each other. And lastly, since 1950, most—if not all—human activities and their impact on the geophysical components of our planet have become exponential in a so-called "great acceleration". To be more precise here, right at the beginning of our study: it is not humanity, but the "wealthy few that stress the planet" (Raworth, 2012). And we are dealing with a situation in which 99% of all changes on the planet are triggered and caused by just 1% of events.[5]

However, living in the Anthropocene does not mean that the developments and adjustments ahead are insurmountable or a natural law. They are not a mystery. On the contrary, for the first time in history, humans are sitting in the driver's seat, determining both their own future and that of the planet. Our fate is not inescapable, but it is we who must decide which future we wish to live in. In short: everything could be different (Fig. 1.1).[6]

The five factors that characterize the Anthropocene have their origin in 1750 with the invention of the steam engine, followed by the Haber-Bosch procedure, then antibiotics. Since 1950, most human activities with negative spillovers and their ensuing geophysical impact have developed exponentially. From the 1990s onwards,

Fig. 1.1 Living in the Anthropocene—tipping points—planetary boundaries—interconnectedness—kickbacks and feedback loops

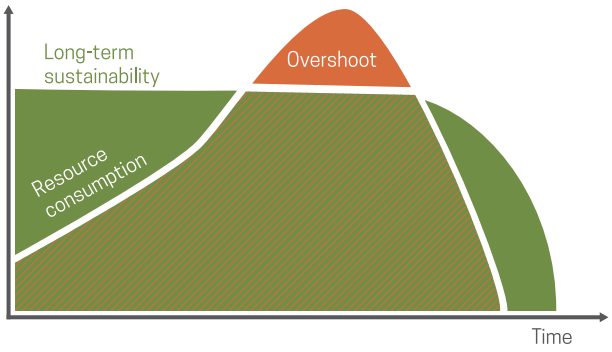

Fig. 1.2 Overshoot and collapse (the Seneca effect)

the damage caused by negative social and ecological externalities such as the loss of biodiversity, melting ice caps, forced migration, unprecedented income and wealth disparities, and increasing asymmetric wars has become a financial liability that we have to pay for and include in our budgets (Fig. 1.2).[7]

1.3.2 A Five-Second Time Frame

Yet the amount of destruction caused by these negative externalities has only occurred in what is the equivalent of five seconds within the five-billion-year timeframe of our planet's history. As time continues to pass, the costs of "business as usual", "wait and see" or "doing nothing" strategies increase exponentially. In fact, these costs will oversteer any other foreseeable scenario unless significant change occurs in the near future. Looking at these five seconds in the context of our five-billion-year planetary history opens up a longer-term view into the future. We see that we are currently at a leverage point where earlier eras and epochs could culminate in a promising future—a future with the potential to become a second axial time or form of enlightenment.[8] To attain to this second Renaissance, we will need to change our mindset and achieve a more integral form of consciousness. One way this can be achieved is by integrating the wisdom of the East (Fig. 1.3).

1.3.3 Living with Uncertainty

Under the new dynamics of the Anthropocene, even those who have done everything "right" become subject to the non-linear feedback loops, asymmetric shocks, unforeseen contingent disruptive changes and irreversible social and ecological tipping points of this era.[9] Instead of clear causal links, we now find ourselves confronted with multiple correlations, breaking points and probabilities.[10] While humans have the sensory capacity to smell, taste, hear, touch and see, they are able neither to sense exponential developments nor to act upon them. Accordingly, these various phenomena produce a greater level of uncertainty. Because uncertainty is unavoidable, the best approach is not to deny it, but to find an effective way of coping with it.[11] The reflex response to uncertainty does not involve a mental process—it is either a flight/fight reflex or a play-dead reflex. If we want to appreciate the value of uncertainty in a constructive way, we must first step back and become mindful. There will be no perfect solution and no plan that is 100% secure. If we are to value uncertainty, we first need to learn to tolerate and even embrace it; we need to become comfortable with losing control.

1.3.4 Numerous Tipping Points[12]

Living in the Anthropocene thus entails non-linear pathways that are much less foreseeable or predictable than anything previously experienced. In this era of increasing tipping points, small events can trigger disproportionately large changes.