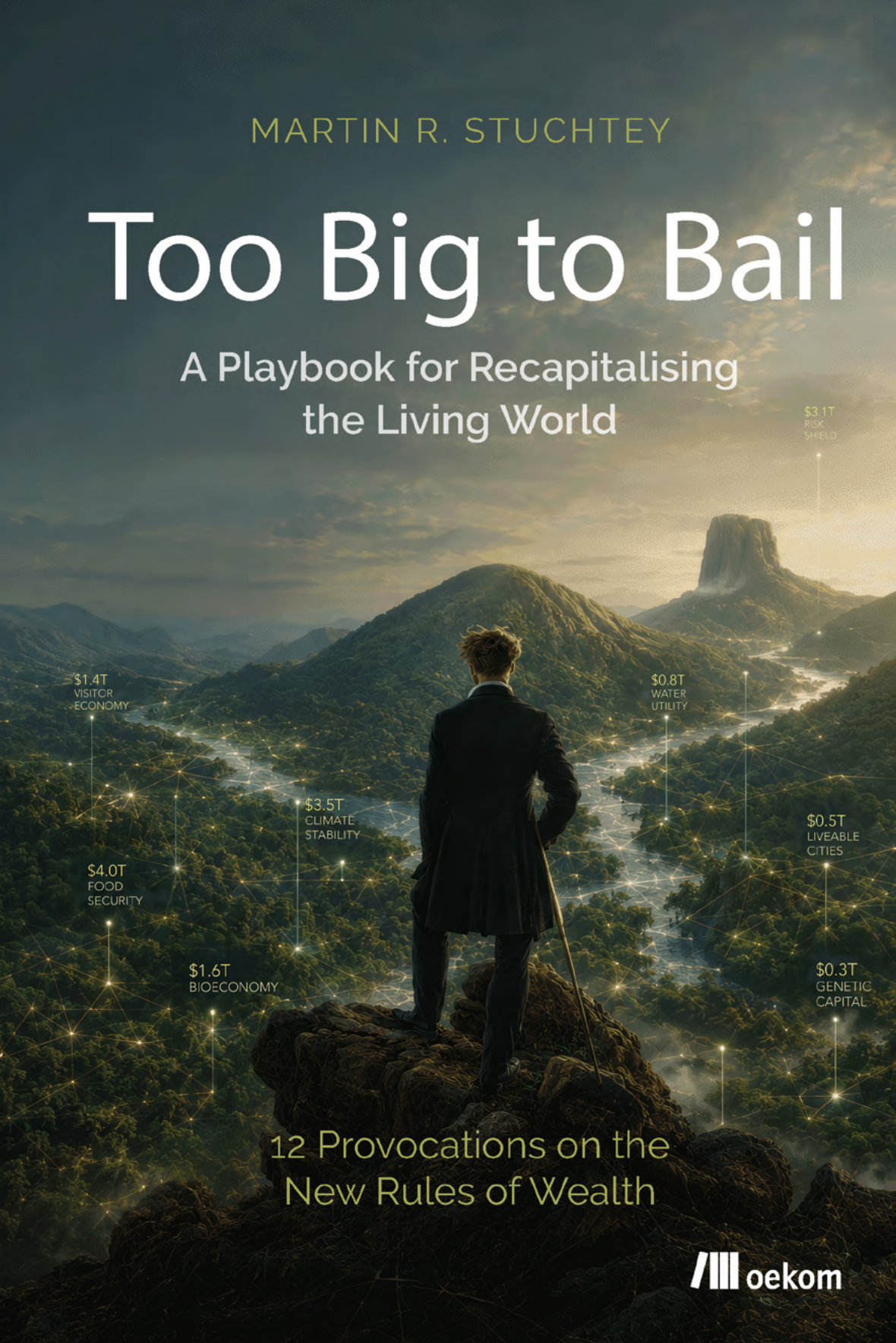
MARTIN R. STUCHTEY

Too Big to Bail

A Playbook for Recapitalising the Living World



12 Provocations on the New Rules of Wealth

oekom

The publisher reserves the right to utilise the copyright-protected contents of this work for the purposes of text and data mining in accordance with § 44 b UrhG. Any unauthorised use is hereby prohibited.

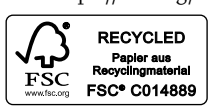
Bibliographic information for the Deutsche Nationalbibliothek:
the Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available on the Internet at www.dnb.de.

© Martin R. Stuchtey
2026 oekom verlag, Munich
oekom – Gesellschaft für ökologische Kommunikation mbH
Goethestraße 28, 80336 München
+49 89 544184 – 200
info@oekom.de

Layout and Typesetting: Stefanie Scheurich
Editing and Proofreading: Ross Chainey
Cover Design and Cover Illustration: Felix Schnabel using Caspar David Friedrich's »Der Wanderer über dem Nebelmeer«, c. 1817, oil on canvas
Print: Friedrich Pustet GmbH & Co. KG, Regensburg

From March 04 2027 onwards this work is licensed under the Creative Commons License: Attribution-NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0). This license allows the work to be shared, but does not permit any editing or commercial use. Further information can be found at: creativecommons.org/licenses/by-nc-nd/4.0

All Rights Reserved
ISBN: 978-3-67607-002-7
E-ISBN 978-3-98726-726-0
Doi: https://doi.org/10.14512/9783987267260



Prof. Dr. Martin R. Stuchtey

TOO BIG TO BAIL

A Playbook for Recapitalising the Living World – 12 Provocations on the New Rules of Wealth

oekom

To Fidelis, Pius, Laetitia, Clara, Justus, Zita and Sonja Stuchtey,
who taught me what holds value.
Non nobis solum nati sumus.

CONTENTS

FOREWORDS - Three Distinct Perspectives.....7

PROLOGUE - Wealth by a Thread: we recorded every claim, and never the world they rest on.....19

THE OLD REGIME.....33

PROVOCATION 1 · Nature Unbooked: any claim, traced to the bottom, ends in nature. 37

PROVOCATION 2 · Nature's Minsky Moment: unpriced collateral does not stay unpriced; it reprices all at once.....51

PROVOCATION 3 · The Abundance Trap: nature is the only capital civilisation has never once chosen to rebuild.....67

PROVOCATION 4 · The Unfinished Regime: nature got disclosed, never recognised. 85

THE NEW STACK.....105

PROVOCATION 5 · The Collateral Frontier: every leap in wealth widened what counts as good security. 109

PROVOCATION 6 · Signal: nature needs an address book, not more data. 121

PROVOCATION 7 · Value: extend the vectors of time and of benefit, and nature's price appears. 139

PROVOCATION 8 · Book: you cannot own a watershed, only the enforceable claim to save it. 161

THE NEW REGIME 179

PROVOCATION 9 · Nature Beta: nature is collateral – it cannot be hedged, only healed..... 183

PROVOCATION 10 · Nature Alpha: in a modern economy, assets are not deeds but programmable rights..... 207

THE HORIZON 219

PROVOCATION 11 · Nature-backed Money: whatever a central bank will hold becomes money..... 223

PROVOCATION 12 · Nature-backed Economies: states don't recapitalise – nature may force them to..... 235

EPILOGUE · The Big Long: the last fortunes were made going short on collateral – the next will be made going long..... 251

ACKNOWLEDGEMENTS 265

GLOSSARY 269

FIGURES 275

NOTES 277

ABOUT THE AUTHOR 313

SUPPORTING THE BOOK 315

PROLOGUE - Wealth by a Thread: *we recorded every claim, and never the world they rest on.*

"These bonds only fail if millions of Americans don't pay their mortgages. That's never happened in history." – The Big Short

One man read the fine print. In 2005, from a small fund in Northern California, a former physician named Michael Burry did the thing almost no one on Wall Street bothered to do: he opened the mortgage bonds the rating agencies were stamping triple-A and read the individual loans inside them, line by line. The safest collateral in the world, he found, was a stack of loans made to people who would never repay them, bundled and re-bundled into the collateralised debt obligations (CDOs) the market had stamped risk-free. So, he bet against it – persuading Goldman Sachs and others to sell him credit-default swaps on bonds everyone else treated as risk-free. His own investors nearly revolted. For two years he looked like a crank. Then, in 2007 and 2008, the loans defaulted, the triple-A bonds collapsed and the position that had made him look foolish made his clients more than $700 million. Some $11 trillion of American household wealth went the other way.

The line everyone else repeated – that American house prices had never fallen nationwide, so the bonds stacked on them could not fail – was true right up to the moment it stopped being true. The lesson was never about housing. It was that the most dangerous risk in any system is the collateral everyone has stopped questioning. Burry's edge was not a better model. It was a willingness to ask what the collateral was actually made of.

THE ORIGINS. I have spent all my life asking that question of the largest piece of unquestioned collateral there is. I had been asking it – in its most naive form – long before I had the words for it: what is stable wealth in the first place? The first answer I knew was not an answer at all, but a sensation. My favourite occupation as a boy was to lie on my back and watch swifts circling above me, or to walk the countryside around my hometown with my dogs, sighting as many bird species as I could, and to report every discovery to my grandfather. The counting grew serious: I became one of the youngest members of the ornithological society and joined the local conservation group my mathematics teacher had founded. Wealth, as far as I could tell, was this – the number of bird or amphibian species a boy could find in an afternoon, and someone who wanted to hear about them.

What I could not have said then was where the birds came from. The list was long where the land was old and untidy – trees with holes in them, wet ground nobody had bothered to improve – and it cost no one anything to keep it so. Then the richest places began to go, hedgerow after hedgerow, fen after fen, and each spring's list came back shorter, leaving me less to report to my grandfather. The first time I tried to turn that sensation into an argument, I was at a British boarding school, answering the question set for the sixth form economics prize: what will change economics in your lifetime? To support my answer, I chose *Small Is Beautiful* by the German-born British economist E. F. Schumacher as my primary source, and I won on the strength of a single line I have never since been able to unthink – that "natural capital" is something "which we steadfastly insist on treating as expendable, as if it were income." Schumacher had given a name to what the hedgerows had been trying to teach me – capital – and pinpointed the error within it: an economy that spends its foundation and books the proceeds as growth. It was a schoolboy's wager, that what economics would have to learn in my lifetime was the worth of nature. A question lodged then that has never left me since: why does the system treat its own foundation as income, and what would it take to treat it as capital?

Still chasing the answer to the boy's question, I widened the radius of my search. I travelled further and further, until on the

very morning after my school graduation I boarded a bus heading south, intent on crossing Africa with a backpack. Twenty-three border crossings, 24,000 kilometres and a lifetime's worth of experiences later I stood at the Cape of Good Hope. Along the way, in the wildest places, I kept meeting an unfamiliar and hugely magnetic new human species: geologists. They appeared to have made a free life in nature their profession.

So, back home and after completing my military service in the Alpine forces, I matriculated as a geology student. It was everything the geologists had advertised – a life of field trips and projects across Europe and Southern Africa, the hoped-for gateway to a life in nature. But the longer I studied the Earth system, the less it squared with the economic decisions our scientific insights translated into: a massive proliferation of wells across Namibia, the spread of toxic tailings dams in South Africa, the dissection of landscapes in rainforest regions – and above all the combustion of coal seams within a few decades that had been deposited over millions of years. Wherever geology took place, nature – and the birds – were quickly gone.

I wanted to understand the economic model behind all this, so I returned to university and studied business economics, later taking a doctorate on the value of externalities – the costs the market leaves off its books. It took me straight into the engine room: the wealth-generation models, the alchemy by which capital and labour are turned into human prosperity. The spine of it was the Solow growth model, the foundation of modern thinking about growth, in which output flows from capital, labour and an undefined residual called technology, and nature does not appear at all. As a geologist I had been taught something the model had no room for: that energy and physical resources are laid down across cycles of millions of years, and that the stability of the Earth's systems is the precondition for any economy whatsoever.

The deepest divergence between my two educations was about time, and the whole argument of this book turns on it. Economics took its sense of time from Isaac Newton. In Newtonian mechanics the equations run as cleanly backwards as they do forwards. Nothing in them remembers which way the clock is turning. Mainstream

growth theory inherited that symmetry. A resource drawn down is treated not as a wound but as a price signal: the higher price brings out more of it, or something to replace it, and the system carries on as though nothing was lost. Scarcity, in that world, is always local and always reversible. Thermodynamics and geology describe the opposite world. The second law of thermodynamics gives time a direction – heat disperses, order decays – and no price can run the film backwards. You cannot un-burn a coal seam. You cannot re-lay in a business cycle what an epoch took 10 million years to deposit. A drained aquifer – the groundwater a region drinks from – a salted soil, a burned-out alang-alang grassland do not wait in inventory for a better bid. They deteriorate on their own schedule, indifferent to the markets, and the loss is booked whether or not anyone chooses to look. It is gone in the one direction time runs. The economic premise of reversibility and the physical fact of irreversibility cannot both hold, and where they meet, the physics wins. Two educations, two clocks, and nothing in my training had thought to set one against the other.

I joined McKinsey to learn wealth as the modern economy makes it, and stayed 20 years, becoming a managing partner in Munich. The craft was value creation. The work, at bottom, was making existing systems run better. And still, at the end of each long week, I flew home to the snow-capped Tyrolean mountains, the ice-cold lakes, the forests around our Alpine family farm and the streams that feed entire cities – the place that had felt like true wealth to me since boyhood – and found that none of it appeared anywhere in the numbers I had worked on all week. The economy was blind in exactly the place that had felt like wealth.

In 2005 – the same year Burry was reading his loan tapes – the blindness turned concrete for me too. We had been asked to help a major transport group build its international express fleet, working out of Florida, when Hurricane Katrina struck, destroying billions in value: homes, infrastructure, livelihoods, whole landscapes. I went back to the Earth science of my geology days, reread a book my grandfather had given me long before, Herbert Gruhl's *Ein Planet wird geplündert* ("a planet is being plundered") and dived deep into the latest climate research. Back in Germany I largely dropped my client portfolio and

co-founded McKinsey's Climate Change Special Initiative, which grew into the firm's Sustainability and Resource Productivity practice.

What followed was a succession of attempts to put unpriced systems onto the economic agenda: physical resources, through extensive work on the circular economy; freshwater, with scientist, author and former McKinsey partner Giulio Boccaletti and others, as co-initiator of the 2030 Water Resources Group; marine ecosystems, through the Global Ocean Commission. Each effort ran into the same wall. Without a price, the argument was always advisory. You could show a company that its wealth depended on a watershed; you could not make access to its services count as wealth, nor make it invest in protecting it. Schumacher's question had only sharpened: not whether nature is capital, but why its value never becomes wealth.

I went looking for the root of that blindness in economic thinking itself, and found that my own economics gave no answer: the model had no place for nature, and so had nothing to say about why it was vanishing. The beginning of an answer came from outside mainstream economics, in a cramped office at INSEAD business school in Fontainebleau, France, where the late physicist and economist Robert Ayres – whose work with Benjamin Warr, *The Economic Growth Engine*, sets out the case – showed me what the discipline had missed by bringing in a tool from physics: thermodynamics. Read through its laws, the stubborn unexplained residual in the growth accounts – the part economists had long credited to human ingenuity – turned out to be in large part exergy: the useful work that energy and natural resources make available. There were two rival models of how wealth is made: one in which nature is invisible, and one in which nature is the hidden engine. Geology and economics, it turned out, were describing the same world – the economy had been running on the physical Earth all along. Ayres could not make anyone act on it – no bank was going to lend against a watershed on the strength of a growth model – but he answered the older question: nature had never been absent from the equation, only hidden in the one term economics could not explain. Explaining a thing is not the same as recording it. That conversation produced my earlier book, *A Good Disruption: Redefining Growth in the Twenty-First Century* and set me on the road to this one.

I was neither the first to see it nor the only one looking. An entire field of economists and scientists had been building the case for half a century, and I read and discussed my way through its who's who – Herman Daly and Robert Costanza, alongside many others[1] – and, latterly, Partha Dasgupta, whose review for the British Treasury gave the whole subject standing. From economics to earth science, each had reached the same verdict: that nature is capital, not a free gift. I read them as a geologist reads a core sample – confirmation, layer by layer, that the omission was real and the correction overdue.

I co-founded SYSTEMIQ to act on it. My time at McKinsey had been about making systems better; SYSTEMIQ was about making better systems. With a team that grew to more than 400 dedicated and talented people, we set out to describe the energy, resource and land-use systems fit for the twenty-first century and, sector by sector, to help build them. Yet every transition stalled at the same point. Energy had, by now, acquired an economic driver: a carbon price, scarcity, the falling cost of clean technology, all of which gave the energy transition a reason to move. And resource efficiency moved up the agenda as geopolitical tensions started to jeopardise global supply. Nature had no such driver. Without a value on it, there was no economic rationale to act. What was missing was never knowledge. It was the financial architecture – instruments that surface nature dependency as the liability it is and recognise how thriving ecosystems drive asset value.

That is why I decided to venture beyond "better systems" to co-found The Landbanking Group with Sonja Stuchtey – to redefine what "better" even means: a broader conception of wealth in which thriving nature counts as capital, and the capability to make that capital visible to finance. The work is to build the trust technology that renders thriving nature collateral – recognising it by making it measurable, priceable, contractible and pledgeable; letting that recognition change the value of everything built on top of it, since a farm, a factory, a whole economy is only worth as much as the nature

1 E.g., David Pearce, Edward Barbier, Gretchen Daily, Mary Ruckelshaus, David Obura, Nicholas Stern, Nicola Ranger, Michael Obersteiner, Jane Lubchenco, Eli Fenichel, Pavan Sukhdev, Alexandre Antonelli, Johan Rockström, Enric Sala, Simon Zadek, Ralph Chami and others.

it quietly runs on; and creating a new legal title – a registrable right to nature's verified condition, separate from owning the land beneath it – that can be held, can back credit, and can back money and the balance sheets of nations. It is the last station of a long journey, and the most consequential: the only way I can see to secure wealth that is, every dollar of it, underwritten by nature. It is also a business I part-own, and the reader should weigh what follows knowing that. What this book argues for is larger than any one company can build alone, and if others build it better, the argument stands and I will have got what I came for.

The road turned practical, and then it turned surprising. Building the trust infrastructure – "the Stack" – for nature finance over the past five years, I found the existing attempts stalled – disclosure that never became a price, markets too thin to matter, good intentions without a mechanism. But I also found something that had not existed a decade earlier: a toolkit, scattered across domains and waiting to be assembled. For years I had been writing my way through this nature-finance riddle a piece at a time, in essays scattered across the places such arguments appear. This book is their synthesis, and the moment when the pieces can be put together.

Much of the logic was informed by a week in February 2025 at the Rockefeller Foundation's Bellagio Center, where a group of global experts argued it out move by move. I owe that week a great deal. What that week gave me was one insight, and it reorders everything that follows. Nature's recognition will not arrive in a queue. It asks for two movements at once. One climbs from the bottom: you cannot price what you cannot see, nor book what you cannot price, so the measurement must come first. The other descends from the top: the appetite to hold nature as collateral is what makes it worth pricing, and the price is what makes it worth measuring at all. Looking out across the lake to the Grigna Settentrionale, we found the picture for it – two climbers on one mountain, one walking up and one walking down, who do not wait for each other but meet in the middle, each making the other's way shorter. That mutual reinforcement sits behind every systemic shift we have ever seen, and it is the dynamic this book describes, and – hopefully – accelerates. The argument

runs in 12 moves and four movements. The map at the end of this Prologue holds the whole of it.

THE GRAMMAR. The main argument of this book runs through an unfashionable object: the balance sheet. Nature must move from description to entry – accountants call it recognition – and entries live on balance sheets. That machinery is simpler than its vocabulary, and more people should be invited to the conversation. Let us choose an exemplary asset that we all know and love: a vineyard. It helps to establish the toolkit needed to read this book: three statements, each answering one question – can I pay, did the year create value, what am I worth – and three concepts that connect those answers to markets: *collateral*, *beta*, *alpha*. So here it is: once run into the ground, once run well. Everything this book does afterwards is the second vineyard, applied to every hectare on Earth.

The vineyard, run badly. The owner keeps one ledger: the bank account. Each autumn the vintage is sold, and whatever lands in the account he treats as his to spend. Money in, money out – that is the whole accounting. He overspends, because after harvest the account is always full. He underinvests, because replanting and terrace work would empty it, and no line anywhere shows what the postponement costs: the account has no page for substance, so consuming the vineyard is free. His risks are invisible for the same reason – the bank still lends against vines and land at the old valuation, and nobody measures the substance the valuation stands on. His investors, shown only the good harvests, have been promised those yields as if they were a floor. For years everything holds. Yields drift lower. Then a dry summer scratches the soil, a heavy rain causes the terraces to collapse, and the vintage fails. The failure looks like weather. It was bookkeeping: he was not living on income, he was living on the capital, the vineyard – nature merely delivered the statement.

The vineyard, run well. The neighbour sells the same wine into the same market and keeps three ledgers instead of one. She has costs – labour, bottles, energy, consumed during the year – and revenues, the vintage sold. She invests: a parcel replanted that will bear nothing for five years, irrigation extended, terraces rebuilt, life

returned to the soil – and her share of the pipe that brings the water and of the road that carries every barrel out, for no estate ends at its fence. Money spent but not consumed, because it builds capacity that outlasts the year. She finances the investment with a loan, and the loan is cheap, because the bank holds collateral: vines, land, cellar, machines. Watch where the value sits. Everything the estate owns stands on the left of her balance sheet – the use of funds. The right side holds no value of its own; it records who has a claim on the left – the source of funds: the bank first, her last. Her equity is her own stake: what would be left if the estate were sold and the bank repaid. Now let the estate improve. The bank sees a safer loan and charges less. She sees a more valuable estate, and since the bank's claim is fixed, the gain is hers: lower interest in the profit and loss, higher equity on the balance sheet. The same improvement pays her twice. Risks remain that no one escapes: customers' taste, erosion and the valley's weather – drought, hail – strike every grower at once. Against that she can only stand buffered, and her buffer is physical: irrigation, living soil that stores water, the forest on the ridge. Finance has names for the pair: the shared risk you can only stand buffered in is *beta*; the value you build and own is *alpha*. In a good year she earns from both. In a bad year the buffer earns for her.

Three ledgers, three questions. What do they answer? The cash flow: can I pay? The account, survival, the only ledger the first owner ever kept. The profit and loss: did the year create value or consume it? Revenues minus every cost, including the quiet one, depreciation: the ageing of barrels, of vines and, prudently kept, of soil. This is where a bad year shows as a dent, and where her buffer makes the dent shallower than his. The balance sheet: what is the estate worth? Assets on one side; debt and her own equity on the other. This is where investment lands, where collateral is pledged, where reserves stand ready. Profit is a year's verdict. Worth is the estate's. And the neighbouring estate's: let the hectare beyond her fence thrive – the right to use a functioning road, pipe or cooling forest – and all three answers improve. Safer cash, a shallower dent, an estate worth more and her stake with it. An improvement she never made still pays her: the return is real, and it lands on her ledgers – not on the keeper's.

The first owner failed in all three ledgers at once – he only ever read the first.

Every hectare is a vineyard. The Earth is an estate of about 51 billion hectares – 36 billion of ocean, 15 billion of land, 13 billion of it free of ice. The ocean obeys the same grammar and carries much of the load; this book stays ashore, where the hectare has an owner and the ledger has a page. That is a working estate of about 1.6 hectares for each person alive. Those hectares carry everything. The world's output – roughly $110 trillion a year, some $8,000 per hectare – rests on what they render: food, fresh water, fibre, pollination, cooling, flood control, recreation, worth in the most cited syntheses around $125 trillion a year across land and sea, delivered almost wholly without an invoice. Now read the estate's management the way we read the first vineyard's. One ledger: every harvest booked as income, and no page for substance – no depreciation ever charged against a thinning soil or a falling water table. Overspending: roughly $7 trillion a year, public and private, flows into uses that degrade the estate. Underinvestment: about $200 billion a year on upkeep – some $15 per hectare, well under 1 per cent of what a hectare renders – and whoever does invest finds it booked as cost, or as charity. And the yields are drifting lower: the natural wealth behind each person has fallen by 40 per cent within a generation. Line for line, the Earth is the first vineyard – run on one ledger, spending the estate as income.

What the hectare could be. The world expects to roughly double its output by 2050 – to something like $200 trillion a year – and every dollar of it will rest, as every dollar today rests, on the same 13 billion hectares and the ocean beside them. Run down, they cannot carry that load: thinning soil, emptying seas and falling water tables do not double anything. Recapitalised, they can – and nothing in the finance of this is new. Capital is the asset side that carries future income; strengthen it and the income it can carry rises: that is why the neighbour replants parcels that pay nothing for five years. A right on working nature is of course worth holding – rights on working assets always are; every share, bond and lease is one. What the estate lacks is not logic but ledgers: entries in which such capital can be held – on her balance sheet, her neighbours', everyone's – as collateral to

borrow against, as equity to grow. Good capital, well kept, carrying the century's income. That is the estate this book is about.

THE JOURNEY. Now scale the vineyard's balance sheet up, from one estate to everything the economy owns, and you have the map of this book. Figure 1 shows it twice: the sheet as it is kept today, with nature absent, and the sheet this book proposes, with nature recognised on both sides.

The Old Regime comes first: the four provocations of the diagnosis – what the whole argument rests on, and why it is giving way. Trace any claim to the bottom and it ends in nature: the collateral beneath every balance sheet, recorded on none. Unpriced collateral – as we can conclude from Hyman Minsky[2] – does not stay unpriced; it reprices all at once. Long after nature's abundance ended, we kept booking the principal as income. And the apparatus we built to fix it learned only to disclose the loss, never to record the asset – recognition forever one step behind.

The Stack comes next: four provocations that qualify nature for economic recognition. One sets the frontier, and three cross it – SIGNAL, VALUE, BOOK – each tested against a standard someone will sign. Every leap in wealth in history was a leap in what counts as collateral, and nature is the next. The first is SIGNAL: we can now observe almost everything and need only agree what is trusted and what is material. Then VALUE: the price it yields is not a verdict on what nature is worth to the soul, but a permission to act – one mandated yardstick, like the metre. Then BOOK: you cannot own a watershed, only the enforceable claim to keeping it whole, and that claim is what the books can carry.

The New Regime follows, and the order of its two moves is the hinge of the book. Figure 1 shows why: the two act on different parts of the same balance sheet. PLEDGE works on what is already there. Every loan, building and portfolio rests on nature that has never

2 Hyman Minsky (1919–1996) was an American economist best known for the financial instability hypothesis, which argues that long periods of economic stability encourage increasingly risky borrowing and lending, making the system progressively more fragile from within. When confidence eventually turns, the correction can be sudden and severe - a dynamic now commonly referred to as a "Minsky moment."

been valued, a risk no one can hedge and everyone can heal – nature as *beta*, the exposure that moves with the whole system and which Provocation 9 takes up properly. Price it and nothing new appears on the sheet. The entries already on it are simply worth something different, and usually less. INVEST adds what was never there: a right to the verified condition of a place, which can be held, improved and sold without owning a hectare of land – nature as *alpha*, a new asset with a reserve standing against it. The first reprices what you already own. The second gives you something you did not own before. And the first is what creates demand for the second. Neither move needs a new institution, only a mandate, and for PLEDGE that mandate is prudential regulation, which forces the repricing before the shock instead of after it.

The Horizon is what the machinery finally produces. Central banks MINT: nature is accepted as collateral, and money itself comes to rest on the living world. States STEER: they govern by balance sheet rather than budget, and the nature that strengthens the books rebuilds the societies that tend it. Each step opens the next. The pull runs the other way too: someone will pay to measure a forest once someone else will hold it as security. The two climbers again – one working up from the measurement, one down from the appetite – meeting in the middle, which is why the pieces arrive together rather than in a queue. One line carries the whole of it: recognise, reprice, capitalise, compound. The old regime made its fortunes going short on the collateral beneath everything. This book is the case for going long.

Something has come loose. The institutions that anchored our confidence no longer quite carry it. The explanations that used to settle arguments now start them. People feel it before they can name it, and markets feel it first – wealth running for shelters its owners no longer quite believe in. I read this as a gift. A society that has stopped trusting its premises has permission to question them: we may shake our heads at how long we accepted them. In such a moment a first-principles answer does not have to beat a proven convention – only a failing one.

That is the licence Burry took in 2005, when the premise nobody questioned was that American house prices could not all fall at once.

He asked the evident question and expected the future not to behave like the past. Our premise is larger: what feeds everything is the only variable without a value. It is the boy's question again, asked of the whole balance sheet. I have spent my life reading it and would bet on it. Putting it back on the books is the work that begins here.

A word on how to travel through this book. It was written for three readers, and it is built so that all three leave feeling that they have been paid. Give it an hour and read the summary page that opens each chapter: 12 summary pages, the whole argument, nothing withheld. Give it an evening and read the Prologue, the four provocations of the old regime, and the Epilogue – a complete story on its own: what the collateral is, why it must reprice, and who moves first, the diagnosis and the catalyst without the machinery. Read that far and you will know what I believe and why. Give it a season and the eight provocations in between are the workshop, and the workshop is where the conviction was earned. An hour, an evening, or a season. The map is the same.

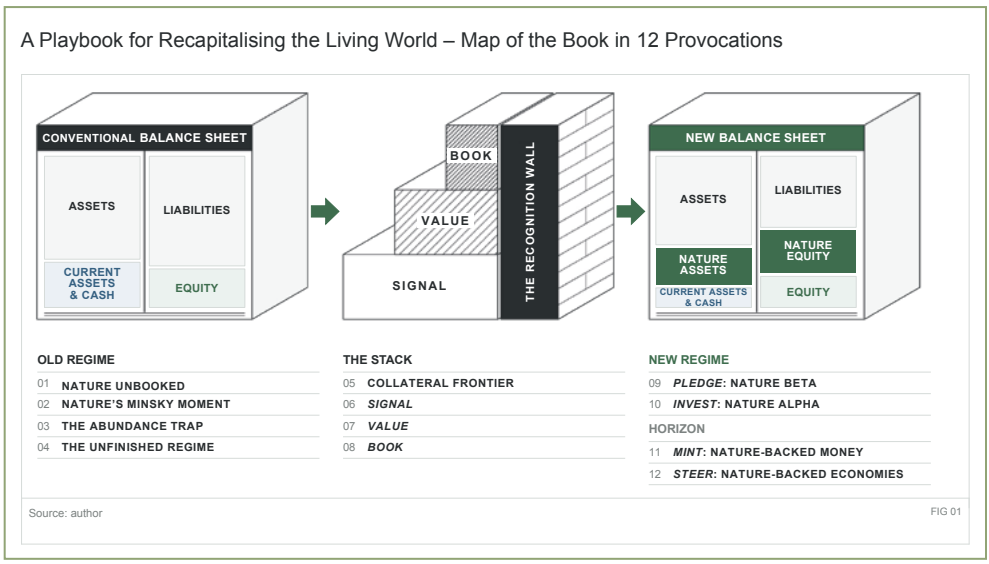


Figure 1 · *Twelve provocations carry nature towards economic recognition. One balance sheet, shown twice: the old sheet with nature absent, and the new sheet with nature recognised on both sides, separated by the recognition wall. Each provocation sits beneath the sheet it belongs to.*

Where will the next financial crisis come from? From the loss of nature. Because every investment and every loan is backed by collateral that isn't recorded anywhere: forests, soil, water – and the biodiversity that holds them together. Martin R. Stuchtey shows how these assets can be recognised on balance sheets – as the foundation for a new kind of prosperity.



PRAISE FOR *TOO BIG TO BAIL*

"Martin Stuchtey shows what it means for a nation to know what it owns, in what condition, and what it can bear as collateral for its own future. The strongest wake-up call yet, and a riveting read."

Trevor Manuel
Member of Nelson Mandela's first cabinet; Minister of Finance of South Africa 1996–2009

"Nature remains absent from the frameworks that guide investment. Stuchtey pushes the debate past disclosure to recognition, stewardship and capital allocation. Ambitious, sometimes contentious, impossible to ignore."

Dr Rhian-Mari Thomas OBE
CEO Green Finance Institute; launch Co-Chair Taskforce on Nature-related Financial Disclosures

"When Deutsche Post left the state, one of the hardest tasks was giving it a balance sheet. Martin Stuchtey shows that nature is still run without one, and that financial stability cannot survive the degradation of its own collateral. A book decision-makers can act on."

Dr Klaus Zumwinkel
former CEO of Deutsche Post (today DHL Group); President of the Foundation for Global Sustainability

"At Patagonia we put nature ahead of every other shareholder; in Chile and Argentina, Doug and I put it ahead of every other use of the land. Martin Stuchtey makes nature's value visible to the economy itself and lays out how to reward it for what it delivers. That is how what we did stops being the exception."

Kris Tompkins
Co-Founder of Tompkins Conservation; Former CEO of Patagonia

"Stuchtey offers a GPS for an economy that builds prosperity by restoring life. By putting nature's value at its heart, Latin America can become the world's factory of life."

Rodrigo Rodríguez Tornquist
Director, Asociación Sustentar; former Secretary of Climate Change, Argentina

"Our natural capital is the world's most precious asset. This crucial book shows how to protect it, invest in it and build the institutions to finance it. A book of real insight and imagination. Its time is now."

Nicholas Stern
Lord Stern of Brentford, Professor of Economics and Government, London School of Economics; former Chief Economist of the World Bank

"Martin Stuchtey does not only provoke. He explains how biased our economies are, ignoring what nature provides to companies and households. He makes tangible proposals to better price ecosystem services. Solutions exist. Let's implement them."

Sylvie Goulard
Co-Chair of the International Advisory Panel on Biodiversity Credits; former Deputy Governor of the Banque de France

"Nature is not only the foundation for everything we call wealth. Nature determines the stability, resilience and life-support of the entire planet. It is what the economy is based on, making nature not only too important to fail, but also too big to bail. Even a fossil-free world will fail if ecosystems continue to weaken. Once understood, this provides the cure: make all living systems count, so that safeguarding them becomes the economically rational choice."

Professor Johan Rockström
Director, Potsdam Institute for Climate Impact Research

"This book gives land stewards and their communities what fifty years of nature finance never did: agency. Not as recipients of aid, but as providers of the infrastructure services every economy runs on – paid because they keep the land whole. The people beneath our prosperity move from its margins to its centre."

José María Figueres
42nd President of Costa Rica

"For every dollar the world spends protecting nature it spends thirty degrading it, and our national accounts cannot tell the difference. Too Big to Bail shows why: the foundation of every economy is nature, and we have never put it on the books. Martin Stuchtey turns that diagnosis into a programme – measure, price, record – that finance ministries, banks and insurers can act on now. This is how we move from using up nature to working with it."

Inger Andersen
UN Under-Secretary-General and Executive Director, United Nations Environment Programme (UNEP)