

Global warming, overpopulation, the biodiversity crisis... the world we live in is in a state of emergency.

This is not just an ecological problem; it is an economic problem as well, for the state of the natural world impacts – and is impacted by – human society. Our actions have long-term consequences, so we must be wise in the choices we make, not least in the companies/practices we support through our investment decisions.

In *The Ethical Investor's Handbook*, author Morten Strange connects the dots, to show how economics and finance play a direct role in perpetuating this crisis. What can we as individual investors do to avoid wrecking the Earth while growing our wealth? How can we navigate the capital allocation space without compromising our ethical values? It can be done – some of the Big Boys have done it – and this invaluable new book shows us how.

Delving into topics such as alternative energy sources, conservation and natural capital, *The Ethical Investor's Handbook* offers practical advice on how to build a sustainable green portfolio that reaps handsome returns. There are pitfalls and stranded assets to avoid, but also new opportunities if you know where to find them. Do-gooders, with the right understanding of all the issues at hand, *can* make a good buck!

MORTEN STRANGE
THE ETHICAL INVESTOR'S HANDBOOK

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HOW TO GROW
YOUR MONEY
WITHOUT WRECKING
THE EARTH



*“a thought-provoking guide...
with much to be learned from”*

DR MARCO LAMBERTINI
Director General
WWF International

THE ETHICAL INVESTOR'S HANDBOOK

MORTEN STRANGE

Author of Be Financially Free

For Review Only

HOW TO GROW
YOUR MONEY
WITHOUT WRECKING
THE EARTH

THE **ETHICAL**
INVESTOR'S
HANDBOOK

MORTEN STRANGE

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Foreword

I was born with a deep fascination and love for nature and wildlife, and have been involved in nature conservation all my life. During my life, I have seen the conservation movement grow tremendously in size and scope and influence; awareness amongst the public and increasingly decision makers in governments and the private sector is greater than ever; the science about the problems, the consequences and the solution is also clearer than ever.

And yet, in spite of our many new initiatives and achievements, we are in the midst of a shocking decline in biodiversity. Loss of tropical rainforest is accelerating, not slowing down. The climate is destabilising. In fact, degradation of our natural world has begun to affect the very global ecological balance that we all depend on, with dangerous consequences for all life on Earth, including our own. It is time that we step back and consider why this is so. It is necessary that we think outside of the box and consider what is driving this deterioration.

At the 2018 WWF Global Conference in Colombia we focused on how we galvanise the world to commit to a new ambitious “Global Deal for Nature”, the way it was committed to in Paris for climate. For this to happen we discussed the need to develop a new compelling narrative about the value of nature to us, our well-being, health, happiness and prosperity. A narrative that, alongside the crucially important ethical argument of respect and coexistence with nature, also highlights the benefits that nature provides to us, and the dangerous consequences if natural systems collapse. We need to advocate for more ambitious targets, more serious commitment to implementation and greater integration between nature, climate and sustainable development. We left

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that Conference inspired and energised but also still deeply concerned about the crisis the planet and our society face.

I know that Morten Strange shares this sense of concern and urgency. We stamped into each other a long time ago when we both attended the 1994 inaugural BirdLife International conference in Rosenheim, Germany. I worked at the time in a national organisation in Italy, LIPU, and Morten represented the counterpart in Denmark, DOF. We undoubtedly share the same genuine passion for our amazing, magnificent, inspiring natural world.

Morten left the NGO world a couple of years later in order to try to make an impact in the private sector, working on nature awareness-building, most recently as a financial analyst with a keen interest in economics, personal finance and ethical capital allocation. And I ended up leading WWF International, a globally distributed organisation with an holistic approach to solving today's ecological crisis and building a "future where people and nature live in harmony". WWF believes in an approach based on both delivering concrete conservation results on the field through protecting species and natural places, but also influencing the key drivers of nature loss from food production to financial flows, markets and governance.

To find solutions to our broken relationship with the natural world, we need everyone involved; in this book Morten has taken it upon himself to scrutinise these issues mainly from a financial and monetary point of view. While I might not agree with every statement Morten makes in this book, his work is a thought-provoking guide to being an ethical investor with much to be learned from in order to achieve the much-needed shift to ensure a future for our natural world and our own civilisation.

Dr Marco Lambertini
Director General
WWF International

Preface

*“I cannot invest the way I want the world to be.
I have to invest the way the world is.”*

— JIM ROGERS

The famous Singapore-based American businessman wrote this in an invitation to the World Wealth Creation Conference in Singapore in November 2017. For what it is worth, I concur. All investors involved with the allocation of capital grapple with these issues – both institutional professionals as well as small retail investors trying to get a return on their modest savings. We want the world to be a certain way, to be nice; but we also want the best possible return on our investments. On one hand we want to be well-off; but on the other we don’t want to do harm to others or to nature; we don’t really want to wreck the earth.

Is it possible to invest in an ethical manner and still generate a good return on your capital? Yes, I think it is. In fact I have proven it myself. As I will explain later, in ethics there is no one-size-fits-all. We each have slightly different standards and priorities. But having said that, I also believe that there are some universal values that bind us together; at the bottom of our hearts most people know what it means to be a decent human being.

Not only is it possible to invest ethically and still come out ahead, there are many indications that investing with a conscience will in fact give you a leg up in the battle for yield. Like Jim Rogers, we should face reality for what it is. I don’t recommend that you put on rose-tinted glasses and throw your hard-earned cash at some do-gooder start-up that promises to save the earth but is

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unlikely to ever get off the ground. When you are rich enough to go into social impact investing, by all means do so. In the meantime, consider carefully how you put your money to work. There are many moving parts to watch and many criteria and financial concepts and instruments that you need to be familiar with.

In this book I will cover what you need to know to invest ethically and still do well. “Ethics” is many things, but I think that we can all agree that we need to take care of the earth we live on, so that will be my main concern. I will explain why it is imperative that we start to think seriously about our environment and what is happening to it. And then I will show you how you can position yourself, learn from the best and structure your asset allocation across the sectors that are likely to benefit from the economic disruptions ahead.

The monetary references here are mainly in \$, meaning US\$. Where I refer to Singapore dollars I will make that clear with S\$. One US\$ is currently about S\$1.35. In this day and age, most of my statements are easily checked online, so I don't cite every single piece of information I provide; this is not a scholarly work anyway. But where my assertions might be controversial and contested, or where I quote directly from others, I have included the source.

In December 2015 I met with two executives at the Marshall Cavendish offices in Singapore. I was pitching my book, *Be Financially Free*, and in general they liked the manuscript, but one of them said: “Most of the content is good, but I find the section about the environment and ethical investing a bit ‘preachy’. I think that in general readers don't care so much for this; most people just want to get rich quick.” Well, as it turned out, the editor put in charge of making a book out of my files was Justin Lau, and Justin happened to like the “preachy” parts! When the book appeared in June 2016, all the environmental stuff was there; in fact Justin helped rewrite some of it, so that it came out even clearer and stronger.

Be Financially Free didn't quite make it to the New York Times bestseller list, but it did fairly well and was reprinted in 2017; Domain Publishing Company in Taiwan issued a Chinese edition. In 2018, the English edition was reprinted again, and that year, in March, managing editor Melvin Neo of Marshall Cavendish wrote me an email and suggested that we did a follow-up to *Be Financially Free* together, this time focusing mainly on ethical investing issues! Sometimes life is funny that way, isn't it? I agreed, and the result is the book you are holding now. I want to thank Marshall Cavendish and all their staff for the trust and support they have shown me throughout these last few years.

At first I was a bit apprehensive about the new project. Like Jim Rogers and many others, I have the general impression that most investors are mainly concerned about ROI (return on investment) and yield; other priorities take a back seat. That is my notion from the financial media, from investors I meet and from financial events I attend. So would anyone care, would anyone actually buy this book? There are already several books out there on these matters; most are called something with SRI (Socially Responsible Investing) – I will go into that in more detail later. But then I thought some more about it. And three factors made me write this book:

1. Sometimes public sentiment changes fast; and sentiment is changing very fast right now. In 2015, ethical considerations were at the fringes of the investment community; today they are almost mainstream, and soon I predict they will be a major factor for both institutional and retail investors. Virtually every major company has an ESG (Environmental, Social and Governance) policy and/or an environmental department. How much of that is just “green-washing” we will look at later, but environmental and ethical issues are here to stay. And investors had better pay attention to them.

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2. Most people don't want to be unethical; most people feel better when they do the right thing. And you *can* make money without wrecking the earth and without compromising your other values of decency and civility. But it helps to study how. There are concepts and tools and methods that you need to learn and to apply. I love to deal with those and to share my insights with others; that is my main interest and passion. So this book is a hands-on manual that you can use in your training.
3. And finally, this is *my* version of events. Although I draw heavily on financial experts and other authoritative sources, I want to show – using my own experiences – that ethical investing is not only important, but also lucrative. I am not an academic or a theorist; I have actually been there and done that. I have toiled out in the freezing cold and the scorching heat on oil rigs, I have worked for a bird conservation society, I have run my own company. I bought my first financial securities when I was 18 years old and crude oil was \$3 a barrel (not \$75); gold was \$38 per ounce (not \$1,200). Besides, although much of the material in this book is universal in nature and can apply to all jurisdictions globally, this is also the first book on the subject with a Singaporean/Asian bias; after all, some three billion people live in this region and we must find our own way.

Together with *Be Financially Free*, this book will enable you to get the most out of your money, and to live in freedom and in harmony with your surroundings.

Morten Strange
Singapore
July 2018

What in the World Is Wrong?

“Ultimately, we are the endangered species.”

— PATRICK LEAHY

Where did all the animals go?

Why do we have to be concerned for the world? There are lots of reasons, but let me just provide you with a few examples to give you an idea of the scope of the problem.

In June 1971 I visited the Norwegian island of Runde, off the west coast, just south of Ålesund. It is the southern-most location for breeding seabirds in Norway. There were hundreds of thousands of them at the time; I have the photographs I took that year to prove it. They landed on the steep cliffs dropping into the Atlantic Ocean and nested on the narrow ledges in dense colonies.

My naturalist Singaporean wife has never experienced this spectacle – the Atlantic bird cliffs – so this year, 2018, some 47 years later, I did some research for a possible trip out there. The island of Runde is still there – in fact there is a bridge connecting it to the mainland now, so you can drive all the way. Very convenient. But the birds are gone. I checked out one of the local websites and found that compared to the 1970s Runde now has just a few birds, mainly one species, the Atlantic Puffin. Most of the others have been decimated. The Kittiwake, a small gull, used to appear here,

with 100,000–200,000 breeding pairs; today there are just a few, and some years none breed successfully. The Guillemot: 10,000 pairs before, today around 20. The Razorbill, Black Guillemot, Fulmar, Shag, Arctic Tern? Just “a few” left.

What happened? According to the report “Silent Spring in the Bird Mountains” (in reference to Rachel Carson’s famous 1962 book *Silent Spring* about the pesticide crisis), sea temperatures in the area have gone up by 1.5°C, causing oceanic plankton to move north to colder waters. Over-fishing of herring and other commercial species has emptied out most of the rest of the fish. The seabirds on Runde cannot find food for their young and are gradually dying out. The reporter couldn’t help including a dig at the Norwegian oil industry: “The oil, Norway’s national wealth, strikes back. We are about to lose our natural heritage because the oil gets burned and causes global warming.”¹

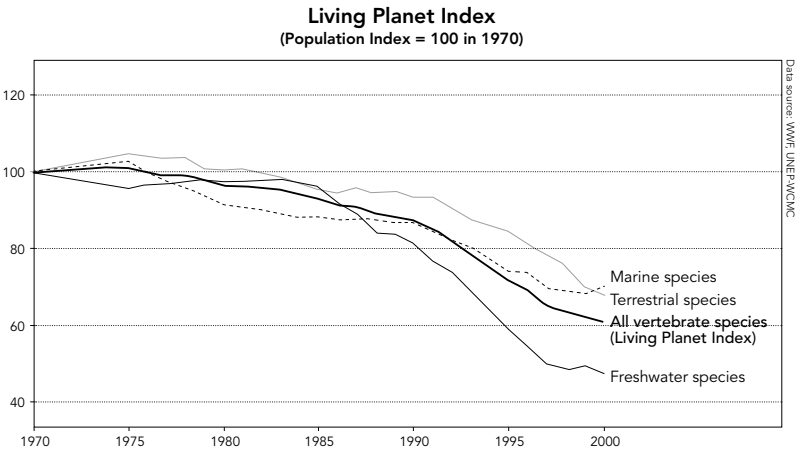
This is what has happened to the natural world in just the last few decades, in my lifetime. In Denmark, where I grew up, a survey in 2018 found that 2.9 million birds have disappeared from the country in the past 40 years, mainly due to the use of more intensive farming methods.² In France, one-third of the bird population died out between 2003 and 2018, according to a survey by the French National Centre for Scientific Research; the authors called the event an “environmental catastrophe”. The birds starved to death, their food sources wiped out by pesticide use.³ For Europe as a whole, some 500 million birds disappeared between 1984 and 2014.⁴ If intensive agriculture and pesticides don’t get the birds, hunting will. Some 25 million birds are killed by illegal hunting in countries around the Mediterranean region each year.⁵ You would think that an organised society like Germany would be able to protect its biodiversity, yet only 4% of land in Germany is conserved as nature reserves; legal as well as illegal hunting of animals is rampant, as is illegal trading in all sorts of exotic animals such as reptiles, birds and even insects.⁶

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I mention these cases to show that the loss of species and sheer animal numbers is not only a Third World problem. Of course, the degradation of habitats and animal life is particularly critical in the tropics; these regions are the lungs of the world and a treasure trove of biodiversity. When I came to Asia in 1980 and started working on the oil rigs in Indonesia, Sumatra and Kalimantan (Indonesia's part of Borneo) were still largely covered in dense virgin rainforest. Today there are just a few protected areas and fragmented forest patches left. Bird numbers have been decimated, and not just by habitat loss; studies by BirdLife International have identified a crisis in Indonesia, where many species are being captured for the unbridled trade in caged songbirds.⁷

In the last 50 years, some 90% of the large fish stocks have been taken out of the oceans. We simply gobbled up the sea; the fish have been replaced with an infestation of jellyfish or just emptiness.



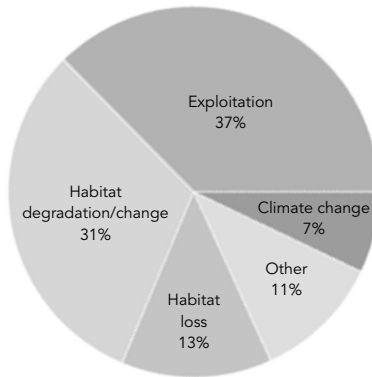
Since I got my driver's licence in 1970 we have lost some 40% of our animals (not species, individuals) according to the Living Planet Index compiled by the WWF and others.

In terms of species richness, the IUCN (International Union for Conservation of Nature) calculates the status of our flora and fauna regularly. The last time I checked, there were 41,415 species that the organisation evaluates; out of those, 16,306 are facing global extinction; 25% of mammals, 13% of birds, 33% of amphibians and 70% of plants are endangered; 785 species are recorded as already extinct; another 65 survive only in captivity or in cultivation.⁸

The reasons for all this vary greatly from region to region and country to country, but to quote the Living Planet survey again, these are the reasons why we are seeing such a dramatic decline in wildlife globally:

Causes of Wildlife Decline

Data source: WWF



This chart shows that the global decline in wildlife is our fault entirely. We deprive the animals of a home, we hunt and capture and/or eat the others. Especially on oceanic islands, introduced species such as rats and cats have caused havoc; climate change adds to the problem.

In the developed world, the situation is bad; but in the Third World, it is catastrophic. A 2016 report published in the journal *Royal Society Open Science* concluded that “hundreds of mammal species – from chimpanzees to hippos to bats – are being eaten

into extinction by people”. The author, Professor David Macdonald at the University of Oxford, said when the report was published: “There are a plenty of bad things affecting wildlife around the world and habitat loss and degradation are clearly at the forefront, but among the other things is the seemingly colossal impact of bushmeat hunting. You might rejoice at having some habitat remaining, say a pristine forest, but if it is hunted out to become an empty larder, it is a pyrrhic victory.” He added: “The number of hunters involved has gone up, and the penetration of road networks into the remotest places is such that there is no refuge left. So it becomes commercially possible to make a trade out of something that was once just a rabbit for the pot. In places like Cameroon, where I have worked, you see flotillas of taxis early in the morning going out to very remote areas and being loaded up with the (bushmeat) catch and taken back to towns.”⁹

In Southeast Asia, a study in 2016 published in *Conservation Biology* found evidence that animal populations have declined sharply at multiple sites across the region since 1980, with many species now completely wiped out in substantial portions of their former ranges. The report concluded: “Tropical Southeast Asia (Northeast India, Indochina, Sundaland, Philippines) is experiencing a wildlife crisis. Large areas of natural forest across the region are nearly devoid of large animals, except for a few hunting-tolerant species. Previous estimates have held that only one percent of the land area in tropical Asia still supports an intact fauna of mammals, but in reality the situation is far worse.” The authors found that while most conservation organisations focus on the international wildlife trade, local hunting is overlooked because most of the animals are consumed and kept as pets locally. With urban affluence stoking demand for wildlife-derived medicinal products, and the advent of modern hunting techniques, “hunting is by far the most severe immediate threat to the survival of Southeast Asia’s endangered vertebrates”.¹⁰

But this is nothing new – or is it?

So we have a natural world in rapid decline. But it has always been this way, hasn't it? And does it even matter? We are all better off and richer than ever, aren't we? What's the big deal?

Correct; since humans first travelled out of Africa and started invading the world some 60,000 years ago, we have altered the world and shaped it into something that fits us better. When I went to school, we were taught that at first humans were primitive and lived in caves or travelled around like nomads, living off the land. But then they invented agriculture and things got much better. In more recent years I have seen this version of events challenged.

Clive Ponting (2007), for instance, makes the case that the early Stone Age hunter-and-gatherers were actually not too badly off. There was plenty of prey to hunt and nutritious food plants to pick, and in general they probably didn't work very hard to survive. When people started cultivating the land, which happened in several places simultaneously around 12,000 BC, they gradually got worse off, not better! Yes, the communities could get larger, but people had to work much harder growing crops. Harvests were uncertain; storage of food over the seasons was difficult; living in close proximity to domesticated animals brought with it many new diseases. However, it was too late to go back to the old way of life; the land could no longer support the growing human population in a natural way. A long epoch of perpetual poverty and general misery followed; ironically the Black Death in Europe in the mid-1300s eased the population pressure on the land and made life a bit more tolerable for the survivors. Otherwise, it wasn't until the early modern period (starting during the 1600s) and then the Industrial Revolution (starting around 1760) that conditions started to improve. Even then, Ponting writes, "there is no evidence of any improvement in the living standards of the bulk of the population until the late 1840s at the earliest".

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WHAT IN THE WORLD IS WRONG?

Sure, people have always been exterminating animals. When Asians first crossed the Bering land bridge into North America some 20,000 years ago and started colonising that empty continent (empty of people, but full of animals), the first thing they did was take out all the Pleistocene megafauna such as the Woolly Mammoth and other mastodons, the Sabre-toothed Tiger, a giant armadillo species, the Short-faced Bear, American Cheetah, Ground Sloth, camels, horses, etc. Later, when the European settlers arrived, they hunted down the rest, virtually emptying out the American West of fur-bearing animals. The tale of the Passenger Pigeon (*Ectopistes migratorius*) is well known: up until the 19th century it was the most numerous bird in North America, numbering between 3 and 5 billion (not million, *billion*) individuals. Flocks darkened the sky for days when they flew over. And yet, the last Passenger Pigeon died in captivity in 1914. If people can bring a bird that numerous to extinction, they can exterminate anything.

Everywhere people went, they first took out most of the megafauna and then the rest of the little stuff. New Zealand was one of the last major places on Earth to be colonised by man; the early Polynesian settlers arrived around 1300 and immediately did away with all the moas (a family of huge flightless birds) and many of the other indigenous animals. Since then, almost half of the original vertebrate species on New Zealand have gone extinct, and many of the rest are barely clinging on. What has replaced these native species? Introduced Blackbirds and Goldfinches that the British settlers released to remind them of home!

So what is different now? The difference with modern man is that we don't just take out the large animals, we remove the whole ecosystem. We cut the rainforest and turn it into barren grasslands; we dynamite the coral reefs; we bulldoze the landscape and build villages and urban sprawl. There is no nature left; everything goes, including insects and fungi and bacteria. Once you remove a tropical rainforest and the rains wash out the sandy soils, it can

never grow back; only grasses, invasive scrubs and heavily fertilised monoculture crops can replace it. Considering all this, the current rate of species extinction in historical terms is thousands of times the natural so-called “background” rate of extinction.

Already in 1979, Norman Myers dealt with this crisis in his book *The Sinking Ark*. Industrial pollution can be cleaned up, according to Myers, but species extinctions are final and constitute an irreversible impoverishment of life on Earth. More recently, in *A New Green History of the World* (2007), Clive Ponting claimed that “half of all the world’s existing species will be extinct by 2100”, adding that “the economic forces promoting habitat destruction and climate change will be the driving force” behind species extinction. In the next chapter we will take a look at some of the economic forces Ponting talks about. I believe that they are important if you want to understand what is going on and position yourself going forward.

A new normal

The loss of biodiversity in the name of development appears to be inevitable and irreversible. And we don’t know yet what the full consequences of this will be. I agree with the experts who claim that all species are important, and that we should preserve and protect each one of them; that we should err on the side of caution and keep our natural world intact at all cost to avoid a collapse of first the environment and ultimately our social cohesion.

But I also understand the argument from many in the Third World, that Europe ruined their own environment (let’s face it, how much authentic, virgin forest and habitat is left there?), they got rich that way, and now they tell others to stay the way they are. I get that. So while we grapple with the outcome of our biodiversity crisis, by all means let us make the best of what we have left.

You can still have some nature after the bulldozers and the builders leave, after the rainforest has been turned into an urban

park. In the case of Denmark, yes, there are fewer birds now than when I was a kid there. But some animals have also moved in. Some adaptable species will do that if you leave them alone. They will re-colonise even an urbanised area if you give them a chance. There are more eagles in Denmark now, and even some megafauna like moose and wolves have started to turn up, after hundreds of years of absence. Some of the other changes in the fauna and flora are less welcome; introduced species like the American Mink (escaped from mink farms), Raccoon Dog, Muntjak Deer and a host of other animals and plants are considered invasive, as they do damage to native species and authentic ecosystems.

In Singapore, we have seen new populations of large animals like the Smooth-coated Otter and Wild Boar turn up recently – to the joy of many, but also to the consternation of a few, who worry about human-animal conflicts. In the same period, meanwhile, our rainforest birds have been decimated in numbers; many are close to local extinction, some are probably gone already. Altogether, Singapore has lost some 70 bird species, mainly rainforest specialists, since records began in the early 19th century.¹¹

But even in view of all this, the question remains: Do we need all these other animals? Does it matter that we lose some biodiversity? I will get back to that a bit later, when we look at the wider financial and economic implications of the biodiversity decline. For now, let us just establish that nature is collapsing around us. There are fewer different species, and the ones remaining – or at least all those that can't adapt to urban life – are crashing in numbers.

But there is one thing we have much more of now, and that is garbage.

Plastic, plastic everywhere

What happened to all the forests we cut, and all the coal and crude oil we sucked out of the ground since the 18th century? Most of it

was burned, filling up the atmosphere with carbon dioxide (CO₂) in the process; and the rest was turned into garbage, especially plastic garbage. The problem is that unlike the old garbage – wood, paper, and even cast iron – plastic does not go away.

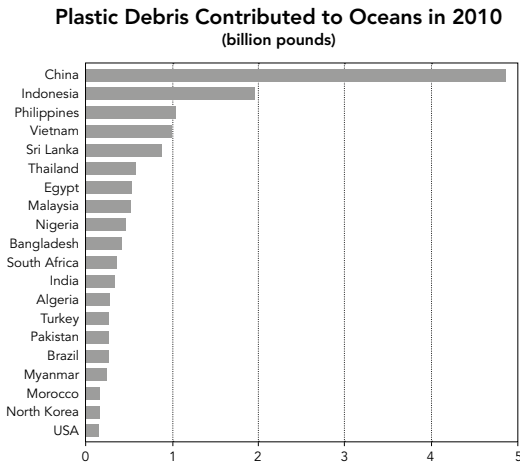
As we will see later, waste management is one of the great growth industries of our time! Do we dump the stuff into landfills? Do we burn it? How much can be recycled? That is the general management part. But in the case of plastic, much of it never even makes it to the dump. Less than 10% of plastic bottles are recycled. Natural degrading takes at least 450 years, under some circumstances twice that or longer.

I used to go to the Indonesian island of Bali regularly during the 1980s and into the 1990s; it was an amazingly beautiful place. I worked on a project to conserve the endemic Bali Starling (*Leucopsar rothschildi*) inside the Bali Barat National Park in the northwest of the island; and I travelled all over the island and nearby Nusa Penida to photograph birds. By the way, that project – protecting the Bali Starling – didn't work out; when I started, there were hundreds of those snow-white starlings, and you could see flocks of them come down from the hills to roosting sites along the coast every night. Today that species is extinct in the wild. The poachers took them all out. Only a handful of captive-bred re-introduced individuals are left in the national park.

I went back to Bali a few years ago and was shocked. The 20-minute drive from the airport to our bungalow took two hours due to gridlock traffic. The stunning Kuta Beach – a former white-sand surfer-dude and bikini-chick haven – was covered in plastic and garbage. North of Sanur Beach, on the east coast of the island, a river was pouring a toxic mixture of thick brown sewage and pollutants from tanneries straight into the ocean; the stench was overwhelming. The picturesque river running through the village of Ubud up in the hills appeared to be two-thirds water and one-third plastic bags. A video of a diver swimming across a coral reef

near Nusa Penida in an ocean of garbage – literally – went viral. See if you can still catch it and you will understand what I am talking about.¹² We are starting to recognise the catastrophic overuse of wrapping material and the reckless discharging of waste for what it is: a crime against the earth.

Lots of solutions have been offered to the plastic menace. We can recycle more; we can substitute it with biodegradable packaging materials; we can scoop the stuff out of the ocean when it gets that far. And yet, nothing really seems to be done. In March 2018, the BBC could report that the famous “Great Pacific Garbage Patch” is not shrinking but growing! It is now twice the size of France and contains some 80,000 tons of mainly plastic waste, but also old fishing nets, nylon ropes and other stuff lethal to marine life. Although most of the garbage originates from the rivers of Asia, this largest patch is located between Hawaii and California. There are several more of these patches in the Atlantic, Indian and Pacific oceans, mainly where the trade winds and associated currents whirl the stuff together. The study reported by BBC found



As this figure show, Asia – especially China, and Indonesia up there as well – is responsible for most of the plastic polluting the oceans.

that based on observations over a three-year period, plastic pollution is increasing exponentially and “is expected to treble between 2015 and 2025”.¹³ Some of the plastic breaks down into so-called microplastics that are very difficult to detect when they enter the oceanic food chain and contaminate plankton, birds, fish – and eventually humans.

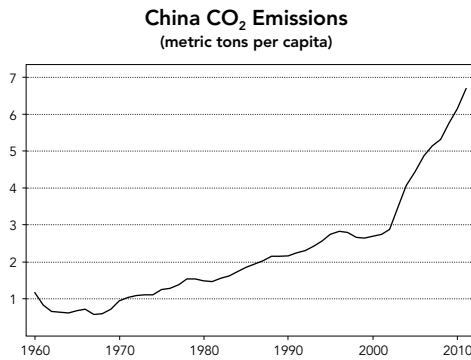
Global warming

Let me add to this cheerful chapter a little bit about global warming – something that has really transformed our attitude to the environment and galvanised the conservation movement. It will take on significant importance later on, when we consider how investors should position themselves in our new economy.

When I went to school in the 1960s, we were taught that it was getting colder, that the earth was about to enter a new ice age. “Climatologists generally accept the fact that the earth’s climate is tending towards an ice age of some sort, and that a new North American ice sheet may be forming” – so it says in a book I still own published by the University of Alaska, quoting from a report in *Nature* in March 1973.¹⁴

I actually visited Alaska the year after that, in 1974. I spent the whole summer there and yes, it was indeed pretty cold. I was at Barrow – at 71° North the most northerly village in the United States – from mid-June to mid-July. That was supposed to be summer, but by the time I left, I still couldn’t see any open water in the Beaufort Sea; the rugged sea ice came all the way up to the shoreline. When I hiked around the tundra fields to photograph birds, the permafrost was so thick that when I wanted to set up camp for the “night” (there was no night, of course – the sun never set!), I never could insert my tent pegs more than a few centimetres into the ground. Today I hear there is open water around Barrow for most of the year, and the permafrost is turning into mush in the summers.

The ice age never came as we were told it would, but global warming sure did. More than any other nature conservation issue, this has helped grab the headlines, finally. Rachel Carson's *Silent Spring* in 1962 came and went; the *Limits to Growth* report in 1972 didn't make us change our ways; nor did the Brundtland Commission report on sustainable development in 1987. The Earth Summit in Rio in 1992 made no difference – actually that was the same period when consumption and associated waste and pollution exploded, in China and other emerging markets.



The Earth Summit took place in Rio de Janeiro in 1992. That was also about the time when pollution and CO₂ release from China started to skyrocket.

In a study reported in *The Conversation* in 2017, Professor Michael Howe with Griffith University set out to investigate what happened after that ground-breaking summit in 1992 when 170 countries agreed to move into sustainable development, protect biodiversity and stop deforestation and global warming. He found that nothing happened. Forest and biodiversity loss, greenhouse gas emissions and general environmental deterioration continued at about the same pace as they had since the 1970s. The study concluded that in spite of “humanity fast approaching several environmental tipping points”, policies hadn't changed, mainly because of

“the basic problem that environmentally damaging activities are financially rewarded”.¹⁵

However, the issue of global warming could change that. This topic has at long last put the state of our environment high on the agenda. When I was a kid, we didn't hear much about the environment; today not a day goes by that pollution and global warming issues are not out there in the debate. Every school kid around the world knows about this now, that the earth is warming and that it is our fault, and that the consequences will be dire for many.

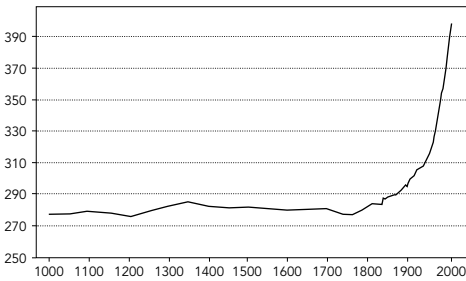
There are contrarian observers who point out that global warming may in fact be good for certain regions. For instance, some agricultural activities can move north. That might be so, but at the moment I just cannot think of areas that would benefit much from higher temperatures. The cold north? You would think that a little warming there would be alright; but I am not so sure. To go back to Alaska, that state has been hit hard; in general, warming in the northern states has been above the global average. When I was last there in 2015, my friend's estate just north of Fairbanks had big sink-holes around the place; his neighbour's house was abandoned and about to collapse. The permafrost was melting and turning into unstable soft matter. Around the west and north coast of the state, melting permafrost and coastal erosion are wreaking havoc on Inupiat and Athabascan villages. “More than 30 Native villages are either in the process of or in need of relocating their entire village” – so writes the American EPA (Environmental Protection Agency); damage to highways and airstrips, forest fires and pest infestations are other challenging consequences of global warming.¹⁶

It is a bit of a paradox that next to Alaska it is the state of Louisiana that has been hardest hit by climate change in America. The two are in opposite corners of the continent and both have benefited from the extraction of coal, oil and minerals; they are also traditionally “red” states where conservative Republican

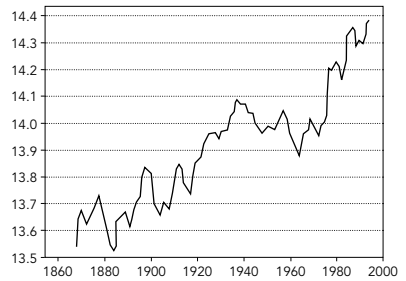
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Atmospheric CO₂ Concentration
(parts per million by volume)

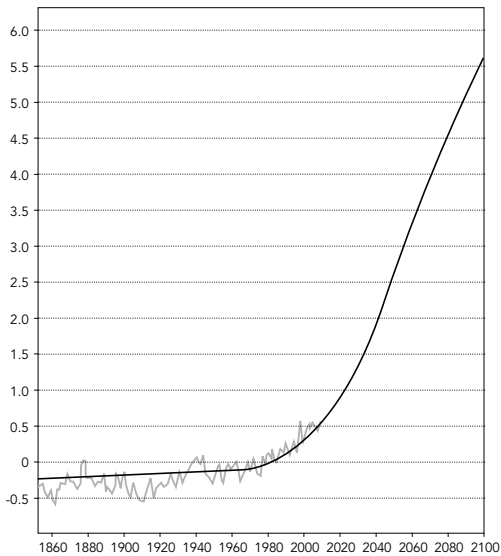


Global Average Temperature
(5-year average, °C)



These charts show how atmospheric CO₂ concentration increased after the Industrial Revolution, correlating positively with rising global temperatures.

Global Average Temperature Change
(°C temperature anomaly relative to 1961–1990)



This is one of the many projections out there of how global air temperatures may rise in the future.

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values rule. Some one-third of the members of the US Congress are climate sceptics. If you talk to the miners and the oil field workers in Alaska, they will acknowledge that the climate is getting warmer. This is hard to deny when your house is falling apart. But they will then tell you right away that this has nothing to do with them; these are natural changes in the weather patterns, most likely caused by regular astronomical cycles and solar activity out of our control.

I respect that view; we don't all have to think alike. What's most important is that we take care of the earth and conserve what is left; our reasoning or motives are less important. The thing about the global warming and climate change debate is that it finally makes nature protection seem urgent. Collectively it is my general observation that we don't really care so much for the little animals; a new smartphone will always be more important to us. But we do care if our house gets flooded or if it burns down. And flooding is happening right now from New York down to Miami in Florida, where people can no longer get flood insurance. In California, houses are burning down by the hundreds every year, and agriculture is ravaged by heat waves and drought. It seems that tragedies like these are needed before we take action.

It is great that the world is finally waking up to see the environmental crisis for what it is: existential. But it is also pretty clear that whatever we do now will help, but it will be too little too late. The Kyoto Protocol in 1997, the Paris climate accord in 2015 – these were wonderful achievements, but we must not kid ourselves that these agreements will fix all our problems. They will not.

Global warming is here to stay – and accelerate – and little will be done to change it. Naomi Klein put out a really powerful book in 2014, *This Changes Everything*, where she takes the climate change deniers to task; it is a great read, and I will be referring to it in more detail later. But in reality nothing has changed; the book was

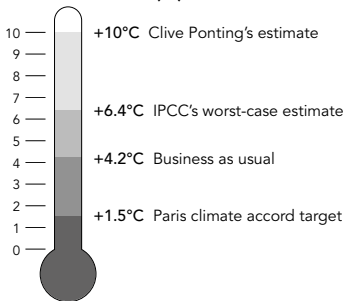
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written before the American public elected the greatest climate denier of all to lead them forward.

Clive Ponting (2007) points out how positive feedback loops from methane – a powerful greenhouse gas (GHG) – released when the vast Arctic tundra melts, and from warming oceans exposed to the sun as the polar ice cap disappears, will accelerate the warming process. As the earth warms, soils will release more GHGs; the warmer oceans will absorb less CO₂. Ponting points to the melting glaciers, especially in Greenland, and writes: “Continued melting on this scale would raise sea levels very rapidly – possibly by five metres in a century.” He thinks we are underestimating the rises in temperatures: “The IPCC’s worst-case estimate in 2007 was a rise of 6.4°C by 2100, which most observers agree would be catastrophic for the world, may also be too low.” Referring to the positive feedback loops, Ponting concludes that at the end of the century, “the best available estimate is that global temperatures would, on average, be about 10°C warmer than they are now”.

Increase in Global Temperature by 2100
(°C)



So far, global temperature increase has been in the order of 0.8°C since industrialisation. What will an increase of 10°C bring, or even 4.2°C?

Overpopulation

And finally there is our biggest existential emergency of all. When ecosystems break down and terrestrial, oceanic and atmospheric pollution is choking us, it really comes down to one factor: There are too many of us; the earth simply cannot cope. In a 2017 survey

of Nobel Prize winners on the gravest threats to humanity, the single most important threat identified, by 34% of the participants, was overpopulation and climate change.¹⁷

The enormous oversupply of people has led to a dramatic drop in the value of each one of us. Professor Kevin Bales with the University of Nottingham has studied the phenomenon of slavery for decades, and he concludes that slavery is alive and well today. He estimates that there are around 35 million slaves currently, including some in Germany, the heart of Europe; some aid organisations estimate that there are around 100 million slaves worldwide. Apart from those, Bales reckons that there are another 600 million people around the world “vulnerable” to becoming slaves. The drivers of slavery are the lack of jobs, drought, climate change and malnutrition.

The main difference between slavery now and in the past is the price. Following an interview with Prof Bales, the German TV station *Deutsche Welle* reported: “Perhaps the only thing entirely *new* about modern slavery is the collapse of the price of slaves. Adjusted for inflation, the average price of a slave through the centuries has been about \$40,000. The average price today: \$100. The highest price for a slave is roughly \$10,000, and in his research Bales encountered an example of debt bondage in India that was as cheap as 62 *cents*. Why the price collapse? It is largely due to the sudden increase of the global population. Since World War II, it has expanded from 2 billion people to over 7 billion today, which is entirely unprecedented. Unlike before, there is an endless supply of labour from large populations of people who are begging for work. The result of this price collapse is the hallmark of modern slavery: disposable people. Rather than purchasing a slave for life, modern slaveholders simply use people as slaves for short periods of time – until they can no longer be exploited – and then they are simply replaced by others.”¹⁸

Yet, for some reason, we are always being told that if we just

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get more people in the world, things will be better. This year, Singapore's *Today Online* wrote: "[China's] shortages of workers, students and babies are set to worsen at an alarming rate."¹⁹ In Singapore, we are often warned about a "demographic time bomb" as the population gradually ages.²⁰ Here, like in most countries, having children is encouraged and financially subsidised. In a "green" country like Denmark, mothers are given DKK18,024 (about \$3,000) each year per baby, dropping to \$1,870 per year when the child turns 7.²¹ Fertility treatment is free.

In reality, population decline is not a time bomb; population growth is the time bomb. In the case of China, there are many indications that their one-child policy – only recently relaxed – could actually have paid off. The extreme poverty rate fell from 88% in 1981 to 12% in 2010. In India, where the population is similar in size but much younger and growing faster, the poverty rate fell much less, from 60% to 33%, over the same period.²²

So China is doing the right thing by controlling its population. At the other extreme, when I was born in 1952 there were some 20 million people in the Philippines, and the country was in pretty good shape. Today there are 106 million, of whom 22 million live below the official poverty line – more than the total population used to be! Another 10 million have been forced to move abroad where they work as cheap labour. According to government statistics, there are some 4 million drug users and criminal suspects, but the prisons are hopelessly overcrowded. So since Rodrigo Duterte became president in 2016, it is alleged that some 12,000 suspects have been killed; there simply isn't room for them anywhere.²³ The state is basically taking superfluous people out of circulation in a systematic manner. If that is not an overpopulation crisis, I don't know what is.

So why are we constantly being encouraged to have more and more babies, when in fact overpopulation is destroying the earth and making us all worse off in the end?

One reason is our obsession with nominal GDP growth. Yes, on the surface of it, more people will produce a higher domestic product; that is obvious. But what is important is not the nominal GDP, but rather the GDP per capita, as well as our general quality of life, which should include a healthy environment and plenty of personal space for everyone. Space is valuable; a big house is more expensive than a smaller one. A business class ticket costs more than flying coach. When the bus is half full, the passengers don't cram next to each other at the back, they spread out on all the seats. Already many years ago, the British zoologist Desmond Morris wrote a brilliant book, *The Human Zoo* (1969), where he showed that people in crammed urban environments show symptoms similar to neurotic animals locked up in cages. So there is a premium to space; we don't know exactly what it is worth, but it has a price – a price that is paid when it disappears.

And then of course there is the old song: We have an ageing population; we need more young kids to take care of all the old people. This is simply not true. Let me take a minute or two to explain why, since this is important.

It is generally accepted in demographic studies that as a society matures and becomes more affluent, the Demographic Transition Model (DTM) kicks in. Briefly, this model states that societies go through five stages as they progress; from an early stage of excessively high birth rates and low life expectancy – such as in most African countries today – to a mature stage (stage three and four) where the fertility rates come down below the 2.1 child-per-woman replacement rate and the population stabilises; gradually the population pyramid will lose its huge base of young people and become more keg-shaped and top-heavy. At stage five of the DTM, the society will progress into an ageing population with smaller families and a gradually declining population.

So the subject of population growth is different in various countries and at various levels of development, but the conclusion

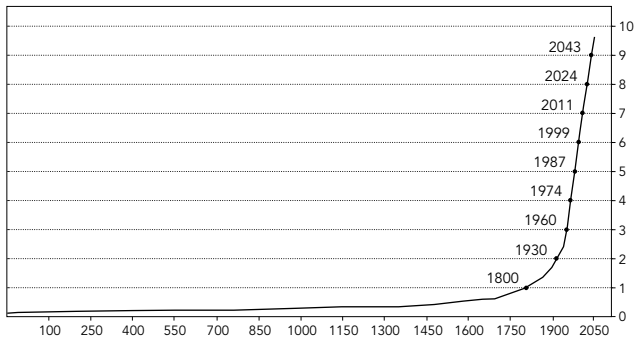
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is always the same: Population growth stifles national development and makes us all poorer. Development economists have shown that population growth is detrimental to economic and social development in developing nations. In agricultural communities, the family farm gets carved into smaller and smaller lots as the family size increases, ultimately causing economic collapse, mass migration and possibly social conflict. In his book *Collapse* (2011), Jared Diamond devotes a whole chapter to describing the 1994 genocide in Rwanda and its many causes; overpopulation was definitely one of them.

In this day and age, mass migration out of Sub-Saharan Africa via a failed state like Libya into Europe has all the hallmarks of people escaping from overpopulation and associated environmental and social degradation. The migrants travel in chaotic fashion into a continent that is already packed full of people, with lots of small children in tow that they cannot afford to bring up. The current conflict in Syria is now widely accepted to have been caused

Human Population 1 AD to 2050 AD (projected)
(billions)



It is obvious that the human population explosion happened after the Industrial Revolution (around 1760), when fossil fuels, engines and mechanised agriculture allowed us to feed a larger number of people. The Demographic Transition Model posits that the population will level off and decrease with advanced development; but we urgently need to speed up that process.

by the population exceeding the carrying capacity of the land in a period of climate change-induced drought. That is how serious the overpopulation disaster can get.

Population control is rarely a popular topic; in fact it is often seen as taboo. How many kids you have is a very personal choice. But we need to recognise that overpopulation is not only an environmental problem, it is existential. And this recognition has to be translated into policy changes here and now; we urgently need to discourage further growth. In developing countries with persistently high birth rates, we need to leapfrog across the DTM stages quickly; we cannot wait for every person on Earth to get rich – we simply don't have the resources for that, so that is not going to happen. But empowering and educating women has been proven to speed up the DTM process.²⁴ Apart from that, a one-child policy is the best way forward for those societies.

Stage five countries include Japan and Russia; many others like Germany and Singapore are at stage five in reality but augment their populations through immigration. In affluent communities like those, we need to stop subsidising babies and fertility treatment, which in effect means taking resources from people who do the right thing and giving them to others. Regarding the elderly in those countries, most of those have plenty of resources to see them through. With better diet, exercise and healthcare they can work longer and have productive and fulfilling lives. The elderly will have savings and houses and stuff that the smaller younger generations can take over. In a way it is really quite logical, isn't it? If you have one child, he/she gets a bigger inheritance than if you have three or four or five, right?

Primatologist and conservationist Jane Goodall is a patron of Population Matters, a UK charity that addresses population size and the environment. She says in an interview: "It's our population growth that underlies just about every single one of the problems that we've inflicted on the planet".²⁵ With the understanding

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of global warming gaining traction, it is interesting to note that a new study published in *Environmental Research Letters* concludes that while living car-free will cut 2.4 tons of CO₂ emissions per year, having one child fewer will save 58.6 tons; it is by far the best decision you can make for the planet!²⁶

Position Yourself

*“Until things are brighter,
I’m the Man In Black.”*

— JOHNNY CASH

Am I too gloomy?

I had a good friend and colleague when I was working in the oil business, an American petroleum engineer from Austin, Texas. Once, we were flying out of Aberdeen, Scotland, for a job off the coast of Cork, Ireland, when the plane started shaking violently. I said in jest: “Richard, we are going to crash!” But Richard didn’t think it was funny. He turned to me and told me sternly that if I ever said something like that again, he would tell Joe (our operations manager) never to send the two of us out together again. My friend believed firmly that by thinking aloud and verbalising problems and disasters, you could make them happen.

I don’t think so, but a lot of people do. I see commentators out there urging the public to think positive thoughts, to look on the bright side, to be optimistic. Is the glass half-full or is it half-empty? Those in the half-full camp cherry-pick data to show that things are not so bad. I cherry-pick information too, i.e. I select data points to make my narrative more vivid. But just the fact that there are so many bad studies to pick from is in itself alarming to me. I don’t think the glass is half-empty; I think we are running on the fumes. We cannot avoid the troubles ahead by collectively

ignoring them and thinking happy thoughts; that's not going to fix anything. We have to identify the threats ahead, discuss them out in the open, focus on the risks and find solutions. It doesn't have to be depressing to think that way. To me it is more miserable if you sweep the dangers under the carpet, only to be confronted with them later when you are not prepared.

I take some comfort in the fact that I am not the only one with that attitude. Try to find that great song by Johnny Cash that I quote from above; he wrote it in 1971 during the Vietnam War.⁸⁴ Like Cash, I don't mind if I have to "carry off a little darkness on my back", if it will help.

But let us return to the practicalities of investing in an ethical manner. It is easy to be a bit disillusioned with the whole ethical thing. Like: Will my actions really make a difference? And: Why should I risk my money to save the earth, when everyone else is getting rich wrecking it? First of all, yes, what each one of us does really will make a difference. Each time you spend a dollar in the supermarket you change something. If you buy an ethical product, good people get your money; if you buy some GMO junk stuffed with addictive corn syrup, other people will get it (let me leave it at that). And that goes for your investment decisions as well. Lots of surveys show that if you do the right thing and help others and help the earth, you will feel better about yourself and be happier overall. Secondly, you can make money without wrecking the earth; in fact it is easier today than ever before. That is because there are many more options available for ethical investors compared to just a decade ago, and then because the sentiment among both consumers and financiers has changed recently. The current trend is clearly towards ethical capital allocation; and if you believe in the mantra "the trend is your friend", go with it. You just need to study how to do it.

Bonds versus stocks

I will not go into all the details of how to set up an ordinary profitable investment portfolio, since I have already done so! My book *Be Financially Free* covers all that; you just need to tweak those skills to incorporate the ethical standards that we're looking at in this volume.

It should be sufficient here to reiterate a few key concepts, just enough for you to get started on your ethical investment journey. The most important one is the difference between bonds and stocks. When you buy bonds you are a loaner; when you buy stocks you are an owner. Bonds are so-called fixed income products; the investor in reality provides a loan to the issuer; as a reward he is paid interest, a fixed coupon rate. When the bond matures, the bond holder is paid back all his money, the principal; before maturity the bond can be traded on the open bond market. Let us say a \$100 bond pays a yearly coupon of \$5; if the investor buys at par – \$100 – the yield is of course $5/100 = 5\%$ p.a. If the investor gets the bond at a lower price, say \$80, the yield will be higher, in this case $5/80 = 6.25\%$ p.a. This way the bond market is sensitive to the overall interest rate levels; as rates go up, bond prices tend to decline, and vice versa.

There are two major types of bonds in the fixed income market: sovereign debt and corporate credit. In the US, the federal government issues Treasury bonds, the state and local authorities municipal debt; in the UK this product is called gilts. In Singapore, government bonds such as SSBs (Singapore Savings Bonds) are issued periodically to stimulate the local bond market and provide safe security products for retail investors. Bond yields vary for each product and depend mainly on maturity; the yield is usually higher for longer maturities, but not always. If the yield is lower for “long end” bonds (like 10–30 years' maturity) than for short duration bonds (1–5 years), the yield curve is said to be inverted, and this typically signals that a recession has started or is under way.

Corporations also issue bonds to finance their operations, in more perverse cases also to buy back their own shares or continue paying dividends. While sovereign debt in stable countries is considered risk-free – i.e. the interest rate on short-maturity bonds is regarded as the so-called risk-free rate that is used in calculations to analyse the performance of capital management operations – this is not the case for corporate bonds. Unlike a country, a private company can go belly up; the risk of that happening is evaluated by credit rating agencies. If a company's bonds are rated between AAA (triple A) and BBB (triple B) they are considered investment grade; below that – i.e. BB down to D for default – they are considered “junk”. Yes, that is the actual term used in financial jargon! Corporate credit will always provide a better yield than sovereign debt; investors simply demand a higher return for the increase in risk. Junk bonds sell at lower prices still, i.e. even higher yield.

Should a private company go bust, it might file for bankruptcy for a period while it tries to restructure and continue operations. If that fails, it will be wound up, liquidated. In that case, the bond holders will get what money is left in the company after staff and suppliers have been paid. Most likely shareholders will get nothing. So, in general, equities carry a higher risk than do bonds.

The sovereign bond market is of little interest to the ethical investor; government bonds are essentially just a safe way to park some of your money for a while. Corporate bonds could have an ethical element to them. When you buy the debt of a company, you are providing capital for their operations, so you are supporting them and assisting in their endeavours.

To keep this simple and for the sake of clarity, the following discussion will relate primarily to equity investments.

Shares, stocks and equity are terms for the same thing: They are certificates of part-ownership of a private company. Shares don't have an expiry date like most bonds; you can hold on to them for as long as the business is up and running. You can buy

shares over the counter from another shareholder, but most likely you will invest in a listed company that has its shares traded on a stock exchange. Occasionally, when a private limited company “goes public” it will sell its shares in a so-called IPO – initial public offering – at a fixed price set by the company and the underwriting financial institution. But after that, the price will swing up and down, as the demand for the shares from investors fluctuates.

Investing or trading

To buy and sell shares you must have a middleman – either a stockbroker or an online trading platform that will execute your trades for you. All this is as easy as pie to set up. What is a lot harder is selecting the right companies and providing yourself with a reliable and continuous passive income as well as capital appreciation.

If you get a bank to help you, the bank will assign a broker to you and the shares you buy will be registered in your name. This is a bit expensive, as most banks charge a fee of around 0.5% commission on each purchase; but if you don't want to trade – i.e. buy and sell the shares frequently – that is fine. This strategy is called buy-and-hold: you carefully select companies you like and hold on to them for years. You just sit back and do very little; any dividends will be credited to your current account in the bank.

This tactic is too cumbersome and too expensive if you want to trade frequently. For that you need to find an online trading platform and execute the trades yourself. There are many of such platforms; check their terms and costs or speak to your friends before you pick one. I will refrain from making any recommendations here; it depends on where you are and what exactly you need to do. For Singapore, valuepenguin.sg has a shortlist of recommended brokers in this country and a catalogue of all the others, with their terms and fees listed.⁸⁵ For more advice, you can also join an online investment chat-group if you like that sort of thing

– you know: “Hey, Bro... what do I do??” There are tons of those. But in general, expect to pay very low trading fees, probably just 0.12–0.20% or so, with a minimum of perhaps \$10 per transaction or even less.

Now you have access to a mind-boggling selection of stocks, bonds, funds, currencies, futures, options and other derivatives. With the platform I use, I can buy and sell shares on 39 different stock exchanges around the world, i.e. thousands and thousands of listed companies. That is not counting all the ETFs, FX and derivative products also available. But personally I like to keep things simple, otherwise you get overwhelmed by information overload. So let us just stick to the basic stock-picking action here for now. Your online broker will use a trustee company to deposit your holdings; that means you will still receive dividend payments and corporate action notifications – such as stock splits and mergers – but because you are not the registered owner of the shares, you will not be invited to AGMs. Not receiving the annual report from “your” company is no great loss these days – it is always easy to find online. But for investors concerned with the ethics of a corporation, not having access to the AGM could be a negative. Active ethical owners might want to attend the AGM and confront the management of the company with questions about the ethics of operations, so keep this in mind if it is important to you.

Do you need advice? That is really up to you. Sarah Pennells (*Green Money*, 2009) recommends that you seek advice, and she might be right. However, she is based in the UK where there is a boatload of financial advisers available who specialise in ethical investing. Here in Asia, it might be harder to find one. If you do engage an adviser, have a talk with him or her before you sign on the dotted line. Make sure her credentials are satisfactory, and that she understands what you want to do. Also check the fee structure and get an idea about how much the advice will set you back. Maybe try an online robo-adviser; it is a new trend that is still in

the development phase, but it might be worth looking into. In *Be Financially Free*, I go into the issue of insurance in more detail, and I explain why I think you should never buy any insurance at all – life insurance or otherwise – if your aim is to be financially free. If you cut out the insurance bit, and do some home study on securities investments, I believe it is possible for you to manage your nest egg yourself.

Analytical tools

In Chapter 9 we will look in more detail at what an ethical investment portfolio might look like. For now it will suffice to stress that this is where your ethical standards come into play, when you pick stocks. Only you can decide what is right for you. Like I said, I don't think there are two people in the world with exactly the same values. Our ethics are as individually different as our fingerprints, eye structure and facial features!

You don't want to wreck the earth, but you also don't want to lose your hard-earned savings – I can sympathise with that. Let us say you have applied positive/negative screening across the stock exchange where you are engaged, leaving you with a shortlist of target companies that you might invest in. You look at those more closely from an ethical point of view: Which companies do you really like, and how much mixed activity will you tolerate? Say you love all animals and hate meat producers; would you invest in a supermarket chain that derives, say, 10% of their revenue from meat? You might screen that one out, or you might close one eye if you otherwise really like the company. Only you will know what is right for you.

Now that you have your final list of targets, your trading platform can probably help you with some of the screening and organise this register for you. But how do you pick the right ones before you hit that “Buy” key? This process will not be much different from what any other investor would do: Here you are looking

for the best yield and overall return on capital. In a nutshell, you identify the sector you like, say clean energy or health – areas with growth potential, even in a stagnating economy. Then you look at the individual companies within that sector and apply the usual investment analysis.

Most importantly there is the PE, the Price/Earnings ratio, i.e. the current stock price over latest earnings (not paid-out dividends, but company profits). It is sometimes expressed as forward earnings, with next year's earnings estimate as the denominator. Low is good, high is not so good. Keep in mind that this factor does not work so well for growth companies. Last time I checked, Amazon had a PE ratio of 237 – that is astronomical! Yet, I know people who have made good money on this stock, and many experts still recommend it as a buy, even at this staggering multiple. But Apple Inc now has a PE of 17, which roughly means that you are likely to make your money back in 17 years – doesn't that sound like a safer bet?

Also check EPS (earnings per share), Dividend Payout Ratio, P/B ratio (Price-to-Book) – the terms should be self-explanatory or you can consult my 2016 book for details. Look at not only how much income and expenses the company has, but also at the balance sheet; check for excessive levels of unsecured debt and the gearing ratio such as D/E, the debt-to-equity ratio, which preferably should be lower than 1. You can find these variables and many more in various places. Your stock exchange probably has them online for listed companies; otherwise just check Yahoo, Bloomberg or one of the other financial sites. If you are more serious, go into the annual report of the company itself. Look at its latest financial statements and perform a more detailed fundamental analysis of the company, if you have the time and know-how.

From this information you form an opinion about what shares you want to buy and how many. But when do you buy them? Right,

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“*Be Financially Free* by ‘citizen economist’ Morten Strange is not just a good book, it is a fantastic piece of entertainment, common sense economics, and wisdom about life, and how to achieve financial independence, and to ‘live’, as Pablo Picasso said, ‘as a poor man with lots of money’. Strange will not win a Nobel Prize with *Be Financially Free*, but he has my respect for having written a highly readable, funny and cynical financial essay, which actually makes sense.”

— DR MARC FABER

Financial analyst, international fund manager,
and publisher of the *Gloom Boom & Doom Report*