

Chapter 5

Advantages of a Social Policy Bond regime

[W]e tend to believe that there is some natural state of justice to which political life would revert if only the conflicts between interest groups could be resolved. But whatever justice we enjoy arose from the conflicts between interest groups, and no such natural state of justice has ever existed. The only natural state is unjust.... Clive James ¹

Indeed, the things we do in our own interest can have far-reaching benefits for everyone. Adam Smith's invisible hand has generated enormous material wealth, which, sometimes with help from government, has lifted billions out of poverty. But there remain chronic social and environmental problems, some of which are self-entrenching and many of which cannot be solved within the existing policymaking framework. The world is too small and interlinked now for the solution of social and environmental problems to be left to chance. We can and should do better than wait for natural justice to arise from collisions between interest groups. Government can intervene effectively where it is well meaning and solutions are easy to identify, but it is not omniscient and is easily defeated by complexity. It cannot effectively achieve many of our most urgent social and environmental goals. Social Policy Bonds represent a middle way between the happenstance of a free market approach to solving our problems, and the top-down, coercive and (often) ham-fistedly inefficient way of central planning. There is no question that government at

all levels is absolutely necessary to articulate society's goals and raise the funds necessary to achieve them. Those are the things it does best – and only government can do them effectively. But government does a poor job in actually achieving our social goals. Under a Social Policy Bond regime government would continue to prescribe targeted outcomes and raise revenue. But it **would be the market's job to allocate that revenue to the most efficient achievers of these goals: that is what the market does best.**

This chapter looks at some of the likely advantages of Social Policy Bonds over current policies. It concludes with a look at how a bond regime with the objective of climate stability could improve on the Kyoto Protocol.

Efficiency

The main likely advantage of Social Policy Bonds is that, because they would inject self-interest into all stages necessary for solving social problems, they would be *more cost-effective* than current, activity-based programmes. For the same expenditure, therefore, more could be achieved.

Efficiency gains arise from many sources.

Pluralism

In an uncertain, changing world, most decisions are wrong, and success comes not from the inspired visions of exceptional leaders, or prescience achieved through sophisticated analysis, but through small-scale experimentation that rapidly imitates success and acknowledges failure. This disciplined pluralism is the true genius of the market economy. John Kay²

What accounts for the triumph of the western market economies over the state-controlled, centrally-planned economies of the Soviet Union and its satellites? Some would say it represents the victory of materialist motivations over political ideals. But, as Mr Kay points out, it is more likely that the efficiencies and incentives of pluralism had won out over central direction; in short, that decentralisation and diversity had triumphed over dirigisme and central planning.

Almost by definition, governments are centralist in their instincts. They also operate in a non-competitive environment – and one that discourages self-evaluation.³ But such centralisation is necessary to articulate society's wishes. It's also a good way of raising revenue from countless individuals who cannot themselves do much to bring about social and environmental goals. Where centralisation fails, as the Soviet Union found, is when it comes actually to achieving those goals.

Its centralist instincts mean that government has real difficulties in investigating new approaches in its social and environmental programmes. Government, like any large organizations, is inherently conservative and generally more interested in maintaining the status quo;

which largely means preventing, or obscuring the source of, failure rather than rewarding success. In many areas of social and environmental policy it believes it should carry out only those activities that it can plausibly justify on the basis of a past record. These need not be very efficient, or even partly efficient. As far as many government bodies are concerned they need only to have been tried in the past and not to have been publicly identified as disastrous. This is not a strategy designed to optimise performance; rather it is a strategy that minimises the risk of perceived failure. It does nothing to discourage the continuing of inefficient, unimaginative activities, whose main recommendation is that they have been done before. As the persistence of social problems attests, these activities are not always very successful.

Neither can government readily try a wide range of diverse approaches in different regions, mainly because it would find doing so administratively irksome, and partly because it would have to risk criticism from people who had experienced the less successful ideas. So government generally adopts a uniform approach. It has goals that apply over its whole remit – which is all to the good – but then it applies its policies in a similarly uniform manner – which can often be counterproductive.

Take crime, for example. In one area crime might be a very obvious and direct result of unemployment. A factory closure might be expected to lead to a soaring crime rate in this particular locality where, perhaps, young males would be put out of work. But under most **countries' crime**-reduction regimes there is very little incentive for anyone – public or private sector – to explore this link and see whether diverting funds from, say, the

police to employment creation on a small scale, would be a better way of fighting crime. Most governments would find it politically difficult to subsidise the continued operation of one particular factory when similar factories would receive less favourable treatment only because their employees were deemed to be less likely to commit crimes if their factories closed. Another example: screening for certain forms of cancer might be found to be of particular benefit only to women in poorer households. Yet the government would find it politically very difficult to deny such screening to *all* women. In a Social Policy Bond regime that targeted national health, bondholders would put maximisation of their return per unit outlay, which in this case would be maximisation of **the health returns from cancer screening to the taxpayers'** dollar, above such considerations. Such a regime would still be backed by government, but with the actual allocation of health resources being done by bondholders in pursuit of cost-effectiveness, the government would escape accusations of favouritism or discrimination.

Uniform approaches often go hand-in-hand with **government's tendency to enlarge its own role.** Government often applies its regulations regardless of whether or not they are appropriate in particular circumstances. Take the costs of complying with **burdensome regulations for small businesses.** The UK's Care Standards Act of 2000, is just one of many instances. It obliges every care home to have at least 14.1 square metres of private and public space for each elderly resident and at least eight single rooms for every double room. This sort of legislation has meant that over the past five years, at a time when the number of dependent elderly people in the UK has been rising, 50 000 care-home beds have been lost — about ten percent of the

total — and as a result 5000 much-needed hospital beds are occupied by elderly people who do not have acute medical needs.⁴ Another example: potential employers can be deterred from starting a business because a government body insists that would-be employees are at risk from, for example, an absence of fire escapes. Government denies people the choice of whether to accept a slightly higher risk of a fatal accident at work, in return for a job. While it is all very well to protect workers in this way, when people cannot find work locally they have to travel. In doing so they may well face a risk of dying in a car accident far higher than that of being trapped in a building with no fire escapes. No government programme has systemic ways of varying its procedures to account for such nuances.

Social Policy Bonds would encourage investigation of local circumstances, on the basis that doing so could lead to more efficient ways of achieving targeted outcomes than a uniform approach. The most efficient solutions for many social and environmental problems are *not* always known in advance, and the optimal choice is seldom a one-size fits all, top-down, government-dictated policy. More often, it is a matter for investigation and experimentation, and a wide variety of approaches is essential. Bondholders might find, after a bit of experimenting with different approaches, that certain activities work better than others under certain conditions. They would take the best of these approaches, and apply them where their return would be greatest, and they would recognise that for most broad objectives a mosaic of diverse activities will be most efficient.

A Social Policy Bond regime would combine the best features of centralised decision-making with the pluralism of markets. Under a bond regime, diverse, adaptive approaches would be encouraged - a contrast to the stultifying and failing centralised ways in which we **are currently trying to solve global problems. The 'true genius' of the market, which currently is mainly** channelled into improving the sales and profits of private corporations, would be channelled directly into the public good.

All this is not to say that corporations are efficient themselves:

That there is waste in government is obvious; but the question is compared to what? We individuals are wasteful too. Corporations are paragons of waste, as a glance at executive compensation packages would suggest.⁵

Of course corporations also fail and investors in Social Policy Bonds will be no different. But, as Milton Friedman put it: **corporations learn, governments don't.** Government inefficiency in achieving social goals imposes costs on society. If bondholders initiate projects that fail, either they will terminate them themselves, or they will be the losers, not taxpayers.

Targeting outcomes

Targeting desired outcomes themselves, rather than the ways in which a government body currently thinks they might be best achieved, also generates efficiency gains.

Deals with uncertainties

All is not as it seems with systems as complex as the environment. It would seem obvious that encouraging people to walk rather than drive would reduce fossil fuel use or greenhouse gas emissions. But:

The grinding, milling, wetting, drying, and baking of a breakfast cereal requires about four calories of energy for every calorie of food energy it produces. A two-pound bag of breakfast cereal burns the energy of a half-gallon of gasoline in its making. All together the food-processing industry in the United States uses about ten calories of fossil-fuel energy for every calorie of food energy it produces. That number does not include the fuel used in transporting the food from the factory to a store near you, or the fuel used by millions of people driving to thousands of super discount stores on the edge of town....⁶

However, other estimates differ markedly. Research done in 1994 indicates that for US agriculture as a whole, it has been estimated that for every calorie of food produced **'only' 0.7 calories of fossil energy was consumed.**⁷

In a similar vein we might assume that travelling by train is kinder to the environment than flying or going by car. But analysis shows that high-speed rail can consume more fuel per passenger than cars or even short-haul aircraft. This happens when electricity for the rail network is generated by oil- and coal- fired power stations, which convert fossil fuel into oil-equivalent at only 40 percent efficiency. As well, for supposed health and safety reasons in the UK, rail passengers cannot travel in the front third of the two vehicles that drive the fastest trains, and there have to be 'seat-free crumple zones' as well as toilets for the disabled (each occupying the space of eight seats). The result is trains of 186 seats that weigh 227 tonnes, or a massive 1220kg per seat.⁸

All this is to say only that it's not always obvious how to proceed when confronting environmental problems, and that our first instincts might be wrong. Unfortunately, such are the disconnects in our complex societies that our first instincts are likely to be expressed as government **reaction which, because of government's size and power,** can entrench or aggravate problems rather than solve them. Under the current system government bodies are set up, or regulations enacted, on the basis of what appears to be the biggest cause of a targeted problem. But the reality is that there are few strong, persistent incentives for government actually to get it right.

That is why, with complex systems, an outcomes-based approach, such as Social Policy Bonds, might be best: rather than try to think of the best way of solving a problem, a better approach would be to define the desired outcome and reward people for achieving it, however they do so. If our goal is to reduce greenhouse gas emissions, target those emissions (though it might be even better to target climatic variables instead – see

Example 1, below). If our goal is to reduce traffic **congestion then target that. And if it's some combination** of the two: target some index of that combination. The market is better placed than any central authority to work out whether doing achieving these targets means putting people into cars or trains, or encouraging people to eat locally grown vegetables instead of highly processed cereals.

Sometimes the uncertainties arise not only from complexity, or lack of definitive research, but from our limited experience.

Because of the slow maturation of human beings, we have not had sufficient time...to understand the multi-generational health consequences of exposure [to organochlorines] However, we do know that these compounds play havoc with human physiology, with effects that include cancer, infertility, immune suppression, birth defects and stillbirths.⁹

It seems that there are three ways of responding to such imponderables. We can adopt a strong version of the precautionary principle, which says that if there is a strong suspicion that a certain activity may have environmentally harmful consequences, it is better to control that activity now rather than to wait for incontrovertible scientific evidence. There's much to be said for this when looking at new processes, but applying it to current technology would probably mean a drastic reduction in the quality and quantity of human life that we could support. Another response is the one that has

been prevalent until now: essentially to ignore the problems created by technology until they become obvious emergencies when, especially if the species they affect are photogenic or the people they affect are ones with whom we identify, government takes some coercive action.

But Social Policy Bonds might offer a third way that acknowledges that we cannot know in advance the likely results of new scientific or industrial processes, but **doesn't halt technological advance. The bonds could** specify targeted goals for human, plant and animal health; probably in the form of indices, but with minima for each identified species or environmental indicator. The profit motive would both enlarge and motivate the pool of people interested in exploring the likely effects of new technology on the environment and in working towards reducing their impact. A handful of politicians or government-appointed experts cannot anticipate every such impact in advance of the application of new technology. But participants in a market for Social Policy Bonds targeting environmental health would have *continuous* incentives to look for and deal with planetary depredations before they become intractable.

Lack of conclusive evidence has certainly delayed the implementation of measures to combat climate change for example. Our current system implicitly requires proof beyond reasonable doubt before it will take steps. Policymakers have no effective way, in short, of dealing with matters, on which they are not expert, on which the experts cannot agree, and on which the evidence on both sides seems equally compelling. One of the virtues of the Social Policy Bond approach is that it can be deployed as

insurance against potential disasters about which we know very little (see chapter 9 ‘Insurance against catastrophe’).

Deals with change

We perhaps should not have unrealistic expectations of our politicians. According to Nassim Taleb there are fields in which experts are useful – judging livestock, pilot-testing new aircraft, brain surgery, accountancy – and **those where, as Taleb puts it ‘experts tend not to be expert’** – investing in shares, selecting personnel selectors, or interpreting intelligence about foreign **countries. He argues that ‘things that move’, requiring anticipation and prediction, do not usually have experts, while ‘things that don’t move’ seem to have some experts.**¹⁰ Policymaking is very definitely in the former category. **It’s a little unfair to expect our politicians and officials to find solutions to social and environmental problems in a fast-changing, diverse society. And not only our professional policymakers: any panel of experts is going to disappoint.**

Social Policy Bonds, as we saw above (chapter 4: ‘**A new type of organization**’) would subordinate the membership of the problem-solving body to the problem itself. The need to generate solutions would dictate the composition of the groups engaged in solving it. When **‘things that move’ are creating problems, they demand adaptive, diverse responses, rather than top-down, one-size-fits-all government-mandated efforts. Importantly, though our larger social and environmental goals don’t change very frequently. They are ‘things that don’t move’,**

and politicians or any group of concerned people can represent us quite well in articulating these goals and helping make us aware of necessary trade-offs. Whoever issues Social Policy Bonds would specify their goal and contract out its achievement to the private sector, a field **in which ‘things move’**– and in which their expertise would count for little against the pluralist adaptability of highly-motivated investors in the bonds.

Freedom to experiment

Another source of efficiency when compared with government-run social and environmental programmes is that Social Policy Bonds allow greater latitude to experiment. In Thailand there is a long-running, gruesome insurgency by Islamist insurgents in the deep south of the country. As one response, the Thai Government put up television screens in coffee shops and bars in an effort to distract potential militants. Though this author believes that the potential for television, movies (including pornography) to distract men away from militarism has been unfulfilled, unfortunately, simply the fact that this initiative has been undertaken by the Government could be its downfall. This is partly because any initiative the Thai Government takes is going to be widely mistrusted, or can be misinterpreted to the impressionable, just because it is a Government initiative; and partly because in putting up public television screens the Government has exposed itself to ridicule if the insurgency continues.

Similarly provocative, if undertaken by government would be subsidising intermarriage between two warring ethnic or religious groups, whether in southern Thailand or areas of conflict like the Middle East.* Again, if such measures were implemented by government, they would be regarded as intolerable by one or other faction – or both – and probably aggravate the conflict. But the private sector is much freer to experiment with initiatives of this sort. Their failure would not run the same risk of deepening a conflict, and private sector operators could go further. In the Thailand example, investors in Social Policy Bonds targeting the insurgency could, for instance, organize the screening of explicit, raunchy DVDs to men in the southern provinces. They would not be deterred by embarrassment or fear of ridicule and, if the screenings failed to dampen the conflict, they would have incentives to try something else or sell their bonds to investors with different ideas.

Markets reduce adjustment costs, innovation

That markets minimise costs of doing things was outlined in chapter 3. But when the stakes are high enough, markets can lead to the exploration of completely different ways of doing things. When forecasting the costs of new environmental regulations, economists routinely ignore an elementary economic lesson: markets cut costs through innovation. And innovation can be promoted through regulation.¹¹ Indeed, it seems that industry groups routinely overstate the costs of complying with regulations, believing they will be much larger than they

* See digression, ‘Doing what governments cannot do’, chapter 9.

turn out to be.¹² Specifying an environmental outcome, then, as regulations do, and punishing those who fail to achieve it can, in a market economy, focus our ingenuity on achieving that outcome, and doing so at least cost. Markets can stimulate unanticipated, creative solutions when there are incentives to do so. Of course, the desired outcome need not be as mundane as compliance with a new regulation: it could be achieving a targeted goal through the issuing of Social Policy Bonds. Encouraging innovation that cuts costs is an instance where **government's size and centralised decision-making** power are not just an advantage but are indispensable for the setting and financial backing of larger goals.

Efficient costing of objectives

How are we to weight different environmental impacts? Consider solar panels: silicon fabrication factories are energy and water intensive and the manufacture of silicon wafers uses energy; most often generated using fossil fuels, with all their attendant pollution. Then there are the potential problems of disposal at the end of a panel's life. The panels are frequently doped with toxic materials like arsenic.¹³ Or take a current controversy: biofuels. Land devoted to their production can withdraw land not only from agriculture, raising food prices, but also from land that could otherwise support orang-utans.¹⁴ Similarly, catalytic converters in car exhausts may reduce most air pollution, but at the cost of fuel efficiency.¹⁵ In both these instances our climate change goal conflicts with our other environmental goals.

How should we go about sorting our environmental priorities? The problem is one of weighting entirely different environmental impacts. We'd all like to see climate change reduced *and* pollution fall *and* more orang-utans, and, for that matter, better healthcare along with lower crime rates and all the rest. In the real world, though, we have to choose between different goals. There are genuine difficulties with weighting such diverse, competing demands for society's scarce resources, but a large part of the problem is that we have little idea of the monetary cost of the solutions to our diverse problems.

Social Policy Bonds could help. As we saw in chapter 3 (**'Markets minimise costs'**) **they have an advantage over** other policy instruments in that the cost of achieving a targeted outcome is minimised and capped. The market prices of the bonds provide best estimates of this cost continuously and transparently, and it is the competitive market that decides on how much the solution to a targeted problem will cost. Let us look at the benefits of this information in more detail.

Say, for example, a government decides to pursue the objective of lowering some index of the crime rate from 50 to 40 units. Assume that the government issued one million bonds targeting the crime rate, each redeemable for \$10 once the lower level of crime has been attained. The *maximum* cost to the government of achieving this objective would then be \$10 million. But if the bonds, when issued, fetched \$5 each, then the market would be saying that it thought it could achieve this objective for **just \$5 million. It wouldn't say when** it thought it could achieve that objective, but that could be inferred from market behaviour and the market value of the bonds compared with other financial indicators. But what if the

bonds sold for virtually nothing and the market value of the bonds failed to move from that floor? That would mean that the government had miscalculated: in the **market's view there would be no realistic chance of the objective being achieved** for an outlay of \$10 million in the foreseeable future. The government could respond in different ways:

- It could wait for new technology to arrive, or for circumstances to change in other ways, such that the market would see the objective as becoming more easily achievable, and the value of the bonds would consequently rise. Or
- It could issue another set of bonds, with the same specification, after invalidating the first set.

Either way, the government could be reasonably sure that it would be getting the best possible deal expressed as **'reduction in the crime rate per unit outlay'**. This important benefit was mentioned in chapter 3, but is worth spelling out in more detail. We saw how a government, say, issuing Social Policy Bonds could determine the maximum cost of achieving its objective by limiting the total number of bonds issued and their redemption value. We saw too, that under a Social Policy Bond regime, it would be the collective wisdom of those in the market for bonds that would determine how much the government (that is, taxpayers) would actually pay to achieve the targeted outcome: and they would have every incentive to minimise that cost.

But the bond mechanism would not merely minimise the *total* cost of achieving a specified objective. It would also indicate the *marginal* cost of achieving further improvements. Say the one million crime reduction bonds were to sell for \$5 each. This would tell the government that the present value of the expected **maximum cost, including bondholders' profits, of** reducing the crime level from 50 to 40 units would be \$5 million. The government might then suppose that it could afford to be more ambitious, and aim for a further fall to 30 units. It could issue a million additional bonds redeemable when this new lower rate were reached. These would (probably) have an initial market value of less than \$5, reflecting the (probably) diminishing returns involved in preventing crime. The point is that, by letting the market do the pricing of the bonds, the government would be getting an informed view of the *marginal* cost of its objectives. So if the bonds targeting the new level of 30 units were to sell for \$4 each, then the maximum cost of achieving that objective would be \$11 million, being equal to: \$5 million (paid out when the level fell from 50 to 40 units) plus \$6 million (paid out when the level fell from 40 to 30 units). The marginal cost of a 10-unit drop in crime would thus have been revealed to have risen from \$5 million to \$6 million. Should the government aim for a further fall to 20 units? Following such crime rate-targeting bond issues *it would have robust information about the cost of doing so.*

This is, of course, a simplified example and in fact the bond market would continuously update its pricing information. Say that new research, of the sort that might be stimulated by an initial bond issue targeting crime, suggested new ways of reforming or deterring criminals.

Bondholders may, for example, have financed successful research into more effective reform programmes, or set up more appealing alternative lifestyles for especially hardened criminals. How would the market react to such developments? Once their effectiveness had been revealed, the value of all the bonds would rise. Instead of being priced at \$5 and \$4, the two crime reduction issues of the example might sell for \$8 and \$7. The total cost to the government of redeeming these bonds would not change: it would remain at \$11 million (though redemption would most probably occur earlier). But the market would be generating new information as to the likely cost of future reductions in the crime rate. The market would now be expecting reductions of 10 units of crime to cost \$2 million (from 50 to 40 units), and \$3 million (from 40 to 30 units). The new research would have reduced the costs from \$5 million and \$6 million (respectively). So the cost of any further crime reductions would also fall, and by following market price movements policymakers could gauge approximately by how much.

These figures are hypothetical, but they do indicate the role that markets for Social Policy Bonds could play in helping the government, and taxpayers, decide on their spending priorities. The market for the bonds is elegantly efficient in conveying information about the cost of achieving objectives and, crucially for policymakers, how this cost varies with time **and circumstances**. **It doesn't** tell us which particular trade-offs to make: that can only be decided by the political process, but it does give us best estimates of the cost of, say, protecting orang-utans as against that of increasing climate stability by a certain amount. To be more explicit: under a bond regime targeting both climate stability and an index of species diversity we could say that reducing raising climate

instability by, say, 10 percent will cost \$x, while maintaining the current level of biodiversity will cost \$y. Or we could say that raising literacy rates by x percent will cost the same as reducing the number subsidised university places by y percent. This information would be immediate, upfront, and available to all. It would be determined not by a handful of so-called experts, but by competitive bidders who have incentives to get it right – and it is not available under the current policymaking system.

The importance of this sort of information, generated by a competitive market with many players, can hardly be exaggerated. It was largely the absence of market-generated information that contributed to the failure in history of central planning.¹⁶ Market prices reflect all of the information used by all who transact, or choose not to transact, in the market. Central planning fails in comparison with a market economy because it **encounters the limits of human beings' calculating capacity**: no individual or group of individual planners knows or feasibly can know all the dispersed information that is embodied in prices. Even with a sound incentive system in place — and the former Centrally Planned Economies had some fearsome systems — without the information that only markets can generate the computational task of organizing an efficient allocation of resources is too great. Prices incorporate and simplify all of the dispersed information implicit in getting a product or service to the marketplace. Markets for Social Policy Bonds would continually generate and reveal this information to policymakers and all those involved in achieving social and environmental outcomes — probably for the first time on a systematic basis. *A Social Policy Bond regime would combine market information*

with incentives to use it efficiently: the synergies arising could be of enormous benefit to society as a whole.

Allocating resources between competing projects can, and perhaps should, be quite a sophisticated exercise. New techniques, such as treating investments like share options, can be more useful than the fairly crude cost-benefit analysis often used by government bodies. One feature of the share option approach is that it can deal more readily with changing circumstances: for example, it keeps open the possibility of making large investments if a project shows early promise. The market for Social Policy Bonds would allow potential bondholders to deploy such investment criteria more readily than government bodies, which are constrained by existing institutional structures.

Impartiality and transparency

More than 100 people were killed violently yesterday in the US. More than 100 people are being killed today, and more than 100 will be killed tomorrow. There will be no blaring headlines, no anguished hand-wringing, no serious debate about the costs and benefits of controlling **the causes of these deaths by violence. That's** for one simple reason: these violent deaths are not caused by a gun-toting college student, nor by terrorists; they are the result of road accidents. On average 119 people die every day on American roads.¹⁷ Worldwide, road deaths are estimated to be 1.17 million per annum, with over 10 million crippled or injured.¹⁸

I have linked impartiality to transparency because while it is quite legitimate to be more concerned by, say, 100 violent deaths caused by a terrorist and 100 violent deaths caused by road accidents, the policy implications of our bias are rarely made explicit. Research indicates that our attitudes to risk have little to do with rationality, and a lot more to do with our emotions.¹⁹ So we might choose to drive rather than fly, raising our chance of death or injury, because we have an irrational fear of flying. For informed individuals this is their choice and they ought to be free to make it.

But we should probably prefer that our policymakers be more rational. In the cold light of day, for instance, we might feel just as strongly that our scarce conflict-reduction or foreign aid resources be devoted to where they can do most good rather than to areas where chance

has made emotionally stirring media footage available. Unfortunately, it does seem that we are biased against solving problems that move too slowly for television or take place beyond camera range; and unfortunately too, many social and environmental problems: the extinction of species, nuclear weapons proliferation, climate change, fall into this category. Again, even here there is nothing necessarily wrong with our current priorities: the problem is that they have been made implicit; with our eyes closed to their costs and the available alternatives.

Social Policy Bonds would change that. Their targeting of outcomes means that we would find it easier to be rational in our policy choices. If Social Policy Bonds target a broad health indicator – such as life expectancy adjusted for quality of life²⁰ – then investors in the bonds would channel their life-enhancing resources into those areas that would maximise the increase in life expectancy per dollar spent. It would be in their interests not to be swayed by the priorities of the media or our irrationality. Of course, when defining the measure of health that we want the bonds to target we might still choose, for instance, to weight deaths caused by air accidents more heavily than those caused by road accidents. But we would be doing so with our eyes open, aware that by doing so, we would not be maximising efficiency in terms of life expectancy gained per dollar spent.

Transparency in goal-setting would go a long way toward demolishing two further obstacles on the way to efficient achievement of social goals:

- **‘Capture’ by bureaucrats: transparency of policy** goals would make government unlikely to name itself the beneficiary of its own policies.
- **Taxpayers’ funding of corporate and middle-class** welfare: Social Policy Bonds, by making explicit targeted outcomes could put an end to projects that in effect tax the poor for the benefit of the middle class or the rich.

That these are significant obstacles can be seen from the perverse subsidies of chapter 1, or the distribution of US housing subsidies, of which three times as much goes to the richest fifth of the population as to the poorest 20 percent.²¹ This may be a result of deliberate manipulation by vested interests, or could arise from the way in which policy is made and expressed, with political debate, when it is not swayed by emotion, centring on arcane discussion about legal niceties and institutional funding and structures. Social Policy Bonds would focus on identifiable outcomes; they demand transparent, explicit, coherent objectives.

Consider the European Union’s **Common Agricultural Policy**. Its supposed objectives, as laid down in 1957 in the Treaty of Rome (1957), are:

1. to increase agricultural productivity,
2. to ensure a fair standard of living for [farmers],
and

3. to assure the availability of [food] supplies,
4. ...at reasonable prices.²²

These vague, mutually conflicting and open-ended objectives would not have been acceptable to people formulating desired outcomes for targeting by Social Policy Bonds. A bond regime would force a rethink on this and other policy issues. Drugs policy, for instance. Under a bond regime it would be difficult to avoid asking hard questions. Is a reduction in drug taking an end in itself, or a means to an end? If the latter, then what are these ends, and would it not be more efficient and transparent to target them directly? Unemployment may also have to be seen in a new light. Again, is lower unemployment an end in itself? Or a means to an end? Some studies have indeed suggested that the strongest influence on happiness is employment: people with jobs are very much happier than the unemployed.²³ But if lower unemployment were seen mainly as a way of ensuring that fewer people fall below a certain income level; or if it were seen as a means of lowering the crime rate, or improving mental health, then some combination of these objectives should be the targets for government policy. Answers to questions such as these would be unavoidable *at the outset* of a Social Policy Bond issue, but they are rarely posed, and still more rarely answered, under the existing policymaking regime.

Even where there is increased pressure for accountability under the existing regime, policies such as the Common Agricultural Policy have a momentum of their own. It is never made transparent, of course, but for those who administer these policies and their other beneficiaries,

any visionary goals were largely forgotten long time ago, to be replaced by the goal of perpetuating the policies themselves and the institutions that administer them.

Transparent social goals would require a transparent process for formulating them. And a clear expression of desired social outcomes and their relative priorities would mean that progress toward them could be accurately monitored.

More attractive money flows

Further advantages of Social Policy Bonds over current policymaking systems arise because in most cases they have more politically appealing money flows.

Consider a government's environmental policy. Most current methods of pollution control inflict, right from the beginning of their implementation, identifiable losses on people and corporations in pursuit of objectives whose benefits will be realised only in the long run. Social Policy Bonds, however, would reward people for achieving successful outcomes. There would be opportunities for investors to profit from their bondholdings as soon as the bonds are issued – they could realise a capital gain any time they sell their bonds. The bonds would of course ultimately be redeemed by funds from the issuing **government's general revenue**, and taxes would still have to be levied to provide this but there is, nevertheless, a presentational advantage.

The other, more significant, money flow advantage of **Social Policy Bonds is that the bonds' backers incur** significant expenditure only when targeted outcomes have actually been achieved and the bonds redeemed. For this reason, government-backed bonds may attract greater political support for certain policies than agency- or activity- based programmes. And for the same reason they may encourage people or groups in the private sector to pursue their own social and environmental objectives by issuing their own Social Policy Bonds.

Buy-in

A whopping 90% of Americans surveyed by a new Harris Interactive poll believe big business has too much power and influence in Washington D.C.²⁴

Not 'business', note, but 'big business': indeed 92 percent of respondents thought small businesses had too little power. There are other signs of ordinary **people's** alienation from politics and policymaking, including low electoral turnouts, falling membership of political parties, increasing disenchantment and apathy towards politics. The distance between government and the people is a concern, especially as it seems to be widening in most democracies.

The gap would narrow if more people participated in **policymaking. One reason it's difficult to stimulate** interest is that policy is formulated in terms that are

difficult to relate to outcomes with which the public can identify. Policymakers appear to concern themselves with decisions about funding for different government agencies, or with dispensing patronage to big business and other lobbies, or presenting themselves in the best **light or... almost anything**, in fact, except outcomes that are meaningful to real people.

A government that issued Social Policy Bonds would, from the outset, have to concern itself with social and environmental outcomes. Its main roles would be to articulate society's wishes regarding these outcomes and to raise the revenue that would fund these outcomes. Unlike most of the current determinants of policy, the language of outcomes and the necessary trade-offs between them is comprehensible and so accessible to people other than politicians, bureaucrats, lawyers and public relations experts. If people understand what a policy is all about, they can participate more in its development, refinement and implementation. They will better understand the limitations and trade-offs that are intrinsic to public policymaking.

Take environmental goals: we could reframe our policies in terms of explicit, agreed, meaningful, environmental goals rather than, as at present, rights, processes, activities or the funding or structures of institutions. Rather than target, for instance, greenhouse gas emissions we could, under a bond regime, target our real goal: a reduction in the instability of the climate. Instead of trying to monitor and pin down polluters of air and water, we could agree on and target the quality of air and water. There is likely to be more consensus over such goals than there is about how to reach them. Even if people disagreed with these goals, they would have been

involved in their formulation and know that their opinions were considered rather than ignored.

This means quite a few things, but perhaps the most important is citizen buy-in, which means the support, approval or at least the acknowledgment that due consultation has occurred. This in turn means the reconnection of citizens with the people who make policy on our behalf; the sharing of responsibility and concern for policy initiatives. For that reason, more people would be drawn into policymaking - an end in itself as well as a means toward getting greater public buy-in to the resulting policies.*

Correlation with public benefit

A less obvious benefit of a Social Policy Bond regime is that they would be a means whereby private gain would be strongly, visibly and inextricably correlated with public benefit. Some bondholders, whether institutions or individuals, would start out rich and, if their bonds rose in value, would become richer. But working successfully to achieve desired social goals would most probably be seen as a laudable way of acquiring wealth. There are intangible benefits from having people or institutions grow rich in this way. There are many disaffected people who, in some cases no doubt justifiably, view with suspicion or alarm the very high incomes or profits of corporations engaged in activities of little obvious net social or environmental benefit. They are also

* See also chapter 8, 'The need for an engaged public'.

unconvinced that ‘trickle-down’ occurs to any meaningful degree. Wealth, in these people’s eyes, must inevitably result from exploitation, either of other people or the commons. Social Policy Bonds would shift this worldview and, by helping people take a more positive view of the act of earning an income and accumulating wealth, could make for a more cohesive society. A socially acceptable way of becoming wealthy would also make it more politically feasible to tax less socially desirable ways more heavily – not an end in itself, but a means of raising more tax revenue for redistribution or increasing the number and quality of public goods and services.

Stability

The irrelevance of root causes

A Social Policy Bond regime would help guarantee stability of policy objectives. This is particularly important when looking at bonds backed by a national government or global body. Such bonds could target goals with a necessarily long lead time and investors would not be deterred from taking measures to achieve them by fears of a reversal of government policy — or, indeed, a change of government. Only the ends of policies, not the means, would be laid down by government. Obviously the objectives would have to be carefully defined, but there is a wide consensus over what constitutes most social goals. A government would be unlikely to repudiate such universally desired *objectives*, even if a ruling party with a different political outlook had issued the associated Social Policy Bonds. The risk that it

might (and so become the first government *openly* to support higher unemployment, lower standards of health care, etc) would be not much greater than that of a government refusing to redeem fixed interest stock issued by any of its predecessors. This risk, always present, is factored into the prices of conventional government-issued bonds, and in no way impedes the operation of bond markets.

Importantly, governments would have to give assurances as to their future behaviour if the bonds were to be as successful as possible. For maximum success, they would also have to choose their objectives in consultation with opposition political parties as well as the electorate.

Because Social Policy Bonds could target broad objectives, which are more likely to be stable over time, they would probably have informational advantages over more narrowly specified policies. As an example, let us take **the myriad ways in which a government's health care funding can be allocated**. The government has to make its resource allocation decisions on the basis of data that are necessarily incomplete. How can it know in detail the effect that spending on, say, cancer diagnostic machinery will have on the overall health of the nation, as compared with subsidising the cost of nicotine chewing gum? So, by default, health expenditure is influenced by groups of medical specialists with little incentive or capacity to see improvements in the *general* health of the nation as an objective. As a result, funding of these specialities depends to a great and varying extent, on the strength of their lobby groups or on their public profile, rather than on what would best meet the needs of society. We **mentioned above (chapter 4 'Existing institutions and the**

transition to a Social Policy Bond regime’) the British national health care system’s terminal-care budget: 95 percent of this is allocated to the 25 percent of the UK’s population who die from cancer, and just 5 percent to the 75 percent who die from all other causes.²⁵

Stable objectives would also mean that rational allocation of resources would not be undermined by high-profile events. For instance, in the aftermath of a tragic rail disaster in London that resulted in the deaths of 40 people the UK Government came under considerable pressure to order the installation of an automatic braking system for trains that go through red signals. Cold calculations showed that this would cost around \$21 million for each life that the system could be expected to save. This is around five times the figure that the UK Treasury used as its benchmark valuation of a human life, which means that if the government had succumbed to pressure to install the automatic braking system it would have diverted funds from more cost-effective life-saving projects, and so caused the loss of more lives than it would have saved. A Social Policy Bond regime that had as its objective the maximising of the number of lives saved per government dollar would not waver in the face of spectacular one-off events.

Poverty in the developing world

In the developing world the stakes are higher. Decisions are being made about pathways to development that might – or might not – be condemning millions to perpetual poverty. There are respectable arguments on both sides.

Everyone agrees that Africans are desperately poor and typically endure governments that are, to varying degrees, corrupt and capricious. The dispute is about causes and consequences. One group--call it the poverty-first camp--believes African governments are so lousy precisely because their countries are so poor. The other group--the governance-first camp--holds that Africans are impoverished because their rulers keep them that way. The argument may seem pedantic, but there are billions of dollars at stake, and millions of lives. The fundamental question is whether those who are well-off can salve a continent's suffering, or if, for all our good intentions, Africans are really on their own.²⁶

Poverty in Africa seems to cry out for the outcomes-based approach that I advocate. Thousands of learned books and papers discuss the reasons for poverty in the poor **countries. One decade it's institutions or governance that is seen as the problem; the next it's colonial history, or evolutionary psychology.**²⁷ The assumption seems to be that once we locate the cause of poverty, we can set about tackling it. Unfortunately many of the people trying to identify that cause belong to one professional priesthood or another: government employees, academics and ideologically committed think-tankers, many of whom, while no doubt well intentioned, are much better at finding theories that validate their prejudices than actually eradicating poverty.

Social Policy Bonds, provided they were backed with sufficient funds, need not decide on any of these big issues. They would subordinate all approaches not to the whims and caprices of development theory, but to the stable desired outcome: the eradication of poverty. By contracting out the solution to the market they would motivate people to reduce poverty without prejudice as to what causes it. They *might* spend time trying to find the causes but under a Social Policy Bond regime they would do so only if that were to maximise the reduction in poverty per dollar. Otherwise they will leave the identification of causes to the theoreticians and ideologues - where it belongs, along with their endless, futile, debates.

Violent political conflict

Similarly with violent political conflict: war, or civil war. **Once it's happening, it's not difficult to reel off plausible** reasons for its occurrence, or even its inevitability. Indeed, war appears to many of us, as it did to the ancient Greeks, to be part of the natural order of things. Poverty, ignorance, despair, and differences of wealth, ethnicity, religion, class, culture or ideology: all these are thought to be some of the 'root causes' of war and violence. So are inequalities in access to resources, scarcity and economic decline, insecurity, the violation of human rights, exclusion or persecution of sectoral groups, and state failures including declining institutional and political legitimacy and capacity. Or, the list goes on: historical legacies, regional threats, the availability of weapons, economic shocks, and the extension or withdrawal of external support. Demography is also important: large numbers of unemployed males can catalyse conflict.

Sometimes inward factors are pertinent, such as individual pathologies; perhaps a history of being abused that predisposes someone to seek power and use it violently in later life. The media too may have to share some of the blame, especially when they present violence as an acceptable and effective way of solving problems.

No doubt all these factors can and do play a part in fomenting and fanning the flames of conflict. But even aside from the impossibility of eliminating every potential cause of conflict, there is no inevitability that these causes will lead to war. Selective memory has strengthened these linkages in the collective mind, but for each of these 'root causes' there are examples that disprove any simple cause-and-effect relationship. There are, for example, dozens of countries in which people of different ethnicity and religion live happily side-by-side. There are also thousands of decent, peaceable and fulfilled adults who as children were horribly abused. One researcher into child abuse concluded that it does increase the risk of later criminality - **but not always. The 'intergenerational transmission of violence is not inevitable,' she wrote.**²⁸ There are many instances of land disputes that have ended. Take, for example, the border between Scotland and England, once the setting of a 300-year old series of bloody conflicts, now as peaceful as any border in the world. The Swiss have a high rate of gun ownership and an enviable absence of internal political conflict, as well as a low rate of gun crime. Japan is still a relatively peaceful society, but one in which lurid depictions of violence are avidly produced, promulgated and consumed, and have been for many years. An analysis of **the world's civil wars since 1960 concluded that although tribalism is often a factor it is rarely the main one.** It also found that societies composed of several different ethnic

and religious groups were actually *less* likely to experience civil war than homogeneous societies.²⁹

Perhaps Tolstoy summed it up best:

The deeper we delve in search of these causes the more of them we discover, and each single cause or series of causes appears to us equally valid in itself, and equally false by its insignificance compared to the magnitude of the event.³⁰

Rather than try to look for and deal with the supposed root causes of violence, then, we could issue Social Policy Bonds targeting conflict reduction. These could be backed by governments, institutions or anyone else with a genuine interest in peace. Not peace at any price, of course: the targeted goal should include broad quality of life indicators as well as some of the inevitable consequences of conflict. If world peace were being targeted, most national governments would, ideally, contribute to the redemption funds, perhaps in proportion to their Gross Domestic Product. If reductions in a regional conflict were targeted, governments in that region would probably be the largest backers. These bonds would become redeemable *only when the targeted components of violent political conflict reached a very low level*. Importantly, the bonds would make no assumptions as to *how* to minimise conflict—that would be left to bondholders. The best ways of ending the scourge of war in a diverse, ever-changing world of conflict, would no doubt vary dramatically: but the goal itself – peace – would be stable.

One of the biggest advantages of specifying policy in terms of outcomes, as would the issuers of Social Policy Bonds, is that it becomes conceivable to target a much wider range of very broad objectives than is possible under the current, command and control policy system. Goals such as the eradication of poverty or war suddenly become feasible policy objectives. So too does the avoidance of climate change.

Example 1: Climate Stability Bonds

In their long essay titled *Death of Environmentalism* the authors describe how the environmental movement in the US has lost ground over the past 30 years. Discussing climate change, the authors say that '[t]he problem is that once you identify something as the root cause, you have little reason to look for even deeper causes or connections with other root causes.'³¹

Quite so. The evidence that the global climate is changing rapidly now seems almost undeniable.³² That said, scientists are divided as to (a) how fast climate is changing, (b) the effects of climate change, and (c) how much people can do about it. Economists and policymakers are questioning how much people should do about it. And there are still a few who argue that the climate is not changing at all in any meaningful way. Despite these uncertainties, climate change has the potential to inflict serious harm on human, animal and plant life, so there is a strong argument for doing what is

necessary to prevent it, slow it down, or minimise its adverse effects.

The December 1997 Kyoto Protocol (**'Kyoto'**) saw **159** nations reach the world's first legally binding commitments to reduce the global output of carbon dioxide and five other gases thought to contribute to the **'greenhouse' effect**. **Thirty**-eight industrialised countries agreed to reduce emissions by 2012 to an average of 5.2 percent below their 1990 levels and, in July 2001, 180 countries reached a broad political agreement on the operational rules that will govern the Protocol, which came into effect in February 2005. In Cancún, Mexico, at the end of the year 2010, various pledges were annexed to the UN process. It is universally recognized that these are nowhere near strong enough to limit climate change to an increase of two degrees, which is what the Cancún texts require.

The agreed emission reduction targets are far lower than those that some environmentalists had hoped for, and that some countries, most notably the European Union, had been advocating. Even if they are reached, they will only slow, not stop, the build-up of carbon dioxide and other greenhouse gases in the atmosphere. (Carbon dioxide, which is given off by fossil fuel combustion, is thought to be by far the most important of the man-made greenhouse gases that form an insulating blanket around Earth.) Kyoto and Cancún are only supposed to be first steps, **of course, and it's acknowledged** even by its proponents, that its effect will on the climate will be so small as to be almost unnoticeable.

Kyoto embodies the assumption that controlling the targeted greenhouse gases is the best way of achieving climate stability. But with climate change, the biological and physical relationships involved are many and complex. Even specialists disagree about the degree to which the multitude of biological and physical variables influences climate change. Indeed, the veteran environmental maverick James Lovelock warned that a rapid cutback in greenhouse gas emissions could speed up global warming.³³

Apart from the daunting uncertainties about the role of greenhouse gases in climate change, there is even less understanding of the role that agriculture and forestry can play as sinks for these gases. At least one climate model suggests that chopping down the Earth's trees would help fight global warming. This can happen because trees affect the world's temperature by means other than the carbon they sequester. For instance forests will generally reflect less radiation back from the Earth than snow: even after a blizzard they can be darker than a snowy landscape.³⁴ The implications are that, with our very limited knowledge of the causes of climate change, we ought to target not the ways in which we currently think we can stabilize the climate, but the goal of climate **stability itself. We simply don't know enough about the mechanisms underlying climate change to make policy today on *how* to stabilize the climate.**

The scientific complexities of climate change are analogous to those of a social system, and our policymaking cannot cope with great complexity other than by trial and error. It cannot reliably identify the cause and effect in complex systems, and it certainly cannot cope with rapidly expanding knowledge, nor with

the diversity inherent in large geographical areas. When it **reacts, it's often too quick to identify a causal** relationship, and then base policy on it. The Kyoto agreement is one such response to climate change. It implicitly assumes it knows whether James Lovelock is right or wrong, or whether tree cover does or does not accelerate climate change, or the answers to hundreds of other uncertain scientific relationships.

A bond regime targeting climate stability would bypass these, and other, uncertainties, and encourage research into clarifying the relevant scientific relationships. *Climate Stability Bonds* would be issued on the open market and would become redeemable for a fixed sum only when the climate had reached an agreed and sustained level of stability.³⁵ In this way there would be no need for the targeting mechanism to make assumptions as to *how* to stabilise the world climate: that would be left to bondholders.

Ideally Climate Stability Bonds would be backed by the all national governments, under the supervision of a world body, possibly one supervised by the United Nations or World Bank. This body would undertake to redeem the bonds using funds that could perhaps be obtained from all countries, in proportion to their Gross Domestic Product. It would be up to individual countries to decide how to raise funds — presumably they would do so from taxation revenue. Importantly though, no bonds would be redeemed until the objective of a more stable climate has been achieved and sustained. Climate Stability Bonds would be issued by open tender, as at an auction; those who bid the highest price for the limited number of bonds would be successful in buying them. A fixed number of

bonds would be issued redeemable for, say, \$1 million each, only when climate stability, as certified by objective measurements made by independent scientific bodies, had been achieved and sustained. As with other Social Policy Bonds, once issued, Climate Stability Bonds would be freely tradable on the open market.

People would differ in their valuation of the bonds, and their views would change as events occurred that made achievement of a stable climate a more or less remote prospect. They would also change when new information about climate, and about the causes of climate change, was discovered.

There are obvious difficulties involved in defining what a stable climate actually is, *but the same difficulties apply when attempting to monitor the success or otherwise of Kyoto*. Presumably scientists will monitor such objectively verifiable indicators as temperature, change in temperature, rate of change of temperature, precipitation, and many others, at a wide range of locations. Climate Stability Bonds could also target the *effects* of a rapidly changing climate on human, animal or plant life: a bond regime would be sufficiently flexible to target, in one bond issue or several, a combination of a wide range of indicators and goals, whether scientific or social, such as the frequency and severity of adverse climatic events, the numbers of people killed or made homeless by such events, or the insurance payouts to which they give rise.

Climate Stability Bonds would be redeemed only when climate stability, as defined by such a set of indicators, had been achieved and sustained.

What might bondholders do?

A Climate Stability Bond regime would not dictate how to achieve a stable climate. Bondholders could undertake a wide range of projects including:

- helping countries or companies to set up and run greenhouse gas emission control programmes;
- helping countries or companies to set up carbon sequestration plantations;
- investigating innovative ways of removing greenhouse gases from the atmosphere; or
- carrying out, or supporting, research into increasing the albedo of the Earth or its atmosphere.

Bondholders could also be expected to finance other research and initiatives, all aimed at stabilising climate as cost-effectively as possible.

Some governments, research institutes and others are already carrying out these or similar activities. But, under a Climate Stability Bond regime, bondholders would have an incentive to seek out those ways of achieving a stable climate that will give them the best return on what is, in effect, the taxpayers' outlay. Only when the targeted degree of climate stability were achieved would governments have to pay for it by redeeming the bonds. Until then, bondholders would have to finance the initiatives that they think would achieve climate stability. The body that issues the bonds would, in effect, be contracting out the achievement of climate stability to the private sector — having defined the nature and degree of the stability that it wanted, and undertaken to pay bondholders once it had been achieved.

Advantages of Climate Stability Bonds

Climate Stability Bonds would encourage people to do whatever is necessary to achieve climate stability. The bonds would not rely on the robustness of our existing scientific knowledge even as to whether the climate is changing in the way that many scientists believe it is, let alone as to how best to stabilise it. Kyoto aims to reduce emissions of a small range of gases. But there may be other causes of climate change that are far more important, of which we are currently unaware. And these need not be man-made: natural variability of climate has had severe impacts on human life in the past³⁶ and could still be playing a role. Kyoto, responding to effects whose causes are uncertain, embodies a limited number of fixed ideas about the nature of the relationships involved. A bond regime targeting climate change directly might well lead to cuts in greenhouse gas emissions, *but it would not*

assume that doing so is the best solution. Climate Stability Bonds would improve on Kyoto because they would encourage behaviour leading to the desired outcome, rather than seek to control activities whose effects on climate stability are not fully known. Take, for example, the potential solution offered by Freeman Dyson that falls outside the purview of Kyoto: growing the biomass in the **soil by 'a hundredth of an inch a year'**.³⁷ It might be that new farming practices, such as no-till farming and avoiding the use of the plough can cause biomass in the soil to grow sufficiently fast to stop the carbon in the atmosphere from increasing. This may or not be accurate or feasible, but the point is that we need to supply incentives to people who prevent climate change *without prejudging how they do so.*

Bondholders would also be motivated to be *efficient* in achieving climate stability. They would initiate whichever climate-stabilising projects they thought would give them the best return for their outlay. The more efficient bondholders were in achieving climate stability the more they would gain from appreciation of the value of their bonds. Their efficiency would maximise the degree of climate stability that *society as a whole* would achieve per dollar outlay. Because of the colossal sums involved, the benefits that Climate Stability Bonds could offer in comparison with activity-based regimes, such as Kyoto, could be huge.

Further advantages of a bond regime are:

- Funds for climate stability would not need to be used for scientifically approved projects. They

could, for instance, be used to bribe corrupt or malicious governments to modify their behaviour in favour of achieving climate stability.

- The issuing government bodies would pay up only when a stable climate had been achieved: any risk of failure or of undershooting the climate stability target would be borne by bondholders, rather than taxpayers.
- The market for Climate Stability Bonds would continuously generate and display prices that would be of immense value in maximising the **efficiency of allocation of investors' resources** (see chapter 5 'Efficient costing of objectives').
- That formulating the redemption terms for Climate Stability Bonds would entail clarifying of **what is actually wanted**. 'Climate stability' as targeted by Climate Stability Bonds could be defined such that bondholders would tackle only the negative effects of climate change.

Following up this last point, there might be large immediate benefits for humanity if one component of the goal targeted by Climate Stability Bonds **were 'the numbers killed or made homeless by adverse climatic conditions'**. A **bond regime would allow that sort of flexibility**; Kyoto does not.

Trying to stabilise the world's climate is going to require a huge range of different projects. Reducing greenhouse gas emissions or sequestering carbon might be helpful, but they are not necessarily going to be cost-effective. Other ways yet to be discovered could be far cheaper. Kyoto is deficient in that it offers no incentives to find out how to achieve a stable climate most cost-effectively. Climate Stability Bonds would encourage the most efficient solutions given the knowledge available at any time, and they would stimulate research into finding ever more cost-effective solutions. This would occur because of the nature of the bond mechanism, and would require no presupposition as to the optimal set of solutions. The bond issuers would dictate only the objective — climate stability — not the ways of achieving it. Crucially too, this objective could be so defined as to attract more political **and public support than Kyoto's cuts in greenhouse gas** emissions. Without such support no policy addressing climate change is likely to be coherent, let alone successful.

Kyoto may not go far enough

The debate about climate change is so politicised that criticism of the Kyoto Protocol is often taken to be synonymous with denial that climate change is **happening. In fact, it's quite possible that Kyoto would be** far too little far too late, even if it were fully implemented. Then Climate Stability Bonds would be channelling more resources into mitigating or preventing climate change than will Kyoto and its successors. When the bonds are first issued, potential investors would decide how much they are worth. If they believe that governments aren't putting enough resources into redeeming the bonds, they

will ignore the bond issue or buy the bonds for virtually nothing and just sit on them. At that point, the issuing governments would have to put in more resources and issue more bonds. The value of all Climate Stability Bonds would then rise as would-be bondholders see that they can make worthwhile gains by doing something to stabilise the climate.

Carbon trading – a distraction

The flaws of carbon trading regimes:

- They are driven by government regulation, and as in any such activity, there is a high chance that politicians will change the rules of the game, at times of their choosing, with unpredictable consequences. Thus Latvia was at one point suing the European Commission for an increase in its allocation of allowances. There have been another several other such cases.³⁸
- They are too limited. Expensive bureaucracies are being set up whose whole focus is less on climate change than on meeting Kyoto compliance conditions. The trading mechanism is elegant but not linked in any reliable way with climate change targets. New Zealand's greenhouse gas emissions trading system isn't even coupled with an overall emissions target. Carbon trading *will not bring about climate stability, because it is not designed to do so.*³⁹

- Only big firms can afford to hire carbon accountants, liaise with officials and pay the costs of registering projects with the United Nations. Yet these are often the companies that local people battle hardest against in defence of their livelihoods and health.

Carbon trading seems likely to be a corporatist non-solution to the climate change problem. It is unlikely to discourage the industries most addicted to coal, oil and gas from carrying on exactly as before.

So under a bond regime, and unlike Kyoto, a firm commitment to stabilise the climate would not be the result of bargaining and deals struck between the various members of the relevant bodies. Rather, the resources devoted to mitigating or preventing climate change would be decided by would-be investors in Climate Stability Bonds: these people have powerful incentives to devote whatever resources are necessary to achieve climate stability – but no more.

What if Kyoto is on the right track, in the sense that emissions of greenhouse gases are actually the main cause of climate change? There are several reasons why Climate Stability Bonds could still perform better than Kyoto:

1. Reducing anthropogenic greenhouse gases might not be the best way of reducing the concentration of greenhouse gases in the atmosphere;

2. Reducing the concentration of greenhouse gases in the atmosphere might not be the best way of preventing or mitigating climate change;

3. Preventing climate change might not be the best way of preventing the worst effects of climate-induced catastrophe.

A Climate Stability Bond regime would also be more adaptive than Kyoto. Even if capping greenhouse gas emissions is currently the best way of preventing climate change it might not always remain so. Climate Stability Bonds could adapt to our expanding knowledge: Kyoto cannot.

But even if we assume that capping anthropogenic greenhouse gas emissions is consistently found to be the best way of averting climate change and its worst effects; *even then*, this author believes that Kyoto is deeply flawed. How would a Climate Stability Bond be better in those circumstances? Holders of Climate Reduction Bonds would still target anthropogenic greenhouse gases in a similar fashion to Kyoto, but they would have *strong incentives to do so more efficiently*. They would want and would have wider scope for action. For example, they wouldn't be bound by political correctness or realpolitik of the sort that exempts some countries that emit huge quantities of greenhouse gases from any disciplines at all. They would have the flexibility to buy these regimes off or otherwise undermine any weakening of the disciplines. Kyoto is so politicised and its money flows so unpalatable **that it is seen as an imposition: in the rich countries it's** seen as an imposition by environmentalists on everybody

else. In the poor countries it's seen as an imposition by the rich countries on them. Kyoto means huge upfront costs for a very small payoff well into the future. Being a political construct it is so compromised that even its most ardent advocates think it ineffectual in its own right. They see it as first step; but it is one that might well not be taken – as distinct from being endlessly discussed, debated and written into law.

A bond regime, however, would target an outcome that ordinary people can understand, empathise with, and support; and that would entail taxpayer spending only when it had been achieved. Such buy-in is essential for tackling climate change: an urgent challenge that will concern the entire planet for decades to come.

Climate Stability Bonds: questions and answers

To make climate stability bonds a viable solution, wouldn't there have to be a lot of them; enough to make them preferable to business as usual?

Certainly, or to be a bit more accurate, the total redemption value of the bonds would have to be significant. Note though (1) that the bonds could complement existing efforts to combat climate change and (2) that the redemption funds could be supplemented by contributions from government or anybody else throughout their lifetime. The market prices of the bonds, and their changes, would help the bonds' backers decide whether to issue more bonds after the initial float.

A Climate Stability Bond regime could mean offering industry a part of the payoff in order to keep them from polluting: is that not like bribery? Shouldn't such antisocial behaviour be regulated by laws, and rewarded?

Factories that emit pollutants are not necessarily engaging in antisocial behaviour. They might be generating many more positive than negative externalities. If their pollution is illegal then the emitters should be tackled by the law. But what about behaviour that is not illegal, and that is partly antisocial and partly pro-social, like a typical factory in a western country? Bondholders would have powerful financial incentives to seek out those factories that pollute most and (1) see whether they are in fact complying with the law and, if they are not, report them to the authorities, and (2) if they are operating legally, offer a subsidy (bribe) to install cleaning equipment, or to reduce its output, or close down completely.

Bondholders will also have incentives to lobby for more stringent laws, and to persist in monitoring all polluters for their compliance with the laws. Note that this sort of bribery already goes on: owners of dirty cars are often rewarded for trading up. Smokers in Dundee, UK, are being offered rewards for quitting.⁴⁰ North Korea is offered aid in exchange for suppressing its nuclear programme. The alternatives are so dreadful that notions of fairness or justice are less relevant than securing the desired outcome at almost any cost.

¹ *The Meaning of Recognition: New Essays 2001-2005*, Clive James, Picador, 2006 (page 4); available online at <http://www.clivejames.com/lectures/recognition> (sighted 18 July 2008).

² *The Centralised Road to Mediocrity*, John Kay, 'Financial Times', 28 February 2006, available online at <http://www.johnkay.com/political/431>, sighted 18 July 2008.

³ *Why states believe foolish ideas: non-self-evaluation by states and societies*, Stephen Van Evera, MIT Political Science Department and Securities Studies Program, 10 January 2002, version 3.5.

⁴ *The great granny grab*, Ross Clark, 'The Spectator', London, 17 August 2002.

⁵ *The irrationality of 'economics'* Jonathan Rowe, onthecommons.org, 29 May 2007; <http://onthecommons.org/content.php?id=1092>, sighted 18 July 2008.

⁶ *The oil we eat: following the food chain back to Iraq*, Richard Manning, 'Harper's Magazine', February 2004. Available at <http://www.harpers.org/archive/2004/02/0079915>, sighted 18 July 2008.

⁷ *Food, land, population and the US economy*, David Pimentel and Mario Giampietro, November 1994; <http://www.dieoff.com/page55.htm>, sighted 18 July 2008.

⁸ *Rail loses the environmental advantage*, 'Modern Railways', June 2004.

⁹ *The Ecology of Commerce*, Paul Hawken, HarperCollins, 1994, ISBN 0887307043.

¹⁰ *Black swans: the impact of the highly improbable*, Nassim Nicholas Taleb, Random House, April 2007, ISBN 978-1400063512. (The summary of this point is based on a review of the book, titled *Advice from a chimp* 1) *no experts*, 2) *more mess*, by Daniel Finkelstein, writing in 'The Times', 27 June 2007.

¹¹ *Polluted Data*, Eban Goodstein, 'The American Prospect', 30 November 2002. Available online at http://www.prospect.org/cs/articles?article=polluted_data (sighted 18 July 2008).

¹² Ibid.

¹³ Letter to the editor of 'The Economist', by Peijing The, 'The Economist', 7 December 2006; http://www.economist.com/opinion/displaystory.cfm?story_id=8380052, sighted 18 July 2008.

¹⁴ *Brit's eye view: are we too obsessed with climate change?* Peter Madden, online discussion at 'Grist'; <http://gristmill.grist.org/story/2007/8/20/11026/6273>, sighted 18 July 2008.

¹⁵ Ibid.

¹⁶ See Hayek, F A, *The Pretence of Knowledge*, in his *New Studies in Philosophy, Politics, Economics and the History of Ideas*, Routledge and Kegan Paul, 1982, ISBN 0710087421.

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