



Growth isn't working

The unbalanced distribution of benefits and costs from economic growth

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Global economic growth is an extremely inefficient way of achieving poverty reduction and is becoming even less effective. Between 1990 and 2001, for every \$100 worth of growth in the world's per person income, just \$0.60 found its target and contributed to reducing poverty below the \$1-a-day line. As a result, to achieve a single dollar of poverty reduction, \$166 of extra global production and consumption is needed, with enormous environmental impacts which counter-productively hurt the poorest most.

We need to move decisively away from the inefficiency of relying on global growth for poverty reduction, towards a system in which policies are designed explicitly and directly to achieve our social and environmental objectives, treating *growth* as a by-product.

Contents

The growth dilemma: poverty reduction versus the environment?	1
Finding the right question	6
Economic growth: the wrong measure	8
Growth and distribution: a comparison	18
The distribution solution: how sustainable?	21
So what? Policy implications	23
Conclusions	25
Endnotes	26

Summary and abstract

The purpose of this paper is to question a notion which has become otherwise unquestionable in mainstream economics. It is a policy-maker's shibboleth*. It is the idea that a growing global economy is the indispensable foundation for solving all economic problems and, in particular, for reducing poverty.

The governments of the world have committed themselves to meeting the Millennium Development Goals (MDGs). The over-arching first goal, MDG1, aims to halve the proportion of the population of developing countries living below the '\$1-a-day' poverty line. Its benchmark is the proportion that lived below the line in 1990, and the target year to meet the goal is 2015. How can this best be achieved?

The answer, we are told, is growth. Poverty reduction, according to the orthodoxy, requires rapid economic growth in developing countries; economic growth in developing countries in turn requires rapid growth in the global economy; therefore poverty reduction requires the fastest possible growth in the global economy. If this creates environmental problems, conventional wisdom puts faith in technology to reduce the damage.

But the severity of current environmental problems like climate change, which threatens the poorest most, is coupled with a rate of technological improvement that, from the perspective of environmental adequacy, is too slow. This appears to give rise to serious tension between the objectives of human development and poverty reduction on the one hand, and environmental sustainability on the other. But is this tension inevitable, or does the world view underlying it rest on false logic?

This new analysis indicates that global economic growth is an extremely inefficient way of achieving poverty reduction – particularly MDG1 – and is becoming even less effective. **Between 1990 and 2001, for every \$100 worth of growth in the world's income per person, just \$0.60 found its target and contributed to reducing poverty below the \$1-a-day line. To achieve every single \$1 of poverty reduction therefore requires \$166 of additional global production and consumption, with all its associated environmental impacts. This approach is both economically and ecologically inefficient.**

It will be highly improbable to reconcile the objectives of poverty reduction and environmental sustainability if global growth remains the principal economic strategy. The scale of growth this model demands would generate unsupportable environmental costs; and the costs would fall disproportionately, and counter-productively, on the poorest – the very people the growth is meant to benefit.

* Shibboleth: a pronunciation, or the use of a particular expression that identifies one as a member of an 'in' group. A person whose way of speaking violates a shibboleth is identified as an outsider and excluded (ref: *The story of the shibboleth*, Professor S. Kemmer, Rice University).

The growth dilemma: poverty reduction versus the environment?

“That which seems to be wealth may in verity be only the gilded index of far-reaching ruin.”

John Ruskin¹

The two greatest challenges facing the global economy are eradicating poverty and achieving environmental sustainability. Dealing with poverty is a moral imperative. Two definitions of poverty are generally used, generally referred to as ‘\$1-a-day’ and ‘\$2-a-day’ – although both poverty lines are in reality even lower than they at first sound (see Box 1). Even on the basis of the World Bank’s data, 45 per cent of the world’s population – some 2.8 billion people – live below the ‘\$2-a-day’ poverty line; and more than 1.1 billion – more than the total population of the developed world – below half of this income level.

That nearly half of the world’s population should live in the 21st century in such poverty that up to one-third of their children die before they reach the age of five, at a time of unprecedented wealth among the world’s rich, can only be described as a moral outrage.

If poverty reduction is a moral imperative, resolving our current environmental crises is, in many respects, a practical necessity. The concentration of greenhouse gases in the atmosphere has been rising steadily since the industrial revolution as a direct consequence of burning fossil fuels to power economic activity. Emissions have risen dramatically as the global economy has grown over the last few decades (see Figure 1 overleaf).

Box 1: What does ‘\$1-a-day’ really mean?

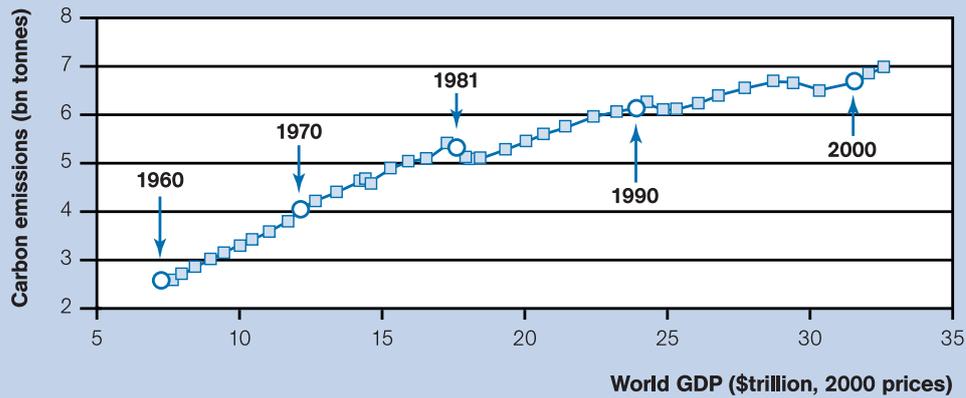
Although we are used to referring to ‘the poor’ as people living below the \$1-a-day poverty line, this is not really \$1-a-day as we normally understand it. It actually refers to consumption of \$1.08 per person per day at 1993 prices, at a notional purchasing power parity exchange rate. This means that living below the \$1-a-day line anywhere in the world is, in principle, equivalent to having less than \$1.08 per person per day available to spend on all one’s needs *in the US* in 1993. **At market exchange rates, this translates into a much smaller amount, between about \$0.20 and \$0.70 (10p to 40p) per day in most developing countries.**

Adjusting for subsequent inflation and converting this into pounds, and allowing for differences in purchasing power, this is equivalent to about £0.67 per day in the UK at the beginning of 2006. Moreover, the definition is based on consumption, not income. So anything which a household buys by using its savings, by borrowing money or by selling its possessions is included, as is anything which is grown, gathered, found, scavenged, stolen or received as a gift.

To put that into perspective, and to illustrate the almost unimaginable differences between even those at the bottom of the pay scale in the UK and those living below the global poverty lines: **this means that someone working 40 hours a week at the adult minimum wage (£5.05 per hour), paying £1,600 in tax, unable to borrow, with no savings to draw on, and receiving no benefits or free goods or services of any kind from any source, would have to be supporting at least 18 dependants to experience life like those living below the \$2-a-day line, or 36 to be below the \$1-a-day line.**

In a typical developing country, somewhere between one in six and one in twelve children in households at the \$1-a-day line die before their fifth birthday, and between one-third and one-half of the survivors have their growth stunted. In Niger, the under-five mortality rate at the \$1-a-day line is more than one in three.² The overall rate in developed countries, by comparison, is around one in 150.

Figure 1: World GDP and Fossil Fuel Carbon Emissions, 1960–2002



Source: CDIAC, World Bank

According to UK Prime Minister Tony Blair's Climate Change Task Force, at current rates of economic growth-related increases in greenhouse gas concentrations, a level could be reached within a decade commensurate with environmental feedbacks that, in turn, may trigger irreversible global warming.³ Yet, even current levels of warming can seriously undermine the livelihoods of the poorest people.⁴

Poverty can only be reduced, we are told, through continued – and ideally faster – growth of the global economy. This message, which is often linked with injunctions to follow orthodox economic policies, has become a mantra of the international financial institutions, as these illustrative passages from speeches by Anne Krueger, second in charge at the IMF, show.

“A healthy rapidly growing world economy is desirable for everyone – and it is vital if we are to see more rapid growth in Africa. It is vital, too, for African countries to be full participants in the global economy. No country has achieved the sustained rapid growth needed to reduce poverty without opening up its trade with the rest of the world... The rapid growth of the world economy that followed the Second World War was unprecedented. And the surge in global growth led directly to improvements in material welfare and in the quality of life. Most people in most countries shared in the benefits of this... Economic growth is the principal route to lasting poverty reduction.”⁵

“Of course, the poor have yet to benefit as much as they – or we – would like. And the benefits they have enjoyed—greater access to the outside world through television, for example [sic]—have to some extent increased their awareness of the living standards that others enjoy. But the solution is more rapid growth – not a switch of emphasis towards more redistribution. Poverty reduction is best achieved through making the cake bigger, not by trying to cut it up in a different way.”⁶

At the same time, however, there are serious and growing concerns about the effects of global economic growth on the environment. This is true particularly in terms of the implications of climate change, but also for the exhaustion of natural resources – most notably (and paradoxically) oil, whose rising price undermines the economies of oil-importing poor countries. It should be noted, however, that our current closeness to key climatic thresholds and the plentiful availability of other fossil fuels means that oil depletion does not solve climate change.

When the World Bank, the IMF's sister organisation, assessed the literature on growth and environmental degradation, it concluded that a general rule applied: “A growing economy imposes even greater demands on natural resources and makes management interventions crucial.” As income rises, some suggest that a point arrives where certain things improve, like air and water quality. But, as the Bank observes, at whatever rate an economy grows, there is still an absolute depletion of natural resources, such as forestry, fisheries, soil and the natural capital of

coastal regions. Therefore, “neither rapid nor slow growth is an automatic ally of natural capital”, and fast growth especially creates pressure causing a decline in its “quality”. Although factors such as air and water quality can improve as societies grow conventionally wealthier, according to the Bank, assuming that improvements will occur is dangerous because “many developing countries cannot reach the turnaround income level for decades”.⁷

Who’s costing the earth, and who’s paying the price?

According to the most recent assessment of humanity’s ecological footprint, in 2002, human demands on the planet, transmitted through our growth-based economies, exceeded the biosphere’s regenerative capacity by more than 20 per cent.

Nature can tolerate certain degrees of over-exploitation, but persistent over-burdening leads to the collapse of ecosystems and natural resource availability. In his book *Collapse*, Jared Diamond attributes repeated historical collapses of civilisations to human inability to identify the point at which societies pass the point of ecological no-return.⁸

Also, our environmental demands are very unevenly distributed. Europe’s levels of consumption amount to more than double its own domestic biocapacity, meaning that European lifestyles can only be sustained by depending on the natural resources and environmental services of other nations.

The world’s total available biocapacity is a single planet consisting of 11.5 billion hectares of biologically productive space – areas of grassland, cropland, forests, fisheries, and wetlands. There are approximately 6.4 billion people on the planet. So, on average, there are 1.8 hectares of ‘environmental space’ per person.

In Europe, on average, we require 4.7 global hectares to produce the resources we consume and absorb the wastes we generate. Overall the figure has nearly doubled since 1961.⁹ Given that the EU only has 2.3 global hectares available per person, the rest of its footprint falls with a thud outside Europe’s borders. The figure is even higher in the UK (at 5.4 global hectares per person), only slightly lower in Japan, and twice as much in the USA.¹⁰

Worse, as the world economy grows, so does the footprint, taking us further and further away from living within our environmental means, and the target of real sustainability.

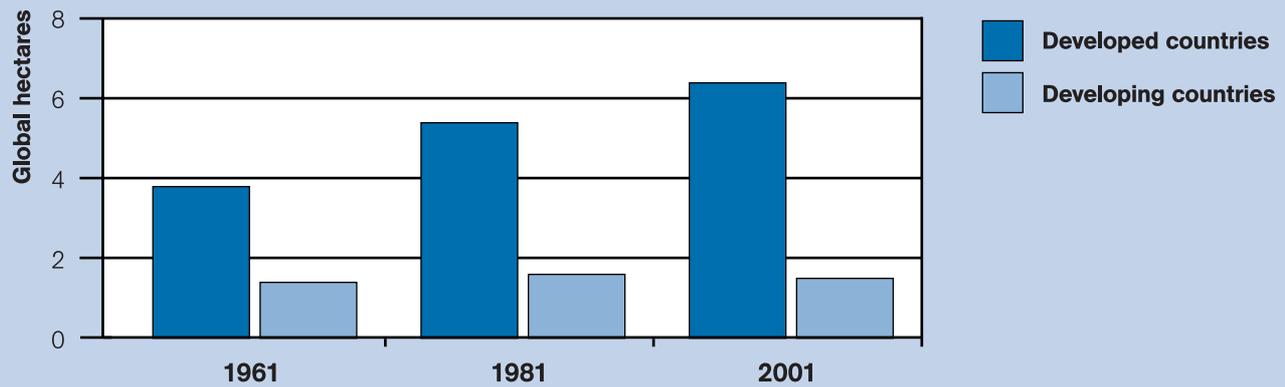
Moreover, the ecological burden exerted per person has grown much faster in high-income countries than in developing countries. The footprint per person in the wealthy group grew from 3.8 global hectares per person in 1961, to 5.4 in 1981 and 6.4 in 2001 – an overall increase of 68 per cent. In developing countries, the increase over the same period was just 7 per cent – one-tenth as much – from 1.4 global hectares per person in 1961 to 1.5 in 2001; and it actually *fell* between 1981 and 2001¹¹ (see Figure 2).

In the process of their voracious growth, the economies of Europe and the United States are setting aspirational models of economic development for the rest of the world to follow. But to copy their lifestyles, in an environmental context, is fundamentally unsustainable. For everyone on Earth to live at the current European average level of consumption, we would need more than double the biocapacity actually available – the equivalent of 2.1 planet Earths – to sustain us. If everyone consumed at the US rate, we would require nearly five.¹²

But while rich countries are disproportionately *causing* environmental problems, it is the poor countries – and especially the poorer people within them – who suffer the most serious consequences.

The problem is one of inverse dynamics. As this paper argues – and a substantial body of evidence now shows – the benefits of economic growth accrue only very weakly to the poorest members of the global community. The costs of growth, however, for example in the consequences of global warming, fall disproportionately on the poorest. As a result, the pursuit primarily of an economic growth strategy to eradicate poverty quickly becomes perverse.

Figure 2: Average environmental footprint per person, 1961–2001



Source: Global Footprint Network

It is as if a rich person and a poor person are travelling in separate vehicles to escape a steadily expanding cloud of toxic gas produced by the fuel that powers their vehicles: the wealthy person in the faster car moves ever further ahead of the poorer person, whose vehicle is slowly enveloped in the toxic cloud. Soon, the poorer person finds that they can barely see and then finds driving ever more difficult as they physically weaken.

A system has emerged in which the already wealthy become both relatively and absolutely wealthier, receiving the bulk of the benefits of growth. At the same time, the poorest slip further behind economically, and have their well-being and prospects further undermined by environmental degradation.

The climate barrier

Recent US research published in the proceedings of the National Academy of Sciences showed that in the second half of the last century (with some variation) “the Sahel, the transition zone between the Saharan desert and the rainforests of Central Africa and the Guinean Coast... experienced a severe drying trend.” The models used by the researchers predict a drier Sahel in future primarily due to human-caused rising greenhouse gas emissions. Such a trend will have “far-ranging implications for the economy and ecology of the region”.¹³ Other research from the US National Oceanic and Atmospheric Administration describes a 20 per cent drop in rainfall in drought-prone southern Africa in the second half of the last century and predicts, “much more substantial ongoing drying”.¹⁴

The potential consequences of such trends are indicated by recent experiences in the region. Since 2001, consecutive dry spells in southern Africa have led to serious food shortages. According to the UN Office for the Coordination of Humanitarian Affairs, the drought of 2002–03 resulted in a food deficit of 3.3 million tonnes, with an estimated 14.4 million people in need of assistance.¹⁵

Globally, natural disasters, most of which are related to the earth’s hydrological cycle and are therefore directly affected by climate change, devastate the lives of the poorest people most, according to the World Bank’s Hazard Management Unit. The poor are more likely to occupy dangerous and vulnerable sites, such as flood plains, river banks, steep slopes and reclaimed land. According to the Red Cross’s *World Disasters Report*, the frequency and cost of natural disasters will increase due to a combination of environmental degradation, climate change, urban population growth and economic globalisation.¹⁶ Of all deaths from natural disasters, 96 per cent occur in developing countries.¹⁷

Rising vehicle traffic is another typical feature of conventional economic growth. Deaths, injuries, and ill health due to vehicle accidents and related pollution are classic external costs of growth. According to research from the World Bank and World Health Organisation, an estimated 1.2 million fatalities and up to 50 million injuries each year are attributable to traffic accidents. Again, poorer countries are

disproportionately affected: 85 per cent of all traffic-related deaths, 96 per cent of child deaths and 90 per cent of lost 'disability-adjusted life years' (DALYs, a standard WHO measure to compare disease burdens) are in low- and middle-income countries. Fatalities in these countries are set to rise 80 per cent by 2020.¹⁸

No quick fix: why technology isn't the answer

So we need to resolve our environmental crises – and we are morally obliged to eradicate poverty. But if eradicating poverty requires economic growth, and economic growth will make our environmental problems still more insoluble, how can we possibly achieve both?

To the extent that this question is even asked at present, the answer proposed is to seek a technological fix – to develop new technologies which will enable us to go on growing by reducing the environmental impact of each \$1-worth of goods and services we produce and consume.

Globally, real GDP grew at 3.0 per cent per year over the period 1980 to 2001.¹⁹ World energy consumption grew but at the lower rate of 1.7 per cent per year. In non-OECD countries, real GDP rose 3.5 per cent per year and carbon dioxide emissions, 1.8 per cent. Although the rates of growth differ, the pattern of rise and fall, the rate of change is clearly linked²⁰ (see Figure 1).

If the link between growth and rising emissions could be severed to such an extent that the change in emissions not only slowed substantially, but became sufficiently negative, the clash between growth and global warming could potentially be reconciled. But, to what degree is that likely or possible?

To be successful would require a carbon Kuznets curve²¹ showing greenhouse gas emissions delinked from global economic growth to a degree sufficient to prevent greenhouse gas concentrations passing somewhere in the region of 450ppmv (parts per million by volume) of CO₂ equivalent – the level at which irreversible feedback effects could well occur.

But, there are several reasons to doubt that this scenario is either possible or likely. First, there are technical criticisms of the possibility of the neat hill-shaped relationship hypothesised by the carbon Kuznets curve, showing income and emissions rising together before emissions drop off.²²

Secondly, whilst economists tend to assume that increases in economic growth are limitless, there are strict limits, governed by the laws of thermodynamics, on efficiency increases in how we burn fossil fuels.

Efficiency has increased substantially over the course of the last century, driven by technological development. But there are physical limits to efficiency gains, and questions about how much further they can go. Even in the most optimistic scenario, in which a global political consensus on action held sway, and the most efficient technologies available were immediately and comprehensively applied, coupled with a massive shift towards the least polluting fossil fuel (natural gas), the result would be a fairly meagre delay of 24 years in reaching a given higher concentration of greenhouse gases in the atmosphere. In a more probable and recognisable political future, with continued economic growth, fuel efficiency measures could deliver only negligible delays in higher concentrations.²³

Finally, and importantly, none of the standard International Panel on Climate Change (IPCC) scenarios for the emissions arising from global economic activity show their concentrations being restrained to anything like the degree sufficient to prevent dangerous human interference in the climate system.

So, if economic growth is only negligibly benefiting the world's poorest people (even without adjusting for its social and environmental costs) and driving the atmosphere to the point of dangerous, irreversible upheaval, why is it the single over-riding goal of every government, of every economy, the world over?

Finding the right question

“Standard, neoclassical economics strains out the gnats of allocative inefficiency while swallowing the twin camels of unjust distribution and unsustainable scale. The concept of uneconomic growth [has] to be incorporated into our economic thinking if it is to be capable of expressing what is really happening in the world.”

Herman Daly, 2003, *Uneconomic Growth and the Illth of Nations: Defining the Optimal Scale of the Macro Economy*.²⁴

Regardless of how reliable or reckless it is to be technologically optimistic, appeals to a purely technological solution are asking the wrong question. Development of new technological solutions could be pursued equally in a context of high or low growth. High growth may generate more resources for investment – but it also creates a greater need for those resources to be invested in increasing the volume of production, to meet growing demand. This means that its effect on the availability of resources for investment in environmentally friendly technologies is ambiguous.

Moreover, given the scale of certain impending environmental disasters, such as global warming, the rate at which we are approaching them, the limited scope for resolving this problem with a purely technological approach, and the long time lags inevitably entailed, it seems clear that we need *both* slower growth *and* as much technological progress as we can achieve. Technological improvement will happen by necessity, but alone it represents no more than a small step in the right direction. It does not offer a viable solution to the growth dilemma.

Growth and poverty reduction: a necessity or a diversion?

If attempts to delink environmental damage from growth do not provide an answer, then could delinking poverty reduction from growth provide a more viable alternative? Because, although the iron grip of economic orthodoxy makes even the proposition sound strange, poverty could, indeed, be reduced without growth.

Changes in the incomes of poor households can be seen as a product of two variables: economic growth (increasing overall income), and changes in the share of poor households in total income (distribution of income). It would be entirely possible to off-set a slower rate of growth – or even a decline in total income – by increasing the share of poor households in total income.

There is growing recognition that distribution is important to poverty reduction as well as growth. In an article in *The Economist* in 2001, Robert Wade said that:

“It is remarkable how unconcerned the World Bank, the IMF and other international organisations are about these trends [towards increasing polarisation of global incomes]. The Bank’s World Development Report for 2000 even said that rising income inequality ‘should not be seen as negative’ if the incomes at the bottom do not fall and the number of people in poverty falls. Such lack of attention shows that to call these world organisations is misleading.”²⁵

Perhaps stung by such criticisms, the World Bank has recently increased its attention to distributional issues, devoting the 2006 edition of its flagship publication, *The World Development Report* to the topic of ‘Equity in Development’.²⁶ However, it insists that “from an equity perspective, the distribution of *opportunities* matters more than the distribution of *outcomes*” (p. 4), and

appears concerned with equity primarily because “with imperfect markets, inequalities in power and wealth translate into unequal opportunities, leading to *wasted productive potential* and to an *inefficient allocation of resources*” (p. 7); and because “unequal power leads to the formation of institutions that perpetuate inequalities in power, status and wealth – and that typically are also *bad for investment, innovation and risk-taking that under-pin long-term growth*” (pp. 8–9).

In short, while paying lip-service to “intrinsic motives” for promoting equity, its main concern is with the possibility of inequity undermining economic growth. When it comes to substance, business-as-usual still reigns, and there is no sign as yet of any concern with equity being translated into changes in the economic policies pressed on developing country governments. Thus an Epilogue to the 2006 *World Development Report* says (emphasis added):

“recognizing the importance of equity... implies the need to *integrate and extend existing approaches* [to development]”.²⁷

However, there is a logical problem in this whole approach, to the extent that it rests on an unsupportable conceptual separation of income growth and income distribution. This assumes, both implicitly and sometimes explicitly, that growth and distributional change occur independently of each other, so that growth can be pursued with one set of policies, leaving distribution to be adjusted by a separate set of redistributive measures.

This is conceptually incoherent. Economic changes (including policies) act on individual incomes in different ways, according to how each person earns and spends his or her income. Average income and income distribution are two ways of summarising the same set of variables – the individual incomes of the population – so, if one changes, the other will almost certainly change too. And how distribution alters will be critically dependent on the policies which are used to achieve growth.

In 2000, the World Bank published – and vehemently promoted – a paper by David Dollar and Art Kraay, entitled “Growth is Good for the Poor”.²⁸ This purported to prove statistically that the income of the poor (defined as the poorest fifth of the population) increased one-for-one with overall income, and that standard “pro-growth” policies and openness to trade were therefore beneficial for the poor. However, this paper (and subsequent versions of it^{29,30} have been robustly criticised, and its findings (particularly on policy and trade openness) are widely seen as being discredited by serious flaws in its methodology, compounded by the inevitable problem of data quality.^{31,32,33}

To investigate the relationship between growth and distribution, or even to make assumptions about it, is in any case to ask the wrong question. The question is not whether *growth* affects distribution (or *vice versa*), but whether *economic policies designed to promote growth* affect distribution. The worst outcome of all, in terms of poverty reduction, is to pursue policies which sacrifice distribution to prioritise growth, but which in practice fail to generate increased growth. This is the story of most developing countries for most of the last 25 years.³⁴

Ironically, when it comes to positive policies designed to promote redistribution, free-market economists are among the first to assert the existence of a connection, albeit a negative one. For example, they argue that tax/transfer-based redistribution measures weaken growth by undermining incentives – even though economic theory is ambiguous on this, and the evidence is inconclusive.³⁵ But to say that policies for redistribution impede growth is inconsistent with asserting that policies to promote growth do not affect distribution – particularly as these may include the reversal of policies designed to effect redistribution.

Economic growth: the wrong measure

In the light of these considerations, there is no fundamental reason to pursue economic growth as a primary objective of policy, or to consider it as the key indicator of economic performance. Economic growth does not, in itself, make people's lives any better.

Several factors help to explain why this is the case.

- Generally speaking, only paid work is taken into account in growth calculations (although there are some exceptions, notably subsistence agriculture). A major distortion is exclusion from national accounts of **unpaid work** within the home, which is essential to health and contributes considerably to well-being, but is not considered as production. To take a purely hypothetical example, suppose that Parent A takes a paid job looking after the children of Parent B, and in turn pays Parent B the same amount to look after his/her children. Both incomes will then add to national income, and to economic growth, even though nothing additional is being produced and no-one is any better off financially. Thus a shift away from self-reliance generates economic growth without any increase in well-being. In countless, though slightly more complicated, real-life examples, from household maintenance and decorating to cooking and cleaning, this scenario is played out over and over again.
- National income accounting, on which growth calculations are based, does not take any account of **non-financial aspects of well-being**, such as **working time**. For example, if production were increased by 10 per cent as a result of everyone working 10 per cent longer, people would not be 10 per cent better off, because of the extra time they were working. But the measured growth rate is the same whether working time is increased or not. Similarly, no account is taken of the effects of changes in **uncertainty** or **financial insecurity**. Similarly, in the child care example, neither the immediate social and psychological costs of separating young families nor any longer term effects, e.g. on crime or health, are counted.
- National accounts also include **defensive consumption**, without taking account of the social problems which give rise to it. Thus the additional spending required to clean up pollution, to maintain security in the face of increasing crime or social unrest, or for national defence in response to increasing international tensions all *add* to national income and growth.
- Most importantly in the present context, growth calculations take no account of the **distribution of income**. National accounts treat \$1 of income identically, whoever receives it. This is clearly unrealistic and counter-intuitive: the effect of an additional \$100 on the well-being of a household with an income of \$100 is clearly far greater than for a household with an income of \$1 million. As a result, the effect of a given change in aggregate income on well-being is critically dependent on *whose* income is increased. **This means that from a well-being perspective, the incomes of the rich are systematically over-valued at the expense of the incomes of the poor.** If we set economic growth as our policy objective rather than well-being, it institutionalises this serious distortion, so that policies will inevitably result in a lower level of well-being than could otherwise be reached by biasing policies towards the worse-off.

The myth of 'pro-poor growth' – and three definitions

The World Bank has responded to distributional concerns by shifting its language from growth promotion to the promotion of 'pro-poor growth'. One might reasonably conclude that this change represents a step towards increasing emphasis on poverty reduction, and greater efforts to ensure that the poor benefit more from growth – a rather overdue change of focus given the Bank's self-proclaimed mission to reduce poverty.

The shift in language, however, is greater than the shift in the underlying reality. The term is also potentially misleading. There are two main contenders for the definition of pro-poor growth (later we introduce a third, and, we believe, more meaningful definition):

- **Definition 1:** that the incomes of the poor should grow by at least as much, on average, as the incomes of the non-poor – that is, that growth should be accompanied by a reduction (or at least no increase) in inequality.^{36,37,38}
- **Definition 2:** that growth should result in some increase in the incomes of the poor, however small.^{39,40,41}

The latter definition makes the term 'pro-poor growth' extremely misleading. It considers as pro-poor, economic growth that is accompanied by a considerable increase in inequality. For example, to define growth as 'pro-poor' when the annual income of the average rich person increases from \$10,000 to \$11,000, while that of the average poor person rises from \$100 to \$100.01, would seem to render the term virtually meaningless.

However, even the first of the definitions seems unduly lax. At first sight, it might seem reasonable to consider growth as 'pro-poor' if the incomes of the poor rise at least as much as those of the rich. However, the criterion is the *percentage* change in income, not the *absolute* change. This means only that the share of the poor in the proceeds of growth should be no less than their initial share in income – which, by definition, is relatively small.

Even in a relatively equal society such as the UK, the share of the poorest 10 per cent of the population in income – or pro-poor growth – is only 2.8 per cent, while that of the richest 10 per cent is 28 per cent – ten times as much.⁴²

This means that, even by the stronger definition, 'pro-poor' growth may benefit the richest 10 per cent ten times as much as the poorest 10 per cent. In many other countries – the US as well as most developing countries – inequality is much greater, and so is the pro-rich bias of 'pro-poor' growth.

There are three reasons for the apparent discrepancy between the rhetoric of pro-poor growth and the reality:

It arises because the language of pro-poor growth presupposes a growth-focused strategy. As a quantifiable target of policy to be maximised, the increase in the overall incomes of the poor may be appropriate (although it would be desirable to temper this, e.g. by taking account of income distribution *among* the poor, effects on non-financial well-being, etc). However, the phrase 'pro-poor growth' implies that the question being asked is how pro- (or anti-) poor a given rate of growth is in a particular context – and this definition is entirely incapable of addressing that question.

This raises the question of why the concept of maximising the increase in the incomes of the poor should be termed 'pro-poor *growth*' when it is quite conceivable that it could best be achieved in some contexts through policies which increase the incomes of poor households at the expense of the non-poor, in such a way as to reduce economic activity rather than increasing it – that is, it may actually require *negative* growth. In other words, referring to this concept as pro-poor growth (rather than, for example, income poverty reduction) implies, quite erroneously, that it necessarily *requires* growth.

The discrepancy arises because people assume that it is only the *absolute* incomes of the poor which matter. Absolute changes in income are undoubtedly much more important at the bottom of the global income distribution than they are

Table 1: Growth required for poverty reduction in selected developing countries

Income	Inequality		Population below “\$2-a-day” poverty line (%)	Share of poor households in income/growth (%)	\$ growth required per \$ of poverty reduction
Low	High	Central African Rep.	82.5	24.0	4.16
Low	Medium	Cameroon	50.6	9.6	10.38
Low	Low	Kyrgyz Republic	27.2	12.3	8.10
Medium	High	Namibia	53.9	4.5	22.39
Medium	Medium	Philippines	46.9	7.3	13.65
Medium	Low	Ukraine	21.5	3.5	28.45
High	High	Botswana	45.0	3.5	28.85
High	Medium	Malaysia	32.1	2.5	39.92
High	Low	Latvia	9.2	0.8	124.67

Source: Carbon Dioxide Information Analysis Center. Global CO₂ emissions from fossil fuel burning, cement manufacture, and gas flaring; 1751-2002.

to the majority of the population of developed countries. In the latter case, around 85 per cent of people live above the level at which absolute income ceases to affect well-being. But, even among the poor, relative incomes may nonetheless have some significance, as they do at higher absolute income levels, for example through their effects on social status and self-worth.

The importance of relative incomes is increased immeasurably if we relax one key assumption – that there are no costs associated with economic growth. In practice, of course, there are very considerable costs attached to growth, in a world which is approaching – and may even have reached – certain environmental constraints. This applies particularly to limits on carbon emissions, which, if transgressed, will rebound most devastatingly on some of the world’s poorest people. In this real world context, the question of how much poverty reduction is achieved *relative to overall economic growth* becomes a critical consideration.

This is illustrated in Table 1, for a selection of developing countries with different levels of income per capita and inequality. For the countries with the highest overall income levels – the World Bank’s upper-middle-income category – poor households account for no more than 3.5 per cent of national income. This means that, even if inequality does not increase, it takes between \$29 and \$125 of economic growth, with all the associated environmental costs, to achieve each \$1-worth of poverty reduction.

For the middle-income group (the World Bank’s lower-middle-income category) the share of the poor in income is only 3.5–7.5 per cent. In that case, \$14–28 of growth is required per \$1 of poverty reduction. Even in the poorest and most unequal country in the group, the Central African Republic, where more than 80 per cent of the population lives below the \$2-a-day poverty line, they receive less than one-quarter of the income or the benefits of growth.

Thus including the ‘real world’ environmental effects of growth, and the ultimately unavoidable constraints they introduce, requires a third definition of ‘pro-poor growth’.

- **Definition 3:** that the poor should have a greater-than-average share in the additional income generated by growth *in absolute terms*.

Although this represents a better intuitive interpretation of the concept of pro-poor growth, it is one generally ignored or explicitly discounted as unrealistic, principally because it would require the incomes of the poor to grow much faster than those of the rich.^{43,44}

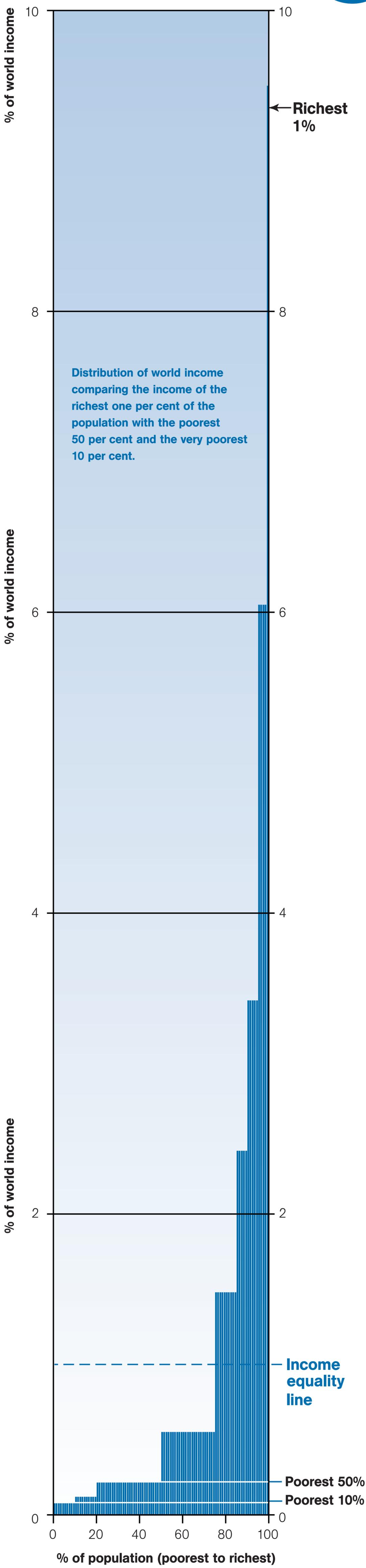


Figure 3
World Income Distribution, 1993

Box 2: Purchasing power parity or market exchange rates

In international comparisons, income levels are calculated in two ways:

- At market exchange rates (how many dollars can be bought with £1).
- At purchasing power parity (PPP) (how many dollars worth of goods, at US prices, can be bought with £1 in the UK).

In comparisons between developed countries, it makes relatively little difference which of these measures is used – typically ± 25 per cent. In making comparisons between developed and developing countries, however, the difference is far greater. In Burundi, to take the most extreme case, incomes were 7.5 times higher measured at PPP than at market exchange rates in 2004. For most developing countries, the two measures differ by a factor of between about 2 and 5.⁴⁸

Since the difference is typically greater at lower levels of income, the effect is to reduce the measured amount of inequality. Thus in 1993, the Gini coefficient for the world was 60 per cent using PPP, but 80 per cent using market exchange rates.⁴⁹ This makes it critically important which of these measures is used.

In **comparing living standards** and **setting poverty lines**, PPP is clearly more appropriate, as what we are interested in is how much people can buy with their income. In considering the potential for **income redistribution** (across national boundaries), however, the relevant consideration is income at market exchange rates, because this is the rate at which any transfers could be exchanged.

But, if our objective is to reduce poverty while remaining within environmental constraints, this is precisely what we want to measure – how much of the absolute increase in production and consumption associated with growth actually contributes to poverty reduction. Concerning ourselves only with the share of the poor in the benefits of growth *relative to their already seriously inadequate share in income*, becomes an irrelevance.

This logic becomes considerably more compelling if we extend it to the global level. The combination of inequality *within* countries with the extreme inequality *between* countries gives rise to a quite extraordinary degree of inequality among the population of the world as a whole. (See Figure 3). In fact the world distribution of income is substantially more unequal than even the most unequal country. Based on the Gini coefficient (the most widely used indicator of inequality), the highest level of inequality recorded for any country in the World Bank's *World Development Indicators* database is 74.3 percent, for Namibia in 1993. The score for the world as a whole in the same year has been estimated at 80.0 percent.⁴⁵

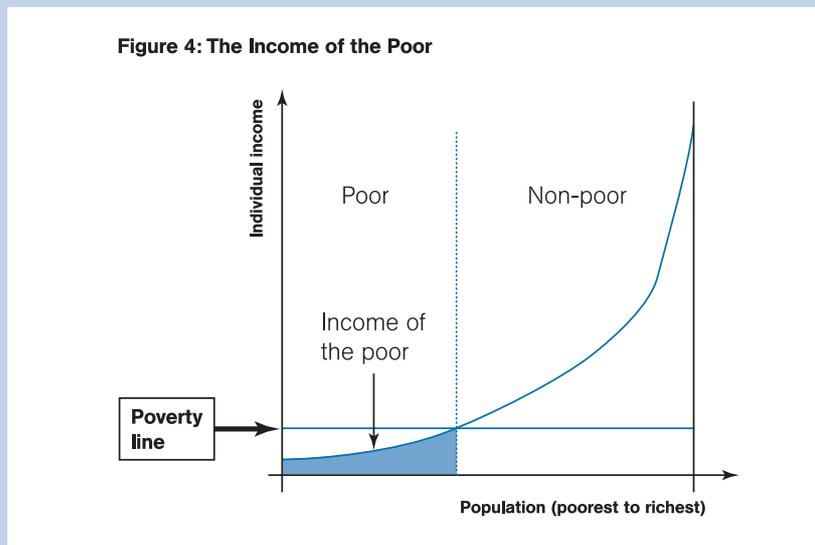
In 1993, according to the same study, the poorest 10 per cent of the world's population accounted for just 0.8 per cent of world income, compared with 50.8 per cent for the richest 10 per cent. The richest 1 per cent alone accounted for 9.5 per cent, implying an average income for this group some 120 times the average for the poorest 10 per cent.⁴⁶ **This means that the average benefit of global growth to someone in the richest 1 per cent of the population could be 120 times more than that of someone in the poorest 10 per cent, and yet it would still be considered 'pro-poor' even by the more progressive of the two definitions.** This is, to say the least, counter-intuitive.

In fact, even this figure understates the scale of the difference, for two reasons.

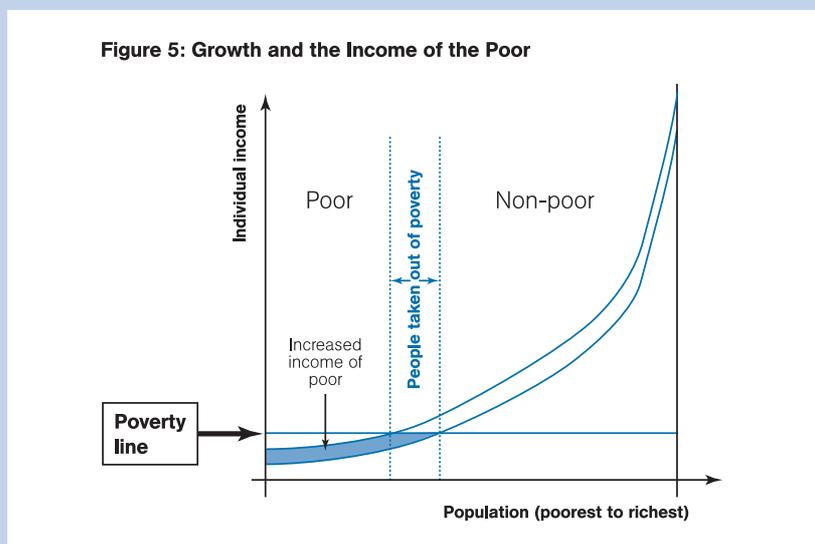
- 1 Increasing global inequality since 1993 will almost certainly have widened the gap still further. If the trend from 1988 to 1993 (an increase of 2.8 per cent per year) has continued since, the income ratio between the richest 1 per cent and the poorest 10 per cent will be in the order of 170 in 2006.
- 2 The figure of 120 is in purchasing power parity (PPP) terms – and the extent of inequality on the basis of market exchange rates is considerably greater. The study estimating the Gini index of inequality for the world as a whole as 80 per cent using market exchange rates found a figure of just 60 per cent based on PPP.⁴⁷ Based on the differences between market-based and PPP exchange rates in low-income countries, shifting to the former might roughly triple the gap between the richest and the poorest, to a factor of about 300–400 in 1993, and potentially up to around 500 in 2006.

Box 3: Comparing growth and poverty reduction

If we line up the population in order of income from the poorest (on the left) to the richest (on the right), and measure their incomes, we get a picture such as the curve in Figure 4. Superimposing the poverty line, the total income of poor households is the shaded area below the curve.



As incomes increase, so the income line rises, as shown in Figure 5. If we consider the change in the income of the poor between the two periods, however, this is misleading, as it will count the income of those who have escaped from poverty as if it were a reduction in the income of the poor. What we do instead, therefore (partly driven by the form in which the data are provided by the World Bank), is to include increases in the incomes of those escaping poverty up to, but not beyond, the poverty line – that is, the shaded area in Figure 5.



By comparing this with the total increase in income (the total gap between the two lines), we can measure how much of the additional income generated by economic growth contributes to reducing poverty.

Growth-led poverty reduction: how efficient?

Even if, for the sake of argument, we were to accept the idea that global growth was a viable route to poverty reduction, there is a serious question about how efficient it is in achieving this objective. This can be assessed by comparing the change in incomes below the poverty line with the increase in total global income over the same period. This is estimated in Tables 2–4, using the methodology outlined in Box 3.

Table 2: Estimates of Global Poverty

1981	Population	“\$2-a-Day” Poverty Line			“\$1-a-Day” Poverty Line		
		Poor (%)	Poor (million)	Income of Poor (\$bn)	Poor (%)	Poor (million)	Income of Poor (\$bn)
East Asia & Pacific	1,380	84.6	1,168	412	56.7	782	200
Europe & Central Asia	430	4.7	20	11	0.8	3	1
Latin America & Caribbean	365	27.4	100	47	10.1	37	10
Middle East & North Africa	169	28.9	49	27	5.1	9	3
South Asia	922	89.1	821	314	51.5	475	128
Sub-Saharan Africa	395	73.3	289	108	41.6	164	38
High income	846	0.0	0	0	0.0	0	0
World	4,507	54.3	2,447	919	32.6	1,469	380

1990	Population	“\$2-a-Day” Poverty Line			“\$1-a-Day” Poverty Line		
		Poor (%)	Poor (million)	Income of Poor (\$bn)	Poor (%)	Poor (million)	Income of Poor (\$bn)
East Asia & Pacific	1,597	69.6	1,111	491	29.5	472	137
Europe & Central Asia	466	4.5	21	12	0.5	3	1
Latin America & Caribbean	435	29.0	126	58	11.6	50	13
Middle East & North Africa	221	21.4	47	27	2.3	5	2
South Asia	1,120	85.5	958	401	41.3	462	133
Sub-Saharan Africa	510	75.0	383	138	44.5	227	51
High income	903	0.0	0	0	0.0	0	0
World	5,253	50.4	2,646	1,127	23.2	1,219	338
(population-adjusted)				(967)			(290)
1981 poor				1,289			531
(population-adjusted)				(1,106)			(456)

2001	Population	“\$2-a-Day” Poverty Line			“\$1-a-Day” Poverty Line		
		Poor (%)	Poor (million)	Income of Poor (\$bn)	Poor (%)	Poor (million)	Income of Poor (\$bn)
East Asia & Pacific	1,823	46.4	846	417	14.3	261	79
Europe & Central Asia	474	19.1	90	50	3.5	16	5
Latin America & Caribbean	519	25.2	131	60	9.9	51	13
Middle East & North Africa	279	23.2	65	37	2.4	7	2
South Asia	1,378	77.7	1,071	481	31.9	439	133
Sub-Saharan Africa	674	76.2	514	180	46.4	313	68
High income	982	0.0	0	0	0.0	0	0
World	6,128	44.3	2,716	1,225	17.7	1,087	301
(population-adjusted)				(901)			(221)
1990 poor				1,515			432
(population-adjusted)				(1,115)			(318)
1981 poor				1,705			659
(population-adjusted)				(1,254)			(484)

Notes: Data for poor (%) for developing regions are from the World Bank's PovCalNet (both being assumed to be zero for high-income countries). Data for population are from the World Bank's World Development Indicators Online. Poverty in high-income countries is assumed to be zero. All other figures are the authors calculations based on these data. “1981 poor” and “1990 poor” are the incomes attributable to the poor, plus an income equivalent to the poverty line multiplied by the difference between the actual number of people below the poverty line and the number who would have been below this line had the percentage of the population in poverty been the same as in 1981 and 1990 respectively.

Table 3: World GDP at Purchasing Power Parity (\$bn)

	1981	1990	2001
at 2000 prices	24,457	33,159	46,108
at 1993 prices	21,115	28,627	39,806
change (\$bn)		+7,512	+11,179
population-adjusted (\$bn)	21,115	24,558	29,274
change (\$bn)		+3,443	+4,717

Notes: Data for GDP at PPP at 2000 prices are from World Bank's World Development Indicators Online. These are adjusted to 1993 prices by applying the implicit deflator for 1993 (86.33) estimated from data at current prices from the same source. Population-adjusted figures for 1990 and 2001 are adjusted downwards by the increase in the world population since 1981.

Table 4: Changes in Total Income of Poor Households (\$bn)

		"\$2-a-day" poverty line			"\$1-a-day" poverty line		
		1981–2001	1981–1990	1990–2001	1981–2001	1981–1990	1990–2001
WITHOUT population adjustment	poverty reduction	786	371	388	278	151	95
	change in GDP	18,691	7,512	11,179	18,691	7,512	11,179
	poverty reduction as % of change in GDP	4.21	4.94	3.48	1.49	2.01	0.85
	income of poor as % of GDP	4.35	4.35	3.94	1.80	1.80	1.18
	ratio of share in growth to share in GDP	0.97	1.13	0.88	0.83	1.12	0.72
WITH population adjustment	poverty reduction	335	187	148	104	76	28
	change in GDP	8,160	3,443	4,717	8,160	3,443	4,717
	poverty reduction as % of change in GDP	4.11	5.45	3.13	1.28	2.20	0.60
	income of poor as % of GDP	4.35	4.35	3.94	1.80	1.80	1.18
	ratio of share in growth to share in GDP	0.94	1.25	0.80	0.71	1.22	0.51

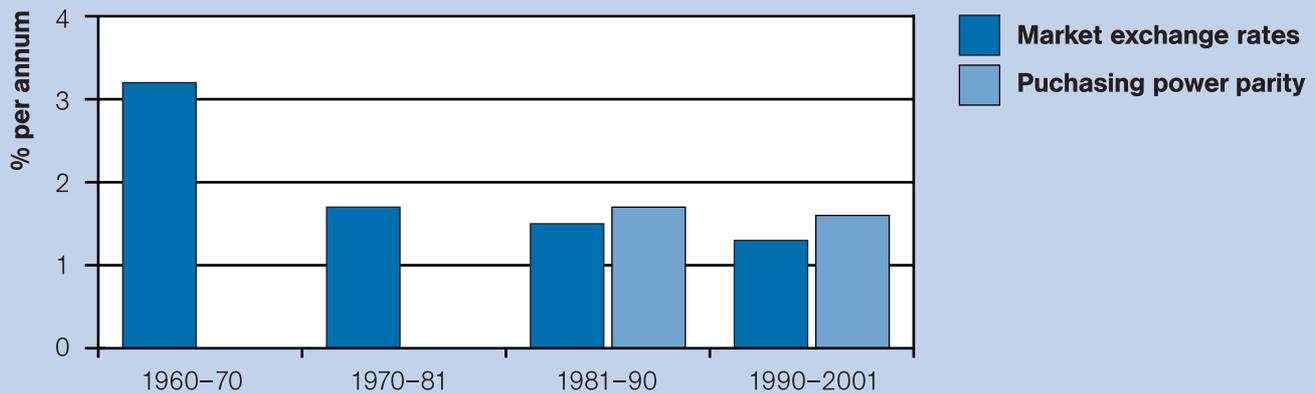
Notes: All figures are calculated from Tables 2 and 3.

Between 1981 and 2001, world GDP (measured at PPP, at 1993 prices) increased by \$18,691 billion. Of this, only \$786 billion, or 4.2 per cent, went to poverty reduction as defined by the \$2-a-day poverty line – slightly less than the share of the poor in GDP at the beginning of the period (4.35 per cent) – even though the poor represented the majority of the world population.

These figures are potentially misleading, however, as a substantial part of both the change in GDP and the change in the total income of the poor reflects the increase in the world population rather than increased output and income per person. Adjusting for this reduces the proportion of GDP contributing to poverty reduction slightly further to 4.1 per cent.

While the \$2-a-day level may be a more realistic, if still very low, definition of poverty, attention currently focuses on the \$1-a-day line, which provides the basis for the Millennium Development Goal on poverty reduction: to halve the proportion of the population in developing countries below the \$1-a-day line between 1990 and 2015. Almost inevitably, the extent of poverty reduction based on the \$1-a-day poverty line between 1981 and 2001 was even smaller than that below the \$2-a-day line, at \$278 billion – just 1.5 per cent of GDP. More worryingly, it was also five times further below the share of the poor in GDP in 1981 than on the basis of the

Figure 6: Growth of Global GDP per capita, 1960–2001



\$2-a-day line (one-sixth less, as compared with one-thirtieth). Again, adjusting for population growth makes the situation substantially worse, reducing the share of GDP growth contributing to poverty reduction to just 1.3 per cent, between one-quarter and one-third less than the share of the poor in GDP.

To put this another way, of every \$100 of growth in income per person in the world as a whole between 1981 and 2001, just \$1.30 contributed to reducing poverty as measured by the \$1-a-day line, and a further \$2.80 to reducing poverty between \$1-a-day and \$2-a-day lines. The remaining \$95.90 went to the rest of the world population above the \$2-a-day line.

Is it getting better?

The 1980s were widely described as ‘the lost decade for development’. Almost the entire developing world was plagued by the debt crisis; interest rates were exceptionally high; commodity export prices were collapsing; aid fell ever further below the 0.7 per cent of national income level to which developed countries had committed themselves in 1970; and most developing countries were going through the painful initial phase of the structural adjustment process initiated by the IMF and the World Bank. It seemed things could hardly get worse.

Against this background, the 1990s were supposed to herald a new and more favourable environment for development. Aid levels were meant to benefit from a peace dividend flowing from the end of the cold war; the debt crisis was over in most middle-income countries; and debt cancellation was available for poor countries. Interest rates had fallen back to more normal levels, and, after a decade of structural adjustment, developing countries were poised to enjoy the promised economic recovery meant to result from their painful sacrifices in the 1980s. The World Trade Organisation was established in 1993, to create the more open international trading system seen as necessary for growth; and the World Bank rediscovered its mission to reduce poverty. Markets were freer and more deregulated; states were smaller; economies were more open; and macroeconomic policies were tighter. All in all, if the mainstream economic story is to be believed, the stage was perfectly set for growth-led poverty reduction.

The reality, however, is very different: performance in terms of growth-led poverty reduction was much worse in almost every respect in the 1990s than in the 1980s – the so-called ‘lost decade for development’.

Measured at PPP, global growth actually *fell* slightly, from 1.7 per cent pa in 1981–90 to 1.6 per cent pa in 1990–2001. (See Figure 6.) While data are not available on this basis prior to 1980, the real growth rate of the global economy at market exchange rates had already slowed down by nearly half, from 3.2 per cent pa to 1.7 per cent pa, between 1960–70 and 1970–81, slowing further to 1.5 per cent in 1981–90, and further still to just 1.3 per cent pa in 1990–2001.

How the poor's share of growth is shrinking

Figure 7: Share of poor in per capita growth, 1981–2001

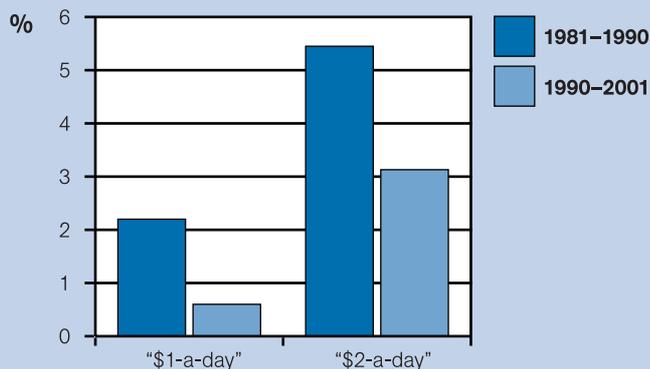
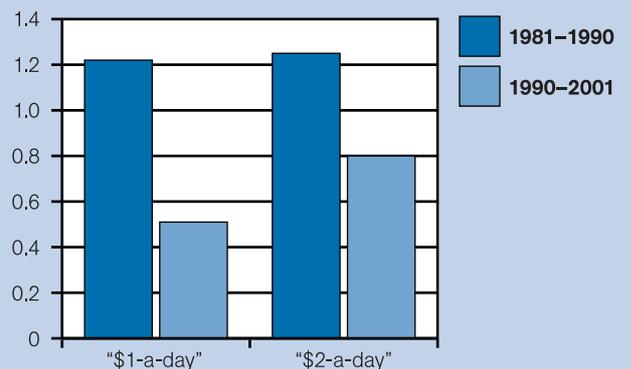


Figure 8: Share of poor in per capita growth relative to initial share in income, 1981–2001



Worse still, global growth also appears to have become much *more* anti-poor between the 1980s and the 1990s. Based on the \$2-a-day poverty line, the proportion of growth contributing to poverty reduction fell from nearly 5 per cent in the 1980s to just under 3.5 per cent in the 1990s. This represents a decline from one-eighth *more* than the initial share of the poor in GDP to one-eighth *less*. Adjusting for population growth further worsens performance in the 1990s and accentuates the deterioration between the 1980s and the 1990s. On this measure, the share of poverty reduction in growth fell from 5.5 per cent (one-quarter *more* than the share of the poor in initial GDP) to 3.1 per cent (one-fifth *less*) (see Figures 7 and 8).

Based on the \$1-a-day line, poverty reduction fell from \$151 billion (2.0 per cent of the increase in GDP) in the 1980s to \$95 billion (just 0.8 per cent) in the 1990s. The latter figure is one-quarter less than the initial share of the poor in world GDP, compared with one-eighth more in the 1980s. Again, adjusting for population growth makes the picture still worse. The contribution of per capita growth to poverty reduction fell from \$76 billion to \$28 billion – from 2.2 per cent of the population-adjusted increase in GDP to just 0.6 per cent, barely half of the initial share of the poor in GDP.

This means that in the 1990s it took \$166 of global economic growth, with all the associated environmental costs, to achieve just \$1 of progress towards the MDG on poverty reduction.

Growth and distribution: a comparison

If growth is an inefficient solution to the problem of global poverty, as well as an environmentally dangerous one, how does changing the distribution of income compare? One way of assessing this is to compare what rate of growth would be required to increase the incomes of the poor by the same amount as a given rate of income redistribution.

This is shown in Table 5, for all the developing countries for which data are available. **In the majority of developing countries – including almost all of Latin America and Sub-Saharan Africa – it would require a per capita growth rate between 8 per cent and 25 per cent to provide as much benefit to the poorest 20 per cent as the redistribution of 1 per cent of the income of the richest 20 per cent**, even if there were no increase in inequality. For around one in seven countries, the growth rate required is 20 per cent or more. At the other end of the scale, the growth rate required is less than 5 per cent in only one-fifth of countries, three-quarters of which are in Eastern Europe or the former Soviet Union. This compares with an average per capita growth rate in developing countries, in PPP terms, of just 2.5 per cent pa since 1981. If allowance were made for increasing inequality across most of the developing world since 1980, the equivalent growth rate would be increased substantially further.

Once again, this argument applies even more strongly for the world economy as a whole. Redistributing just 1 per cent of the income of the richest 20 per cent of the world's population to the poorest 20 per cent would benefit the latter as much as distributionally equal growth of around 20 per cent. Even expanding the target group to the poorest 50 per cent of the world's population – equivalent to a poverty line of around \$2.50 per day at 1993 prices – and the source group to 25 per cent (roughly the level at which the well-being literature indicates that further increases in income cease to raise well-being) – a 1 per cent redistribution is equivalent to economic growth of 7.4 per cent. This is more than four times the average per capita growth rate of global GDP (in PPP terms) since 1981 (1.7 per cent).

Why growth? The 'positive sum game' fallacy

If growth is so meaningless as an objective and so inefficient in reducing poverty, and gives rise to such serious tensions – poverty reduction and environmental sustainability – why is it so prominent in discourse on economics?

Trying to reduce poverty through redistribution of income alone in a no-growth global economy is, by its nature, a zero-sum game in terms of its financial effects. The incomes of the poor can only be increased by the same amount as those of the rich are reduced. Growth, on the other hand, means that there is more income available in total, so that the rich can get richer even as the poor get less poor. And, since the rich are generally more powerful than the poor⁵⁰ (globally as well as at the country level⁵¹), this is seen as presenting a more politically feasible approach than redistribution.

Table 5: Growth equivalent to 1% redistribution from richest to poorest 20% of population

Country	Data year	Income share		Growth equivalent of 1% redistribution (% pa)
		Poorest 20%	Richest 20%	
East Asia/Pacific				
Cambodia	1997	6.86	47.62	6.9
China	2001	4.66	49.99	10.7
Indonesia	2002	8.41	43.29	5.2
Korea, Rep.	1998	7.91	37.45	4.7
Lao PDR	1997	7.55	44.97	6.0
Malaysia	1997	4.37	54.34	12.4
Papua New Guinea	1996	4.50	56.50	12.6
Philippines	2000	5.38	52.28	9.7
Thailand	2000	6.06	50.00	8.3
Vietnam	1998	7.96	44.53	5.6
Europe/Central Asia				
Albania	2002	9.10	37.38	4.1
Armenia	1998	6.66	45.06	6.8
Azerbaijan	2001	7.43	44.50	6.0
Belarus	2000	8.44	39.09	4.6
Bosnia and Herzegovina	2001	9.52	35.77	3.8
Bulgaria	2001	6.74	38.88	5.8
Croatia	2001	8.26	39.62	4.8
Czech Republic	1996	10.29	35.87	3.5
Estonia	2000	6.12	43.95	7.2
Georgia	2001	6.38	43.62	6.8
Hungary	1999	7.71	37.54	4.9
Kazakhstan	2001	8.17	39.59	4.8
Kyrgyz Republic	2001	9.11	38.35	4.2
Latvia	1998	7.57	40.28	5.3
Lithuania	2000	7.87	39.99	5.1
Macedonia, FYR	1998	8.42	36.75	4.4
Moldova	2001	7.09	43.67	6.2
Mongolia	1998	5.64	51.16	9.1
Poland	1999	7.30	42.48	5.8
Romania	2000	8.16	38.45	4.7
Russian Federation	2000	4.88	51.28	10.5
Slovak Republic	1996	8.76	34.81	4.0
Slovenia	1999	9.15	35.68	3.9
Tajikistan	1998	8.05	39.98	5.0
Turkey	2000	6.06	46.72	7.7
Turkmenistan	1998	6.14	47.46	7.7
Ukraine	1999	8.80	37.77	4.3
Uzbekistan	2000	9.16	36.34	4.0
Latin America/Caribbean				
Argentina	2001	3.11	56.39	18.1
Bolivia	1999	4.00	49.10	12.3
Brazil	2001	2.40	63.17	26.4
Chile	2000	3.33	62.18	18.7
Colombia	1999	2.70	61.85	22.9
Costa Rica	2000	4.18	51.50	12.3
Dominican Republic	1998	5.09	53.31	10.5
Ecuador	1998	3.34	58.02	17.3
El Salvador	2000	2.88	57.15	19.8
Guatemala	2000	2.63	64.12	24.4
Guyana	1999	4.47	49.69	11.1
Honduras	1999	2.74	58.92	21.5
Jamaica	2000	6.67	46.01	6.9
Mexico	2000	3.06	59.12	19.3
Nicaragua	2001	3.56	59.71	16.8
Panama	2000	2.44	60.29	24.7
Paraguay	1999	2.21	60.21	27.3
Peru	2000	2.90	53.22	18.4
St. Lucia	1995	5.23	48.34	9.2
Trinidad and Tobago	1992	5.51	45.89	8.3
Uruguay	2000	4.81	50.09	10.4
Venezuela, RB	1998	2.98	53.38	17.9
Middle East/North Africa				
Tunisia	2000	5.96	47.32	7.9
Yemen, Rep.	1998	7.41	41.16	5.6
Algeria	1995	7.00	42.60	6.1
Egypt, Arab Rep.	1999	8.57	43.59	5.1
Iran, Islamic Rep.	1998	5.14	49.89	9.7
Jordan	1997	7.56	44.43	5.9
Morocco	1999	6.50	46.60	7.2

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Table 5 (contd)

Country	Data year	Income share		Growth equivalent of 1% redistribution (% pa)
		Poorest 20%	Richest 20%	
South Asia				
Bangladesh	2000	9.05	41.35	4.6
India	2000	8.89	41.63	4.7
Nepal	1996	7.60	44.80	5.9
Pakistan	1999	8.75	42.29	4.8
Sri Lanka	1995	8.02	42.80	5.3
Sub-Saharan Africa				
Botswana	1993	2.23	70.25	31.5
Burkina Faso	1998	4.46	60.74	13.6
Burundi	1998	5.08	48.02	9.5
Cameroon	2001	5.63	50.93	9.1
Central African Republic	1993	1.99	64.98	32.7
Cote d'Ivoire	1998	5.55	51.12	9.2
Ethiopia	2000	9.12	39.42	4.3
Gambia, The	1998	4.00	55.20	13.8
Ghana	1999	5.56	46.63	8.4
Guinea	1994	6.43	47.22	7.3
Guinea-Bissau	1993	5.20	53.43	10.3
Kenya	1997	5.61	51.25	9.1
Lesotho	1995	1.51	66.49	44.2
Madagascar	2001	4.88	53.50	11.0
Malawi	1997	4.86	56.15	11.6
Mali	1994	4.59	56.20	12.2
Mauritania	2000	6.17	45.69	7.4
Mozambique	1997	6.48	46.51	7.2
Namibia	1993	1.40	78.68	56.1
Niger	1995	2.58	53.28	20.7
Nigeria	1997	4.36	55.66	12.8
Rwanda	1985	9.70	39.10	4.0
Senegal	1995	6.43	48.20	7.5
Sierra Leone	1989	1.10	63.40	57.6
South Africa	1995	1.98	66.54	33.6
Swaziland	1994	2.71	64.40	23.8
Tanzania	1993	6.79	45.48	6.7
Uganda	1999	5.94	49.74	8.4
Zambia	1998	3.28	56.60	17.3
Zimbabwe	1995	4.63	55.74	12.0

There are three fundamental problems with this argument.

- 1 Looking beyond the financial effects to take account of environmental impacts means that growth is no longer necessarily a positive sum game. Every \$1 of growth comes with an environmental price tag, so \$1 of extra income generated through growth brings less than \$1 in actual benefits.
- 2 As noted earlier, the extent of the benefits associated with an extra \$1 of income depends critically on who receives it. So looking at effects on economic and social rights and well-being, which are objectives in their own right, rather than at financial effects, which are only a means to an end, redistribution *is* a positive-sum game. By taking \$1 away from a millionaire, and giving it to a pauper, we have no perceptible effect on the rights or well-being of the millionaire, but a major effect on the life of pauper. While *income* may be no higher as a result, well-being and the fulfilment of rights are improved – and without necessarily generating additional consumption or production which might have environmental costs.⁵²
- 3 The zero/positive-sum game argument is based on a false dichotomy between growth and redistribution – in effect returning to the conceptual separation between the average level and the distribution of incomes. In practice, the question is not whether our policy objective should be economic growth or no growth, or whether we should or should not take steps to redistribute the income arising from this growth. **Rather, the question is whether economic policies should aim to maximise total income, and hope for poverty reduction as a by-product, or whether they should aim more specifically to increase the incomes of poorer households and treat growth (or the lack of it) as a by-product** – that is, whether distributional effects should be integrated into the design of economic policies as a whole.

The distribution solution: how sustainable?

The argument that poverty should or could be tackled through redistribution rather than growth tends to be dismissed by orthodox economists on the grounds that redistribution is unsustainable. While redistribution from the rich to the poor can initially reduce poverty, they argue, this can only continue for a limited period, as eventually incomes will be equalised, so that there is no further scope for redistribution. By contrast, they contend, growth can continue indefinitely.

Apart from the fallacy that growth can be sustained indefinitely, this argument is highly variable in its validity. In most of Latin America and Sub-Saharan Africa, at least, there is considerable scope for poverty reduction through redistribution. Table 6 shows how long the incomes of the poorest 20 per cent of the population could continue to be increased at the same rate as they would have been increased by the average rate of growth since 1980 by redistribution from the richest 10 per cent, before they reach the average level of inequality in the European Union (as measured by the ratio of the income of the richest 10 per cent to the poorest 20 per cent).

Two features stand out. First, a substantial proportion of countries experienced negative per capita growth rates on average through this period (shown as **), so that, without redistribution, poverty would have increased. Second, for most other countries in Latin America and Sub-Saharan Africa the redistribution option could be sustained for at least 50 years, and in many cases for centuries, before the average Western European level of inequality was reached. Elsewhere, relatively low inequality and/or rapid growth mean the period is much shorter, or in some cases negative (reflecting levels of inequality which are already lower than the EU average).

However, if the validity of the argument that redistribution cannot be sustained at the country level is variable, at the global level it is unambiguously invalid. The total amount going to poverty reduction below the \$2-a-day line between 1981 and 2001 (population-adjusted) came to \$335 billion in real PPP terms. Based on the estimated global distribution of income in 1993, the income of the richest 10 per cent of the world's population was \$14,543 billion.

This means that the rate of poverty reduction achieved between 1981 and 2001 could have been achieved through the redistribution annually of just 0.12 per cent of the income of the richest 10 per cent of the world's population. This rate of transfer could be sustained for 300 years before the world as a whole reached the average level of inequality in EU countries.

Table 6: Sustainability of Redistribution

Country	Data year	Growth rate pc, 1980-2001	Redistribution equivalent (%)	Years to reach EU inequality	Country	Data year	Growth rate pc, 1980-2001	Redistribution equivalent (%)	Years to reach EU inequality
East Asia/Pacific					Middle East/North Africa				
China	2001	8.3	1.16	8	Tunisia	2000	2.3	0.43	16
Indonesia	2002	3.5	1.03	0	Algeria	1995	0.3	0.08	30
Korea, Rep.	1998	5.9	2.08	-2	Egypt, Arab Rep.	1999	2.4	0.71	0
Malaysia	1997	3.5	0.40	23	Iran, Islamic Rep.	1998	1.5	0.22	37
Papua New Guinea	1996	0.1	0.01	1,232	Jordan	1997	-0.1	**	**
Philippines	2000	0.4	0.05	158	Morocco	1999	1.3	0.28	20
Thailand	2000	4.7	0.84	9	South Asia				
Europe/Central Asia					Bangladesh	2000	2.3	0.77	-5
Albania	2002	1.4	0.55	-18	India	2000	3.8	1.22	-2
Bulgaria	2001	1.6	0.45	2	Nepal	1996	2.2	0.56	5
Estonia	2000	1.8	0.38	14	Pakistan	1999	2.3	0.71	-2
Georgia	2001	-2.5	**	**	Sri Lanka	1995	3.3	0.94	1
Hungary	1999	1.7	0.56	-7	Sub-Saharan Africa				
Latvia	1998	1.5	0.43	0	Botswana	1993	4.6	0.18	40
Moldova	2001	-2.3	-0.58	**	Burkina Faso	1998	1.5	0.14	66
Romania	2000	0.5	0.18	-24	Burundi	1998	-0.8	**	**
Turkey	2000	2.2	0.43	15	Cameroon	2001	0.1	0.01	627
Latin America/Caribbean					Central African Republic	1993	-1.3	**	**
Argentina	2001	0.0	**	**	Cote d'Ivoire	1998	-2.0	**	**
Bolivia	1999	-0.1	**	**	Gambia, The	1998	0.1	0.01	655
Brazil	2001	0.5	0.03	304	Ghana	1999	0.7	0.14	51
Chile	2000	3.3	0.23	38	Guinea-Bissau	1993	-0.2	**	**
Colombia	1999	1.0	0.06	138	Kenya	1997	-0.2	**	**
Costa Rica	2000	1.3	0.16	58	Lesotho	1995	2.3	0.07	89
Dominican Republic	1998	2.0	0.27	32	Madagascar	2001	-1.6	**	**
Ecuador	1998	0.2	0.02	549	Malawi	1997	0.1	0.01	981
El Salvador	2000	0.5	0.03	263	Mali	1994	0.5	0.05	175
Guatemala	2000	-0.1	**	**	Mauritania	2000	0.8	0.17	34
Guyana	1999	0.7	0.09	100	Mozambique	1997	1.8	0.37	16
Honduras	1999	0.0	0.00	39,585	Namibia	1993	-0.1	**	**
Jamaica	2000	0.9	0.20	25	Niger	1995	-1.8	**	**
Mexico	2000	0.7	0.05	185	Nigeria	1997	-0.5	**	**
Nicaragua	2001	**	**	**	Rwanda	1985	-0.3	**	**
Panama	2000	1.3	0.08	109	Senegal	1995	0.8	0.15	44
Paraguay	1999	-0.4	**	**	Sierra Leone	1989	-1.4	**	**
Peru	2000	-0.1	**	**	South Africa	1995	-0.2	**	**
St. Lucia	1995	2.6	0.42	19	Swaziland	1994	1.4	0.07	110
Trinidad and Tobago	1992	0.6	0.10	67	Zambia	1998	-1.1	**	**
Uruguay	2000	0.5	0.08	112					
Venezuela, RB	1998	-1.0	**	**					

So what? Policy implications

If growth does not offer the prospect of reconciling poverty reduction and the practical necessity of environmental sustainability, then what is the alternative? Simply shifting to a greater emphasis on redistributive policies as an add-on to growth-oriented policies would help at the country level.

But this fails to resolve the problem, which arises at least as much from inequalities *between* countries as from inequalities *within* countries. This has been recognised as a fundamental problem for 40 years – but the attempt to deal with it, through the developed country governments' 1970 pledge to provide 0.7 per cent of their national income in aid, has failed miserably. The shortfall of aid from this target was \$140 billion in 2004.

A recent World Bank study estimated that each extra \$1 billion of aid provided by the Bank's International Development Association (IDA) in 1997–8 lifted 434,000 people permanently out of poverty, as defined by the \$1-a-day line.⁵³ If all the OECD countries had met the 0.7 per cent target in every year since 1970, and the additional aid had a similar poverty-reduction effect, the world would be a very different place.

In 1999, rather than setting the Millennium Development Goals and merely aiming to halve poverty below the \$1-a-day line by 2015, world leaders could instead have been celebrating its *eradication*. And we could by now be six years into a programme to eradicate \$2-a-day poverty.

Despite their failure to deliver more than a fraction of the promised aid, the developed country governments have extracted a considerable price for what they have provided, and not only in terms of lucrative contracts. They have propped up sympathetic though undemocratic and deeply unpopular governments, secured policy changes that favour their national and commercial interests at the expense of the population of the recipient country, and persuaded governments to sign up to international agreements which bind them and their successors into flawed policies for the indefinite future.

Patronage-aid thus confers power on the developed country governments and international institutions like the World Bank and the IMF. It helps to entrench the inequitable structures of the global economic system which underlies the more fundamental problem. And the products of this power imbalance – the continuation of the debt crisis in many of the poorest countries for nearly 25 years, the imposition of 'free market' policies across the developing world, the chronic decline in commodity export prices, and international trade agreements which lock developing countries into an unbalanced market paradigm – reinforce and exacerbate global income inequality.

The alternative, then, is to move decisively away from the current top-down approach, in which policies are largely determined at the global level, ostensibly to promote global growth, but in practice to promote the commercial interests and ideology of the major developed country governments. **Instead, we need to move definitively towards a system in which policies are designed explicitly and directly to achieve social and environmental objectives. The global economic system, in turn, should be designed to promote, foster and support such policies, treating *growth* as a by-product, and putting the interests of the majority of the world's population ahead of those of the rich and transnational companies.**

We need, in short, to move definitively away from what is, in effect, no more than a global variant of the long-discredited idea of 'trickle-down' to a concept of income 'bubbling up' from poverty reduction.

At the country level, this means promoting the incomes and well-being of poor households directly, for example by:

- using resources generated at the global level and strengthened public finances (see below) to provide high-quality, free and universal education and basic health services, and the infrastructure needed for the development of micro, small and medium enterprises;
- favouring local suppliers in low-income areas in procurement for these and other public programmes;
- targeting income-generation programmes so that the additional production generated will broadly match the increase in demand resulting from the associated poverty reduction (based on consumption patterns revealed by household expenditure surveys); and
- strengthening agricultural extension programmes, focusing particularly on crops consumed locally by low-income consumers (so that the price effects of increased supply will also contribute to poverty reduction).

It might also mean international collaboration, for example to:

- promote local investment, strengthen public finances and allow more progressive tax systems, including measures to control capital flight, tax havens and tax competition;
- limit the supply of agricultural commodities produced primarily by developing countries, so as to reverse the long-term decline in prices; and
- ensure that royalties and other payments from extractive industries reflect the full cost of natural resource depletion, by increasing transparency and controlling competition between countries.

Additional resources for development could also be generated at the global level, through, for example:

- international taxation (for example, on foreign exchange transactions, air travel and transport, fuel, etc);
- a framework for managing the global commons of the atmosphere in the context of climate change that assigns developing countries tradable, revenue-raising entitlements to emit greenhouse gases, on a globally equal per capita basis, in an agreed timeframe; and
- introduction of a new global currency, so that money creation generates new public resources at the global level.

A substantial move in this direction is likely to be necessary if we are to achieve poverty reduction and environmental sustainability simultaneously. Any significant progress will, however, require two further changes:

- a change in the way we think about and discuss economic issues, allowing us to break out of the confines of mainstream economic discourse; and
- a shift in power relations, both globally and nationally, to move power from developed countries, elites and commercial interests to the majority of the world's population who still live on less than \$2.50 per day (at 1993 PPP).

Conclusion

We have, in recent years, become fixated on economic growth. This is partly just one component of a broader fixation on the macroeconomy. It is partly a result of the tyranny of numbers – a growing obsession with quantifiable indicators of policy performance and a failure to make what is important measurable rather than making what is measurable important. It is also partly a product of a self-serving political pragmatism on the part of an elite which, incidentally, includes almost all economists, politicians and opinion formers, to promote the idea that we must make poverty reduction consistent with the rich getting richer, because the rich are too powerful to let it happen otherwise.

However, this view is critically dependent upon a number of implausible or counter-intuitive assumptions: that it is total income that matters, rather than people's quality of life; that growth and distribution are separable, both conceptually and practically; that economic growth has no unmanageable environmental costs; and that power relations are immutably fixed. In other words, this view only lasts if we are chained by the mind-set of orthodox economics. If we allow this state of affairs to continue, the survival of the orthodox world view of economics and the current imbalance in power will be self-fulfilling prophecies.

If we are to reconcile the objectives of poverty reduction and environmental sustainability, we need to challenge this conventional wisdom, and the blind pursuit of economic growth which springs from it. We cannot afford to continue with a system which sacrifices the environment on which we all depend for our very survival to give yet more to those who already have too much, in the hope that a few more crumbs will fall from the rich man's table.

In the growth debate, for all its theoretical sophistry, orthodox economics invariably falls back on a few tried and tested metaphors to defend its growth obsession. Either we are told that a rising tide lifts all boats, or that, rather than sharing the cake more evenly, it is better to bake a larger one. Ironically, however, at the time of writing, sea levels really are rising, as a result of global warming, itself driven by the pollution from economic growth. And the problem is that millions more of the poor have no boats to rise in, while millions more have boats which are not seaworthy, and are also likely to drown in a warming world. As for the cake, even the massed ranks of orthodox economists are yet to find either the recipe or the ingredients to bake a spare planet to share among the world's population.

Instead of blindly following flights of economic fancy, we need to focus on achieving our ultimate social and environmental objectives at the country level, and to design the global economic system around them. If we are serious about increasing well-being and eradicating poverty, then it is our progress towards doing so, not growth of aggregate income, for which we should design our economic policies and institutions, and by which we should judge our progress. Maximising orthodox economic growth, and hoping that we will make some progress towards our ultimate objectives as a by-product, has not, will not, and cannot work.

Endnotes

- 1 Quoted by Herman Daly in, *Uneconomic growth in theory and in fact*, The Annual Feasta Lecture, 26 April 1999, Trinity College, Dublin.
- 2 Wagstaff, A. (2003) "Child health on a dollar a day: Some tentative cross-country comparisons", *Social Science and Medicine* 57, pp. 1529–1538.
- 3 Meeting the Climate Challenge: The International Climate Change Taskforce (2005). www.ippr.org.uk
- 4 Simms, A. (2005) *Africa – Up in smoke? The second report from the Working Group on Climate Change and Development* (nef & IIED: London).
- 5 Krueger, A. (2004) "Expanding trade and unleashing growth: the prospects for lasting poverty reduction". Remarks at the IMF Seminar on Trade and Regional Integration, Dakar, Senegal, 6 December 2004. <http://www.imf.org/external/np/speeches/2004/120604.htm>
- 6 Krueger, A. (2004) "Letting the future in: India's continuing reform agenda". Keynote speech to Stanford India Conference, 4 June. <http://www.imf.org/external/np/speeches/2004/060404.htm>
- 7 World Bank (2000) *The Quality of Growth* pp. 93–95 (World Bank: Washington DC).
- 8 Diamond, J. (2005) *Collapse: How societies choose to fail or survive* (Penguin/Allen Lane).
- 9 2002 data, Global Footprint Network, *Ecological Footprint Assessment* edition 2005. www.footprintnetwork.org
- 10 EEA (forthcoming) *The European footprint: how the planet and the world's largest economy interact* (European Environment Agency); *Europe 2005: The ecological footprint* (2005) Global Footprint Network & WWF.
- 11 Europe 2005: The Ecological Footprint (2005) Global Footprint Network & WWF.
- 12 This report covers the 25 European Union member states and Switzerland.
- 13 Held, I.M., et al (2005) 'Simulation of Sahel drought in the 20th and 21st centuries', *PNAS*, (proceedings of the National Academy of Sciences), 1 December.
- 14 Marty Hoerling, NOAA, quoted in, *Climate Change 'will dry Africa'*, BBC Online, 29 November 2005.
- 15 *Rising Indian Ocean temperatures will bring escalating drought*, 25 May 2005 (IRIN) (UN Office for the Coordination of Humanitarian Affairs: Johannesburg).
- 16 Natural disasters: counting the cost (2 March 2004). www.worldbank.org
- 17 IFRC (1999) *World Disasters Report 1999* (International Federation of Red Cross and Red Crescent Societies: Geneva).
- 18 World Bank and WHO (2004) *World report on road traffic injury prevention* (World Bank & WHO: Geneva).
- 19 The world's electricity consumption expanded an average of 3.0 per cent per year, resulting in an overall increase of 88 per cent.
- 20 Energy Information Administration, US Department of Energy. <http://www.eia.doe.gov/emeu/cabs/carbonemiss/chapter1.html>
- 21 By analogy with the Kuznets hypothesis on the relationship between income inequality and overall income levels in the course of development, a Kuznets carbon curve hypothesises that carbon emissions rise with increasing income up to a certain level of income, but decline as income rises beyond this point.
- 22 Müller-Fürstenberger, G. et al (2004) *Exploring the Carbon Kuznets Hypothesis* (Oxford Institute for Energy Studies).
- 23 Di Fazio, A. (2000) *The fallacy of pure efficiency gain measures to control future climate change* (Astronomical Observatory of Rome and Global Dynamics Institute).
- 24 Daly, H (2003) 'Uneconomic Growth and the Illth of Nations: Defining the Optimal Scale of the Macro Economy', 27 March 2003, The Beatty Lecture.
- 25 Wade, R. (2001) "Winners and Losers", *The Economist*, 26 April.
- 26 World Bank (2005) *World Development Report, 2006: Equity and Development* (World Bank: Washington DC) "Epilogue", p. 226.
- 27 Ibid.
- 28 Dollar, D. and Kraay, A. (2000) "Growth is good for the poor" (Development Research Group, World Bank: Washington DC).
- 29 Dollar, D. and A. Kraay (2001) "Growth is good for the poor", Policy Research Working Paper 2587 (World Bank: Washington DC).
- 30 Dollar, D. and Kraay, A. (2002) "Growth is good for the poor", *Journal of Economic Growth* 7, pp. 195–225.
- 31 Amann, E. et al (2002) "Economic growth and poverty alleviation: a reconsideration of Dollar and Kraay". Paper presented at the Annual Conference of the Development Studies Association, University of Greenwich, 9 November.
- 32 Weisbrot, M. et al (2001) "Growth may be good for the poor – but are the IMF and World Bank policies good for growth?" (Center for Economic Policy Research: Washington DC).
- 33 Oxfam (2000) *Growth with equity is good for the poor*. (Oxfam: Oxford).
- 34 Op. cit. Weisbrot, M. et al (2001).
- 35 Klasen, S. (2003) "In search of the Holy Grail: how to achieve pro-poor growth", in B. Tungodden, N. Stern and I. Kolstad (Eds.) *Toward pro-poor policies: aid, institutions and globalization*. Proceedings of the Annual Conference on Development Economics Europe Conference 2003, (World Bank: Washington DC).
- 36 Baulch, R. and McCulloch, N. (2000) "Tracking pro-poor growth" *ID21 Insights* 31. (Institute of Development Studies: Sussex).
- 37 White, H. and Anderson, A. (2001) "Growth vs redistribution: does the pattern of growth matter?" *Development Policy Review* 19 (3), pp. 167–289.
- 38 Kakwani, N. and Pernia, E. 2000. "What is pro-poor growth?" *Asian Development Review* 18 (1), pp. 1–16.
- 39 Ravallion, M. and Chen, S. (2003) "Measuring pro-poor growth". *Economics Letters* 78 (1), pp. 93–99.
- 40 Ravallion, M. (2004) "Pro-poor growth: a primer." Policy Research Working Paper 3242 (World Bank: Washington DC).
- 41 Department for International Development (2004) *What is pro-poor growth and why do we need to know?* Pro-Poor Growth Briefing Note 1, Policy Division. (DFID: London).
- 42 Office for National Statistics (2005) *Social Trends 2005* (ONS: London) Figure 5.14, p. 73.
- 43 Op. cit. White, H. and A. Anderson.
- 44 Klasen, S. (2005) "Economic Growth and Poverty Reduction: Measurement and Policy Issues". Working Paper 246, (Development Centre, OECD: Paris) September.
- 45 Milanovic, B. (1999) "True world income distribution, 1988 and 1993: first calculations, based on household surveys alone" Policy Research Working Paper 2244 (World Bank: Washington DC) November.
- 46 Ibid.
- 47 Ibid.
- 48 World Bank (2005) *World Development Indicators Online*.
- 49 Ibid.
- 50 World Bank (2005) *World Development Report, 2006: Equity in Development* (World Bank: Washington DC).
- 51 Jubilee Research (2005) "Physician, Heal Thyself! The World Bank's *World Development Report, 2006: Equity in Development*" www.jubileeresearch.org/analysis/articles/worldbank280905.htm, 27 September.
- 52 While the change in the patterns of consumption and production associated with changes in the distribution of income may have environmental effects, these may be either positive or negative.
- 53 Goldin, I. et al (2002) "The role and effectiveness of development assistance: lessons from World Bank experience" (World Bank: Washington DC) 18 March.

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