ELSEVIER

Ecological Economics 19 (1996) 117–134

ECOLOGICAL ECONOMICS

COMMENTARY

Limits to the growth paradigm

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Received 25 March 1995; accepted 14 March 1996

Abstract

This paper is a synthesis of several current controversies. It makes four broad claims: (1) that economic growth (as conventionally measured) is not, and never has been, the most important contributor to increasing human welfare; (2) that technological progress has always been the primary source of both growth and welfare (considered separately); (3) that trade was at best a minor contributor to growth in the past and is probably now contributing negatively to both national wealth and equity, hence to welfare, in Western Europe and North America and (4) that both growth (of GDP) and trade are increasingly incompatible with environmental protection. In fact, while increasing prosperity breeds environmental sensitivity, many of the processes by which it is achieved are environmentally destructive. The paper assembles and presents some of the key arguments and evidence.

1. Introduction

The following is admittedly somewhat less academic than usual. In the last few months I have changed my view radically on several important issues, notably economic growth, trade, social progress and equity. Today I have deep misgivings about economic growth per se. This is partly because the evidence is growing that economic growth (such as it is) in the western world today is benefitting only the richest people alive now, at the expense of nearly everybody else, especially the poor and the powerless in this and future generations. To those who follow us we are bequeathing a more and more potent technology and a significant investment in productive machinery and equipment and infrastructure. But these benefits may not compensate for a depleted natural resource base, a gravely damaged environment and a broken social contract. A two-tier society is being reconstituted by radicals of the right and former communists alike, from the ashes of socialist ideals. 'Beggar thy neighbor' is the new (old) watchword. In consequence, it will be increasingly difficult to mobilize technology in the service of society as a whole. Indeed, in my view, life on planet earth itself is now at risk.

I now think (along with many others) that economic growth as measured by increasing GDP, at least in the developed countries, is mostly an illusion. It reflects increasingly frantic activity, especially trade, but little or no progress in terms of human welfare in 'real' terms (health, diet, housing, education, etc.) Meanwhile social life and family life

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PII S0921-8009(96)00064-X

are deteriorating. This is also true to some extent in the developing world. Increasingly, apparent GDP growth is attributable to expenditures resulting from three trends: (1) unavoidable costs associated with work itself, (2) a growing need for protection against threats to life, health and property due to urbanization, industrialization and side effects of other human activities, together with a growing need to repair or compensate for such damage and (3) 'living on capital': the depletion of stocks of natural resources, from minerals to forests and fisheries, without replacement or substitution. [1]

The fraying of the social fabric is due, in large part, to other consequences of urbanization, industrialization, automation, insecurity of employment and other consequences of 'economic development'. In other words, development along the conventional track — increasing GDP per capita — is not necessarily increasing social welfare. The game is becoming 'zero-sum', or even 'negative sum'. To put it another way, I now think that the popular phrase 'sustainable economic growth', as it is currently interpreted by the dominant businesses and government institutions of our society, is probably an oxymoron.

The above seems to contradict all conventional economic wisdom, so it requires some explanation. However, much of the background is not new to readers of this journal and some of the arguments (about the difficulty of measuring the value of environmental services in economic terms, for instance) need not be rehashed here. I will try, therefore, to focus attention on some of the less familiar flaws in the economic growth paradigm.

2. Growth = progress?

Along with many others, I have long tended to equate *growth* with *progress*. It is appropriate to re-examine this equation by breaking it into two questions. To what extent does human progress (increasing welfare) really depend on economic growth? To what extent is real progress actually impeded by GDP growth (in terms of monetary units adjusted for inflation)? Of course, this implies growth in the actual quantity of purchased goods and services.

In a certain simplistic sense the difference between growth and progress is the difference between 'more' and 'better'. It is clear that the *quantity* of goods produced must not be confused with the *quality* of service provided to the consumer. In fact, some economists have begun to worry that the conventional measures *understate* real growth by overestimating the inflationary adjustment. The argument is that higher prices really do, to some extent, reflect real increases in the quality of goods and services. [2]

In fact, the distinction is vital. It is quite possible to have economic growth — in the sense of providing better *and more valuable* services to ultimate consumers — without necessarily consuming more physical resources (e.g., Ayres, 1978, 1989; Ayres and Kneese, 1989). This follows from the fact that consumers are ultimately not interested in goods per se but in the services those goods can provide. The possibility of de-linking economic activity from energy and materials ('dematerialization') has been demonstrated dramatically in the field of electronics and biotechnology. Why not in other areas?

Many people still instinctively disagree with this proposition. It seems obvious (at first glance) that there must be a lower limit to the mass-energy 'content' of the capital or consumer goods that underlie any final service. For instance, it is impossible to conceive of a house without walls. Hence it seems to follow that housing services must have a minimum material 'content'. Yet, while I agree that most services do require materials, technological progress permits us to 'dematerialize' by building more and more value, or longer useful life, into those materials. To follow up briefly on this example, the walls of a house can be lighter and stronger, longer lasting;

[1] Adjustments are partially made for two other trends, viz., (1) the monetization of subsistence agriculture, (2) the monetization of household (i.e., 'women's') work.

[2] Based on this argument, it has been suggested that the cost-of-living allowance for social security (not to mention private pensions and negotiated wage agreements for unionized workers) is too generous and should be reduced by a third or more. Senator Patrick Moynihan has even suggested that making this adjustment would be a simple and painless way of reducing the future federal deficit.

they can incorporate some of the other 'services' of a house, from heating and lighting to decoration and security. They can also be modularized so that a house can be dismantled and rebuilt, rather than demolished. Wall modules could be re-used and/or re-manufactured to incorporate technological improvements. There is really no definable limit to the amount of services a given material object can deliver in its useful life. In economic terms, it is a question of increasing the *productivity* of physical resources (in contrast to the productivity of labor or capital).

To get back to the essential point, however, there is another, deeper, structural problem associated with economic growth, insofar as it concerns the production of material goods. [3] It underlies the more obvious (and potentially curable) problems of physical resource exhaustion and pollution. The problem, stated briefly, is that the chief mechanism that drives growth *in manufacturing* is growth itself. I do not mean this in any metaphorical sense. What happens is that increased demand for goods drives production to larger scale. Economies of scale (in manufacturing) then result in lower unit costs. In a competitive market, lower costs will be translated into lower prices. Lower prices, in turn, generate increased demand. And so the 'growth engine' turns. [4]

The expectation of economic growth is built into all sorts of social institutions. The most obvious of these is pensions, life insurance and social security. Annual contributions are calculated on the basis of the expected increase in value of the securities, which in turn depend on the expected growth rate of the economy. If growth is below expectations, the value of the fund will be less than expected and the yield of the fund will be less than expected. Growth assumptions are also built into banking and credit. For instance credit companies are willing to lend a large percentage of the value of a property if they are sure that the property will increase in value and conversely.

Finally, growth assumptions are built into the values of securities. The current market value of any security is roughly the market's estimate of the discounted present value of the future income stream that the underlying asset will generate, relative to others. Manufacturing firms are most profitable when they are producing at full capacity. To maximize present value in the marketplace, a manufacturing firm must constantly produce and sell more. To grow, it must raise capital to finance expansion. The return on capital can only be paid out of future profits, i.e., growth.

When growth slows, for whatever reason [5], firms still seek growth, at the expense of other firms, by increasing market share. This leads to more and more emphasis on 'competitiveness', which means drastic cost-cutting ('rationalization', 'restructuring' and 'downsizing'), mergers and takeovers (i.e., 'shakeouts'), out-sourcing — especially to low-wage countries — and, of course, growing insecurity and unemployment in the western world. Henry Ford's radical idea that by paying higher than average wages he could eventually make customers of his workers has now been turned inside out, at least in the western world.

It is clearly necessary to distinguish *income growth* (i.e., 'more money and the things money can buy') from *progress* (i.e., 'a better way of life'). What is 'better' is, of course, to some extent a matter of personal values. People do not all agree on what is better. [6] But the question is, do we need to have and

[3] In earlier drafts of this paper I carelessly neglected to distinguish growth in the more abstract classical sense (which depends on aggregate savings and investment) from growth in the demand for, and production of, specific material goods. Standard growth theory takes little or no account of either price elasticities of demand or returns to scale at the micro-level of production. Nor does it recognize phenomena like saturation. I am grateful to a reviewer for forcing me to make this critical distinction explicit.

[4] It is sometimes called the 'Salter Cycle' (Salter, 1960). It does not turn forever, to be sure. Eventually virtually all markets for material goods tend to become saturated and even economies of scale have their limits.

[5] To be sure, growth can slow for other reasons too. More on this later.

[6] For instance, priests and theologians tend to measure it in terms of morality or in terms of the number of 'souls' who accept the teachings of their sect.

produce more in order to live better? Here we come somewhat nearer to the nub of the problem. Economists often try to get around the difficulty by (implicitly) equating *welfare* with wealth, or income, or GDP per capita, even though they have long recognized (in principle) that 'welfare' is not the same thing as gross consumption, either at the individual or national level.

It is not simply a cliché to say that increased wealth does not guarantee increased happiness. Far from it; when the struggle to gain further wealth becomes too intense, there are likely to be major personal and social costs. Family life is disrupted, parents quarrel over money and careers, children are neglected, health suffers, and so on. Urbanization in the west has destroyed much that was attractive and satisfying about village life in the past, without replacing it with anything comparable.

To measure only monetary income undervalues the welfare produced by many kinds of unpaid work, both in the home (raising children, housekeeping, food preparation) and outside the home (growing or gathering food and other materials for direct consumption). Equally, it overvalues the welfare contribution of unavoidable and 'defensive' expenditures, from commuting costs and taxes to subsistence level expenditures for food, housing and health-care. The GDP is increased with every lawsuit, but social welfare is not. [7] In fact, comparing the litigious USA with much less litigious Europe and Japan, it is hard to avoid the conclusion that excessive litigation has a negative impact on social welfare. Similarly, crime increases the GDP but certainly reduces welfare.

The GDP measure overvalues expenditures to repair damage to the environment or to health caused by other human actions, or natural catastrophes. For example, increased expenditures for rebuilding after the Kobe earthquake will increase the Japanese GDP, but can hardly be counted as increasing Japanese welfare. Similarly, increased expenditures on health care arising because of air pollution, job-related stress or accidents do not contribute to net social welfare. On the contrary, social and environmental stresses reduce real welfare, while the costs of abatement, amelioration or repair are misleadingly counted in GDP as if they were actually benefits. An increasing proportion of US health care costs arises from such causes. [8]

To measure progress (or welfare) in monetary terms also neglects the welfare contributions of non-monetizable social and environmental services, from parents, neighbors and friends, from communities and from 'nature': the sun, the air, the climate, the scenery and the biosphere. Incidentally, the latter are scarce resources which tend to increase in value as they become scarcer. Thus, in a lightly populated rural society living in a wilderness, where everyone possesses his or her own manual labor, the most valuable assets may well be the tradeable ones with monetary value (tools, guns, clothing, domestic animals, etc.). Under these circumstances the monetary measure of income (or GDP) may be an adequate surrogate for human welfare. But in a more complex urban society based largely on 'brain' labor and specialized skills, where environmental services are palpably scarce and becoming scarcer, the ability to buy more of 'the things money can buy' may be a very poor measure of welfare.

Finally, GDP does not capture equity. More to the point, if increasing GDP is achieved at the price of increasing social inequality, most people are likely to

[7] To be sure, there are some 'winners' other than lawyers, but it would be hard to make a case that the legal process (in the USA) leads to Pareto-optimal resource allocations.

[8] A kind reviewer has pointed out that over half of all visits to physicians, in all countries for which statistics are available (including non-Western) are not for 'diseases' with a single pathogenic trigger, but for 'illness' consisting of any one of several malaises with multiple but vaguely defined causes usually involving 'stress' of one sort or another, from childbirth to trauma, death of a spouse, unemployment, overwork, or wartime horrors (see Weiner, 1992). Also, it is apparently true that one-third of all Medicare costs are incurred in the last year of life, largely in the treatment of terminal illnesses; in view of increasing controversy about the 'right to die' and complaints about mercenary behavior of the medical establishment in insisting on the use of extraordinary measures whenever possible, sometimes even over the objections of both patients and families, it would appear that much of this expenditure does not add to welfare.

feel worse off rather than better off. I will discuss this topic below.

So much for what is not 'welfare' (or what welfare is not). As I noted earlier, I no longer think that GDP is a good measure of economic welfare, or even a reasonable approximation. Admittedly, most economists would probably agree that GDP is only a measure of economic activity and that other interpretations are unjustified. But, in point of fact, governments tend to equate the two, on the basis of arguments that — in past generations — welfare (estimated by subtracting defensive expenditures, as suggested above) tended to 'track' GDP (Nordhaus and Tobin, 1972).

Yet, the 'tracking' argument is inherently weak. The chances are there is (in principle at least) an optimal level of GDP that maximizes welfare, for any given state of the world, in terms of resource stocks and technology. It seems increasingly likely that GDP can continue to increase, even as per capita welfare peaks or declines (e.g., Hueting, 1980; Repetto, 1985, 1988, 1990). Daly and Cobb (1989) have tried to construct a statistical index of welfare by subtracting known defensive expenditures from GDP. [9] If the undervalued components (such as unpaid social services work and environmental services) were added — which nobody yet knows how to do, properly — the welfare differences between 'rich' and 'poor' countries would be far less than the GDP differences and in some cases 'poor' countries might even be better off than some 'rich' ones, as recent World Bank studies seem to imply. [10]

3. Is there progress?

I think there is convincing evidence of (secular) progress in the world, since the 18th century. Here are some specifics that hardly anyone could argue with:

(i) We are much healthier than our ancestors, especially in the industrial countries. Diets are better (except for the poorest). Vitamin deficiency diseases like scurvy and pellagra are virtually unknown today. Childbirth is routine and safe in most cases. Clean water is widely (though not yet universally) available. Surgical operations are relatively painless, thanks to effective anesthetics. In the industrialized countries we live more than twice as long, on the average as our ancestors. Teeth, properly cared for, last a lifetime. Vision and hearing impairments are largely compensated. Thanks to antiseptics, wounds do not become infected or gangrenous. Most of us can live all of our lives — at least until the final days, weeks, or months — without serious pain or physical disabilities.

(ii) Work is less exhausting and requires less time and is generally less routine, both for those who are employed and for women whose work is mostly domestic. In the eighteenth century most men's work was farm labor, the work-day was 10 h or more (especially in the summer) and the work-week was six days. Farm work was diversified but physically exhausting. For women in the servant category, the days were equally long and tiring. Housewives with children and without servants were no better off: apart from cooking for a family on wood-burning stoves, washing with water heated on open fires and poor quality soap, they probably had to spin yarn, weave cloth and make clothes for the family. Child labor is abolished in the western world. The conditions of work in offices and factories are vastly improved in terms of physical strain, safety, eyestrain, back strain, fatigue and monotony. [11]

(iii) People have more leisure time — meaning 'disposable' time for activities of choice — than in

[9] The proposed measure is known in the U.S. as the genuine progress indicator (GPI) and in Europe as the index of sustainable economic welfare (ISEW) (Daly and Cobb, 1989; Jackson and Marks, 1994). Of course it is difficult to make these adjustments cleanly and many economists now argue that the procedure is irredeemably idiosyncratic and thus untrustworthy. However, the same objection should have been made to the Nordhaus–Tobin measure, which was used to justify the 'tracking' argument in the first place.

[10] The World Bank has undertaken a major effort to put monetary values on both human and environmental resources (at least the ones that generate monetary income). While preliminary and conceptually flawed in some ways, the research is nevertheless pathbreaking (Serageldin, 1995).

[11] There is, however, a recognized new disorder called 'carpal tunnel syndrome', that is associated with working at computer keyboards.

the past. [12] This is partly from longer life and partly from shorter working days. They also have more 'disposable' income than they did two centuries ago. The conditions for enjoying that leisure are vastly improved (see below).

(iv) Life is much more comfortable (and convenient) in the physical sense. The major contributors to this increase in comfort are electric light, ventilation, central heating, better quality windows, better insulation, better quality clothes, a variety of electrical appliances, etc.

(v) Communication and transportation are far cheaper and vastly improved. Books are cheap and easily available. Tens of thousands of titles are in print and millions have been printed in the past. Many can be found in libraries. Telephones and TV bring immediate contact with people and events from around the world at very low cost. Most people have immediate physical access (within an hour or two) to a large town or city, with all its services and shops. Within a day it is possible for most people in the western world to reach almost any city in the world, at a price comparable to an average wage for a few weeks at most. A private automobile (driveable if not new) is within the economic reach of virtually any adult in the west. Roads are mostly free and excellent in quality.

In these respects life is easier and better now, for most people in the industrialized countries — and many people in other countries — than it was two centuries ago. Most economists tend to stop at this point and say, in effect, "these are the benefits of economic growth. Q.E.D. Let it continue!" [13] But it really is not that simple. The critical question is: how important was 'growth' (i.e., increasing production and consumption of materials goods) in bringing about this admittedly significant degree of secular progress?

I think that the answer is 'somewhat': economic growth did make a contribution, but its importance varied from period to period. Growth (mostly in trade) was a minor factor in improving the life of ordinary people at the beginning of the industrial revolution. Apart from the wool trade between Britain and Flanders, and the wine trade with Portugal, long distance trade was mainly in luxury goods like tea, coffee, spices, sugar, dyes, furs, cotton cloth (Calico, Muslin) and silk. Growth and trade accelerated together with the spread of the railways, gas light and waterworks; they became still more important with the advent of electrification and affordable appliances like guns, sewing machines, pocket watches, telephones and bicycles toward the end of the 19th century and the beginning of the 20th. Economic growth and the spread of the motor vehicle were virtually synonymous for a time. But it was the inventions that generated the growth, not vice versa. Since then, however, growth *as such* has declined in importance as a welfare driver once again.

Many of the most notable improvements in quality of life, cited above, arose directly from scientific progress and invention. Science was *not* a child of economic growth, even though the latter owes much to the former. Science emerged from the Renaissance, the Reformation and the Enlightenment. The details of that intellectual history are fascinating but somewhat beside the point.

But the contribution of science to progress is (to me) beyond doubt. For instance, consider health: once the causes of disease were understood (e.g., Pasteur, Koch) many causes of infectious disease and death became controllable at very low cost by means of medical screening, antiseptics, vaccines, antibiotics, pest control and water (and sewage) treatment. All of these — even the last — can be made widely

[12] But strange things are happening. The USA led the world in cutting average working hours in manufacturing from 70 per week in 1850 to 40 per week in the 1930s. But the work-week stabilized and began to creep up again in the 1980s. It is currently 42 h per week. American manufacturing workers now work longer hours than Japanese and 15% longer hours than Germans and most other West Europeans (*The Economist*, Oct. 22, 1994). Why? Possible explanations abound. One, often cited, is union weakness. Another is the strong preference of large-scale manufacturers to pay overtime rather than take on new employees with associated unemployment insurance and other overhead costs. Job insecurity is another possibility. Stagnant or declining real wages, combined with lower marginal tax rates may have shifted the point of indifference. Lack of attractive leisure time options (or lack of money to pay for them) may also be a factor.

[13] For example, Julian Simon and his followers (Kahn, 1984; Simon et al., 1995).

available without enormous industrial and economic activity. Knowledge is by far the most important factor. Most of the requisites of public health are now available in many parts of the third world and their availability is largely a question of social organization rather than industrial production. It is doubtful that more economic growth is needed to improve the health of the people still living in primitive conditions, except to enable them to pay for some drugs and antiseptics.

To pursue the same point further, conditions of work, domestic comfort and possible uses of leisure time arise from technology (normally an offspring, but occasionally a parent, of science), not growth. They have improved almost as much for middle-class people in the cities of the poor countries as in the west. So have communications and transportation. A middle-class Indian or Chinese living in an apartment in Bombay or Shanghai is not significantly worse off in terms of comfort, leisure, or culture than a lower middle-class apartment dweller in the UK or the USA. Personal service is obviously cheaper. If he has a disadvantage, it is in terms of the ability to buy manufactured goods, especially automobiles. Telephones and TVs are scarcer than in the west, but still quite common. Running water, electricity, radios, newspapers, books, bottled soft drinks, toothpaste, bicycles and buses are normal features of everyday life. So are schools, universities and hospitals. The major differences would be the size of houses and the frequency of cars, refrigerators, washing machines, air conditioners and VCRs.

In the two centuries since the industrial revolution, the middle class has progressed, by most of the above measures, almost everywhere. It has also grown as a fraction of the whole population. It is the rural villages and the festering urban slums of India, China and Africa where progress is questionable. In fact, for many of these people, conditions (except health) are surely worse. They lack land, housing, family relationships, social status in the village and access to common property resources that once were the norm for their ancestors. They are also surrounded by evidence of opulence they cannot share. Rootless and hopeless, it is hardly surprising that so many become criminals (indeed, it is surprising that so many do not). Unfortunately, there are more of these people than ever before, and — thanks to reduced mortality attributable to public health — their numbers are now rising rapidly.

In short, one can very reasonably ask the question: could we not have had most of the benefits of these scientific and technological improvements *without* having had such enormous economic growth in terms of production of goods? I think the answer is 'yes'. Science and technology were the real source of most of these benefits. Growth and trade contributed insofar as economies of scale brought down prices. But the growth resulted from the demand for the new products and services; it did not generate the innovations.

Some technological innovations in the past caused hardship and loss to many and gain for only a few. This might well be true of some early labor-saving machines, such as the power loom, which caused a great deal of unemployment and destitution among weavers (recall the Luddites). Railroads undoubtedly resulted in some hardships for carters and canal bargemen. Electric lights may have put some candle-makers out of work. Kerosine reduced the demand for whale oil (and probably saved the whales). The motor vehicle did away with horse-drawn taxis and carriages. But most of the fundamental inventions of the 18th and 19th centuries did much more than displace one technology and its workers by another. These technologies created whole new capabilities, new products, new services and new industries. Most of them created employment and jobs for many, not just wealth for a few.

In summary, it was not economic growth that generated scientific and technological progress, but actually the contrary. It was the technological progress that occurred in the 18th and 19th centuries — especially the introduction of steam engines, internal combustion engines and electric power — that created the conditions for massive introduction of labor-saving machinery on farms and in factories and massive increases in physical output. Technology created an efficient engine of production that contributed to the diffusion of the new products and services. Also, the fact that conditions of work are easier and people have more leisure time is largely due to the use of labor-saving machinery.

Still, it is not true that every technological improvement creates more employment than it destroys. Industrial robots, for instance, do not provide any new service. They merely replace workers, as such. Automatic machine tools displace machine operators. Automatic elevators simply make elevator operators unnecessary. Automatic bank tellers make it possible to get cash at night, to be sure, but mainly they replace human tellers. In fact, many of the labor-saving innovations of recent years are just that; they displace human labor to reduce costs. The massive cutbacks in the ranks of middle managers is surely attributable in large part to belated productivity gains from office computerization and information technology.[14] The major gainers are the employers. Increased wealth for a few is created at the expense of many who are less well off.

In recent years, science and technology have contributed less, it seems, to the general welfare of consumers in terms of quality of life, than they have to productivity. But what do we in the west have to gain from more GDP growth *now*? The quality of life is not totally independent of the price and availability of manufactured goods and infrastructure, but neither is the connection one-to-one as we tend to assume when we do not think about the question seriously.

4. What has happened to equity?

In this Section I want to consider equity in the usual sense of income distribution. Before continuing, let me say that I do not advocate equality of incomes; nor would I try to enforce equality of economic opportunity to the extent of infringing significantly on civil liberties. (It is impossible to simultaneously maximize two or more objective functions.) Nevertheless, I would strongly advocate policies to increase equity, while opposing policies tending to decrease equity, 'ceteris paribus'. The idea that economic growth should take precedence over equity, because 'a rising tide lifts all ships' is commonly accepted. But is the tide still rising? And does it really raise all ships?

GDP per capita has been rising steadily in the USA, albeit at a modest pace, for the past several decades. Are people better off? The higher the income, the more it has increased. In the USA both the truly wealthy and the upper middle class (executives and professionals) have seen their disposable incomes grow significantly since the early 1970s. They can (and do) buy bigger cars, bigger houses, vacation condos, fancier restaurant meals and so forth. Meanwhile, the real wage income of most workers stopped growing a generation ago.

It is an objective fact that income inequalities are increasing.[15] Everywhere in the west, despite 'social safety nets', the youngest, poorest and least educated are significantly worse off than their counterparts were twenty years ago. Income inequality in America generally decreased from 1929 to 1969. In that year, the top 20% of American households received 7.5-times as much income as the bottom 20%. Since then, the trend has reversed. By 1992 the multiple had increased to 11 (as compared to about 4.5 for Japan, 5 for Sweden and Belgium, 5.5 for Holland and Germany, and around 6 for Italy and France). Moreover, the poorest are clearly worse off. Between 1973 and 1992 the poorest 10% of households saw an 11% drop in real income, while the richest 10% saw an 18% increase. When segments of society are considered separately, the differences are even starker: a male US high-school graduate in 1979 earned 30% more (in real terms) than he could in 1994. In most other western countries, even the poorest have enjoyed an actual increase in prosperity, although the richest gained the most. For instance, in Britain, the poorest gained 10% during the Thatcher era while the richest gained 55%.

Why did inequality increase? There were multiple causes. Several academic studies suggest that — contrary to some perceptions — fiscal policy and lower marginal tax rates were not the main cause. Rather, deregulation of markets seems to have been the biggest reason for the changes that occurred in

[14] As recently as 1990 the OECD held a major conference on technology and economic growth to try to unravel the so-called 'Solow paradox', namely the fact that large investments in computer technology since the 1960s had not yet resulted in any measurable gains in labor productivity in most parts of the economy (the financial sector being the only exception at the time). Enormous cutbacks in employment were already occurring then, but had not yet been reflected in official statistics.

[15] Data in the following two paragraphs is taken mainly from *The Economist*, Nov. 5, 1994, pp. 19–21.

the USA and Britain (also Australia, New Zealand and Canada), but not in continental Europe. The second major reason was weakening of the labor movement, especially in the USA. Since 1970 union membership fell from 30% of the workforce to 12% in the USA and wage differentials increased sharply. In Western Germany, by contrast, union membership remained at 40% and wage differentials actually decreased slightly. In fact, it has been shown that income inequality in OECD countries is inversely correlated with union membership.

A third reason for increasing inequality, not mentioned by *The Economist*, is almost certainly the anti-inflationary policy of raising real interest rates, that was in effect from about 1980 through 1991. During the inflationary period that began in the USA with the Vietnam War ('guns and butter'), and accelerated during the Arab oil boycott in the early 1970s, real interest rates were low and sometimes even negative. This environment was very negative for the stock market, but strongly encouraged borrowing. The declining stock market led many investors to transfer their savings into fixed income accounts, but the negative real interest rates, in effect, transferred wealth from lenders — people with savings — to borrowers. Among the net borrowers were many younger home-owners who 'traded up', taking on larger mortgages and relying on inflationary growth in real-estate prices to deliver increased equity values. The poorest, unable to take advantage of the real estate price escalator, did not benefit. But a great deal of wealth was drained by inflation from older savers, such as retirees, and transferred to younger middle and upper-middle-class homeowners.

The real-estate escalator stopped moving up in 1979–1980 (when mortgage interest rates began their sharp rise) and thus began a long and painful reversal. In 1980 the Federal Reserve raised short-term interest rates very suddenly to an unprecedented level (about 23% at the maximum), in an effort to kill inflationary expectations. Since that time, until 1991, savers and investors enjoyed both high (but gradually declining) real interest rates and rising stock markets. This phenomenon reversed the previous shift in wealth from the older generation to the younger. But, the beneficiaries of inflation-driven capital gains from real estate borrowing in the late 1960s and 1970s, were able to invest those capital gains in stocks in the 1980s and ride another escalator. Those now approaching retirement age in the USA (myself included) have done well for themselves, just by being in the right age group at the right time. The so-called 'baby boom' generation, by contrast, is in deep trouble.

Some data recently published puts this disparity into quantitative terms. Households with incomes of \$30 000 or more (roughly median) have an average net worth of \$66 000 if the head of household is in the age-bracket 35–44, including real estate assets. Net financial assets for this group are less than \$8000. But households with the same income, but headed by a person in the age group 65–74, have an average net worth of \$222 000, of which \$77 000 consists of financial assets. Yet the older group receives social security and medicare benefits, that must be paid for by the younger group.

The corporate CEOs and the richest 1% of the population, who control an altogether disproportionate share of wealth in the USA, have also gained by far the most in recent years. Yet, the fierceness of this competitive game for 'growth' and 'market share' has been extremely traumatic for many of the workers who are lower in the corporate hierarchy. First the factory and clerical workers, and then the middle managers, have progressively lost status, promotion prospects, health insurance coverage, pension rights, job security and even employment itself. In the last 7 years (through 1994) 85% of the 'Fortune 1000' non-financial companies downsized. Six million jobs disappeared in the process. A 1992 survey of the American Management Association reported that 43% of surveyed companies had had at least two major downsizings in five years, and 24% had had three or more, while 65% of those firms that had layoffs in 1992 did so again in 1993. Privatization of a number of large European firms that are government owned and/or controlled will surely accelerate this process.

In the developing world the rich and politically well-connected are also getting richer. But they do it largely by monopolizing access to government contracts, cheap loans from government controlled banks and permits to exploit stocks of natural resources. The Emirs and Sheikhs, the Mobutus of Africa, the Marcos family, the 'red princes' of China and the family of Suharto (who control most of the big

Indonesian conglomerates) are notorious cases in point. The educated middle classes and the most efficient farmers are also getting a little bit richer. But many of the rural poor, especially the smallholders and the landless of Asia and Latin America, are being ruthlessly dispossessed and displaced. The evils of the 18th century enclosure movement in England are being repeated today in much of the developing world.

Academic economists and business school professors (protected by tenure) still argue about whether this massive change has been economically beneficial in terms of 'increasing competitiveness' or not. On that point, the returns are not all in. But, it seems to me that nobody is asking the more important question: *is increasing competitiveness beneficial to society*? Based on the record so far, I think western society has little to gain and much to lose. The reason competitiveness seems important is, at first sight, so obvious that nobody seems to think it worthy of discussion. It is 'globalization of trade'. If globalization is a fact of life, then firms — and nations — must be competitive to survive. [16] But is globalization truly necessary, or is it a matter of choice? Is it even a good idea? (Is the emperor wearing any clothes?)

5. The inevitability of globalization?

The long-running argument over GATT and the 'Uruguay Round' would not have occurred if everyone agreed that globalization is such a good idea. The World Bank and the multinational corporations, along with some academic economists, led the campaign for NAFTA in 1993 and WTO in 1994. They asserted that global free trade is the needed nostrum to end recession and unemployment (just as they claimed in 1991–92 that the 'single market' in Europe would create a burst of new growth). NAFTA was supposed to add 300000 jobs in the USA by 1995. Instead, the certified job losses — the tip of the iceberg — already amount to 30000 jobs. The World Bank claimed that cutting trade barriers would painlessly increase the gross world product (GWP) by several hundred of billions of dollars annually. [17] These hopes were not realized either.

The real supporters of free trade are the MNCs and their lobbyists and agents in government. They are the most direct beneficiaries and perhaps the only beneficiaries in the western world. MNCs are increasingly free to move their capital and their manufacturing operations to low wage, low tax countries while selling their finished products profitably in the high wage countries where their owners and managers live until they can retire to tax havens (at least, they can do this as long as their western customers are still employed). They can also move their profits to wherever their stockholders will pay the least taxes. MNCs have been gradually shifting their manufacturing and assembly operations away from the high-wage countries toward Asia for several decades. Engineering, design and supporting services are already following. This is one of the basic reasons for rising unemployment in the west. [18]

President Clinton said, in justifying his support for the APEC meeting in the summer of 1995, that exports to Asia would employ 3 million Americans by the year 2000. Yet the US merchandise trade

[16] Paul Krugman argues that "nations don't compete with each other". In this connection one must mention the 'World Competitiveness Report' issued annually by the World Economic Forum (sponsor of the annual Davos Conference). For a number of years Japan was consistently #1. In 1994 Japan fell from the top spot and the USA was promoted. Krugman's comment is that the index is useless as an indicator of future economic performance (Krugman, 1995). Is the USA a better place to live now that it is deemed to be more 'competitive' than any other country? I doubt it.

[17] In 1993 the World Bank estimated the potential benefits of the GATT agreement to be $300 billion per year in GNP growth. In 1994 GATT itself published a new, higher estimate of $500 billion. The basis for both estimates is the old Salter Cycle. In brief, the idea is that free trade increases market size and thus permits greater economies of scale. GATT modelers have simply assumed more radical economies of scale than the World Bank modelers.

[18] The vaunted European social 'safety net' has reduced the immediate pain of job loss, by spreading it over all still-employed persons in the form of higher social security taxes. These taxes, in turn, raise labor costs further, making Europe still less competitive. By contrast, the US has a much less generous social security system, which has kept labor costs from rising so fast but has left more and more American workers, especially the least skilled, with declining real living standards.

deficit for 1995 exceeded $157 billion, down only slightly from 1994, the worst ever, despite a major 1995 decline in the value of the dollar vis-a-vis the Japanese yen and the German mark. In fact, the trend has been growing sporadically worse for two decades.

The trade deficit means Americans are buying a lot more goods produced by foreign workers than they buy from us. The Department of Commerce uses a rule of thumb that $1 billion in exports generates 19000 jobs. It would seem to follow that $1 billion in imports would cost at least that many jobs (since the jobs lost tend to be at the lower end of the pay scale). Thus, if 3 million American manufacturing jobs are supported by exports, the continuing trade deficit implies that well over 6 million lower paid American jobs must have been permanently displaced by the imports. Those displaced range from farm workers, textile workers and shoemakers, to electronic assemblers. Education and skill is no protection. India exports computer programming services to western companies on a large scale. Swissair's reservation service is now handled from India. And even Boeing, the biggest US exporter, is now planning to subcontract to China, in order to secure Chinese orders, but at the cost of losing more jobs in the USA. *The net effect is a further major transfer of wealth from the lowest paid American and European workers to the highest income western executives, managers and stockholders.*

Of course, there are spillover benefits for Asians. Western investment has been the best possible news for Hong Kong, Singapore, Taiwan and South Korea. Now Malaysia, Indonesia, Thailand and mainland China are also rapidly growing export platforms. This has created a major boom in that part of the world in the last few years, which has convinced many people that it is self-sustaining. China grew 13% each year in 1992 and 1993, 11.5% in 1994 and 10.2% in 1995. This, in turn, has attracted major investments from the MNCs: $57 billion pledged as of December 1994, an increase of 49% over 1993. The MNCs see Asia as a big growth market where they can hope to get higher rates of return than the old 'tired' markets of Europe and North America.

Will the Chinese buy McDonald's hamburgers, Gillette razor blades, Unilever detergents and Coca Cola? Surely they will. *But virtually all of these products will be made locally in Asia, not in America or Europe. Worse, most of these products are already being made in counterfeit versions, by pirate factories that do not even pay royalties.* A lot of them are already being exported back to us, either directly, or in the luggage of travellers. If China can be persuaded to enforce the copyright laws it has agreed to, the parent MNCs will receive some profits or royalties, which will make the stockholders happy. But no new jobs will be created back in Birmingham, Chicago, Milan, or Stuttgart by the 'China trade'.

I am aware of the so-called accounting rule that says that dollars paid for imported goods must find their way back to the USA as 'investments'. This is true if the accounting system has only two categories. But the largest fraction of the financial return flows buy US government bonds to finance the persistent U.S. budget deficit. Cutting the US federal deficit would not necessarily help, unfortunately. The money can also be used to buy speculative assets, such as real estate or the stock market. It is probably contributing to the current boom in stock prices. US dollars, being the world's reserve currency, also tend to accumulate in offshore banks, both national and otherwise, where they are used as security for loans in other currencies. None of this activity creates jobs in the USA.

What of equity in East Asia? Statistics recently released by the Chinese State Statistical Bureau indicate that there are 5 million households in China with annual incomes above 50000 Yuan ($6000) of which 1 million are said to have incomes above 1 million Yuan or $120000 (*International Herald Tribune*, Oct. 31, 1995). The real buying power of this income group is higher than the exchange rate equivalent. This affluent group is growing, of course. Audi now produces 20000 cars annually in China, with this market in mind. General Motors recently 'won' a competition with Ford to build a new factory in China to build 200000 mid-range Buicks per year. These are cars that would cost $15000–20000 in the USA.

But at the same time, 5% of urban households in China had incomes less than 2000 Yuan ($240) per year, which is regarded as the poverty line (ibid.). Estimates vary, but at least 100 million and possibly 180 million displaced peasants from the interior have migrated into the Chinese coastal provinces, mainly the cities. Many are unemployed. Inefficient state owned enterprises will also be shedding employment as they 'rationalize' in coming years. Unemployment is expected to reach 268 million by 2001 if present trends continue (*New York Times*, Jan. 3, 1995). India and other Asian countries exhibit the same phenomenon on a slightly smaller scale. This growing pool of unemployed rural labor will be almost impossible to absorb, certainly in modern capital-intensive manufacturing. It will keep Asian manufacturing wages low for the foreseeable future. Worse, it will drive down western wages and attract more and more western firms to Asia.

In short, contrary to theory, 'free trade' as currently practiced is not good for everybody after all. The roll of 'winners' seems rather short, at least in America and Europe. The list of losers looks much longer.

6. Is there a tradeoff between equity and growth?

Most economists believe that redistribution requires government intervention in the operation of the free market and, that this inevitably reduces efficiency. Less efficiency means lower growth, hence a less rapidly 'rising tide' to raise all ships. Q.E.D.

As it happens, the empirical evidence points in a different direction. An academic study of 56 countries, reported recently, found a strong negative relationship between income inequality and growth in GDP per capita (Persson and Tabellini, 1994). To put it plainly, countries with less inequality have better growth records than countries with greater inequality. Similar results have been found by other studies. How can this be explained?

There are two possibilities. One is that the supposed efficiency benefits of less government intervention are illusory. For instance, it is possible, even likely, that the observed inequalities are not due to the operations of free markets at all, but due to market failures. In other words, the richest have been able to use their wealth to secure favored positions through political influence or other means. The huge amounts of corporate money flowing into political campaigns must buy something. For example, lawyers dominate legislatures and they are able to write laws that encourage litigation, thus keeping trial lawyers busy. Trial lawyers have been the biggest contributors to Clinton's campaign; surely no coincidence. Bankruptcy law has become a gold mine for lawyers, because lawyers get paid before other creditors and they are largely able to set their own fees. Many a bankrupt corporation has been stripped to the bone by lawyers before the other creditors receive a penny. CEOs of many MNCs are able effectively set their own wages through inside control over boards of directors. Many Wall Street insiders have been able to use borrowed money to gain control over big firms through leveraged buyouts, thus permitting them to convert corporate assets into personal assets by giving themselves stock options and pushing up the stock price by 'restructuring' and increasing dividends. Apart from 'market failures' such as the above, the wealthy are able to secure advantages for their children by giving them expensive private schooling and sending them to expensive universities, law schools, medical schools and business schools which are now priced out of the reach of lower income people.

The other possible explanation for the superior performance of more egalitarian societies is quite basic. It is that redistributing income from the rich to the poor invariably increases domestic consumption of goods and services. On the other hand, redistribution also tends to decrease savings and investment. This, in theory, causes a slowdown in long-term growth. In the USA there has been much controversy over the causes and potential cures of low domestic savings and investment. Yet savings have fallen to new lows, even as income inequalities have been growing. Perhaps the classical growth theory needs to be reconsidered. This issue deserves attention.

7. International trade, savings, investment and growth

According to the standard theory of free trade, each country will specialize in making and selling that which it is best qualified by nature and nurture to do. In the distant past, the idea was that tropical countries would sell tropical products, natural resource rich countries would sell natural resources, countries with large capital endowments would sell capital-intensive products, countries with large labor pools would sell labor-intensive products and so on. The situation has been changed by the freeing of capital and goods markets. Now, countries with capital can send it to countries with cheap labor and lax enforcement of environmental protection rules (or no rules). Many such countries have at least some excellent schools and produce large numbers of computer programmers, engineers and scientists. There is no longer any reason to manufacture most products in a country with high labor costs. There is nothing in the theory of trade to rule out the possibility that the hard-working people in east Asia could produce *all* the world's manufactured goods.

To pay for imports it is necessary to have something to sell in exchange. According to trade theory Europe and America — the high wage countries — will continue to make and export manufactured goods where they have an inherent 'comparative advantage'. These areas are, supposedly, 'high tech' products like microprocessors, software, supercomputers, telecommunications systems, advanced weaponry, industrial machinery, airliners, jet engines, chemicals and pharmaceuticals, and services, like finance, insurance, education, entertainment and tourism.

But there are two snags. In the first place, Europe and America have no inherent advantage in 'high tech'. Indeed, in many of these areas the Japanese have deeply penetrated western markets while protecting their own. R and D can and is being done in Asia and the Asians have no intention of being perpetually dependent on Europe and America for advanced technology.

The second snag is that it impossible to imagine an economy that produces supercomputers, airliners, jet engines or computerized machine tools entirely from imported materials and components. Do the free trade theorists really think that Japan or Taiwan will agree to sell Boeing and IBM the components — computer chips, turbine blades and gear wheels — at low prices and buy back the finished products at high prices? This can happen only as long as Boeing and IBM have a monopoly on the design technology. But such a monopoly is obviously unsustainable. Both common sense and recent experience with Japan suggest that if the Asians can make the parts more cheaply than we can — which is increasingly the case — they can certainly put the pieces together. (In fact, much of the final assembly for personal computers is being done in southeast Asia right now). If the USA and Europe cannot also make most, if not all, of the critical components for these sophisticated goods, at competitive prices, we are not going to be able to manufacture the final goods themselves, let alone be able to export them. [19]

The same problems arise for services. While services now constitute 70% of the US GDP, most of them are not exportable. Those that are — higher education, sophisticated medical treatment, entertainment, telecommunications and financial services — constitute a far smaller fraction of the total. And there is no reason that China, India, Indonesia and other low wage countries cannot also produce these services, at least for their domestic needs. The theory of comparative advantage does not offer much consolation.

Economists typically avoid thinking in terms of specifics like the foregoing. They argue from a classic identity between the balance of international payments and the sum of domestic savings and government budgetary surplus. [20] A negative balance of payments corresponds to net domestic dissaving (i.e., government budgetary deficits exceed private saving). It seems to follow that the trade and payments imbalance can be eliminated by — and only by — increased domestic savings and decreased budgetary deficits (it is generally assumed that savings are more or less automatically converted into domestic investment, which is not entirely or necessarily true, but perhaps a secondary point).

Conservative (i.e., libertarian-leaning) economists tend to view the available policy options for encour-

[19] There are no more Western 'comparative advantages' in manufacturing. What the Chinese cannot make themselves, they can surely buy from Japan or Korea. Both countries can make virtually anything Americans or Europeans can make, better and cheaper. This is because the Japanese have consistently violated the basic principles of free trade in the GATT sense: they have preferred to learn how to make things domestically, even at a loss, rather than import them from Western countries).

[20] This identity is derived in many textbooks. It is intuitively clear if one thinks first in terms of deficits being equivalent to dissaving, at the margin. But, of course, the identity holds equally well for surpluses.

aging savings mainly in terms of budget balancing by reduced government spending and tax reduction to encourage private savings. The favorite target for tax reduction is, of course, the capital gains tax. While government budgetary deficits are obviously in the domain of government policy, private savings are less so. They can be encouraged to an extent, of course, through tax policy. And cutting social security benefits might also encourage savings to some extent. These policies are, however, extremely inequitable, in that they transfer wealth from the poorest (who lose benefits) to the wealthy (who save).

But, budget balancing and tax cutting are only the most obvious ways of creating national savings. The identity between net savings and net international payments suggests another approach to increasing net domestic savings and investment. If trade deficits imply dissaving, then a trade surplus corresponds to saving. By a variety of means, governments can manipulate the balance of trade in a favorable direction through what is called 'industrial policy'. Governments, through central banks, can also control foreign exchange and manipulate the flow of funds outside the country and the purposes for which it is used.

Japan, through its Ministry of International Trade and Industry (MITI), has manipulated the balance of trade in a variety of ways, initially through tariffs and more recently through a maze of so-called non-tariff barriers. Some of the more blatant examples of import restrictions have become well-known. The Japanese refusal to import US apples, rice, beef and aluminum baseball bats for alleged 'quality' reasons are among the better-known examples. Imported cars must go through an elaborate set of 'safety' checks that domestic Japanese cars are exempted from. Japanese public sector contracts were and still are awarded exclusively to Japanese contractors (often corruptly). The Japanese telecommunications monopoly, NTT, buys its equipment exclusively from Japanese firms, regardless of price (and complaints from Motorola). Japanese conglomerates bought supercomputers from Japanese suppliers (usually members of the same Keiretsu) at prices significantly higher than Cray was offering. This policy was applied also in the military sector, where the Japanese chose to build their own warplanes under US license, even at costs two to three times higher than they would have had to pay the US manufacturers for finished products.

The notorious Japanese domestic distribution system is another means of excluding imports. Japanese manufacturers of consumer products are allowed — even encouraged — to insist on exclusive arrangements with domestic retailers. [21] The way this process works is illustrated by the case of Fuji Film, the major Japanese competitor of Kodak. Local Japanese retail outlets that want to carry Fuji products are strongly discouraged — if not contractually prohibited — from selling competing brands. There are few large stores and no malls or powerful chains like Sears, K-Mart or WalMart that would have the market power to defy the manufacturer. Foreign firms are impeded from organizing their own distributional channels in Japan by laws restricting the location of shops (allowing nearby shop-owners the right to protest a potential competitor) and by the extraordinarily high cost of land.

Having secured a large continuing favorable trade balance by virtually excluding many kinds of imports, the Japanese Ministry of Finance (through the Bank of Japan) was able to direct the inflow of trading profits to desired objectives. In the case of Japan, surplus dollars from exports were mostly re-invested abroad to build marketing organizations to secure market access in the USA and to purchase land and sources of raw materials. Some was used to purchase US government bonds, partly to keep the Yen from rising too fast against the US dollar. Meanwhile, domestic personal savings were channelled into low interest postal savings accounts that were, in turn, loaned to commercial banks and thence re-loaned to industry at low interest rates for purposes of domestic investment. Not until the mid-1980s did the Yen become freely convertible so Japanese citizens could send private savings abroad in search of higher interest rates.

[21] The system is much the same as the automobile dealership system as it formerly operated in the U.S. Until forced by the Justice Department to 'untie' its dealers, each U.S. manufacturer had its own network of exclusive dealerships. This obviously constituted an enormous barrier to entry. The rising share of imported cars in the U.S. market since the 1970s owes a good deal to U.S. anti-trust laws.

In short, a government that wants to increase domestic savings and investment can do so by manipulating trade policy and restricting domestic savers from sending their funds abroad. Japan and, more recently, the other countries of East Asia, have successfully exemplified this approach over the last 40 years. Western economists who insist that the perpetual trade imbalance will automatically right itself by exchange rate adjustments are not paying attention.

Meanwhile, US policy has been almost reverse of Japanese policy. The consumer, rather than the producer has been 'king'. The campaign in favor of international 'free trade', led by the USA, has reduced the scope for using trade policy as a tool for encouraging domestic savings and investment. Tariff walls have fallen sharply and non-tariff barriers in the USA are comparatively small. [22] Much has been done to actually encourage foreign competition in the domestic market, partly to favor consumers over domestic oligopolies and partly to build up Japan and Germany as anti-communist bulwarks. In the Keynesian tradition, deficit spending was viewed for a long time as a painless means of encouraging domestic demand, and thus to encourage investment from the demand side, subject only to inflationary pressures. Domestic monetary policy has been used primarily to fight inflation by raising interest rates. But the net result of all these policies has been a huge increase in imports, especially from Asia, much more intensive competition in virtually all sectors, stagnant or falling wages, and a rising tide, not of prosperity, but of distress.

Besides, as I commented earlier, I question whether economic growth in the traditional sense is increasing welfare. Two questions arise: Could we possibly find ways to increase welfare *without* automatically increasing the GDP? Are there ways of increasing GDP *and* welfare while protecting or even enhancing the environment? In this context the problem of trade must be faced.

[22] There are well-known exceptions, to be sure. These include subsidized crops, such as sugar and peanuts, tobacco, dairy products and some industries where elaborate quotas have been negotiated (e.g., textiles and chemicals).

8. Trade and the environment

It is something of an article of faith among trade theorists and development economists (two groups that overlap to a considerable extent) that increasing economic prosperity in the usual sense of increasing GDP/capita will automatically be good for the environment. The argument is essentially based on naive empiricism and a bit of simplistic theoretical interpretation. The theoretical part of the argument is, essentially, that as people's incomes rise they are likely to attach proportionally greater value to 'higher' goods, such as environmental protection. The empirical part of the argument can be summarized succinctly as the 'inverted U' curve, which shows — for a subgroup of pollutants — that as average GDP/capita increases pollution levels rise at first and subsequently fall as incomes increase further. The rising part of the curve is associated with industrialization. The falling part of the curve is interpreted in terms of the shift from manufacturing to services. The assumed role of trade in this rosy picture is nothing more than an accelerator of economic growth and hence of the period when all of the world is 'over the hump' of the 'inverted U'.

There are three major flaws in this reasoning. First, since over 4/5 of the world's population lives in countries that are just starting to industrialize intensively, it is obvious that global pollution must increase enormously beyond current levels before any improvement can be expected, if this scenario plays out. Second, the 'inverted U' applies mainly to localized conditions like urban air and water air pollution. It is largely explained by lack of water and sewage treatment in very poor countries and their use of low grade fuels such as dung, charcoal and peat or lignite for household purposes. With a little economic development, especially the availability of electric power and gas through local distribution systems, this kind of pollution is decreased. The inverted U does not necessarily apply to all pollutants, however. It emphatically does *not* apply to those pollutants of global of significance (e.g., CFCs and other greenhouse gases).

Third, the argument that environmental protection is a 'higher good' — in contrast to basic survival needs — is simplistic. To be sure, it is consistent with a view of the environment shared by George

Bush and the National Rifle Association: the environment is a place for hunting, fishing and sailing. It is also consistent with the views of environmentalists whose main concern is saving endangered species like pandas, rhinos and tigers. But it ignores the more fundamental and irreplaceable environmental services of climate stabilization, waste assimilation, detoxification and nutrient cycling which are threatened and without which the earth would be literally uninhabitable.

As for trade, its essential role in aggregating markets and facilitating economies of scale, at least on a regional scale, is undeniable. However, the economic benefits of long distance trade in manufactured goods (and tourism) are much less undeniable. I have argued at length, above, that the economic benefits to middle and lower income groups are exaggerated at best and probably negative, while the adverse social implications for Europe and America are being grossly underestimated. Trade of this kind is extremely transport dependent, for a start. Long distance travel and tourism are both extraordinarily energy-intensive and environmentally destructive. [23]

9. Afterword

Before ending, I want to respond to the inevitable accusation that my view is implicitly too Europe-centered or America-centered and that I want to defend a 'dog-in-the-manger' position for the rich countries. So let's get the issues out into the open. It will be argued that (my) 'strategies' would condemn several billion Asians to 'perpetual poverty'.

I would never seriously suggest that Asia or Africa should stop 'economic development' (properly defined) to protect a privileged position for Europe or America. On the other hand, would my soi disant critic advocate trade policies that could literally destroy western society in the name of the Asian poor, lacking any assurance — except promises from the self-interested — of long-term amelioration of their poverty? I think the destruction of the west, in its present liberal democratic form, is now a serious threat.

To be blunt, I do not accept the 'moral' argument that Asians are just as entitled to the goodies of consumer society as westerners, on a kind of 'one man, one vote' basis. Others do, of course. A lot of European intellectuals accept the oft-repeated argument that European colonialism was responsible for many third world problems. I think this curious phenomenon reflects misplaced second-hand guilt feelings imbued by an intellectual establishment that adopted Marxist ideology in the 1930s as a reaction to the rise of fascism.

Agreed that European history is full of examples of reprehensible and immoral behavior with respect to other peoples (so is US history, except that the victims of our past misbehavior were living on the same continent and their surviving descendants are now US citizens with access to some domestic remedies).

However, this does not mean that Europe or America developed economically by exploiting the rest of the world. In fact, it is surprising — almost a miracle — that western Europe and America *did* industrialize, not that others did not. The engine of development was not trade in silk, pepper, sugar or tea. It was a lucky convergence of emerging science, the Reformation, secular philosophy ('the enlightenment'), capitalism and the political transition from monarchy to parliamentary democracy. Economic development in Asia — starting in Japan — has been based on a slightly different mix of ingredients, with less democracy and more *dirigism*, but education, secularism and capitalism were and are clearly essential components. By the same token, illiteracy and fundamentalist religions (which tend to go together) inhibit economic development.

In short, I believe that the failure of most of the world to 'develop' in the 19th century as Europe and America did was not primarily attributable to European colonialism. Thailand and Ethiopia, neglected by the imperialists, also failed to develop. [24] British imperialism did have an adverse effect on the 18th

[23] The impact of tourism in Nepal, for instance, is becoming a serious problem for the fragile local ecosystems.

[24] Ethiopia finally attracted the attention of Mussolini and its subsequent history has been tragic, but that does not affect my point.

century (cottage) textile industry in India, to be sure. The British Raj did discourage local manufacturing where it competed with British exports. But the poor economic performance of India since 1950 owes much more to the influence of British-trained socialist economists and an ideology of central planning (admittedly a western idea) than it does to any residue of 19th century imperial preference. To blame western imperialism for Asian, African and Latin American backwardness is a misreading of history. *It is simply wrong to suggest (or imagine) that economic development is a natural process that will occur anywhere in the world, if we only allow businessmen enough freedom to move money and goods around.*

Here I would argue that sovereignty cuts both ways. Conservatives say that consumers must be sovereign. But this would mean that producers must be free to supply their every desire regardless of social or environmental damage. To be consistent, this rule should apply to drugs — at least 'soft drugs like marijuana' — and pornography. Similarly, conservatives argue that it is 'none of our business' if sovereign governments trample on human rights, persecute and expel unwanted minorities (as Serbia and Croatia are doing and Indonesia has done), invade weaker neighbors (as India did with Goa, China did with Tibet, Indonesia did with East Timor and Iraq did with Kuwait), flout inconvenient agreements, steal intellectual property (as most Asian countries do routinely, especially China and Korea) and destroy global environmental resources. If these things are not 'our' business, then to protect our workers and consumers is surely our obligation and none of 'their' business. Asian complaints that western environmental concerns are a 'neo-colonialist plot' should be rejected with the scorn they deserve.

Does the west have a selfish interest in promoting economic development in the third world? Obviously it does, if the word 'development' is properly defined. We live on the same small globe and it will not be possible to insulate ourselves indefinitely, either from global pollution, global warming, or from the problems arising from poverty, overpopulation and breakdown of civil order. But, in my opinion, we should *not* encourage economic development that radically increases social inequity. Nor should we accept the 'consumer sovereignty' argument without close scrutiny. We should not encourage western automobile companies to invest in China (or India or Indonesia), knowing that the petroleum is running out and that highways and suburbs are being built on the best and most productive farmland. Consumer sovereignty should not be an excuse to buy products made with slave (or child) labor, or products made by environmentally destructive methods. [25]

There is no reason to object to western investors who export capital to invest in Asia to build factories there, employing western capital goods and technology and Asian labor, to supply products intended for the Asian market. I am not at all happy to see western firms use Asian factories to produce products intended for the western market. The notion that western exporters will create enough jobs to compensate is sheer wishful thinking. It is contradicted by all the evidence. If this is 'protectionism', I am a protectionist.

The conventional wisdom is to put our faith in continued 'economic growth'. But what is occurring in China now is not growth based mainly on indigenous technological development and investment. Nor is it equitable. It is growth heavily driven by foreign investment, partly by overseas Chinese, but partly by Japanese, American and European MNCs. The latter is based on competitive forces driving multinational firms to shed high-cost labor. Because of the ultimately devastating effect on western society, I doubt that this process can (or will) continue for many more years. In short, I'm skeptical of the standard growth and trade models, to say the least.

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[25] I do *not* see any need for perfect symmetry. I do not oppose the use of DDT for malaria control in the tropics, even though it is banned in the USA where malaria is not a problem. Nor do I agree with Greenpeace that the USA should ban exports of toxic chemicals that cannot be used in the USA, if there is reason to believe that production will simply move to other countries where environmental and safety regulations are more lax. Incidentally, the DDT plant at Bognor was literally transported from California in 1983. Montrose Chemical was the last DDT producer in the USA.

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