The real determinants of health

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Which conditions are most conducive to good health? The degree of income equality? The level of government financing of healthcare?

What is the relationship between public investment in health and economic growth – and more generally between health and wealth?

This paper considers these questions and discusses the policy implications.

Wealth and health

Studies show that wealth is strongly and causatively linked to good health.

- Over the past 50 years, life expectancy has improved and infant mortality declined continuously in all parts of the world, except sub-Saharan Africa in the 1990s.
  - For much of human history, life expectancy was between 20 to 30 years. By 2000–2005 it had increased to 66.8 years worldwide.
  - Average global life expectancy increased from 46.6 in 1950–1955 to 66.8 by 2005.
  - In the middle-ages, infant mortality, measured as the number of children dying before reaching one year, typically exceeded 200 per 1,000 live births. The rate fell to 57 worldwide in 2003.
  - Between 1950–55 and 2003, India's infant mortality fell from 190 to 63 per 1,000, and China's from 195 to 30.
- These improvements have been the result of increases in wealth and associated advancements in technology that have been dispersed widely from wealthier to poorer countries.
- But things could have been even better. If rates of economic growth in less developed countries had been 1.5 per cent per year higher in the 1980s, at least 500,000 infant deaths could have been averted.
- Good health can also reinforce economic growth by enabling people to be more productive.
- Rapid improvements in infant mortality can also help subsequent economic growth by altering the proportion of people who are economically active relative to the proportion of dependents.
- Poor health can also constrain economic growth, because it reduces the quantity and quality of labour. HIV/AIDS is particularly problematic, not only because it directly affects people of working age, but also because its high political profile results in resources being diverted from fighting other diseases of poverty, such as water-borne diseases and Acute Lower Respiratory Infections (ARLI). It is also estimated that countries with a substantial presence of malaria grew 1.3 per cent less between 1965 and 1990.

Is public investment in health a way out of poverty?

The primary justification for government-to-government 'aid' is the so-called 'gap theory', which assumes that poor countries are trapped in a vicious cycle of poverty because they are unable to save enough to invest in productivity-enhancing capital. They are thus assumed to suffer from a 'savings gap' or 'investment gap'.

Historically, this 'gap theory' has been used to justify massive amounts of aid for infrastructure and other projects. These generally failed – indeed were counterproductive – for a variety of reasons, but

especially because much of the money was siphoned off into the bank accounts of corrupt politicians, who were then better able to continue to oppress the populace; the projects were poorly conceived and orchestrated with dams sometimes being built far from major water sources; huge amounts of money were spent on western consultants and public production of private goods, such as shoes, which crowded out more efficient private sector production.

Now the gap theory has shifted to public health interventions: Many scholars now argue that the best way to stimulate growth is by substantially increasing aid money to be invested in public health systems in poor countries.

However, there is little evidence that such an approach would actually improve the health of the populace. One study shows that although most premature childhood deaths (under five years old) could be prevented for $10, typical public health spending for each child death averted is a massive $50,000–$100,000.

Public health services in lower-income countries are massively inefficient because:

1 Corruption is endemic.

2 Programmes nominally targeted at the poor are frequently captured by the political elite.

3 Public provision crowds out the private sector, leading to inefficient state monopolies and no change in the total amount of coverage.

Institutions, economic growth and good health

However, research shows that public health spending can improve health outcomes in countries that have little corruption. (Conversely, when a country has high levels of corruption, public health spending has negligible effects on health indicators.)

Meanwhile, corruption is lowest – and thus not a significant impediment to good health – in countries which have adopted the institutions of the free society: clearly defined and readily enforceable property rights, enforceable contracts, the rule of law and open trade.

These institutions are also essential to promote economic growth, because they allow productive assets to be usefully mobilised by enterprising, competing producers and consumers.

Countries with strong institutions have higher rates of economic growth, and consequently have lower infant mortality rates.

As well as enabling the creation of wealth, these institutions benefit human health in more direct ways:

1 *Dirty Water:* According to the World Bank, three million children die every year from cholera and other water-borne diarrhoeal disorders.

   Private management of water gives strong incentives to providers to deliver greater quantities of high quality water to consumers. This directly reduces exposure to many water-borne diseases.

2 *Dirty energy:* Globally, Acute Lower Respiratory Infections (ALRIs) – mainly contracted from burning dirty fuels in unventilated dwellings – are the single most important cause of death in children under 5. ALRIs account for at least two million deaths annually in this age group.

   Clearly-defined property rights provide collateral against which people may obtain loans to purchase capital items, such as cookers and heaters that use clean fuels such as gas an electricity, freeing them from burning dung or crop-residues. In addition, the ability to obtain low-cost loans means people can invest in wealth-creating activities which enable them to afford these cleaner forms of energy.

   Cheap, clean, abundant energy also enables people to pump clean water and frees up women's time so that they can participate in activities that are more valuable and less harmful than collecting wood. Meanwhile, children are freed from making dung pats, so they can attend school.

3 *Poor nutrition*: in addition to contributing directly to death from starvation, poor nutrition weakens the body's ability to defend itself from infection. According to the WHO, Protein-energy malnutrition plays a major role in half of all under-5 deaths each year in lower income countries.

In addition to clean heating and cooking systems, the availability of capital enables people to invest in more efficient farming and other higher-value economic activities. As both the availability of food and wealth increases – both of which are most likely to occur through market processes – people have better access to nutrition. Meanwhile, when resources are controlled by women – through clearly defined ownership of property – they will be more likely to use those resources to improve family food consumption and welfare.

Wealth, inequality and health

Despite the fact that property rights and the rule of law are associated with rising prosperity and improving health, some argue that increases in wealth are harmful to health unless they are accompanied by decreases in income inequality. Such thinking is heavily influenced by Michael Marmot's 'Whitehall Studies' of British civil servants in the 1980s and 1990s.

These studies introduced the idea that *relative* poverty (rather than *absolute* poverty) is a significant determinant of health. This idea has led certain health bureaucracies to recommend the expansion of welfare payments and increases in labour market regulation as a way of tackling ill health.

In fact, the correlation between income inequality and poor health works in the opposite direction to that implied by the 'Whitehall Studies'. Health *inequalities* do increase when a country has rising per capita incomes, but at the same time the health of all members of that population improves. So increasing inequalities in income actually lead to better health – in societies where income is rising.

So, policies which seek to reduce income inequalities but also slow down economic growth would be damaging to health.

Globalisation and health

Economic globalisation has, overall, been a positive force for improving human health, largely because it has brought greater wealth to many regions of the world. Furthermore:

1 The rapid transfer of technology and knowledge from richer to poorer countries in recent years has led to a substantial decrease in global health inequalities.

2 Those countries which have experienced the most rapid economic growth have experienced the greatest improvements in health.

3 Studies have shown a link between greater trade openness and improved health.

The social determinants of health

It is often claimed that many of the processes of wealth creation gives rise to significant social and environmental externalities which are damaging to health. In response, the World Health Organization has come up with a series of policy recommendations to mitigate the effects of these 'social determinants of health', all of which involve a greater role for government in the management of both the economy and the environment.

The WHO's general approach, however, does not recognise the unintended effects of such policy recommendations. If followed, they would undermine economic growth and personal prosperity, and thereby indirectly contribute to poorer health.

- *Unemployment:* Unemployment is linked to poor health. The WHO recommends that governments minimise the health effects of unemployment by greater government management of the business cycle, reduced flexibility of labour markets and increased welfare payments. But such policies would lead to greater unemployment. Business cycles can best be smoothed by less intervention in the economy – for example by granting independence to central banks – while unemployment is lowest in those countries with the most flexible labour markets and welfare states that incentivise work.
- *Social exclusion:* Research shows that being poor is harmful to health, because of the stress associated with living on the fringes of society. The WHO recommends that such social exclusion be tackled with high minimum wages and stricter employment policies. Minimum wages, however, exacerbate

unemployment during times of economic difficulty, especially among the poorest and least skilled – who become excluded altogether from the labour market. Over-generous welfare payments have been shown to entrench unemployment by incentivising people to remain unemployed. Social exclusion should be addressed instead through policies that empower the poor, such as more flexible labour laws.

- *Transport:* Some researchers have observed a correlation between increasing reliance on motorised transport and increasing levels of poor health. The WHO recommends that governments should restrict the use of cars, and constrain suburban development. Yet the poor would be most negatively affected if such policies were pursued by governments, because they benefit most from affordable, individualised transport. Likewise, more restrictive planning laws would artificially drive up house and commodity prices, disproportionately affecting the poor. Car use can be made more rational through market mechanisms such as road pricing.
- *Food:* The WHO argues that because some people eat too much and some people not enough, governments must intervene to regulate the supply and demand of food. In fact, government distortions of the market for food – such as the EU's Common Agricultural Policy and price supports in the US – have led to artificially high prices for western consumers, while preventing poorer farmers from competing in the global market. The WHO also recommends that the local production of food should be encouraged. Such a policy would result in food shortages, price increases and a massive expansion of the size of the labour force required for agriculture –diverting people from more productive, wealth-enhancing and health-improving activities.

Conclusion

Many of the more negative 'social determinants of health' are caused by institutional failure and heavy handed government intervention. The WHO's recommendations for more regulatory intervention would undermine economic progress and thereby worsen health. Such policies would be especially disastrous in developing countries, where the process of wealth creation is far more fragile.

Instead, international bodies such as the WHO should encourage member states to implement policies that enable wealth creation – especially property rights and the rule of law.

Governments should also remove barriers to trade in all goods and services related to health, such as tariffs and taxes on medical devices, drugs and agents that enable the production of clean water and electricity.

Introduction

What are the conditions most conducive to good health? Conversely, what are the conditions that are most likely to lead to or perpetuate ill health? These questions have vexed researchers for many years, with adherents to particular theories seeking out evidence that appears to support of their own preferred explanation and ignoring evidence that conflicts.

Some researchers argue that income distribution and other related 'social' factors are at the heart of the problem. They assume that income inequality is directly and causally responsible for much of the world's disease burden.

Other researchers argue that the availability of government provided health services is the fundamental issue. For them, the presumption is that the governments of poor countries must be given supplemental resources in order to improve their provision of health services.

There are also those who point out the strong relationship between levels of economic development and the health of the population. But the direction of causation is disputed: a spate of publications has recently promoted the idea that the provision of health services is a pre-requisite of economic growth – rather than the other way around.

Others question the validity of both the 'social determinants' argument and the assumption that increasing public spending on health is the most effective means of improving health and wealth. It could be that policies which seek to redistribute wealth in the name of improving health may actually be counterproductive — jeopardising wealth creation and thereby keeping people both poor and ill.

This paper analyses existing literature and elucidates the real determinants of health. It is divided into four parts. Part one looks at the relationship between health and wealth, and evaluates the claim that a massive increase in public health investments in poor countries will result in improved health and economic development. Part two considers the role of markets and their underlying institutions – especially property rights, enforceable contracts, the rule of law – in providing a framework for economic development and enabling people to address the diseases of poverty.

Part three examines the supposed link between income inequality and ill health, and questions to what extent the two are linked. This is followed by an examination of the impact of globalisation on health, in the context that this process is often accompanied by rising international income inequality. The final section takes a critical look at the so-called "social determinants of health", and suggests some ways market-based policies can improve social and health conditions.

Wealth and health

For those concerned with questions of social justice and equity, economic growth is often seen to be a bad thing, not least because it is perceived to result in increases in health inequality. However, increases in wealth are extremely good for health – and especially that of the poor. A seminal 1996 study by economists Lant Pritchett and Lawrence Summers showed the dramatic effect which increases in incomes can have on health. In their cross-country regressions, they found a strong causative effect of income on infant mortality, and demonstrated that if the developing world's growth rate had been 1.5 percentage points higher in the 1980s, half a million infant deaths would have been averted.

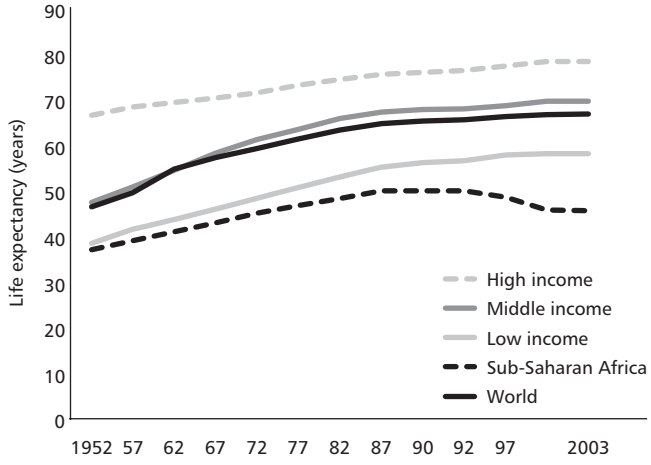
In fact, the health of the world's population has been improving since modern economic growth began in the early 19th Century. Infant mortality and life expectancy rates have both improved dramatically, and food is more abundant and cheap. These indicators have improved due to an increased understanding of the causes of ill health – such as poor sanitation – as well as the development of technologies such as vaccines and antibiotics. During the second half of the 20th Century the diffusion of this technology and knowledge to lower-income countries increased access to more sanitary living conditions and new medicines. But without increases in wealth, it would not have been possible to make better sanitation and clean water widely available, or to purchase life-saving medical technologies or pay the personnel required administer them. As a result of these increases in wealth, the 20th Century saw rapid rises in life expectancy worldwide. (see Figure 1).

Wealthier, then, is clearly healthier. But having said that, it is difficult to discount the impact which poor health can have on wealth. Many have argued that the physical health of a country's population is a significant determinant of economic growth, and good health is an important contributor to economic growth and development (Barro, 1991; Bloom & Williamson, 1998; Wagstaff, 2002).

Good nutrition, for example, allows working adults to be more productive at work and to spend more time generating income. Good nutrition amongst children is also important for promoting long-term economic growth, because it improves their cognitive and physical ability as adults. This helps to ensure that the future adult population is economically productive (which of course is a means to other ends).

Healthier people who live longer also have stronger incentives to invest capital in developing their skills, because they expect to accrue the benefits over longer periods. If a child is more likely to make it to adulthood, the parents will take on less risk by investing in its

Figure 1 **Economic growth and rising life expectancy**



Source: World Bank, 2005

education, for example. This investment can lead to higher productivity in adulthood, and in turn, income. Improved child health can also reduce the economic burden on both families and governments, freeing up resources for investment elsewhere (Karoly et al, 1998).

Improved health may also bolster economic growth in less obvious ways. Shifts in the demographic structure of a population, which occur with improved health, may also play some role in improving economic performance. If a country experiences a rapid and sustained improvement in health conditions – for example through the introduction of health technologies such as childhood vaccines or antibiotics – more children will survive to adulthood, resulting in a shift in the proportion of economically active to dependent people. Some authors contend that this so-called 'demographic dividend' is a key driver of economic growth, because it will result in rapid increases in income per capita, provided that the broader policy environment allows these workers to find productive employment.

In East Asia, for example, the working age population grew several times faster than the dependent population between 1965 and 1990. Bloom and Williamson (1998) attribute this shift to the declining infant mortality brought about by the introduction of new health technologies such as antibiotics and anti-malarial drugs, as well as general improvements in sanitation and clean water. These health improvements, the authors contend, were responsible for as much of one-third of the region's post-war economic growth.

Poor health and economic stagnation

Just as good health may help facilitate economic growth, poor health can constrain it. This is particularly true of the poorest countries of the world, which typically have the greatest disease burdens. Most obviously, poor health can reduce economic development because it reduces the quantity and quality of labour. This acts to reduce the number of hours worked, which has an adverse affect on national income. If the population remains unhealthy for a sustained period, this can affect the rate of growth of national income (Over, 1991). Weak growth, by extension, squeezes the amount of resources a government and individuals possess to spend on education, health, and living conditions, which may further exacerbate the circle of poor health and poverty.

The most prevalent diseases of poverty – malaria, HIV/AIDS, tuberculosis, respiratory infections and water-borne diseases – certainly have a large and negative impact on productivity and the quality of the labour force. The economic impact of HIV/AIDS is particularly worrisome, because more than 80 per cent of global mortality occurs amongst those of working age. The disease's impact on the labour force is heightened by the fact that its political significance results in a massive diversion of resources away from fighting other diseases of poverty (Craven *et al*., 2005), which in turn exacerbates their economic consequences. This is especially true of those diseases which are prevalent amongst children, particularly Acute Lower Respiratory Infections (ARLIs) and diarrhoeal-related diseases, which are likely to reduce the size of the labour force in years to come.

It is also worth considering the impact malaria may have on economic development. This disease carries an economic burden not only through the direct costs on households who have to spend money on preventative measures such as insecticide-treated bednets, but also through indirect costs such as lost work time through illness or tending to sick relatives (Chima, Goodman and Mills, 2003). The impact of malaria on a country's economic development may be substantial – according to a 2000 study by Gallup and Sachs, countries with a substantial amount of malaria grew 1.3 per cent per year less between 1965 and 1990 (controlling for other influences on growth), and that a 10 per cent reduction in malaria is associated with 0.3 per cent higher growth per year (Gallup & Sachs, 2000).

Controlling malaria, then, can be good for a nation's economic development, as well as its health. In Mymensingh (now in Bangladesh), for example, crop yields increased 15 percent when malaria was eradicated, because farmers could spend more time and effort on cultivation (Easterlin, 1996). In other regions, the elimination of seasonal malaria enabled farmers to plant a second crop for the first time in their history. According to the World Bank, the near-eradication of malaria in Sri Lanka between 1947 and 1977 raised its

national income by an estimated 9 percent (World Bank, 1993).

Malnutrition, one of the most obvious symptoms of poverty, also harms economic growth through its negative effect on productivity. Research has demonstrated a link between protein-energy malnutrition, and iron and iodine deficiency, and lost productivity in adults. Children born to malnourished mothers or who are malnourished during childhood can suffer cognitive losses that are associated with lower productivity in adulthood. Malnourished children also place additional burdens on health and education systems because they have greater needs for healthcare and are more likely to require more intensive teaching at school (Horton, 1999).

Is public investment in health a way out of poverty?

From the foregoing it is clear that health and wealth are mutually reinforcing. Historically, improvements in wealth have tended to precede improvements in health. However, some economists have recently argued that in certain cases massive increases in government spending on healthcare are necessary in order to eliminate what might be described as a health 'gap', which is said to be undermining economic progress.

Gap theories and big pushes

For several decades, advocates sought to justify the provision of 'foreign aid' by asserting that economic growth in poor countries could not get a foothold because of a lack of investment. This so-called 'gap' theory relies on the Keynesian notion that the rate of investment in a country is determined by the rate of (domestic) saving, which means that poor countries – having both low incomes and low rates of saving – are caught in a 'vicious cycle of poverty'. This theory suggests that such countries experience a 'low-level equilibrium trap', where higher incomes simply lead to population growth rather than increased saving. It was claimed that foreign aid would fill this gap, dissolving this vicious circle and connecting these countries to the virtuous circle of increased productivity and growth.

Although the theory of foreign aid has evolved somewhat since this idea was first promulgated in the 1950s, the basic assumptions of the 'gap theory' remain the major justification for donors to calculate the need for aid. In fact, the idea has undergone something of a renaissance in recent years, as it is the fundamental concept behind the UN Millennium Project and the various anti-poverty campaigns that have been calling for increased aid.

Whereas historically, the gap theory was used to justify massive infrastructure projects, the new gap theory focuses more on health interventions. It is argued that public investments in health are essential for economic development in low-income countries.

In a recent paper for the Brookings Institute, Jeffrey Sachs and others (2004) argue that sub-Saharan Africa's high disease burden is one of the main reasons why the region remains so poor. They argue that Africa's disease burden is not a symptom of its poverty and weak institutions, but rather a 'deep cause' of its poverty.

For example, the authors cite a number of African geographical and climatic idiosyncrasies that make malaria impossible to overcome through economic growth alone, as (he argues) were the case in Europe and North America. These include the fact that Africa is the only home to the most malignant form of human malaria species (*Plasmodium falciparum)* and has high year round temperatures which facilitate breeding of the human-biting anopheles mosquito. For Sachs, this means that Africa is irretrievably doomed to considerably higher levels of malaria than other regions, unless someone from the outside steps in to help out.

As such, malaria contributes to Africa's so-called 'poverty trap', because it reduces productivity, frustrates foreign investment and thwarts the potential for a 'demographic dividend' because of its impact on child mortality. Malaria could be controlled with existing technologies and interventions, Sachs argues, but Africa's poverty means that there are not enough resources available to achieve this. So, malaria and myriad other diseases help to perpetuate African poverty because they lead to low national savings rates, which in turn lead to low or negative economic growth rates. This low level of saving is not offset by private FDI because of

the region's weak human capital and infrastructure, leaving Africa with little opportunity to escape from poverty. What is needed to escape from this 'poverty trap', according to Sachs, is a 'big push' in public investments, particularly in health, to produce a step increase in productivity (Sachs *et al.*, 2004).

Reality and theory are two different things

This reformulation of the old gap theory is part of a bandwagon currently ridden by a great many other scholars with an interest in development. Public investment in health is now seen as a sure-fire way of improving the lot of the world's poorest. Gupta & Mitra's 2004 analysis of the links between growth, health and poverty in India is one such representative study in a rapidly swelling panoply of literature. They conclude that health expenditure is an important determinant of both higher growth and better health status, and argue that expenditure on anti-poverty programmes and health are more important to reducing poverty than economic growth *per se*. Their inevitable recommendation is that far higher levels of public investment in health are the best way to encourage economic growth in India (Gupta & Mitra, 2004).

Although the arguments presented in favour of increasing public health spending to stimulate economic growth have an attractive logic, there is not much evidence to prove that this approach actually works. One study by Filmer and Pritchett (1999) suggests that the impact of public spending on health in lower-income countries is very small, with cross-national differences in public spending on health accounting for a mere 0.7 per cent of the differences in health status. Despite the fact that a significant proportion of under five deaths could be averted for as little as $10 each, Filmer and Pritchett's analysis reveals that the typical public spending on health per child death averted is a staggering $50,000–$100,000. According to their results, doubling public spending from 3 to 6 per cent of GDP would only improve child mortality by only 9 to 13 per cent (Filmer and Pritchett, 1999).

The results of Filmer and Pritchett's study pose some awkward questions for those who believe pouring public money into the health systems of lower-income countries is the basis of a sound economic development strategy. There are several reasons why increased public health expenditures do not guarantee improved population health.

First, public health bureaucracies can be woefully inefficient and corrupt, especially in lower-income countries. As a result, the proportion of a donor's contribution that ends up actually delivering healthcare services (whether they are vaccines or nurses' salaries) is often very low.

Second, social programs that are nominally targeted at low-income groups are frequently captured by the articulate and influential rich (Deolalikar 1995; Castro-Leal *et al.* 1999; Barat *et al.* 2003).

Third, public funding and provision can crowd out private funding and provision of healthcare. If the government starts providing something for free, this is a clear signal to private providers to exit the market. As a result, the net quantity of production remains constant, the only difference being that where there was once diversity of provision, there is now a *de facto* monopoly, which has its own efficiency problems. As a result, public funding and provision typically has little to no impact on actual health outcomes (Filmer, Hammer & Pritchett, 2000).

Institutions, economic growth and good health

We must be extremely cautious, then, of the notion that simply pouring massive amounts of capital into public healthcare in lower-income countries will produce the necessary health benefits to stimulate economic growth. That is not to say, however, that all public health spending is doomed to failure. There is some evidence that such spending can achieve some of its desired outcomes if it occurs within the context of sound governance and institutions. One study by Rajkumar and Swaroop (2002) found that public health spending improves both child and infant mortality rates in countries that have good governance, defined in terms of the level of corruption and quality of bureaucracy. As the level of corruption goes down (or the quality of bureaucracy goes up), public spending becomes more effective at reducing child and infant mortality. Meanwhile, the same study concludes that public spending in extremely corrupt countries with ineffective bureaucracies has little impact upon health indicators.

It may actually be the case that strong institutions and governance have a more profound relationship with good health than the literature has so far recognised. In fact, there is an emerging consensus amongst many scholars who are not beneficiaries of UN largesse that the mobilisation of capital, labour, technology, skills and natural resources is only the *proximate* cause of economic growth. In fact, these resources mobilise to cause economic growth when societies share and obey a number of general rules (or institutions), which empower individuals to make decisions freely and allow peaceful mediation in unavoidable conflicts. Such rules make for a better division of labour, which enables people to exploit often highly specific technical and commercial knowledge – an insight that goes back to Adam Smith's *Wealth of Nations*.

It is becoming increasingly apparent that social rules which allow economic freedom (secure property rights, freedom to use them, freedom of contract and the rule of law) are closely associated with high and growing incomes, whereas arbitrary government and heavy regulation are associated with poverty and stagnation (Bernholz *et al,* 1998; Fukuyama, 1992; Jones, 2003; Kasper, 2002; Olsen, 1982; Quigley, 1979; Weede, 1996; Gwartney & Lawson, 2004; Miles, 2005). These institutions can be understood as social software, which helps or hinders the co-ordinated use of the hardware of development (labour, capital, natural resources etc) (Kasper 2005). They promote prosperity because they allow productive assets to be mobilised by enterprising, competing producers and buyers, who explore new 'factor combinations' and test whether specific resource uses are profitable.

In societies where property rights are well defined and secure, where these rights can be exploited freely through voluntary contracts to buy and sell, and where all are equal before predictable laws, people explore lots of new uses for and discover new property rights. Millions of these discoveries add up to economic growth. Appropriate institutions also carry sanctions for violations; only then will people be able to co-operate confidently and effectively. Confidence is necessary to enable cooperation amongst strangers. Institutions which codify and uphold the legal right to this confidence, therefore, are a valuable capital asset that which reduce the costs and risks of cooperation.

In order to understand the exactly how these institutions enable the process of wealth creation, it is first necessary to examine them in a little more detail. The following explanations are adapted from Morris (2002):

- *Property rights*

  Property rights are created in order to resolve competing claims over resources. To function effectively as an incentive to use resources in the most efficient manner possible, they must be well-defined, enforceable and transferable. In this way, property rights are capital; they give people incentives to invest in their land and they give people an asset against which they can borrow, helping them become entrepreneurs.

  However, poor countries generally lack well-defined, readily enforceable property rights. People in poor countries are oppressed by tenure rules which make it difficult for them to rent, buy or sell property formally. Land transactions typically involve paying large bribes to local officials, who have a vested interest in maintaining the *status quo*.

- *Contracts*

  Another institution which is fundamental to sustainable economic growth is freedom of contract. This includes both the freedom to contract – the freedom to make whatever agreement one desires, subject to fair and simple procedural rules – and the freedom from contract – the freedom not to be bound by the decisions of others. Freedom of contract is a fundamental part of the freedom to associate with others. It includes the freedom to transact – to buy and sell property – and as such it is an essential adjunct to the right to clearly defined and readily enforceable property rights.

  Contracts and property rights underpin the functioning of markets. The freedom from contract prevents others from interfering with one's right to engage in exchange. The freedom to contract also enables people to bind themselves to agreements and thereby creates greater legal certainty. This in turn encourages people to engage in trade and investment. Armed with enforceable property rights and contracts, the peasant can become a merchant.

- *Rule of law*

  The rule of law, brokered by an independent and fair judicial system, is necessary to ensure that property rights, contracts and freedoms associated with a democratic and free society are upheld, respected and enforced for all members of that society. When the rule of law is absent – that is, when the power of discretion is vested in politicians, bureaucrats and civil servants – this is a certain formula for bribery and corruption. In this situation, entrepreneurial activity becomes dependent exclusively on political manoeuvring rather than based on its benefits to consumers and society.

- *Open trade*

  Open markets and free investment encourage competition. By removing barriers to trade, all people can engage in mutually beneficial exchanges. This enhances competition, creates incentives for innovation, and leads to rapid advances in human welfare. Removing market-distorting taxes and subsidies, especially to agriculture and other products where people in poorer countries have a comparative advantage, encourages economic development and benefits consumers.

- *Good governance*

  While there is no magic formula for good governance, it is enabled by transparency and accountability amongst elected officials, bureaucrats and civil servants, and the elimination of practices which are a source of corruption. Good governance would be achieved with more universal application of the rule of law, and an understanding amongst people that the rule of law is higher than the discretionary power often employed by governments.

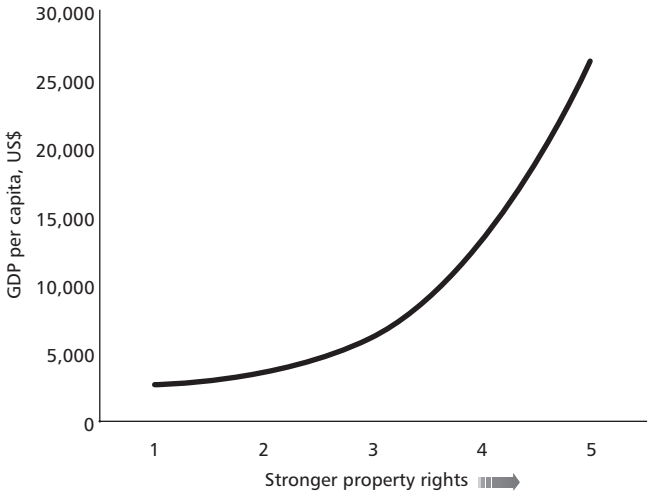
The benefits of the institutions of the free society

It is not surprising that those countries which have the strongest institutions are also the wealthiest. The relationship between the protection of property, the rule of law – defined in terms of the transparency, independence and efficiency of the judicial system – and wealth is particularly pronounced. On average, GDP per capita, measured in terms of purchasing power parity, is twice as high in nations with the strongest protection of property and the rule of law ($23,769)

than in those providing only fairly good protection ($13,027). Once the protection of property and rule of law shows clear signs of deterioration, even without a totally corrupt judicial environment, GDP per capita drops to one-fifth of that in countries with the strongest protection ($4,963). Countries with a very corrupt judicial system are also very poor on average ($2,651) (Hoskins & Eiras, 2002). Figure 2, adapted from the Heritage Index of Economic Freedom, provides a striking graphical representation of the correlation between strong property rights and increasing wealth.

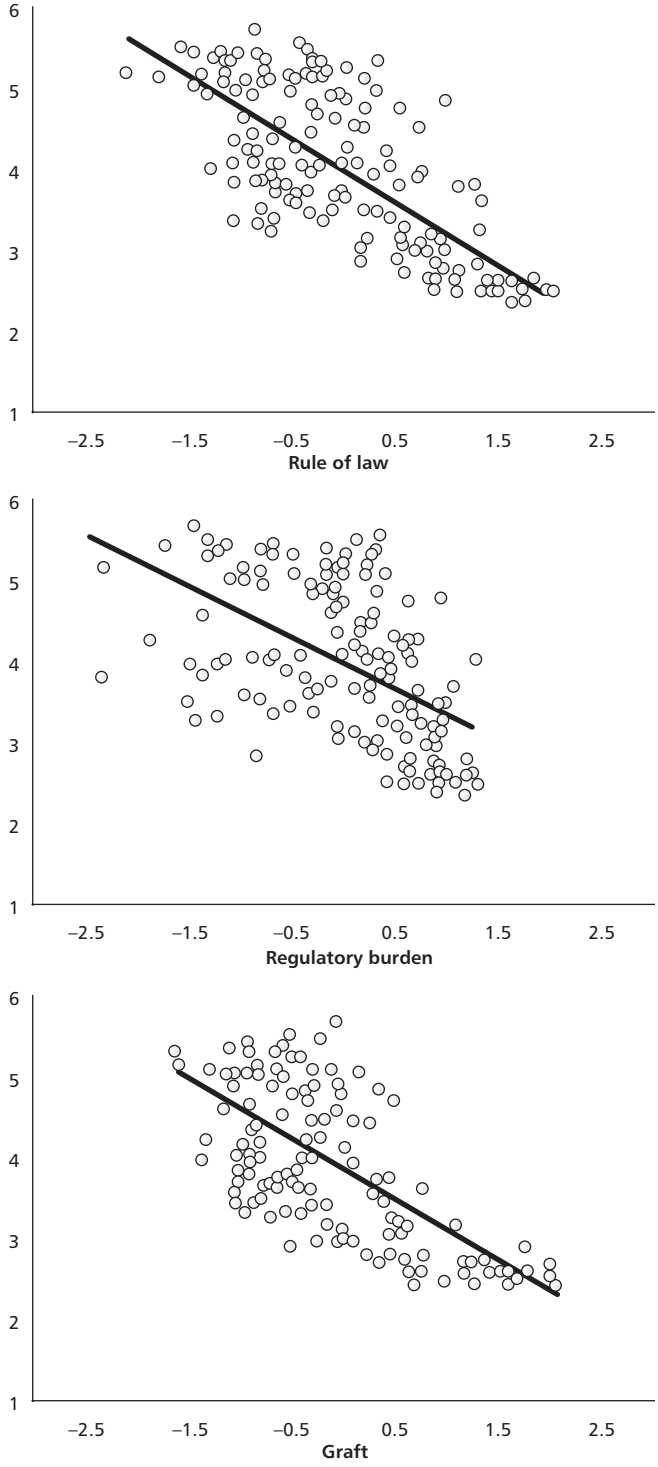
There is also evidence that supports a causal relationship between strong governance and institutions and increased economic and human development. In their analysis of more than 150 countries and the relationship between quality of governance and development indicators, Kauffman *et al.* (1999) found that the quality of six governance concepts – voice and accountability, political instability and violence, government effectiveness, regulatory burden, the rule of law and graft – are significant causal determinants of infant mortality. Put simply, the more democratically accountable the government and its agencies, and the stronger the rule of law, the better the rate of infant

Figure 2 **Property rights compared to GDP per capita (2002)**



Source: Adapted from the *Heritage Index of Economic Freedom, 2002* and World Bank data

Figure 3 **Governance and infant mortality**



Notes: Each graph plots the indicated governance aggregate (on the horizontal axis) against the logarithm of infant mortality per thousand live births (on the vertical axis) for the sample of countries covered by the governance aggregate.
Source: Adapted from Kauffman *et al* (1999)

mortality, the higher the rate of adult literacy and the higher the average income. (see Figure 3)

The findings of Roll and Talbot's (2001) analysis of the structural determinants of wealth also support the claim that the institutions of the free society are absolutely prerequisite for economic growth. Their study found that property rights, black market activity and regulation are the most important determinants of economic development, with political rights, civil liberties and freedom of the press also being highly significant. The authors contend that weak property rights can retard development by scaring off foreign investors who fear that their property may be expropriated, whilst strong property rights provide an enabling environment for small entrepreneurs. They find the latter point to be particularly significant, because in the US two-thirds of all new jobs are created in industries dominated by small businesses. But, as Hernando de Soto (2000) has noted, weak property rights have left most people in lower-income countries without the ability to engage in legal, productive economic activity.

De Soto's insights also explain why burdensome regulation, one of the most statistically significant variants in Roll and Talbot's study, may also act to hinder economic growth. De Soto (1989) argues that excessive regulation forces people to enter the informal economy, whilst constraining the ability of entrepreneurs to establish legal, registered businesses. In Peru, for example, it takes 280 days to register a business, which is something that can be achieved in hours in most wealthy western countries. Worse, the massive worldwide informal economy is destined to stagnate because of the problems of achieving legal ownership, because growth cannot come without capital, and capital cannot come without formal ownership.

Botswana achieves rapid growth through liberal economic policies

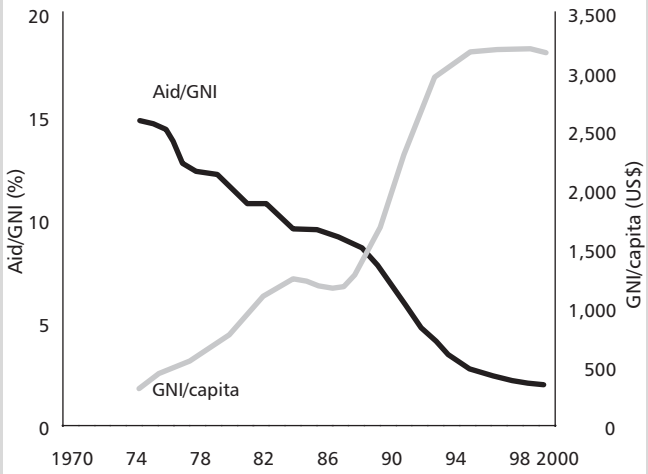
Botswana has bucked the trend of its fellow African countries over the last decades, achieving the fastest levels of economic growth in the world, even outstripping China. Botswana's GDP per capita (PPP) rose from $1,600 in 1975 to $8,000 in 2004. Aid dependency has decreased rapidly, and GNI per capita has risen sharply (see Figure 4)

Botswana's stunning progress can be explained by its adoption, after independence, of a generally liberal economic strategy, while other African countries went along the path of socialism.

Property rights, as well as the rule of law and contract, were instituted and enforced. Price regulations were used very sparingly. Marketing boards soon lost power, and were not used to move resources from the rural poor to the urban elite, as had happened in many other African countries. Botswana did not allow the parastatal sector to get out of control, making sure it did not become a drain on the treasury.

Despite the fact that Botswana has plenty of diamonds, the country did not succumb to the 'resource curse' that has plagued so many other lower-income countries. This is largely due to the country's relatively good governance and institution of property rights, which gave most of the population an interest in political stability (Erixon, 2005).

Figure 4 **Aid and GNI/capita in Botswana (5-year moving average)**



Source: World Development Indicators Online

Institutions and human health in lower-income countries

Water-borne diseases

In addition to their important role in enabling the creation of wealth, strong, decentralised market institutions benefit human health in other, more direct ways. One example is their role in improving the quality and availability of water. Water-borne diseases are one of the major killers of children in lower-income countries. According to the World Bank, three million children die every year from cholera and other water-borne diarrhoeal disorders (World Bank, 2002).

Currently, water resources in most less developed countries are owned and controlled by the state (typically municipal governments). If the management of water were removed from government's remit and placed with private providers or, better yet, if the rights to water were transferred entirely to individuals and private companies, it is almost certain that access to high quality water would likely improve dramatically as in Chile and Guinea (see boxes on page 20).

Decentralised, privatised management provides stronger incentives to identify and meet the needs and wants of the people. Private providers of water have strong incentives to deliver high quality water to consumers: they would be bound to do so by contract and also incentivised by reputation – failure to provide water as agreed would be subject to both legal sanctions and reduced demand from consumers. Moreover, if suppliers own the water – or are able to purchase it – they have the means to increase supply to meet demand. Meanwhile, if consumers were compelled to pay for the water they used, they would have incentives to limit demand.

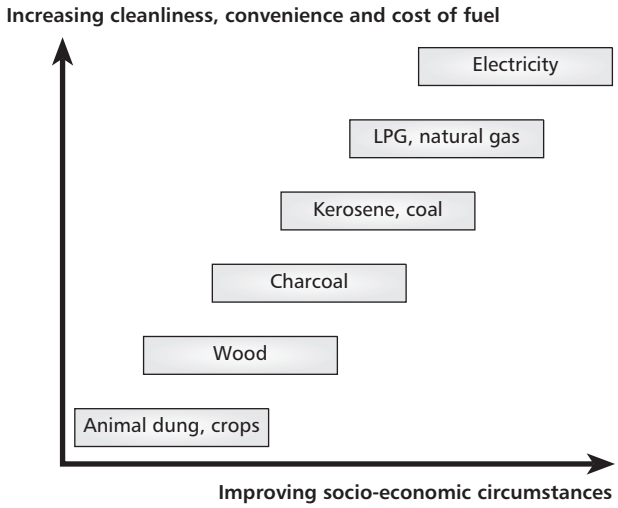
By contrast, governments lack such incentives and tend to invest very little in extracting and cleaning water, leading to under-supply and poor quality water. Furthermore, because un-priced water is seen by consumers to be a 'free' resource, they have little incentive to regulate its use and cut down on waste, which compound the inefficiencies of public ownership.

Improved access to clean water will lead to improvements in health, because water will not only be cleaner, but there will be more of it available where it is needed. This in turn will reduce deaths from diarrhoea and other related diseases.

Respiratory infections

Another major killer in lower-income countries are acute lower respiratory infections (ALRI). One of the leading causes of such infections is inhalation of smoke from dirty energy sources such as wood, dung and crop

Figure 5 **The energy ladder**



Source: adapted from Smith *et al*, 1994

Water rights and increased access in Chile

Chile introduced private management of water in the early 1980s with startling results. The government granted farmers, companies and local authorities the right to own and manage local water. This enabled them to sell it in a relatively free market, leading to water supply growing faster than in any other country. Thirty years ago, only 27 per cent of Chileans in rural areas and 63 per cent in urban communities has steady access to safe water. Today's in Chile's urban areas, "99 per cent of the population has drinking water supply though house connections and 89 per cent have sewerage" (PAHO, no date).

Chile's trade in water increased people's access to water in two ways:

- The amount of water available increased, because the owners (mainly farmers) had a strong incentive to avoid waste and produce and deliver as much as possible.
- The price of water fell because the introduction of water rights led to a decentralisation of water-management, improving efficiency and reducing waste. In addition, the growth of supply put downwards pressure on prices (Segerfeldt, 2005)

Water privatisation in Guinea

Despite having some 166bn cubic metres of renewable water, Guinea found itself by the end of the 1980s with a water crisis of such proportions that, in 1989, only two in ten urban dwellers had access to clean water. This dire situation was almost entirely due to the incompetence and inefficiency of the national water board, the *Enterprise National de Distribution de l'Eau Guinéenne,* who were only managing to produce a dismal 25 m^3 per inhabitant annually.

In 1989 a public private partnership was formed by a national water utility and a private company. The utility is tasked with planning, running and owning the water infrastructure, which is then leased to a private company, which collects payments from the users.

The results on access to clean water have been dramatic:

- In 2001, twelve years after this took place, the number of urban Guineans with access to clean water had tripled from two in ten to seven in ten.
- 18 cities are now connected to mains water, up from ten in 1989
- Water production in the capital has increased from 40,000 m^3 to 100,000 m^3
- End-user pipes have increased from 12,000 to 30,500
- the net welfare benefits of the water privatisation have been estimated at $23 million (Segerfeldt, 2005):

residues burnt in poorly ventilated dwellings. Exposure to such smoke increases the risk of ALRIs such as pneumonia, especially in children. This problem afflicts up to half of the world's population, almost entirely in the poorest countries. Globally, ALRI represent the single most important cause of death in children under five years and accounts for at least two million deaths annually in this age group (Bruce *et al.*, 2002). If the poor were able to use more efficient, cleaner forms of energy such as electricity or even kerosene, the positive impact (in terms of reducing the global disease burden) would be immense.

The introduction of property rights can help to address this problem. The increases in personal prosperity which occurs in societies that have a strong institutional framework, allows individuals to climb the so-called 'energy ladder' and afford forms of energy that are less injurious to health. (See Figure 5.)

In agrarian communities, strong property rights enable more efficient farming practices. First, the ability freely to buy and sell land means farmers are better able to

achieve economies of scale. Second, clear property rights enable land owners to access low-cost capital, in the form of mortgages, that otherwise would not be available. Such loans enable people to invest in more capital-intensive forms of production, both on farm and off. The result is higher yields, greater investment – and profit from – non-farm forms of economic activity, and generally an increase in wealth.

The extra wealth that this generates means that more resources are available to purchase better stoves, which in turn allow a more efficient and clean burning of wood and dung. As people become wealthier, they are able to invest in cleaner forms of fuel such as kerosene and then natural gas. As more people become wealthier, the market will increase the varieties of available fuels, as there will be more demand. The process will eventually lead to sufficient levels of wealth to sustain reliable electricity networks, the presence of which has enormous health and social benefits.

Nutrition

Malnutrition places a particular burden of disease on lower-income countries. As a result of vitamin A deficiency, for example, 500,000 children become blind every year (WHO, 1995). Protein-energy malnutrition plays a major role in half of all under-five deaths each year in lower-income countries (WHO, 2000).

The issue of gender is particularly salient here. Granting property rights to women is an important way of promoting food security and family wellbeing. Studies have shown that resources controlled by women are more likely to be used to improve family food consumption and welfare, reducing child malnutrition and increasing overall wellbeing (Blumberg, 1991; von Braun *et al.*, 1991; Hirshmann, 1984). Granting women title as property owners can also improve their status within the household and the community, and improve women's sense of security. Property rights also transform women into economic actors, thereby increasing their access to factor markets and their effectiveness as producers. It might also be that the increases in wealth that come with institutional reform also accelerate the process of female empowerment. As a society grows wealthier, the value of labour rises and the value of women's time increases. As a result, they are more able to benefit from advanced education and to experience fulfilling careers.

CASE STUDY

Government regulation of fuel in Delhi creates pollution and illness

New Delhi is one of the most polluted cities in the World (Table 1).

	City	*City population*	*Particulate matter micrograms per cubic metre 1999*	*Sulphur dioxide micrograms per cubic metre 1995–2001*	*Nitrogen dioxide micrograms per cubic metre 1995–2001*
India	Calcutta	14,299	153	49	34
	Delhi	**15,334**	**187**	**24**	**41**
	Mumbai	18,336	79	33	39
UK	Birmingham	2,215	17	9	45
	London	7,615	23	25	77
	Manchester	2,193	19	26	49
US	Chicago	8,711	27	14	57
	Los Angeles	12,146	38	9	74
	New York	18,498	23	26	79
Mexico	Mexico City		69	74	130
Chile	Santiago		73	29	81
China	Beijing	10,849	106	90	122
	Shanghai	12,865	87	53	73

Source: World Development Indicators 2005

Delhi's geographical location means that it often suffers from air stagnation, which worsens air quality. Low temperatures in the winter months create an inversion which traps pollutants and respectively, a rise in pollution created by burning coal and biomass. (World Bank, no date). While there are many causes of Delhi's pollution, a large part of the blame may be placed on the shoulders of the local government.

First, officious planning restrictions, instituted by the British but maintained by local bureaucrats, combined with weak property rights in many places, prevent the development of tall dense buildings in the city's centre. As a result, much of the population is forced to commute from the 'colonies' (the suburbs outside Delhi) to their places of work.

Second, the pollution generated during the urban commute is exacerbated by restrictions on the import of vehicles. As a result, the price of both new and second-hand vehicles is artificially higher, meaning that people continue to drive older, less efficient vehicles, which tend to produce more particulate matter. Also, the high price of cars means that more people drive motor cycles. Although these cycles may cause less pollution, they are far more deadly and thus pose relatively more risks to the rider.

Perhaps the worse contributor to Delhi's air pollution is the particulate pollution that is caused by the burning of wood. This, again, is largely a consequence of government regulation. People require heat both to cook food (which helps kill otherwise harmful bacteria) and, in the winter, to stave off the cold (the temperature in winter often falls to 10°C or below – which presents a deadly threat, especially to the young, the elderly and the infirm).

Unfortunately, much of this heat still comes from the burning of wood, which results in the emission of large amounts of particulate pollution. While many households in Delhi have switched to electricity or gas, this has been limited by three factors.

First, weak property rights have prevented people from generating wealth and also undermine the incentives to invest in better technologies (if the government might tear down your house, why would you invest in a new cooker?). Second, the intermittent and low quality nature of the electricity provided by the until-recently government-run electricity generator. To supplement this unreliable source of heat, many wealthier households purchase diesel generators. However, the poor cannot afford these.

Third, the government controls the use of 'regulators' that are necessary for powering gas stoves; it sells these elementary pieces of equipment for the princely sum of $60, which is far more than most basic gas stoves and a considerable sum for the millions of poor in New Delhi.

Although access to 'clean fuels' for domestic use is technically subsidised by the government, this has resulted in a perverse situation of 'leakage', whereby 'subsidized LPG from the PDS for domestic use is diverted to commercial users'. Overall, says a World Bank study, '[The] overall effect [of subsidies] may even be to reduce the accessibility of kerosene and LPG to low income households. The subsidies for kerosene and LPG for domestic use in India are untargeted and, therefore, enormous. Further, they benefit the relatively well-off who can afford to pay the market prices for these products, or worse, in the case of diversion, those who should be paying the market prices' (World Bank, 2000).

Corruption, public services and ill-health: a vicious circle

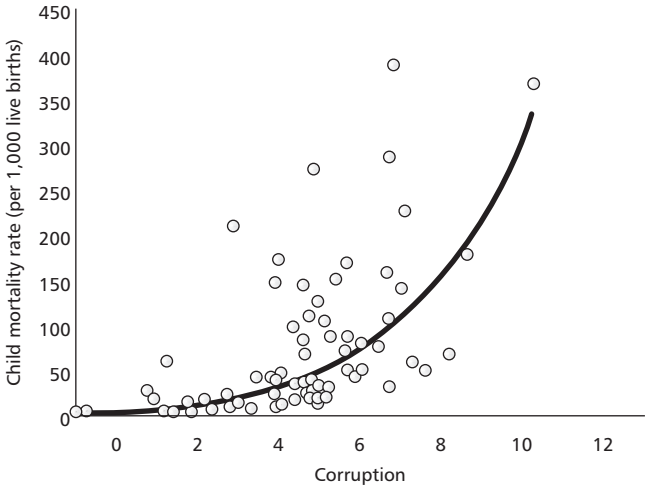
As we have already seen, societies with poorly defined property rights and a weak rule of law are poorer and less healthy. A lack of proper institutions also gives government officials and bureaucrats greater incentives to engage in corruption and graft. A high level of corruption within public bureaucracies can have a direct impact on health in a variety of ways. Corruption can drive up the price and decrease the supply of public services, including healthcare, while government revenue is reduced, which leaves fewer resources available for public programmes (Murphy *et al.*, 1993).

This in turn may reduce the quality of health services, which has the double effect of deterring individuals from using these services, while discouraging payment. When this unwillingness manifests itself as tax evasion, it leads to even fewer available government resources. In such a situation, consumers of healthcare are unable to turn to the private sector, because it is often minimal in scope as a result of the lack of an enabling institutional environment (Stevens & Morris, forthcoming). This leads in turn to bottle-necks for essential public health services, again giving rise to further opportunities for officials to engage in rent-seeking and the frequent use of discretionary powers. In a situation in which government corruption is rife, one can safely predict that there will be a negative impact on health.

This contention is borne out by Gupta et al (2000) who found that a high level of corruption has adverse consequences for a country's child and infant mortality rates. Child mortality rates in countries with high corruption are about one third higher than countries with low corruption, while the percentage of low birth-weight babies is twice as high (see Figure 6).

One way out of this *impasse* would be to facilitate the entry of private health providers in order to curb the monopoly of government services. Such competition would act to enhance efficiency and quality, and erode the discretionary powers of health officials. For this to occur, however, potential private providers need to ensure that their contracts will be respected and their property safe. An improved institutional environment is the only way this can happen.

Figure 6 **Corruption and child mortality**



Source: taken from Gupta *et al*, 2000

Wealth, inequality and health

Despite the fact that institutions such as strong property rights and the rule of law are positively associated with rising incomes, some schools of thought contend that increases in personal wealth may actually be harmful to overall population health unless they are accompanied by decreases in income inequality. Heavily influenced by such thinking, international health bureaucracies such as the WHO have now turned their attention to ironing out these inequalities wherever they occur, in the belief that doing so will have great benefits for overall population health.

A series of studies conducted amongst the British civil service in the 1980s and early 1990s is a major influence behind such thinking. The first of these so-called 'Whitehall studies' (Marmot *et al.*, 1984) examined risk factors for cardiovascular and respiratory disease amongst civil servants between the ages of 20 and 64, over a period of 10 years beginning in 1967. The study discovered that there were higher mortality rates in men lower in the civil service hierarchy, specifically due to coronary heart disease, as well as increased mortality rates due to all causes for lower status men.

The second phase, or Whitehall II, (Marmot *et al.*, 1991) sought to examine the association between the psychosocial work environment and subsequent rates of absenteeism due to illness. It examined the health of 10,308 civil servants aged 35–55, of whom two-thirds were men and one-third women. Among the conclusions drawn from this second phase were that stress due to the psychosocial work environment factors predicts rates of sickness absenteeism.

Overall, the Whitehall studies found a strong association between grade levels of civil servant employment and mortality rates from a range of causes. Men in the lowest grade (messengers, doorkeepers, etc.) had a mortality rate three times higher than that of men in the highest grade. The most significant implication, in public policy terms, is the notion that *relative* rather than *absolute* poverty can be a significant determinant of health. This is largely attributable to negative psychosocial factors such as stress, which are heightened amongst individuals further down the social hierarchy in industrialised countries. Stress has been demonstrated to a significant causal factor in a wide range of health problems, including cardiovascular disease – which imposes a great health burden on both rich and poor countries alike. As a country becomes wealthier, income inequalities often also increase, which gives rise to the idea that economic growth *per se* is undesirable unless it is accompanied by strong government measures to ensure greater income equality.

However, there is a significant conceptual flaw with the Whitehall studies that arguably limit their applicability to wider society. These studies examined a particular group of people – government-employed civil servants – who share little in common with the working lives of the majority of people employed by private, profit-making entities. Most public sector employees work in an environment in which there are few of the commercial and competitive pressures inherent to the private sector. Career progression is normally earned through time-serving, or in many lower-income countries, through clientelism or other nefarious means. Private sector workers, on the other hand, are compelled to work to the demands of customers and the market, so suffer from completely different kind of pressures and stresses.

Nevertheless, proponents claim that these studies challenge the idea that the best way to improve health is to maximise economic growth. Such an approach, it is argued, will do nothing to tackle income and social

inequality, which is in itself a significant determinant of health. Instead, policymakers should aim to foster greater income equality through expanding welfare systems and restricting private employment policies. The theory suggests that subsequent improvements in the social environment due to reduced income stratification will improve a population's psychosocial welfare as well as social cohesion. This will see concomitant improvements in a wide range of physical disorders and thereby contribute to improvements in population health (Wilkinson, 1999).

However, such an approach could, in fact, be extremely counterproductive, not least because there is a paucity of evidence that actually links income inequality with health inequalities. This is especially true of lower-income countries. Early cross-country correlations between life-expectancy and income inequality were driven by flawed measures of inequality and are impossible to reproduce with more credible data (Deaton, 2003).

The relationship between income inequality and poor health is more complex than it appears at face value. For instance, in his analysis of data from 42 countries, Adam Wagstaff (2002) finds that in both rich and poor countries health inequalities rise with rising per capita incomes. This is probably due to in part to the rapid improvements in health technology that accompany economic growth, which are often taken up more speedily by the rich than the poor. However, it is important to note that the poorest levels of society do not get *less* healthy as the society's wealthier elements get healthier. Rather, they become healthier at a slightly slower rate.

As such, it would be a mistake to respond to health inequalities with policies that forcibly redistribute wealth from the rich to the poor. As we have already seen, economic growth is strongly and causatively associated with improved health (Pritchett & Summers, 1996). So, although rising incomes appear to be associated with rising health inequalities, they are also associated with rising overall levels of health. As Wagstaff writes, "the force that makes for higher health inequalities – higher per capita incomes – is precisely the same that makes people healthier on average" (Wagstaff, 2002). However, there is a strong risk that aggressively redistributive policies will stifle economic growth, undermining the very process that is most associated with improving health.

A study conducted by Issidor Noumba (2004) reinforces this hypothesis. Like Wagstaff, Noumba found that the higher the inequality in health and income in a number of African countries, the lower the infant mortality and crude death rates and fertility index: "In other words, for African countries, income is relatively more important for the health of the population than income inequality and inequality in health status. Consequently, it is a priority to take measures that accelerate income growth rather than those directed to the reduction in inequalities".

It is also worth pointing out that although global incomes are diverging, human development indicators have been converging rapidly throughout the world during the last half century. A recent article by economist Charles Kenny demonstrated that although the gaps in incomes between the richest and poorest countries are widening, most countries are rapidly converging in development indicators such as health and education (Kenny, 2005). This is partly because the process of globalisation has enabled a far more rapid transfer of technology and knowledge from rich to poor countries than was possible in previous centuries. However, those countries which have experienced the most pronounced and rapid improvements in their human development are those which have experienced the fastest economic growth. So it does indeed seem that focusing on ironing out income and health disparities is a red herring, because economic growth is the best way to improve the condition of humanity.

Globalisation and health

Globalisation has improved human well-being because of the rises in income it has brought to many regions of the world. But despite the massive potential for technology transfer and wealth generation that is afforded by the process of globalisation, it still remains an area of enormous contention amongst intellectuals – not least because of the great disparities of wealth that exist between those states that have successfully harnessed the power of globalisation and those states that have not.

Globalisation has brought about a Copernican revolution in the way people both earn money and communicate with each other. Globalisation has been characterised as an increasing internationalisation of production, a new international division of labour, new migratory movements from South to North and a new competitive environment (Cox, 1994). As such, some authors see economic globalisation as a negative-sum game, a 'race to the bottom', in which states are forced to pare down welfare and social spending, and companies are forced to divest as much labour as possible and ignore environmental and social standards, in order to remain internationally competitive.

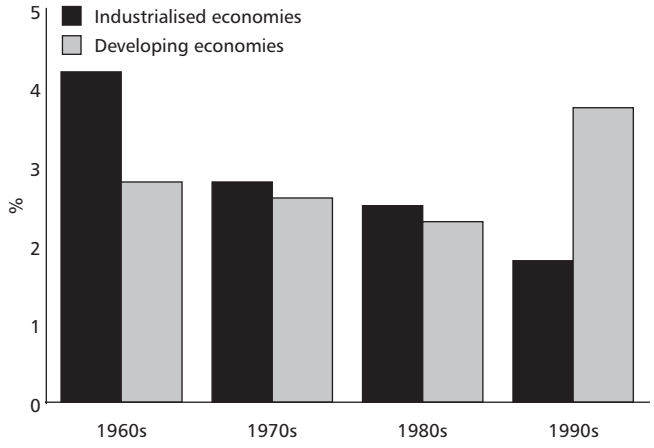
Seen in these terms, the whole process of globalisation is entirely deleterious to health, because the pressures on welfare spending and tax bases leads to greater income inequalities – which, in turn, leads to lowered social cohesion and *ergo* unhealthier populations (Coburn, 2002; Wilkinson, 1996). Such authors are often strong proponents of the so-called 'European Social Model', which is characterised by extremely high welfare spending, restrictive labour laws, high personal and corporate taxes and burdensome regulation on private enterprise. If only governments can direct and manage the market, so the thinking goes, the supposedly harmful effects of globalisation – and its concomitant effects on health – can be mitigated. But bearing in mind the current failure of the European social model to provide either jobs or income security, how useful is it to criticise globalisation in these terms?

First, it is worth saying a few words about equity. As we have seen, there is little credible evidence that international income disparities are associated with poor population health. And for those who are most concerned with equality from a normative stance, it is worth remembering that startling rises in personal prosperity seen in recent years in China and India have contributed enormously to reductions in global income inequality. Furthermore, global life expectancy – probably the single best indicator of human development – has improved rapidly since 1970 (with the notable exception of sub-Saharan Africa in the 1990s). Much of this is due to rising global prosperity, brought about in part by increasing levels of trade and international investment. Indeed, those countries that have deliberately insulated themselves from globalisation, for example North Korea and Zimbabwe, are uniformly poor with rapidly declining standards of living and health.

Globalisation can also help to accelerate the achievement of good health in poorer countries through the increasing ease of technology transfer. Lowering the costs of trade allows medical interventions and drugs to be adopted more rapidly in poorer countries, whilst the cheaper and more rapid transmission of information through TV and the internet speeds up the spread of ideas which can improve population health, such as the health consequences of smoking or exercise (Deaton, 2004).

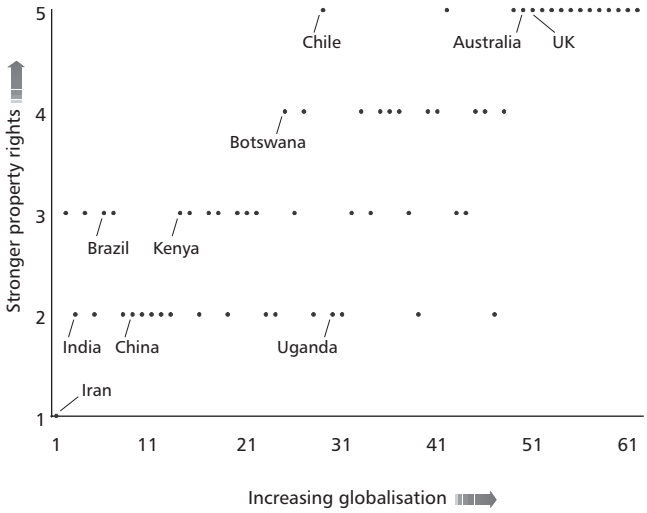
But do the actual mechanics of globalisation negatively affect the health of those with little economic or political

Figure 7 **Growth rate of per capita GDP**



Source: adapted from Dollar, 2004

Figure 8 **Globalisation and property rights**



Source: Adapted from *Foreign Policy and AT Kearney 2005 Globalization Index*, and *Heritage 2005 Index of Economic Freedom*

power, such as factory workers and farmers in poor countries? It is often claimed by anti-poverty activists, for example, that trade liberalisation damages the health of the poor and marginalised, by impoverishing farmers and local industries which are unable to compete in the global marketplace. In fact, such fears are groundless. On the contrary, there appears to be a strong link between increasing trade openness and longer life expectancy and lower infant mortality (Wei & Wu, 2004). This provides further evidence that rising incomes – this time facilitated in part by greater openness to trade – are beneficial to people's health, even amongst the poorest people in society.

There is increasing evidence that the overall processes of globalisation appear to have significantly benefited humanity, despite the fears of the anti-globalisers. A recent study by David Dollar (2004) demonstrated, among other things, that the rate of economic growth in poor countries is now outstripping that of rich countries for the first time in history (See figure 7).

Furthermore, the number of poor people in the world is declining – by 375 million people since 1981, even while the world population increased by 1.6 billion in the same period. Global inequality has also modestly declined, reversing a 200-year-old trend toward higher inequality.

More pertinently, the fastest growth and poverty reduction are strongest in the developing countries in which there has been the most rapid integration with the global economy. And, there also appears to be strong correlation between economic and technological openness and strong property rights (see Figure 8).

Globalisation and good health, then, go hand in hand – especially when the institutional environment of a state works to allow individuals to best take advantage of its potential.

The social determinants of health

We have already challenged the idea that income inequality – an inherent by-product of the wealth creation process – is responsible for poor health. However, it is also often asserted that many of the things that are intrinsic to modern, dynamic, wealth-creating societies are also injurious to health, and that governments must intervene to mitigate their effects.

Although there is mounting evidence that economic growth is a fundamental driver of improved health, there is still a substantial body of literature which tacitly implies that the process of wealth creation gives rise to significant social and environmental externalities which are damaging to health. One prominent synthesis of this literature and proponent of this idea is the World Health Organization's *The Solid Facts* (WHO, 2003). This document examines how a range of psychological and social influences inherent to modernity affect health and longevity, and suggests a range of policy responses that it claims would mitigate their effects.

These policy recommendations, almost without exception, require a bigger, more interventionist, role for government, which would in many cases undermine economic growth and personal prosperity. This would clearly not be a good thing for health. The document likewise seems incapable of assessing tradeoffs (what economists call 'opportunity costs') between different courses of action to enable people to be healthier. Although the research behind the paper comes from mainly industrialised countries and the authors make the caveat that its relevance may be limited for poorer regions, it is worth examining more closely some of these so-called 'social determinants of health' – particularly in the light of the WHO's decision to establish a commission to examine this subject in lower-income countries.

Unemployment

Short-term unemployment becomes inevitable when state-dominated industries or economies are liberalised and restructured. This kind of unemployment is also intrinsic to a dynamic, robust economy in which outmoded businesses and ideas fall by the wayside and are replaced with better, cleverer and cheaper alternatives.

Many studies have – quite reasonably – demonstrated a link between unemployment and poor health, which arises both from the loss of income and from unemployment's psychological impacts (Jackson & Warr, 1984). Also, the fear of unemployment and job insecurity are themselves seen to be a cause of anxiety-related illnesses (Beale & Nethercott, 1985).

Unemployment is indeed a miserable condition, and the economy should certainly be managed in a way that will maximise employment. The WHO, however, believes that one way of achieving this is by 'government management of the economy to smooth out the highs and lows of the business cycle' (WHO, 2003). In fact, this approach is likely to have harmful economic consequences, and will actually increase unemployment.

This has much to do with the 'knowledge problem'. The millions of actors actually engaged in the market process – businesses, entrepreneurs, consumers – are aware of changing economic conditions as they happen, and can adjust their behaviour rapidly in response. For example, a shoe manufacturer that sees demand for its open-toed sandals fall, as a result of a shift to closed footwear can reduce its output of such sandals and increase output of closed-toe shoes. The same is true for private banks, which are able to see instantly when demand for their loans falls and demand for deposits rise – and can adjust

(in this case reduce) the rates of interest they offer accordingly.

Government shoe factories and government-controlled central banks, on the other hand, only have access to the limited and imperfect knowledge of current economic conditions that their bureaus are able to collect. Furthermore, when that information is in their hands, it is already outdated. This leads governments with a significant handicap when they try to influence the business cycle by subsidising, 'protecting' or otherwise interfering in the production of private goods or fiddling with interest rates – because they will do it on the basis of inadequate and outdated knowledge. Furthermore, governments operate to the political demands of the electoral cycle, meaning they are often tempted to lower interest rates in the months before elections in order to create a politically expedient short-term boom. These booms rarely prove sustainable, and inevitably lead to subsequent economic retrenchment – which results in greater unemployment.

In fact, the only way a government can absolutely guarantee a smooth business cycle is through instituting total control of the economy – *a la* Soviet communism. But since that would have rather a damaging effect on economic output, human health and enjoyment of life, governments must seek other solutions. One proven way of promoting greater macro-economic stability is to grant independence to rate-setting central banks. This frees the money supply from the caprices of rent-seeking politicians.

Indeed, this path was taken by New Zealand in 1988 and the UK in 1997 and in each case had a strongly positive impact on economic conditions, finally taming inflation and creating a stable environment for investment and growth – in spite of some short term negative impacts in the New Zealand case (because that country had very high inflation) (Brash, 2000; King, 2004).

In order to lessen the impacts of unemployment on health, the WHO also recommends that unemployment benefits are increased so that they constitute a higher proportion of wages. This too would have the perverse consequence of actually increasing the likelihood of unemployment. It is both obvious and well documented that very generous and unconditional gifts to the unemployed (in the form of welfare payments) encourage people to become or remain unemployed (Meyer, 1990; Katz & Meyer, 1990; Moffit, 1992; Fortin & Lacroix, 1997; Holmlund, 1997).

Unemployment is also exacerbated by burdensome regulations and restrictions on employment, such as government stipulations that employers must pay significant financial compensation in the event of redundancy. Barriers that prevent businesses from firing employees in times of economic difficulty (in this case, overly-generous mandatory severance packages) act as a serious disincentive to taking on the risk of recruiting people in the first place (Görg, 2002).

The result of generous state welfare and onerous labour market regulations is a high unemployment economy, as evidenced by countries such as Germany, Sweden and France (Görg, 2002). Those countries with the lowest-unemployment – the US and Australia being notable examples – are also those that have the most flexible labour markets combined with welfare states that incentivise work rather than indolence. It is the employment policies of these latter countries that lower-income countries should be seeking to emulate.

Social exclusion

As we have already seen, absolute poverty is a major determinant of ill-health. The poor are more likely to exist on the fringes of society because of their inability to afford decent housing, education and other things. According to the WHO, the resultant social exclusion is 'socially and psychologically damaging, materially costly and harmful to health'. So, the WHO exhorts policymakers to respond to this health threat with minimum wage legislation and minimum income guarantees, as well as labour market policies that reduce social stratification.

Minimum wages – provided they are set at a sensible level – do not do too much economic damage during times of rising prosperity. The problems start when an economy begins to slow down. As President Carter's peanut-farming brother Billy put it: 'Hell, some people ain't worth the minimum wage!' When things are bad, employers will shed those they regard as the most marginal workers first – unskilled people, youngsters,

women, those with disabilities, and so on. According to one study, in the six months before the US introduced higher minimum wage in 1990, 802,000 jobs were created. In the six months following its introduction, 350,000 jobs were lost (Gallaway & Vedder, 1995). And if it is not jobs which are eliminated in bad economic times, it is holidays, rest-breaks, pensions and other workplace benefits. This will have the effect of adding to the work-related stress the WHO is anxious to reduce.

We should also be wary of the idea that the best way to tackle social exclusion is through expansive welfare provision. In fact, there is growing evidence that the welfare state (in the UK) has produced alienation, crime, unemployment, and more poverty, mainly through its contribution to the breakdown of family structures (Bartholomew, 2004). Following the deep 1996 welfare reforms in the United States, however, which were designed to prevent family disintegration, welfare caseloads fell dramatically — by 60 per cent between 1996 and 2003 (Haskins, 2003). The number of families receiving cash welfare is now the lowest it has been since 1971. It seems likely that simply throwing money at the poor is not the way to tackle social exclusion.

Social exclusion can instead be addressed by introducing public policies that actually empower the poor and marginalised. State-financed educational vouchers, for example, give the poor the choice to attend any school they wish, and force providers of education to compete to attract the students and their vouchers. This can have major positive impacts on levels of education attainment amongst the poor, which has large concomitant gains for social cohesion (Hoxby, 2003) and consequently for health.

Transport

Rising worldwide incomes have led to a massive increase in the use of the car. Cars are seen as a threat to health because of their links to obesity, local air pollution, and traffic accidents. Furthermore, the WHO suggests that cars fragment communities by dividing streets, and by disadvantaging those people who live in isolated suburbs but are unable to afford cars. As a result, some health experts call for a wide range of government interventions designed to limit the use of cars and encourage alternative forms of transport, ranging from building cycle lanes to turning current roads into green spaces (McCarthy, 1999). The logical extension of this argument is that cars should be greatly restricted, taxed or banned.

On the other hand it could equally be argued that the motor vehicle is an enormously important tool of economic growth and that instead of banning cars, the problems they create should be dealt with in a more effective and efficient manner. In particular, it is worth considering that motor vehicles enable goods and labour to be transported quickly and cheaply to the precise area where they will do the most economic good. They enable isolated communities to participate in the national or regional economy. They are also valuable as a tool of social cohesion, as they allow families and friends to stay in contact even though they may live hundreds of miles apart. In light of these observations, perhaps instead of discouraging or restricting the use of cars, their availability should be increased by the removal of constraints such as taxes and tariffs.

The WHO's policy prescriptions fail to recognise these benefits of motor transport, and instead put forward a spurious vision of a car free utopia, without properly considering the economic and social consequences. The WHO recommends, for example, that planning regulations be tightened in order to stop the growth of low-density suburbs and out-of-town supermarkets, because they increase dependency on cars (WHO, 2003). Such policies could be extremely harmful, and despite any good intentions, would disproportionately affect the poor.

First, restrictions on suburban development will constrain the housing supply, leading to inevitable and unnecessary price and rental rises (Evans & Hartwich, 2005). This will be particularly harmful to the young, poor and marginalised.

Second, restricting the ability of retailers to operate in out-of-town locations where land is cheaper will inevitably stimulate price inflation. This is because retailers will be forced to pay the higher rents and costs of inner-city locations, and will pass that cost on to the consumer via price rises. Again, this will hit the poor

and the marginalised hardest – precisely the people who the WHO is trying to help.

Much is also made of the link between local air pollution generated by cars and ill health, especially respiratory diseases. In the end, it must be recognised that these health impacts must be weighed against the enormous social and economic benefits of road transport. Roads help deliver the food and commodities that are necessary for good health, so these advantages must be traded off against the effects of pollution. They also deliver the technologies, such as LPG, that can reduce the worst forms of urban air pollution. In Delhi, for example, most air pollution is caused by the domestic burning of wood, which accounts for 40 per cent of all energy use. This is testified by the fact that air pollution did not significantly decrease following a government scheme to convert all public buses and rickshaws from diesel to LPG. Delhi has also imposed some of the world's most stringent land-use planning restrictions, which mean that the price of housing in central Delhi is artificially high, necessitating long commutes.

There are, however, a range of policy options available that can reduce the impact of cars on the environment and health. Encouraging free trade in motor vehicles by eliminating import tariffs will incentivise local industries to produce better, cleaner vehicles. Traffic and congestion also reaches intolerable levels when the road is seen as a free good, meaning that the only mechanism for rationing car use is particularly inefficient – queuing. One way the market can help overcome this problem is through road pricing, which attaches a market value to road use. In cities where road pricing schemes have been implemented, this has led to more rational use of limited road space. Singapore, for example, introduced a road pricing scheme in 1975, since when traffic levels have fallen by nearly half. A 2004 study by the UK Department for Transport study also found that a replacement of road tax with road pricing would lead to a 48 per cent reduction in congestion on urban roads, and a 17 per cent reduction on motorways, by 2010 (UK Department of Transport, 2004).

Food

Food is rapidly becoming a political issue, not least because of research that shows that excessive intake can lead to a variety of diseases, whilst at the same time food poverty is still a pressing issue in many regions of the world. There is, however, a widespread misconception that food poverty and overeating are the result of market forces – in fact, the case may be that excessive government intervention is responsible for many of the food problems the world now faces.

The WHO's *The Solid Facts* is one document representative of the view that because food is bought and sold by private actors operating in a global marketplace, government and international agencies must intervene to help regulate supply and demand. It erroneously assumes that government intervention is the *de facto* response to deficiencies in the food market – even when government's actions have created those deficiencies.

The WHO document, however, has a flawed understanding of the true nature of the global market for food. It implies that it is a bad thing that we have '[allowed] global market forces to shape the food supply' and makes the spurious claim that the European Union's Common Agricultural Policy is an example of market forces at work. In fact, because of government distortions of the market for food through policies such as the CAP, it does suffer many imperfections. Even though the CAP may have (artificially) increased the availability of food in Europe, a subsidy is hardly evidence of a market at work. In fact, subsidies are the antithesis of a functioning market. Moreover, these subsidies have harmed unsubsidised farmers (in Asia, Latin America and Africa) who cannot compete with massive subsidies. In addition, it has hurt European consumers through rising food prices and an increasing tax burden, and harmed the environment, for instance by encouraging substantial overuse of agricultural inputs which has affected water quality.

The WHO also claims that local food production should be encouraged because it is 'more sustainable, more accessible and [can] support the local economy.' This suggests that healthy eating is not possible if food is not grown locally. But in reality, producing all food locally

would mean that many people would become undernourished, as the variety of food able to be grown in any particular area would be greatly diminished.

The Solid Facts does not address to what extent local production should be encouraged – do the authors want countries, regions, towns or local farms to produce all the food they need? As there are negligible differences in the nutritional quality of locally grown and imported food, it would seem that the objective here is to limit trade in food to encourage more local production.

Yet to whatever extent the WHO believes trade in food ought to be limited, such prescriptions would result in more food being wasted. This is because surplus goods (such as bananas, which can only be grown in warmer regions of the planet) would be unavailable to willing buyers in other regions (such as the UK, where bananas generally cannot be grown).

In fact, trade in food is no different than trade in any other good. Those who have a comparative advantage in producing food – for instance, living in a specific geographical region, or simply an ability to use resources more efficiently to produce food – will be better off if they can sell their surplus food to willing buyers. Buyers, especially those whose productive ability lies elsewhere, are better off by parting with their money in exchange for that food.

Today's integrated markets and advanced technologies – such as packaging and transportation – facilitate such transactions. This means consumers in general are better off: they spend fewer of their scarce resources to procure the same amount of food, which is generally more nutritious and fresher and sold at a lower cost. Less food is wasted as a result. Moreover, there is no difference in nutritional quality between locally grown and imported food. Nevertheless, such efficiency is greatly hindered by government regulation, policies that promote protectionism, and government subsidies (such as price supports – a common type of subsidy) to producers.

Moreover, *The Solid Facts* is a – perhaps unwitting – proponent of the 'pastoralist fallacy'. If all food is grown and produced locally, people would have far less access to inexpensive, nutritious food. The costs of food would, other things equal, be likely to increase because more people would need to be involved in food production – if each town had to produce its own food, for instance, many people would be forced into growing food (thus reducing the extent they could be engaged in other productive activities where they are comparatively more able), or much more farm machinery and inputs would be required. Likewise, much more land would need to be converted into agricultural uses. This would have a negative impact on both nutrition and biodiversity.

The WHO document also asserts that the food industry is overrepresented in bodies such as the Codex Alimentarius Commission and that the Commission "lacks public health representatives." Yet this criticism seems somewhat unfounded, given that the Codex Alimentarius body was actually established jointly by the World Health Organization and Food and Agriculture Organization.

Moreover, the Codex is an advisory body which produces scientific guidelines for the WHO, FAO and World Trade Organization – it is not a regulatory body. The mere presence of public health representatives at Codex would not guarantee that the body is 'more objective'. Codex has, to date, generally abided by its remit unlike many other international bodies (including the WHO). By relying on scientific evidence, it has avoided pandering to special interest NGOs who claim to represent the public interest and advocate anti-scientific standards.

Finally, *The Solid Facts* claims that "people on low incomes, such as young families, elderly people and the unemployed, are least able to eat well." Here, it is unclear whether it implies that people on low incomes are less able to afford food, or if this set of individuals does not know how to buy and prepare nutritious food. The implication is that prices created by markets exclude the poor from procuring food and that the situation should be rectified by government policy.

If the WHO alleges that people on low incomes cannot afford food, it is almost certainly the case that government policy has distorted the price of food. In wealthy countries, government subsidies often artificially increase the cost of food, in order to benefit special interests (i.e. agricultural producers and the powerful agro-business lobby). In poor countries,

governments often provide subsidies to urban consumers, meaning that poor farmers do not receive a market price for their goods. In either case, government policy harms the poor.

Another likelihood is that a combination of trade protectionism (tariffs, quotas and other trade restrictions) and regulations have distorted the availability of cheaper imported food. Lastly, regulations sometimes deter charities from providing food to those who cannot afford it.

It must also be recognised that the problem of malnutrition through overeating is very unlikely to be overcome by more stringent regulation of the food industry. Similarly, individuals are free agents, and governments will find it difficult to tax or regulate them into eating less. This is especially true in situations where people do not have to fully bear the consequences of their poor habits. If fully socialised healthcare systems pick up the tab for the health consequences of overeating, there will be little incentive for people to moderate their behaviour. The solution is to ensure that individuals have more incentives to take care of themselves and fewer incentives to be rewarded for their lack of attention to their own health.

Conclusion

In the end, many of the more negative "social determinants of health" are caused by institutional failure and heavy-handed government intervention. It is impossible to deny that these "social determinants" cause poor health, but the best way to mitigate their impacts is through empowerment of individuals via the institutions of the free society – property rights, free markets, enforceable contracts, light regulation and the rule of law.

These kinds of institutions also enable a country to better maximise the opportunities presented by globalisation, by attracting foreign capital and making local industries more competitive. Furthermore, those countries which forego a policy of industrial protection and import substitution can have a direct benefit on the health of their populations. If local pharmaceutical industries are forced to compete in a free international market, it means that domestic citizens will receive the most effective, high quality medicines at the cheapest price.

Unfortunately, many lower-income countries protect their local, inefficient industries by placing heavy taxes and tariffs on imported medicines, thereby making them unaffordable to those people who are not members of health-related risk pooling schemes. In India, for example, taxes and tariffs worth 55 per cent of the product price are levied on drugs (Irvine, 2004).

Governments in low-income countries should not limit themselves to opening up pharmaceutical industries to international competition – they should also ensure that all goods that are known to improve health, such as agents to clean water and produce electricity, and medical devices, are all available to consumers free from taxes and tariffs. While these are no substitute for the institutional reforms that will generate wealth and improve health, the resulting price reductions will go some way to ensuring that access to life-saving medicines is improved.

The WHO's recommendations would, if implemented, undermine prosperity and health in rich countries – and would be a double disaster if taken up by poor countries, where the process of wealth creation is especially fragile, if it indeed exists. Regulations and government interventions designed to improve health by redistributing wealth would be enormously counterproductive, as they will lead to overall declines in disposable incomes.

Instead, international agencies should encourage member states to implement policies that empower individuals to create wealth – especially property rights and the rule of law. Because these institutions are so closely linked to rapidly improving economic conditions, they can help overcome many of the social and health problems witnessed in lower-income and more industrialised countries. This is a far better way of dramatically improving the health of the poorest members of society, because it will ensure that a country's wealth is not concentrated in the hands of oppressive political elites.

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The real determinants of health

This study examines and elucidates the real determinants of health in lower-income countries. It challenges the widely-held view that income inequalities, globalisation and economic growth are the causes of ill health, disease and poverty. In fact, policies that seek to improve health by reducing inequality through the redistribution of wealth will be counterproductive, because they will undermine wealth creation and prosperity – the most significant determinants of health.

The study also addresses the widely-promoted view that massive increases in government healthcare will both improve health and kick-start economic growth. There is little evidence such an approach would work.

Economic growth – underpinned by market institutions such as property rights and the rule of law – is the fastest way to improve human health. These institutions enable countries and individuals to take advantage of the potential offered by globalisation to increase both incomes and health.

In contrast, where these institutions are weak or non-existent, and where governments attempt to distort markets through heavy handed regulation, the impacts on health will be severe. The reality is that government mismanagement is the direct cause of many of the so-called 'social determinants of health.'

International agencies such as the World Health Organization, however, erroneously promote the view that regulatory intervention by government, in areas as disparate as employment and social relationships, can prevent poor health. The evidence shows the opposite to be the case.

Instead of attempting to control and direct the process of wealth creation in the name of protecting health, governments should enact policies which empower individuals, allowing them to benefit from economic growth and improve their well-being.

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