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ECONOMICS, ECOLOGY AND THE ENVIRONMENT

Working Paper No. 160

**Environmental Governance,
Globalisation and Economic Performance**

by

Clem Tisdell

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**Environmental Governance,
Globalisation and Economic Performance^{*}**

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Clem Tisdell[†]

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Environmental Governance, Globalisation and Economic Performance

ABSTRACT

Increasing globalisation of economic activity and accompanying economic growth have been factors in the worldwide loss of natural environments and biodiversity loss, and these losses have accelerated since the beginning of the Industrial Revolution. Emissions of many types of pollutants and wastes from human activity are rising globally and are exceeding the capacity of natural environments to absorb and neutralize them. This problem is exacerbated by the fact that the quality and size of some natural sinks for neutralizing them (such as forests) are declining. Consequently, these wastes are accumulating in many environments and pose a growing threat to human welfare and to sustainable economic development. There are, for instance, global concerns about greenhouse gas emissions, about the release of ozone-depleting substances and about the worldwide loss of existing biodiversity. Many new transboundary and local environmental issues have also emerged as a result of global economic growth. After considering such matters, arguments for global governance and the international harmonization of rules for regulating environmental use are examined. Reasons why the global spread of the Western evolved economic system reduces moral responsibility for environmental damage and increases the need for greater and more effective global and international environmental governance are outlined. Subsequently, several important global and international environmental problems are identified and shortcomings in their governance are highlighted. Further analysis is then completed to discover reasons why as economic globalisation increases, there are continuing failures in market and political systems to provide adequate governance of global and international environmental problems.

Keywords: environmental economics, environmental governance, environmental law, environmental regulation, globalisation, global warming, greenhouse gases, transboundary pollution, transboundary natural resources.

Environmental Governance, Globalisation and Economic Performance

1. Introduction

All regions of the world have now become more closely interconnected in their economic operations as a result of growing market-oriented globalisation, a process described, for example, by Tisdell and Sen (2004, Ch.1) and Tisdell (2005) . In addition, global and international environmental problems have grown in importance and it is recognised that these need to be better addressed by extensions in governance, including more effective global governance. These aspects are not entirely unrelated because it is widely believed (for instance, by bodies such as the World Trade Organization, WTO) that greater economic globalisation stimulates economic growth, an outcome which the WTO favours. On the other hand, many neo-Malthusians argue that global economic growth of the type that has occurred since the Industrial Revolution is unsustainable because of its depletion of the stocks of natural resources and because of its continuing adverse impacts on natural environments, and, in some cases, also its negative effects on man-made environments and anthropogenic resource stocks, such as the diversity of cultivated crops and domesticated livestock. The spectre has emerged (according to neo-Malthusians) of reduced economic scarcity (greater wealth) now as a result of economic growth at the expense of much greater economic scarcity in the future. The necessary conditions for sustainable economic growth are subject to debate and official reports such as the Brundtland Report (WCED, 1987) may have been overly optimistic about the prospects of achieving sustainable development. There appears to be strong political and institutional pressure for high rates of economic growth even though these may eventually add to economic scarcity, that is to a lack of sustainable development. The strong institutional constraints that are hampering efforts to achieve sustainable development are outlined in Tisdell (1999, Ch. 6).

Because some environmental problems (such as global warming and biodiversity loss) have become matters of global concern and because several of these problems need to be addressed by improved global governance, the focus of this article is on environmental governance and how it affects economic performance. Initially, reasons

are given about why the spread of the market system and increased globalisation are likely to add to important environmental problems and some of these major environmental problems are identified and discussed. After considering general failures in environmental governance, limitations of Western market systems as means for providing guidance on environmental use are outlined and then political inadequacies that contribute to lack of environmental deterioration are identified. No easy solution to these problems appears to be in sight.

2. Consequences of the Global Economic System and Increased Globalisation for the State of the Environment.

2.1 The tendency of modern economic systems to reduce the felt moral responsibility of individuals for environmental damage caused by their economic activity

There is a strong tendency for the spread of Western-evolved economic systems based on a combination of market mechanisms and hierarchical procedures to reduce the moral responsibility individuals feel for the environmental damages caused by their economic choices. This occurs for a variety of reasons, many of which have been outlined in Tisdell (1990, Ch. 2).

Most economists have praised the ability of market systems to co-ordinate economic activities in relatively complex modern economies which involve a high degree of interdependence and often remote interconnections between different activities. It is argued that such systems are relatively efficient and perform well if they incorporate a sufficient amount of market competition. Originally it was believed that such systems would be most advantageous if they were perfectly competitive but later economists such as John Maurice Clark (1940) argued that workably competitive markets might show superior economic performance in practice to perfectly competitive markets; a view compatible with that developed by Schumpeter (1954). Whereas the former group of economists (neoclassical scholars) tended to emphasize allocative efficiency, the latter group stressed the dynamic economic (growth) performance of economic systems.

Despite these differences, a general consensus has emerged amongst economists that market systems have desirable economic consequences because they minimize the amount of information and costs of decision-making needed to ensure their relatively

efficient operations of economies compared to economic systems that are highly centralized. As emphasized by members of the Austrian School of Economics (for example, Hayek, 1948), each economic actor in a market system need only have knowledge of a limited number of economic parameters in order to make ‘optimal’ economic choices. For example, a consumer in purchasing a commodity from a supermarket need only know its relative price and need not know by whom its ingredients were supplied, how they were supplied and from where they came. While this is an appealing consequence of modern market systems, it also has some drawbacks.

In such a system, buyers are likely to be completely or partially unaware of many of the negative social or environmental consequences of their purchases. This lack of knowledge results in lack of felt moral responsibility by buyers. Secondly, because buyers are not **directly** responsible for decisions made in most of the links in the product chain, they may feel that they are free of moral responsibility for any negative social or environmental consequences of decisions involving earlier links in this chain. Because economic globalisation extends the geographical sourcing of products and tends to increase the remoteness of their sourcing (or that of their components) from buyers, this can add further to a reduction in the felt moral responsibility for the social and environmental consequence of their choices (See for example, Aurifeille et al., 2009). For example, how strongly do European buyers of margarine feel about the environmental consequences of their purchases of margarine (or biodiesel) derived from palm oil? Such purchases are indirectly resulting in the loss of rainforests in Indonesia and Malaysia with significant biodiversity loss, They are threatening the survival of species such as the orangutan, and may actually be adding to greenhouse gas accumulation in the atmosphere (Swarna Nantha and Tisdell, 2009).

Modern economic systems are, of course, not entirely market-based, but to varying degrees contain hierarchical components. This applies, in particular, to larger sized businesses, many of which are corporations, and an increasing number of these businesses are engaged in multinational activities. In such bodies, important decisions are often made by committees. This diminishes individual responsibility for decisions that have adverse social consequences, or which cause significant environmental deterioration. Secondly, when a company is engaged in international economic

activity, its central managers may feel little social responsibility for adverse consequences of the company's activities in remote locations. This may be partly because they only have limited knowledge about these consequences because of the regional delegation of management, and the old adage 'out of sight, out of mind' could apply.

Economic competition is another factor likely to result in failure of businesses to mitigate environmental spillovers from their activities unless governments intervene by adopting policies which make it more profitable for businesses to take account of these spillovers rather than neglect them. Even if businessmen do feel social responsibility for their adverse environmental spillovers, market capitalism may prevent them from making allowance for these. In many circumstances, the survival of firms depends on their ability to maximize profit or to come with striking distance of doing so. This can be a consequence of intense competition in product (or more generally commodity) markets or in capital (financial) markets. The former possibility is well recognized but the latter possibility is less well known. Marris (1964) argued that under corporate capitalism, public companies are limited in their ability to deviate from profit maximization and survive under their existing management because those that fail to maximize profit risk being taken over by financial raiders. Therefore, strong competitive pressures exist in modern market systems which deter businesses from taking into account the adverse environmental externalities which they generate. Consequently, as this system spreads globally, these negative consequences become more prevalent.

In the absence of government regulation of activities causing negative externalities, business may feel no compulsion to limit these externalities or they be unable to do so because of competitive pressures. They may adopt the view that it is incumbent on governments to adopt policies and laws to regulate negative environmental spillovers. In the absence of the requisite laws, business may believe that they are justified in generating adverse externalities because they do not break the law. Hence, their behaviour is increasingly governed by the law, rather than by their social conscience. However, as is well known, laws are not always enforced and corruption occurs in most countries with different degrees of prevalence. If corruption is a part of a local culture, businesses operating in these localities may find that the only way that they

can succeed is by adopting local practices and they may not consider it ethically wrong to act corruptly in these circumstances. Therefore, the law becomes ineffective in regulating adverse externalities in such cases.

Is it likely that shareholders will deter public companies from engaging in negative environmental behaviour if this behaviour adds to the profitability of companies? There are several reasons for believing that this is unlikely. First, given the separation of management and ownership of public corporations, shareholders have little direct influence on the decisions of company managers. Secondly, the number of ethical investors in publicly listed companies is probably small so their influence is limited. Thirdly, investors who have ethical concerns may argue that other investors will be guided in investing by the returns on their investment rather than ethical considerations and therefore, whether or not they purchase shares in a particular company, will hardly influence the behaviour of its managers. Fourthly, since each shareholder is usually one of many investors in a public company and each has no direct influence on managerial decisions within it, all shareholders may feel justified in absolving themselves of any moral responsibility for the company's actions. The fact also that a company is an independent legal activity may further weaken the sense of moral responsibility felt by its individual investors for its actions. Therefore, the global proliferation of public companies and the global spread of their activities (which is facilitated by the process of economic globalisation) increase the dependence of societies on good legal governance to ensure acceptable social outcomes from economic activities. Table 1 provides a summary of the type of influences in modern market systems that weaken felt moral responsibility of economic actors for the negative social and environmental consequences of their economic actions. These factors need to be addressed by extending and improving legal governance. Growing economic globalisation adds to the need for this.

Table 1: Some factors (increased in significance by globalisation) contributing in modern market economies to a reduction of felt moral responsibility of individuals for the adverse social and environmental consequences of their economic actions. These need to be addressed by greater and more effective legal governance.

	Contributing Factor and Comment
1.	Buyers of commodities have become more ignorant of the remoter social and environmental consequences of their decisions as supply chains have lengthened and become geographically more dispersed with greater globalisation. This greater ignorance reduces felt moral responsibility of buyers for their choices and remoteness of consequences may reinforce this.
2.	On the supply-side, business decisions are increasingly made by committees because the size of many businesses have increased. Individual members of committees may not feel personally responsible for decisions by committees. This can weaken the exercise of ethical responsibility.
3.	Informational constraints in larger businesses (e.g. multinationals) operating in dispersed areas may reduces the knowledge of top management of adverse social and environmental consequences of the actions of the business in remote locations. This can result in failure by the business to address such issues.
4.	Economic competition (in the absence of relevant government regulation) weakens the ability of businesses to allow for the adverse social and environmental consequences of their actions. This can occur as a result of market competition in commodity markets and particularly in the case of public companies, competition in financial markets is relevant. These factors limit the scope which businesses have from deviating from profit-maximizing behaviour.
5.	Shareholders (investors) in public companies place little weight on the social and environmental consequences of the behaviour of these companies unless these behaviours reduce the returns on their investment. Investors are attracted to invest in companies that maximize the returns on their investment for reasons outlined in the text. Furthermore, because of the separation of ownership and management in public companies, investors feel little personal ethical concern about the negative social and environmental consequences of public companies in which they invested.
6.	Increased geographical nobility of individuals and resources reduces incentives to conserve local natural resources and environments for reasons explained in the text.

In addition, it ought to be noted that increased geographical mobility of individuals and the geographical widening of their investment possibilities can result in individuals being less concerned about sustaining environments and natural resources in their locality. This is because they have the opportunity of shifting themselves or changing their investment to another locality if their local environment deteriorates or natural resources become scarcer in their locality. However, if everyone everywhere acts on this premise, all environments are likely to deteriorate. One of the features of increased economic globalisation is that it permits greater international mobility of resources, although liberalization of international labour movements still remains restricted.

2.2 Can economic globalisation by stimulating economic growth actually lead to environmental improvement in the absence of greater government regulation of economic activity?

It has been argued that if sufficient economic growth occurs, it can actually be environmentally beneficial because when incomes are higher, individuals are more concerned about pollution and environmental pollution and it has been observed that the level of emissions of many pollutants continually declines in relation to the level of gross output. For example, CO₂ emissions in relation to GDP appear to increase as first with economic growth but once a sufficiently high level of GDP is achieved, they decline. The relationship is of a reversed-U shape and the curve involved has been christened the environmental Kuznets curve.

It is widely believed that increasing economic globalisation stimulates economic growth and that given the above mentioned considerations, it will contribute eventually to environmental improvement. However, there is little evidence that continuing economic growth is likely to be sufficient to mitigate many of the important environmental problems associated with economic growth. Tisdell (2001) gives a number of reasons why this is so. For example, even if the intensity of pollution emissions decline as gross production increases, the aggregate level of pollution emissions can continue to rise. Furthermore, if the aggregate level emissions start to decline, the flow of these emissions can continue to exceed the capacity of the environment to absorb or neutralize these (Tisdell, 2009a, Ch. 7). In the case of greenhouse gases, for example, they can still continue to accumulate in the

atmosphere and consequently, even deeper emissions cuts will be required in the future to lower the accumulation of these gases in the atmosphere.

In addition, some environmental damages caused in periods of economic growth are irreversible, for example, biodiversity loss.

Therefore, the environmental damages caused by higher economic growth (as a result of greater economic globalisation) seem to call for greater environmental regulation rather than less. Some advocates of the environmental Kuznets curve use it as an argument for reduced environmental regulation. This increased governance is also likely to require greater cooperation between nations in regulating environmental use in their individual countries. This is particularly evident in relation to measures to limit the emissions of greenhouse gases.

3. Important Global and Transboundary Environmental Problems Identified

Many global and transboundary problems are emerging and increasing in intensity. This section outlines several of these problems but their governance is not analyzed at this stage but is considered later. The most prominent of these problems at present is global warming caused primarily by greenhouse gas emissions from economic activity and the accumulation of these gases in the atmosphere. According to scientific evidence, this is a major contributor to climate change and is expected to result (or is already resulting in) rising temperatures and sea-levels. Consequently, natural environments in all parts of the world are predicted to alter (mostly in a negative way from a human perspective) as a result of this phenomenon. Furthermore, greenhouse gas emissions in every part of the world contribute to this problem. Therefore, in order to control the problem, cooperation and coordination of all (or at most) nations are needed to collectively limit their greenhouse gas emissions.

The basic problem was recognized in the United Nations Framework Convention on Climate Change (UNFCCC) which came into force in 1992. However, progress in controlling the accumulation of greenhouse gas in the atmosphere has been slow. Attempts to do this through the Kyoto Protocol have proven to be largely ineffective. There were several reasons for this:

- (1) Some major emitters of greenhouse gases (such as the USA and developing countries, such as China and India) were not parties to the Protocol.
- (2) The emission targets of many of the parties to the Protocol were not met.
- (3) As discussed later, there was only partial accounting of the greenhouse gas imprint of most countries participating in the Kyoto Protocol. Whether or not a more effective form of global governance of greenhouse gas accumulations will be agreed to at Copenhagen when national representatives discuss a replacement for the Kyoto Protocol, and whether it will subsequently be implemented fully, remains to be seen.

Another matter of concern because its effects are geographically widespread has been the release of ozone depleting substances. These cause a reduction in the ozone layer in the atmosphere. This layer reduces ultraviolet radiation in southern and northern portions of the globe. A reduction in this layer has several adverse environmental effects. These include an increase in skin cancer, reductions in plant growth and accelerated deterioration of paints. As a result of the Montreal Protocol, there has been a reduction in the emission of several ozone-depleting substances but not all (Tisdell, 2009a, Ch. 11).

There are also other environmental problems that call for cooperative international agreement and governance. These include:

(1) **International transmission of acid rains**

For example, gases implicated in the occurrence of acid rains drift from China to Korea and Japan, from the UK to Scandinavian countries, and from the United States to Canada.

(2) **International smoke haze and drift of particulate matter.**

Forest fires in Indonesia (often deliberately lit) periodically result in smoke haze in other parts of Southeast Asia, for example, Singapore.

(3) **Depletion of shared water resources.**

In many parts of the world, water resources are shared by several nations. The Nile Basin for example involves many countries, as does the Mekong River

Basin. Greater off-take of water upstream can reduce the amount of water available to nations downstream and have adverse environmental consequences. When the international shared water resources drain into an inland basin (such as that occupied by the Aral Sea in Central Asia), reduced discharge of water into it can have serious ecological consequences.

(4) **Pollution of internationally shared water resources**

When several nations share a water body, the individual nations involved may fail to take account of the adverse impacts on other nations of their release of water pollutants into the shared water body.

(5) **Inefficient utilization or conservation of shared and internationally mobile biological resources, for example, fish.**

Many wild species travel across national borders (often as a part of their life-cycles) and therefore, are effectively shared resources. If the harvesting or conservation of these is not effectively co-ordinated, the collective outcome can be socially sub-optimal. For example, unrestrained harvest of a fish species early in its life-cycle (or in the early part of its migratory path) by the nation in which it initially appears usually reduces the catch available to other nations through which the migrating species subsequently passes and lowers the maximum sustainable economic catch of the species. International fishing agreements (such as those relating to different types of tuna stocks) attempt to address this issue. However, such agreements are frequently imperfect in their operation.

(7) **Unsatisfactory utilization of marine resources present outside of territorial waters.**

In the absence of international agreements covering the use of particular natural resources occurring outside of territorial waters, these are open-access resources. Although the United Nations International Convention on the Law of the Sea (UNCLOS) extended the exclusive economic marine zone of nations, some ocean areas are still not territorial waters. This creates particular environmental problems for the optimal use of their resources. These resources are open-access resources and therefore, subject to excessive economic exploitation. Note also the UNCLOS did not solve the mobile marine resource problem mentioned in point (6) above.

(8) **International biodiversity loss**

Two international conventions are in force that attempt to control global biodiversity loss. These are the Convention on International Trade in Endangered Species (CITES) and the more recent Convention on Biological Diversity (CBD). The former bans or restricts international trade in species which are declared to be endangered. The latter, amongst other things, attempts to strengthen national property rights in genetic resources that exist within a country's borders. These conventions aim to overcome biodiversity loss by adopting different economic approaches, neither of which is completely effective (see for example, Tisdell, 2009b).

(9) **Dangers posed by the International transfer and escape of genetically modified organisms**

Several international environmental problems can arise from the release of genetically modified organisms. The Cartagena Protocol is intended to address several of these problems. It focuses, however, only on the international transfer of genetically modified organisms by deliberate human actions and does not address all the international issues involved in the release of engineered organisms, for example, the accidental movement of such organisms internationally.

These are only a sample of global and international environmental issues calling for effective governance. The extent and the importance of these issues have magnified with continuing economic growth and the accompanying extension of the process of economic globalisation.

4. Failures in the Governance of Global and International Environmental Problems

4.1 Inadequacies of environmental governance by market systems.

Market systems provide one means of governance of resource use. But often markets are missing (as in the case of pure public goods) or incomplete, as in the case of economic activity that gives rise to environmental spillovers. In such cases, market systems have shortcomings that in some cases can be rectified, or partially rectified, by government intervention in their operation. For example, pollution taxes or charges,

or systems involving tradable permits for pollution emissions (cap-and-trade systems) may be introduced by governments to address the environmental shortcomings of market systems.

However, if the government of a country decides to regulate an environmental externality that adversely affects its citizens as well as those of nearby countries, it has little or no economic incentive to do this in a manner that would be economically optimal from a collective international point of view. The country can be expected to ignore its negative environmental impacts on other nations unless the other countries adversely affected by such externalities compensate it for the economic benefit it forgoes as a result of its greater environmental regulation.

Figure 1 illustrates this case. Economic production in Country I is assumed to generate X amount of pollution emissions. The marginal benefits to producers in Country I of being able to emit these pollutants is shown by the line AD. However, the citizens of Country I suffer marginal external damages as a result of these emissions as depicted by line OF. In addition, there is also an external environmental spillover on a second country, Country II, and the marginal external costs to Country II of this spillover is equivalent to the difference between line OF and OE. Therefore, the marginal aggregate (global) damages from pollution in Country I are as shown by the line OE. Reciprocal externalities (between these countries) are supposed to be absent.

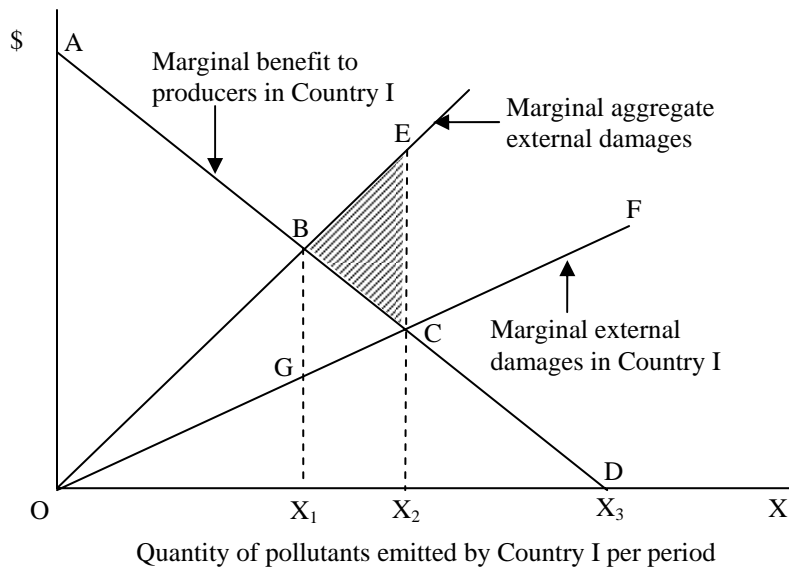


Figure 1: An illustration of a case in which a country has no economic incentive to regulate its pollution emissions in a way which takes into account these negative impacts on other countries.

In the absence of intervention by the government of Country I, producers in that country will emit X_3 of pollutants per period assuming that a market system exists and that producers are profit-maximizers. This is not collectively ideal from an economics point of view because a potential Pareto improvement can be achieved in Country I by reducing the quantity of pollution emissions from X_3 to X_2 and its government may adopt regulations which bring this about. However, this action is not yet collectively ideal from an international point of view. Although it increases economic welfare in Country II, there is scope to further increase the collective economic welfare of the two nations involved.

A further reduction in the level of pollution emissions by Country I from X_2 to X_1 per period can raise the aggregate economic benefits of the concerned countries by an amount equivalent to the area of triangle BCE. However, Country I has no economic incentive to take this action unless it is compensated for its reduced economic benefits (extra economic costs) by Country II. The extra economic cost to Country I of this action is the loss of economic benefits equivalent to the area of triangle BGC and the gains to Country II are equivalent to the area of the quadrilateral BGCE. Hence, a net collective economic gain of an amount equivalent to the area of triangle BCE can be achieved but Country I has no incentive to bring this about unless Country II

compensates it in some way for the economic benefit it forgoes. Potentially, both countries can gain because there is scope for Country II to more than compensate Country I for its extra cost of environmental regulation and still be better off than beforehand. In other words, scope exists for a global potential Paretian improvement.

Nonetheless, the above possibility does not ensure that an optimal solution for the governance of international environmental spillovers will be found. Bargaining problems and political considerations, as well as strong feelings about how just a possible solution is, can stand in the way of the resolution of such problems. Consequently, as economic growth and globalisation proceeds such issues can be expected to become more serious. This is because growing market failure is compounded by international political failures. Furthermore, the type of institutional failures (identified in Section 2.1) add to these environmental problems as market structures of the existing Western type become more widespread.

4.2 Political inadequacies in the governance of global environmental problems

Global environmental governance is quite weak and has developed at a far slower pace than the rate of magnification of global environmental problems due to growing economic globalisation and continuing long-term economic growth. Here it is only possible to provide some short sketches of factors that result in political inadequacies in the governance of global environmental problems. Achieving awareness is the first step in searching for solutions to these shortcomings. Nevertheless, this does not mean that solutions can always be found.

Even when a potential Paretian improvement (that is, a solution that can potentially make all parties better off) from improved international governance is possible, the following political impediments can stand in the way of such a solution:

- (1) **Reactive political behaviour.** Very often political action is not taken until serious environmental problems become obvious. Because of such delays (slow reactive behaviours) serious **irreversible** environmental damage may occur. Inadequate precaution may be taken (see Tisdell, forthcoming).

- (2) **Bargaining problems.** Even in cases where environmental regulation is advantageous to all countries (or a large number), **bargaining** about how the international costs of such regulation should be shared by nations can result in lack of agreement or suboptimal governance. In other words, distributional disputes restrict possibilities for international environmental governance. This is currently a problem in relation to the containment of greenhouse gas emissions.
- (3) **A prisoners' dilemma problem** may occur. All nations may have a collective desire to impose environmental restrictions, but each nation individually has an incentive not to enforce these restrictions. As a result, all nations suffer. For example, Annex I (developed) nations who were parties to the Kyoto Protocol failed to meet their commitments to reduce their greenhouse emissions to agreed levels, and their collective goal was not achieved.
- (4) **Lack of global enforcement mechanisms.** In the absence of adequate sanctions on countries that fail to observe their international agreements, there is a high risk that some nations will not honour their international obligations. This is a particularly serious matter when an international environmental problem is akin to a prisoners' dilemma.
- (5) **Monitoring limitations.** The enforcement problem is exacerbated by difficulties that can arise in trying to monitor national compliance with international environmental agreements. Most countries guard their sovereignty and may deny foreigners access for monitoring their environmental activities.
- (6) **Imprecise specification of environmental objectives.** Frequently, the purpose or objective stated in international environmental agreements is imprecise. This allows flexibility in their interpretation. This can be advantageous but on the other hand, it can provide an avenue for avoiding responsibilities and lead to confusion. The precautionary principle, as stated

in several international environmental agreements, suffers from this problem (see Tisdell, forthcoming).

- (7) **Partial solutions to global environmental problems.** The Kyoto Protocol, for example focused mainly on greenhouse gas emissions generated within Annex I countries while at the same time ignoring additions to greenhouse gas emissions caused elsewhere by these countries. Greater greenhouse gas emissions in less developed countries supplying imports to more developed countries were ignored for the most part. For instance, Europe increased its use of biofuel, some of which was manufactured from palm oil exported from Southeast Asia. The expansion of palm oil production in Southeast Asia has added to tropical deforestation there and reduced carbon sequestration by these forests thereby contributing to the accumulation of greenhouse gases in the atmosphere and biodiversity loss (see for example, Hunt, 2009). Furthermore, while the import of greenhouse-intensive products from China and India by developed countries (rather than their production in developed nations) reduces the greenhouse gas emissions emanating from developed nations, it does not reduce global greenhouse gas emissions. In fact, developed countries importing these products should be held morally responsible for the associated greenhouse gas emissions in developing countries.
- (8) **The need to pander to the wishes of special interest groups.** In most countries, special interest economic groups are powerful lobbyists and may undermine potential international environmental agreements which would be in the collective global interest. For example, many large companies in Australia have lobbied successfully for special consideration (for instance, aluminium producers) in relation to the Australian Governments proposed cap-and-trade reforms to regulate greenhouse gas emissions on the basis that they will be forced to move their activities offshore (in the absence of such concessions) to nations that have no controls or less restrictive controls on those emissions, for example, China or India.

It could be argued that the situation described under point (7) above is a case of incomplete global environmental (or green) accounting because it fails to take into account foreign emissions of greenhouse gases which can be attributed to the economic decisions of another country or region. For example, suppose that the EU has restrictions on greenhouse gas emissions but these regulations are either absent in Asia, or minimal. As a result, the production of greenhouse gas-intensive products can be expected to alter their geographic location from the EU to Asia. The EU may well import many of these products from Asia rather than produce them itself. There is geographical displacement of the EU's emission of greenhouse gases to Asia. However, the emissions which the EU indirectly generates in Asia are not attributed to the EU. Similarly, if the EU imports palm oil from Southeast Asia and this is produced by clearing forests in Southeast Asia, its negative environmental effect (for example, by raising greenhouse gas accumulation) is not attributed to the EU, even though demand from the EU is the driving force in such forest clearing. Figure 2 provides a sketch of this phenomenon.

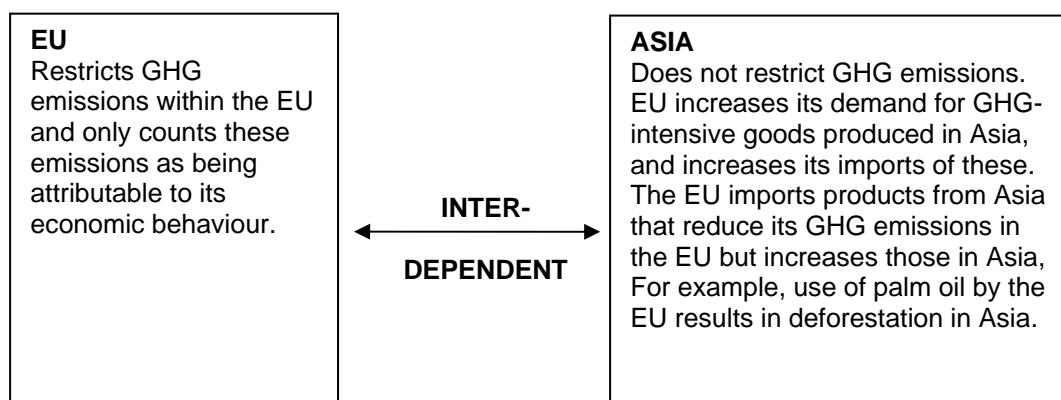


Figure 2: An illustration of flaws in the partial approach to regulating greenhouse gas emissions and global warming. In this case, reduced GHG (greenhouse gas) emissions in the EU result in an increase in GHG emissions in Asia due to economic choices by those in the EU. Therefore, the EU's restrictions on GHG emissions are, to a considerable extent, globally ineffective. Should the EU be held morally responsible for the extra GHG emissions that its economic choices cause in Asia?

Another possible political problem in developing effective global governance is that the period in office of elected politicians is relatively short and even those politicians

who are not elected have a limited life-span. This may persuade them to concentrate on short-term visible (material) progress to help ensure their re-election or to leave behind a concrete legacy in their lifetime. From this angle, the adoption of long-term programmes to prevent environmental deterioration is **unlikely** to have a high priority for them. Politicians tend to adopt short-term horizons in their decision-making.

5. Concluding Comments

It has been argued that economic globalisation by spreading the economic market system (of the type which has evolved in the West) tends to reduce the felt moral responsibility of individuals for the adverse environmental and social consequences (some of which are remote) of their economic actions. Furthermore, it stimulates economic growth which occurs in a manner that adds to environmental deterioration in important ways. While some environmental conditions can improve as a result of economic growth, others deteriorate and can eventually threaten the sustainability of economic activity, for example, greenhouse gas accumulation in the atmosphere. The weakening of felt moral responsibility is mainly a consequence of the institutional structure of market systems that have evolved in the West. Furthermore, the desire of individuals for economic growth remains strong because of personal desires for greater income and wealth accumulation. In addition to this desire, the structure of modern economies is such that they must continue to grow in order to maintain full employment (Tisdell, 1999, Ch. 6). The **immediate** economic welfare of all is locked into an economic system that needs to continually grow in order to satisfy most citizens. The system continues on its growth path even though the long-term environmental consequences of this could be disastrous.

The above factors magnify in significance as economic globalisation proceeds and hence, the need for improved environmental governance of Western-evolved market systems and the nature of economic growth grows. However, because governance is primarily the responsibility, in the modern era, of individual nations, global governance is failing to develop in a manner needed to address these issues adequately. It is not yet clear how the global community can overcome this impasse. In this regard, the governing structure provided by the United Nations has been helpful but since its membership is based on national representation, it is still far from

effective in providing mechanisms for desirable forms of global and international governance.

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