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## **International trade in a full and unequal world**

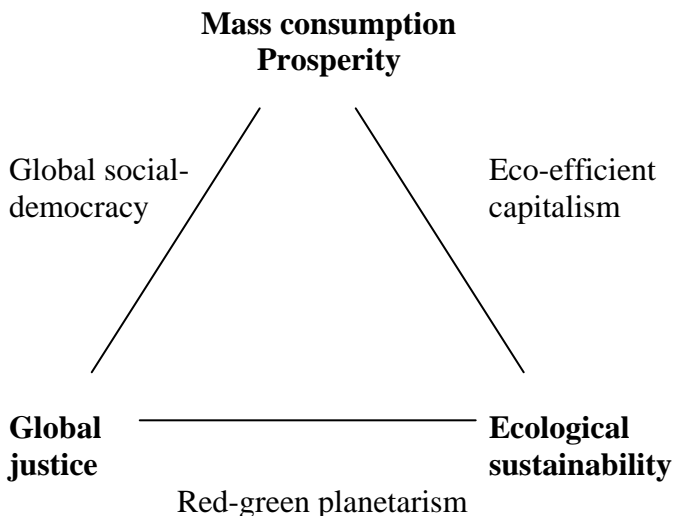
I want to highlight the role of international trade in a world that is full and unequal. I will situate my reflections in a broad context which I call the “global ethical trilemma”.<sup>1</sup>

### **The global ethical trilemma**

There is a very apparent conflict among three generally recognized aims: prosperity, equity and ecological sustainability. We can readily imagine how any two of these aims might be achieved, but it seems that this can be done only by downgrading the importance of the third.

#### **THE GLOBAL ETHICAL TRILEMMA**

Pick two – ignore the third



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<sup>1</sup> I want to thank professor Mark Lindley for his suggested improvements, which were much deeper than just linguistic.

Let me mention some writings in which the authors have paid attention to two of the three aims while neglecting one of them.

The World Bank's recently published *World Development Report*, subtitled "Equity and Development", tries to show how prosperity can be generalized globally. Previously the World Bank had stressed the importance of economic growth as a means of reducing poverty, but in this latest report it treats equity as an important factor enabling economic growth. In a section entitled "A glimpse of the future" the report resounds an optimistic Rostowian vision:

The world population will stop rising and world production growth will stabilize until all countries, economically, start resembling countries like the United States, thanks to free trade and the diffusion of technology. (WDR 2006, 69)

The report does not treat any problems related to ecological sustainability.

The ILO World Commission on the Social Dimension of Globalization, chaired by the Finnish and Tanzanian presidents, issued in 2004 a book entitled "A Fair Globalization: Creating Opportunities for All", which also stresses social justice, employment and economic growth, while touching upon environmental problems only lightly. This report exemplifies a kind of thinking that can be dubbed "global social democracy".

Another possibility is to look at Prosperity and Sustainability. One can construct a vision whereby the environmental services would be priced correctly, and, where possible, user- and ownership-rights to natural resources would be well established. In an article entitled "Are we consuming too much?" a group of renowned economists and ecologists have formulated such a prospect in the following way:

While there may be uncertainty about whether various countries are meeting the sustainability criterion, the need for vigorous public policies to support more efficient consumption and investment choices is unambiguous. Through regulation, taxes or the establishment of clearer or more secure property rights, public policy can help prices of natural and environmental resources better approximate their social costs. ... Policies of this sort – especially those that deal with underpricing of natural resources or environmental amenities – will improve matters along the sustainability dimension. (Arrow et al 2004, 168-169)

The authors believe that such measures will improve the prospects of future generations; but they do not address any problems of equity in our generation. Will poor people be able to pay the corrected prices for water, electricity, fuels and other amenities? The message emanating from the article – and from much of the environmental economics literature – is that we should aim for an eco-efficient capitalism.

Social thinkers emphasising Equity and Sustainability give usually an unambiguous answer to the question put by Arrow *et al.* They say that we are already consuming too much and that global justice and ecological sustainability can be achieved only if the

present levels of consumption in the rich countries are reduced. Such authors echo Mahatma Gandhi's precept (cited in "A Fair Globalization, p.5) that the earth provides "enough for everybody's need, but not enough for everybody's greed."

Ecological economics differs, in its approach, from both standard and environmental economics. It puts sustainability at the centre of analysis, and it focuses on distributive justice globally as well as between present and future generations.

When we look at international trade from the standpoint of an ecological economist, we perceive problems that are not confronted by environmental economists (let alone by standard economists). Some of the concepts used in this article, such as "a full world" and "ecologically unequal exchange", are hardly comprehensible to many economists. On the other hand, a person accustomed to calculating in terms of biophysical quantities (e.g. "ecological footprints") can easily understand how trade, even when advantageous in monetary terms to all parties, may be questionable from the point of view of sustainability and/or distributive justice.

(I have called this third – Gandhian – standpoint "red-green planetarism" in honour of my countryman Ele Alenius, who, despite his advanced age, has written on the need for a new stage in the development of humanity – a stage he calls "planetarism".)

## **An unequal world**

Everyone agrees that we do live in an unequal world. If we take that quintile of the world population that live in the richest countries, and compare their situation to that of the quintile living in the poorest countries, we find the following ratios (Hedenius & Azar 2005):

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- Income (compared in terms of market exchange rates – MER – among the respective currencies) is more than 70 times higher.
- Income (compared in terms of purchasing power parity exchange rates) is reckoned as more than 10 times higher.
- Consumption of animal food is 7 times higher.
- Release of carbon dioxide is 22 times higher.
- Consumption of electricity is 35 times higher.
- Consumption of paper is 89 times higher.

Since the 1960s the income disparity reckoned in terms of MER has grown like wildfire; the ratio used to be around 25:1, but is now around 75:1. The corresponding ratio in terms of estimated purchasing power – PPP – has remained more or less constant (around 15:1),

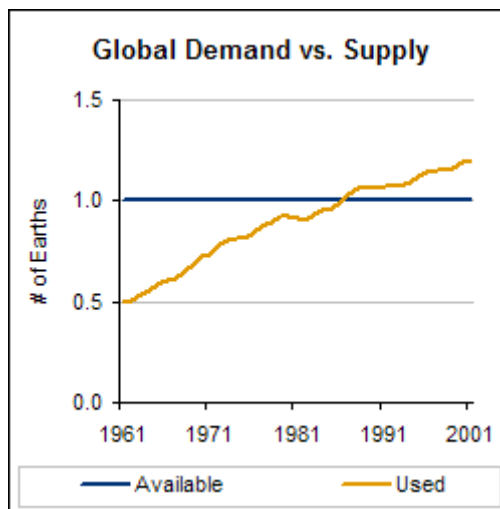
but in absolute terms the PPP-gap has increased from \$9200 per capita in 1960 to \$23,000 in 2000.

The ratios of various kinds of resource-consumption inequalities have tended to diminish, but the absolute differences have been and still are growing. An exception to this general trend is that per-capita consumption of animal food has started to decline in the richest countries, while increasing slightly in the poorest ones.

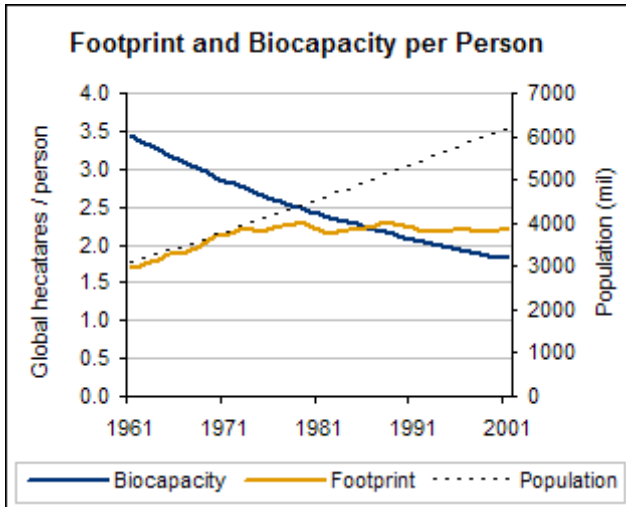
However, we should note that in today's world, it may well be misleading to reckon merely in the statistically convenient terms of rich and poor nations. Income-distribution *within* many rich countries is becoming more unequal, and meanwhile the number of rich people in the poorest countries has been growing slightly. Branko Milanovic has stressed the importance of measuring world inequality and not just international inequalities.

## A full world

Probably the most telling available indicator that we live in a full world is the size of our ecological footprint in relation to the corresponding biocapacity on Earth. The EF calculation have been endorsed and popularized by the WWF and by the Global Footprint Network. According to the EF analysis we are already overusing the Earth's ongoing biocapacities and are thus using up some of the biological natural capital upon which humanity's long-term endurance depends.



**Figure 1** shows the ratio between the world's demand and the world's biocapacity in each year, and how this ratio has changed over time. Expressed in terms of "number of Earths," the biocapacity of the Earth is always 1 (represented by the horizontal blue line). This graph shows how humanity has moved from using, in net terms, about half the planet's biocapacity in 1961 to 1.2 times the biocapacity of the Earth in 2001. The global "ecological deficit" of 0.2 Earths is equal to the globe's ecological overshoot.



**Figure 2** tracks, in absolute terms, the world's average per person Ecological Footprint and per person biocapacity over a 40-year period. An additional dotted line (scale on right side of graph) shows the growth of the human population from 1961-2001.

And yet despite this overshooting of the Earth's renewable biocapacities, our population and consumption-standards are growing exponentially. Myers and Kent have collected data for what they call the "new consumers", some 1.1 billion people who live in "emerging economies" and whose changing life styles are beginning to affect the global economy. These consumers are buying television sets, washing machines and computers, and are shifting to meat-based diets, high levels of water consumption, and transport by automobile. The number of these "new" consumers exceeds that of the consumers residing in the already rich countries. (Schor 2005 B)

We have seen that income disparities when reckoned in terms of MER are much higher than when reckoned in terms of PPP, and that the former gap has been widening very rapidly. Since market exchange rates, rather than purchasing power parities, determine the price competitiveness of nations, they influence the international division of labour. Schor mentions that quite a lot of clothing purchased in the USA is made in Bangladesh (only three countries export more apparel to the USA than Bangladesh does) and that wages in Bangladesh varies between 6 and 18 cents/h; that is you can buy the work of more than 100 Bangladeshis for the cost of one worker in a rich country. This is far from factor price equalization, even though goods and capital today are quite mobile internationally.

The outpouring of cheap manufactured goods – clothes, shoes, TV sets, computers etc. – from Asian low-wage countries vastly increases the consumption in the rich countries. It is not only the "new" consumers in the emerging economies, but also the consumers in the rich countries, whose claim on the resources of the world is growing. In a very unequal world, the prices for many goods and services become, for the rich, so cheap that the price mechanism does not restrain them even though we live in a full world. In this

sense the prices on the world market are not “right”, and these price “distortions” grow with increasing inequalities.

## **Trade in the neoclassical paradigm**

How is international trade seen according to the currently dominating, neoclassical paradigm of economic theory?

The answer to this question is astoundingly clear. Trade, and *a fortiori* free trade, is allegedly good not only for economic growth, but also from an egalitarian and ecological point of view. When reading economics textbooks, or journals such as *The Economist*, you get the feeling that there is no such thing as a global ethical trilemma. According to those writers, liberating trade promotes prosperity *and* equality *and* sustainability. The existing resources will allegedly be used more efficiently, and wealth will thus, thanks to Ricardian comparative advantages, be increased in relation to the level of extraction and pollution. As prosperity increases, people will allegedly be more inclined to pay for environmental services, and pollution will thereby, thanks to the environmental Kuznets curve, be reduced (at least relative to production). And freer trade will, thanks to the factor price equalisation theorem, tend to equalize wages all over the world, and will thereby eliminate the major inequalities among nations.

The theoretical assumptions required to derive these neoclassical results are quite demanding, but even if you relax some of those assumptions – by providing (in your theoretical model) for trade barriers, technological gaps, free capital flows or increasing returns to the scale of production – the main story does not necessarily change although you can no longer prove it mathematically. I think it is fair to say that a large majority of economists believe that even if we live in a full and unequal world, the long-run consequences of more and freer trade are positive on all accounts. They might even think that they, and no one else, deliver a credible story of how we are already overcoming the global trilemma.

## **Theories of unequal exchange**

According to neoclassical theory, trade between nations may be asymmetric in the sense that some countries gain more than others, but still everyone will gain and meanwhile trade *per se* never reduces ecological sustainability.

For several hundred years, however, theories have been presented according to which international trade can be not only asymmetric but also exploitive, disjunctive and/or unsustainable.

The mercantilists thought that trade would be favourable for countries which specialized in manufacturing and which imported unprocessed raw materials, but that countries specializing in products made by using up domestic natural resources would sooner or later fall into an extractive “trap” from which it would be difficult to escape. A leading 18<sup>th</sup> century political economist, James Steuart, expressed this view as follows:

In all trade two things are to be considered in the commodity sold. The first is matter, the second is the labour employed to render this matter useful. The matter exported from a country is what the country loses; the price of labour exported is what it gains. (Quoted in Andersson 1976, 25)

Some Marxists have developed models of unequal exchange according to which dominant states and companies are in the position to exploit weak countries. Similar narratives have been put forward by the dependency-school and by the world-system theorists, according to whom the centre exploits the periphery by means of trade as well as in other ways.

Concepts and theories of unequal exchange can be grouped into three broad categories, focusing respectively on “asymmetric”, “non-equivalent” and “disjunctive” exchanges. (Andersson 1976)

Asymmetric exchange occurs when the *gains* from trade are unequally distributed. This may aggravate the income-gaps, but it will enhance overall prosperity. One can therefore, at least in theory, compensate for the asymmetry by means of well-designed, deliberate international transfers.

Non-equivalent exchange occurs when there is a discrepancy between what a country exports and imports measured in some appropriate standard. In classical and Marxist economic theories, such a standard was labour. Several other standards have been used, such as world market prices (actual or ideal) and ecological footprints. Non-equivalence occurs when the current relative prices differ from the exchanged ratios reckoned in some other kind of unit that is considered to be important. If prices do not reflect the indirect as well as direct inputs of labour or biomass, one country can be said to be using international trade to exploit another in terms of labour or biomass. What one country gains, the other loses.

Disjunctive exchange is trade that causes an increase in the development-gap between the trading countries. It is often asymmetric or non-equivalent but need not necessarily be so. The USA is currently exploiting China in terms of labour-inputs, but maybe the development-gap between those two countries will narrow down gradually as a result of this non-equivalent exchange. One can readily think of examples where a country receives such a high price for certain exports, that its medium- or long-term development is actually thwarted by the temporarily favourable stream of incomes. One such case has been termed “the Dutch disease”; in the 1950s windfall incomes from newly found gas-deposits damaged indirectly the competitiveness of the rest of the Dutch economy.

Factors that may cause disjunctive exchange are:

- The characteristics of the products exchanged and/or of the processes by which they are produced.
- The class- and power-relations inside the countries.

- The ways in which the incomes due to exporting are invested or consumed.

Ecological economists have developed theories of unequal and unsustainable exchange in terms of non-monetary physical quantities such as “emergy”, “rucksack” and ecological footprint. One such theory is that of Alf Hornborg, who, drawing on the concept of entropy, describes exchange in a manner reminiscent of both the mercantilists and the dependency theorists.

Calling world trade exploitative, I insist, is more than a value judgement. It is an inference based on the Second Law of Thermodynamics. If production is a dissipative process, and a prerequisite for industrial production is the exchange of finished products for raw materials and fuels, then it follows that industrialism implies a *social* transfer of entropy. The sum of industrial products *represents* greater entropy than the sum of fuels and raw materials for which they are exchanged. The net transfer of "negative entropy" to industrial centers is the basis for techno-economic "growth" and "development"... The ecological and socioeconomic impoverishment of the periphery are two sides of the same coin, for both nature and human labor are underpaid sources of high-quality energy for the industrial "technomass". (Hornborg 2001, 11)

According to this theory trade between centres and peripheries is necessarily non-equivalent and disjunctive at the same time. The importing of “exergy” (e.g. biomass) is a prerequisite for the development of the “industrial technomass” in the centre and implies a net transfer of entropy to the exporting periphery.

This perspective is of course completely alien to neoclassical economics – and is difficult to reconcile with any concept of combining industrial prosperity with either global justice or ecological sustainability. However, I am not assured that such non-equivalence necessarily is always bound to be linked to a disjunction manifested in a growing development-gap. Is it true that unequal exchange in terms of "negative entropy" (= exergy) has to entail social exploitation and increasing unsustainability at the periphery? Are the inhabitants of a locality necessarily victims of an unequal exchange if they find and start to export a natural resource such as fertile land, iron or oil? Is bountiful Norway being exploited by oil- and gas-poor Germany? Is there no conceivable wise use of natural resources in an industrialized world?

## **Unsustainable trade**

The fact that we live in a full world implies that we should reduce our consumption of material goods. But the fact that we live in an unequal world means that many goods – commodities such as bananas and coffee, as well as finished products such as shoes and computers – can be produced at very low cost to affluent people. Even if trade may be balanced and profitable in money terms for all producers, it may be highly unbalanced and unsustainable in biophysical terms.

One possibility is that some countries become obliged (by the markets or by more sinister forces) to specialize in a way that draws upon their natural capital to such an extent that they cannot escape an “extraction trap”. In order to finance their imports they have to export natural resources, biomass or exergy to such an extent that their own life-support systems are destroyed. The situation of such countries in the world economy deteriorates gradually. Other countries, which are able to sell high-priced products and services that require little natural resources, may be able to increase their natural capital even though their ecological footprints exceeds their biocapacities.

I have called this possibility “unilaterally unsustainable exchange”. It is not perceived in monetary terms and it is therefore unacknowledged as such by current standard economic theory. Indeed the IMF and the World Bank may urge each low-wage country to further reduce its production-costs in order to compete with other low-wage exporters. This would of course increase the troubles for the whole group of poor countries. An exchange that is non-equivalent in terms of biomass (and probably also in terms of labour) is thereby turned into a disjunctive exchange.

Another possibility – I call it “mutually unsustainable trade” – is that both trading parties may overshoot their biocapacities in order to improve their relative positions. This can occur if two countries engage in, what Fred Hirsch has called “positional competition”. The nature of the status in regard to which the countries compete is not always the same; it may be military, economic, or even spiritual; but in any case the result is ecological unsustainability in both countries, since they are using up their ecological reserves in their efforts to promote competitiveness and growth. They may also, as in the case of global warming, be destroying a global resource essential for both of them (and to everyone else).

In mutually unsustainable exchange, the stronger nation is not strong enough to impose a unilaterally unsustainable trade on the weaker nation. The stronger one may therefore either try to increase its relative strength further or try to reduce its ecological footprint. The first option may lead to a further widening of its ecological footprint, whereas the other option (reducing its ecological footprint) may lead to a weakening of its relative position vis-à-vis the rival.

The more unequal the world becomes, the greater are risks of international trade becoming unilaterally unsustainable. The fuller the world becomes, the greater are the risks of nations will engaging in mutually unsustainable exchange.

### **The blurring effects of international trade**

Even if ecologically unequal trade may well increase sustainability. Through international trade a country may import and consume resources which are scarce locally but abundant in some other part of the world. And temporal local scarcities (due for instance to a bad harvest) can be compensated for by imports.

However, trade does tend to blur the ecological and some of the social consequences of production and consumption. If production and consumption take place locally, all parties involved can register and react to the consequences. The further away and the more indirect are relations between producers and consumers, the less visible are the links of cause and effect. Today's global economy, with very distant and indirect links between producers of primary goods and final consumers, is very prone to blurring the ecological consequences of trade. The gross inequalities in purchasing power increase the risks of overexploitation of the biocapacities in poor areas.

In an unequal world, rich countries can readily import bio- and sink-capacity from poor ones, and meanwhile the inhabitants of a rich country may think that their lifestyles are sustainable since the ecological capital of their own country is not eroding. They may even believe that becoming richer is the best solution to overcoming ecological overshooting, and may thus blame the poor countries for not being able to sustain their own ecosystems. This rich-country illusion may prove fatal for the world. Poor countries strive for economic growth in order – they hope – to get out of the ecological trap, whereas rich countries wrongly maintain the belief that their current lifestyles and their further increases in consumption are sustainable.

The more overexploited the natural resources of the Earth become, the more likely it becomes that ecologically unequal exchange will be transformed into unilaterally or even mutually unsustainable exchange. Although trade may be quite profitable in money terms and may therefore seem advantageous to all, this monetary success may blur imminent and even manifest ecological imbalances.

In a full world the consequences of sharp income inequalities can become fatal. Even if we manage to avoid catastrophic world wars, the rampant commodification of the globe aggravates the inequalities between rich and poor. The environmental space for the poor deteriorates at the same time as the rich can buy temporary release from the consequences of global environmental degradation. The long-term consequences – and in due time the mid-term and short-term consequences – of international trade in a full and unequal world are something quite different from the story told by orthodox economists. In today's world, neoclassical trade theory tends to obscure rather than to enhance our understanding of the situation.

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