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## MAKING THE ENVIRONMENT COUNT

Economists prefer dead trees. A tree standing in a forest has no standing in economics. It is not - as far as conventional economics is concerned - carrying out any "economic" role. Of course, it provides a vital role in the earth's life support system - but this is of interest to scientists and not economists. However, as soon as the tree is cut down, then it acquires a status in economics. Its significance grows as the tree is broken up into smaller components, such as paper or matchsticks. The more it is destroyed, the more important it becomes to economic calculation.

This article examines the mismatch between conventional economics and the need to protect the environment. It begins with the example of the gross national product and how it is not quite as useful an indicator as many people think. It then examines why the GNP has remained so popular for so long. It then looks more broadly at some of the major problems that need to be addressed if there is to be a thorough accounting for the environment. There are considerable problems and it may well be that some of these will not be solved. But there are two issues that can be addressed and so should get more attention by economists and others: a more realistic approach to how the GNP tool is used in political discussions, and the creation of a more accurate system for accounting for the damage to the environment.



### The Example of the Gross National Product

Economic and political life revolves around the GNP: Gross National Product. GNP is the measure of financial transactions within a country's economy - the total flow of goods and services produced by the economy over a specified time (usually a year) and it is derived from calculating the total income of a country's residents, whether the incomes come from production in that country or from production abroad. There is also a calculation of the Gross Domestic Product (GDP), which is a calculation of the economic activity within the country, and so excludes the value of exports and imports. But the GNP/GDP distinction is not very important for the main argument here, which is the inadequacy of conventional economics to take the environment into account.

The GNP system has three main limitations. First, if there is no transaction then the item does not "exist" as far as conventional economics is concerned. A tree in a forest is not involved any economic transaction, therefore it is not included as an item for GNP purposes. It does not exist as far as GNP is concerned.

Second, if there is no money involved, then again there is no existence. Non-financial transactions receive no credit within the GNP system because the GNP is a measure of the movement of money through a national economy. One example concerns the way that older people often get a raw deal from the GNP calculation. They are second largest providers of childcare (after the parents) but their effort receives no recognition within the GNP calculation. They do not receive any direct payment for their effort. Treasury bureaucrats may complain about the cost of older people (such as the provision of pensions) but this is unfair: their old age pensions are included in the GNP but not the contribution they make to child care or other forms of voluntary service. Additionally, criminologists have argued that a major cause in crime prevention is the reduction of child neglect. Child abuse receives a great deal of attention. But kids are more likely to get involved in crime if they are neglected (rather than abused). The neglect takes various forms: some parents do not know where their children are; other parents may care where they are but do not form a close relationship with the children and reward them when they do the right thing; other parents simply do not care about their kids. Grandparents (as substitute parents) are very important in stopping the crime rate from being even worse – but their efforts are not reflected in the GNP statistics.

Similarly, feminists have complained that women tend to be ignored by GNP calculations because so much of their work is done on a non-transaction basis in the home. For instance, if I employ a female housekeeper, then I increase GNP. But if I later marry her (and so stop paying her a salary) then I reduce GNP. If a cash value is placed on home duties, then a developed country's GNP almost doubles.

A final example comes from developing countries, which tend to have a low GNP because so much of their economy is based on barter (the exchange of goods and services) rather than specific financial transactions. Their low GNP could be interpreted as laziness or low productivity. In fact they have to work very hard but they get little recognition of this in official GNP statistics.

The second limitation of the GNP system is that it makes no value judgments. The GNP is simply a measure of financial transactions; it makes no value judgment on whether the transactions were socially useful or what impact there may have been on the environment. Thus, crime and car accidents increase the GNP because of the increased work for police, ambulances and prisons. A reduction in crime reduces the GNP. Similarly, a good way to increase British GNP would be to burn down London each year. GNP would grow because of the extra work for fire brigades, undertakers, architects, builders, and plumbers. There would be little to show for all this annual effort - but there would be a higher GNP.

Environmental pollution is "good" for GNP. The 1989 Exxon Valdez oil tanker disaster (which created the one of worst oil slicks in US history) increased Alaska's GNP because so much money was spent in cleaning up the oil and in the subsequent court cases. Similarly the disruptions to human life caused by natural catastrophes like bush fires, earthquakes, volcanoes, floods and snowstorms also boost the GNP.

Therefore, the GNP does not measure the "quality of life". Indeed, in many societies the GNP is increasing while the quality of life (as seen in other indices) is going down or at least remains static. There is no clear correlation between the level of GNP and social indicators. Thus, a society may become richer but there could still be an increase in suicide and depression. Increased GNP does not necessarily bring happiness.

### ✓ **Why Has the GNP Remained in Force for so Long?**

The implementation of the GNP concept (over half a century ago) was a major breakthrough at the time. It was part of the creation of a system of national accounting and for the past half century it has enabled some comparisons to be made of one country with another. While the GNP concept has many limitations, it is important to acknowledge that the concept's creation was very significant at the time. It has enabled governments and individuals to think more globally in a systematic way and not just on the basis of hunches and guesses. The problem with the GNP concept is not that it exists and should be scrapped, but that it is still rudimentary and needs to be improved.

The GNP concept has remained so popular for so long because of five reasons. First, there is the overall importance of economic growth. The post World War II task was seen as that of achieving and maintaining a high rate of economic growth. The governmental architects of the post-war world order blamed World War II partly on the Depression of the 1930s and the opportunity it gave to Hitler to come to power. If there had been no Depression, so the reasoning went, then Hitler would have remained an obscure, marginalized politician as he had been throughout the 1920s.

Meanwhile voters expected governments in the western world to become more involved in running national economies. They did not want another Depression and they had seen the value of increased government involvement in the late 1930s (such as through public work programmes) to give employment to some of the unemployed people. Additionally they had become accustomed to increased government power in World War II (such as increased taxation) and wanted the government to now use it in the interests of economic growth. Thus, the GNP concept was seen as a useful tool to measure economic progress.

Second, there was little official attention to the environment. With all this attention to economic growth, very little thought was given to the environment. It was assumed that the environment could withstand whatever was done to it and that the earth was so full of resources that there could not be an exhaustion of them. It was only about three decades ago, with such as events as the 1972 report to The Club of Rome on The Limits to Growth and June 1972 Stockholm United Nations on the Environment that environmental issues appeared on governments' agendas.

Third, there has been the dominance of the market system of economics. Although governments in the western world acquired greater responsibility for economic matters, the basic economic thinking was still that of the market. (The socialist countries in eastern Europe, China, North Korea and Cuba embarked upon a different economic system but most of them have now ended socialism in favour of the market system; the environment, incidentally, fared no better under socialism than it did under capitalism).

Unfortunately, the market system cannot send out warnings to people. It can only tell people that it is time to stop. For example, the "greenhouse effect" has caught much of the world by surprise. The market system is geared to the consumption of resources, rather than environmental protection. The market system cannot easily send out warnings that the resources are running down – only when they have now run out (such as the current controversy over the decline of the North Sea cod fish resource).

Fourth, it has to be admitted that there is a great difficulty in accounting for the environment given the current system of economics. In essence, this problem of accounting for the environment is derived from the way that orthodox economics is based only on an "income account".

By contrast, a factory, for example, has two accounting formats. A factory produces (say) cars, which are sold for money (this is the income account). The factory is composed of buildings and machinery (and these are the capital account). The capital account items have a value in themselves (if the owner should choose to sell them and go into some other business) and which depreciates through use and over time (and so the owner has to make financial provision for their eventual replacement). The capital account items are essential for the income account - without them there would be no income account.

The environment provides the global capital account. Humans could not exist without air, water, land, trees, etc. But conventional economics has been slow to recognize the importance of the global capital account and still lacks any tools for putting a price on the environment. Therefore, there is a paradox. A country that uses its capital stock to produce income appears to grow richer. The poverty in the capital account will only be felt by later generations.

Finally, there is the difficulty in introducing a new system of national accounts. There is now increasing interest in creating a more sophisticated, environmentally sensitive system of national accounts. However, given the central comparative function of the national accounts, proposals to alter the main body of the accounts, however sensible, may in most cases meet with resistance from the statistical authorities. Changes to the coverage or format of the national accounts would erode the usefulness of national accounts as a basis of comparison, both with that country's own past trends and with current trends in other countries. Therefore, change is very difficult.

A way of solving this problem is to create "satellite accounts". The main national accounts remain in place but a country is at liberty to experiment with additional ways of national accounting through its satellite accounts.

The United Nations Statistical Commission co-ordinates work on the System of National Accounts. Since the early 1980s, it has been trying to find a way of incorporating environmental considerations into the GNP calculations. At the June 1992 Rio "Earth Summit", 178 countries committed themselves to expand existing systems of national accounts to integrate environmental dimensions into their national accounts. In 1993, the UN Statistical Commission adopted a revised System of National Accounts and encouraged governments to experiment with the creation of "satellite" accounts. The basic GNP accounting system remains intact but the satellite accounts enable governments to see how environmental accounting can be integrated into the national accounts. This work is still proceeding.

## ✓ Environmental Accounting

It may well be that the UN's work will be ultimately unsuccessful. There are five major problems. First, while it is possible to value a tree in terms of its potential source as timber, no calculation could be made for that tree as part of a rain forest in which it is home for a variety of wildlife. From a scientific point of view, a tree is not just a tree but it is part of the ecosystem, and so accounting for its role is even more complicated when its environmental context has to be taken into account.

Second, how can we put a value on an ecosystem about which we may know very little? For example, if a plant were found to contain a cure for cancer then that plant would suddenly increase its value. But its full properties may not be known for many years to come and so it would be undervalued until then. Who knows, for example, what remains to be discovered in the Amazon rainforest?

Third, if we could put a value on nature, would the environment be better off? There is no guarantee that the UN's project would result in a more responsible attitude towards the environment. Economic growth is such a dominant paradigm that government economists would soon find a way of using the new system of national accounts to support the need for economic growth. For example, an old growth forest would be contrasted with the area's potential value (say) for new housing and so the value of the forest will simply be absorbed into the cost of each house and reflected in its price - rather than deterring the development in the first place.

Fourth, economists know the price of everything and the value of nothing. Many of the facets that make living worthwhile cannot be counted: friendship, beauty, children at play, voluntary service, intelligence of a public debate, integrity of government officials, and the quality of the mass media. The UN's project assumes that a price can be put on the environment and that

life can be quantified and measured. But the GNP often measures everything except that which makes life worthwhile. What really counts is the quality of life - rather than the quantity of cash-flow.

Finally, the UN's project is based on the wrong assumption about humankind's existence. It assumes that the environment is here to serve humankind and so everything has to be subordinated to humankind's needs and wants. But, in fact, humankind is a sub-set of nature. Nature has its own existence, with or without humans. Nature does not exist to provide humans with goods and services. After all, humankind did not exist for most of the planet's existence. It could exist again without humankind. It is that type of arrogance that has lead humankind into the current environmental crisis.

## ✓ Future Challenges

Despite these reservations, there are two concluding recommendations for action. First, it is necessary to make people aware of the problems with GNP calculations. Too much is still made of GNP growth by politicians and the mass media. An important task, therefore, is to make the general public more aware of its limitations. As already noted, some feminists and social commentators have commented on its limitations. Given the capacity for environmental groups to attract attention to their cause, it would be useful for the groups to be even more active in drawing attention to the limitations of GNP growth as a political mantra.

Second, there is a need to count the cost of environmental damage. Even if we cannot yet fully count the value of the environment as such, we can put a figure on the cost of environmental destruction. Therefore, it is possible use accounting to help the environment.

For example, we should assess the full cost of transportation systems, such as the cost of building roads. The rapid spread of cars in the United States in the early part of last century was based on their appearing to cost less than trams and railways. This was based on the fact that the cost of cars did not include the cost of building roads. Lobby groups working for the car and petrol industries persuaded the state and national governments to pay for the roads. If the car companies had been obliged to pay for the roads - as the railway and tram companies had had to pay for cost of installing and maintaining tracks - then the "cost" of the car would have been greater. Of course, the "cost" of the car is even higher when there is an estimate of what burdens they impose a burden on a country's healthcare bills.

The technical term is monetising the environmental costs and benefits (or "externalities"). One of the signs of the greater attention to environmental protection has been the push (usually via government legislation) to internalise the externalities: making the polluter pay. Thus, for example, the old style pollution from a factory chimney going straight into the atmosphere was an "externality"; others had to cope with it and not the factory owner. More



recently, various clean air laws have obliged factories in developed countries to clean the fumes before they emerge from the chimney and so that “externality” has been “internalised”. Full cost accounting would give a more accurate figure of the full cost of a product or service. The rationale here is that if the price reflects the "full cost" of production (including the cost to the environment), then such costs would flow on through the various production and consumption cycles. Therefore the higher costs would be an incentive to change consumption patterns.

To conclude, it is possible for economists to do more to help protect the environment.

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