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# How to correct wrong information about economic growth

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## **Abstract**

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Economic growth is generally defined as increase of national income (NI) (or GDP) as a measure of production. However, according to the subject matter of economics economic growth can mean nothing other than increase in welfare. Welfare is dependent on more factors than solely production. It is also dependent on employment, income distribution, labour conditions, leisure time and the scarce possible uses of the non-human-made physical surroundings: the environmental functions. The paper discusses four ways to correct the current misleading information about economic growth.

## **Keywords**

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Environmentally Sustainable National Income, employment

## 1 Introduction

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All economic action is directed to the satisfaction of wants, or in other words: to welfare. Welfare is defined as the satisfaction of wants derived from our dealings with scarce goods. It is a category of personal experience and not measurable in cardinal units. Therefore we have to make do with indicators that *are* measurable in cardinal units and that are arguably influencing welfare. The cardinal indicator and the ordinal welfare have, of course, to develop in the same direction.

Economic growth is generally defined as increase of national income (NI) (or GDP) as a measure of production. However, according to the subject matter of economics economic growth can mean nothing other than increase in welfare. Welfare is dependent on more factors than solely production. It is also dependent on employment, income distribution, labour conditions, leisure time and the scarce *possible uses of the non-human-made physical surroundings: the environmental functions*. These objectives or ends are often conflicting. Therefore welfare can increase with decreasing production (Huetting, 1980).

The narrow minded, theoretically wrong definition of economic growth is especially threatening the current and future availability of environmental functions, the most fundamental scarce and consequently economic goods at the disposal of humanity. I would like to elucidate why this is the case and to discuss the four relatively simple ways to counteract the fatal effect on the environment. Correct information is decisive for the coming into being of the preferences of individuals and institutions and consequently for the decision making process. Therefore it is of the utmost importance to correct the current misleading information.

Below four ways to do so are discussed.

## 2. The first way: publish National Income minus asymmetric entries

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The first way to correct misleading information about economic growth is to publish a series of National Income (NI) (or Gross Domestic Product) ex asymmetric entries. This can be explained as follows. According to standard economic theory, producing is adding value. National income (NI) equals the sum of the values added. So NI measures - the fluctuations in the level of -production. It does so according to its definition and according to the intention of the founders of its concept to get an indicator for one of the factors influencing welfare - and a tool for quite a few other purposes.

This value is added to the non-human-made physical surroundings. Consequently, *environmental functions* remain outside the measurement of standard NI. This is logical and easy to understand, because water, air, soil, plant and animal species and the life support systems of our planet are not produced by humans. So losses of functions, caused by production and consumption, are correctly not entered as costs. However, expenditures on measures for their restoration and compensation and for eliminating the environmental burden at the source *are* entered as value added. This is asymmetric. These expenditures should be entered as intermediate, as they are costs.

This asymmetry is often defended by the remark that these expenditures contribute to welfare and generate income (De Haan, 2004; Heertje, 2006:138). This is of course self-evident, counting from the moment at which the loss of environmental functions and the consequential adverse effects have already occurred. However, the production factors, used for the measures, do not add any value counting from the moment that the functions were still available. With respect to that situation there is consequently no increase in (1) the quantity of final goods produced and (2) the *availability of environmental functions*. Opposite to the income earned with carrying into effect the measures there stays consequently no increase in production volume (= final goods produced) with respect to that situation. By entering these

expenditures as final instead of intermediate, the growth of production is overestimated, thus obscuring what is happening with both environment and production.

Asyms (asymmetric entries into NI) can relate to events in the past, to events in the current financial year (e.g. oil spills) and, as prevention, to events expected in the future due to loss of function; that does not make any theoretical difference. It always boils down to undo or counteract the effects of production growth that should not contribute to the same growth. Asyms are clearly in conflict with the original intention of the founders of NI as a measure of fluctuations in the level of production.

Expenditure on compensation for loss of function and on restoration of physical damage resulting from loss of function constitute revealed preferences for the availability of functions. One example is the additional measures for the production of drinking water as a result of the loss of the function 'drinking water' because of overuse of the function 'water as dumping ground for waste' (pollution). Another example is the restoration of damage caused by flooding due to excessively cutting forests etc.; this is overuse of the function 'provider of wood' etc. by which the forests consequently are losing their function 'regulation of the water flow'. An example of expenditure on elimination measures is reducing the emission of greenhouse gases that disturb the carbon cycle, an important part of the life-support system.

An NI (or GDP) ex asyms can easily be constructed by entering the expenditure mentioned above as intermediate (costs) in stead of as value added. There is no need for using an economic model because they are outlays actually made on the development path characterised by the NI under the assumption that this path is optimal.

### **3. The second way: publish Environmentally Sustainable National Income**

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The second way to correct wrong information about growth is to publish a series of environmentally sustainable national income (eSNI). In our non-human-made physical surroundings, a great number of possible uses can be distinguished, which are essential for production, consumption, breathing, et cetera, and thus for human existence. These are called environmental functions, or in short: functions. As soon as one use of a function is at the expense of another or the same function (by excessive use) or threatens to be so in the future, functions are by definition scarce and consequently economic goods, indeed the most fundamental economic goods humanity disposes of. Environmental functions and their loss remain outside the market mechanism and outside the NI. Therefore I hope that the conference will officially recommend countries to carry out estimates of NI ex asymmetric entries and of environmentally sustainable national income (eSNI).

Environmentally sustainable national income (eSNI) is defined as the maximal attainable production level by which vital environmental functions remain available for future generations, based on the technology available at the time (Huetting and De Boer, 2001). The distance between the production level as measured in standard national income (NI) and eSNI indicates in factor costs how far we are away from an environmentally sustainable situation. If in the course of time the distance increases we are drifting farther away from sustainability and vice versa. A first rough estimate of the eSNI for the world in 1991 by Tinbergen and Huetting for the Rio conference in 1992 arrives at fifty percent of the production level of the world: the world income (Tinbergen and Huetting, 1991). Estimates for The Netherlands also arrive at about fifty percent of the production level or national income of The Netherlands (Verbruggen et al., 2001). In the period 1990-2005 the distance between NI and eSNI increased by thirteen billion euro or 10 percent (Milieu- en Natuurplanbureau, 2006:21).

The NI (or GDP) is based on the assumption that the economy is developing on a optimal path, that is: in conformity of assumed preferences of the economic agents. This then holds also true for the asyms. eSNI is based on the assumption of preferences for environmental sustainability, that is: for an economy

developing on a sustainable path, which is optimal under this assumption. The jump from the current to the sustainable path – a comparative static practice - has to be simulated with the aid of economic model. Therefore, for the estimate of eSNI more work is involved than for the estimate of asyms. Simulations of the transition path to environmental sustainability are obviously important but are outside the field of eSNI research.

#### **4. The third way: refute the conflict between environment and employment**

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The third way to counteract wrong information about growth is to refute the fallacy of a conflict between environmental conservation and employment. The proposition that to preserve the environment we must sacrifice employment is probably the major obstacle standing in the way of a sound environmental policy. This is because the proposition overlooks the simple fact that the possible uses, or functions of the environment (including natural resources) are scarce goods which require the use of production factors for their restoration, preservation and substitution. Of these, labour is the most important. For example, in the Netherlands more than 80% of the Net Domestic Product is labour income. In macroeconomic terms labour is the dominant cost factor. *A given amount of production and consumption requires more labour with environmental conservation than without.* The extra labour required is used to maintain scarce environmental functions in stead of producing goods, so conventional productivity and NI are declining (Huetting, 1996).

The absurdity of a perceived conflict between the environment and employment becomes particularly evident when we trace its consequences. If conservation of the environment were to be achieved at the expense of employment, then 'clean' production and consumption should require less time than 'dirty' production and consumption. Because labour is the dominant cost factor, as explained above, clean production would then be cheaper. From this it follows that there would then be no environmental problem! Everyone would then switch to these cleaner, cheaper production methods, forced to do so by the market. Thus, if merely one company were to switch to clean production, the rest would have to follow suit in order not to be priced out of the market.

The situation is presented upside down; the opposite of what we are being told is true. There is an environmental problem, because clean production creates structurally more employment than dirty production. This makes clean products more expensive, and this is why we produce and consume in a way that burdens the environment.

Obviously, the preservation measures must be made binding for the whole economy, because environmental functions are collective goods.

#### **5. The fourth way: refute the proposition that saving the environment is unpayable**

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The fourth way to counteract myths about growth is to refute the fallacy that preserving the environment is too expensive. A wide-spread fallacy about the environmental problem is: 'We would like to save the environment, but alas, it is too expensive'. However, the contrary holds true: all fundamental solutions for safeguarding the environment are clearly much cheaper than continuing the process that is threatening life on this planet.

For example: travelling by bicycle is much cheaper than driving the same distance by car. Heating one room, in combination with a sweater and an extra blanket, is much cheaper than heating the entire house. A vacation by boat or train is cheaper than a holiday flight. A diet combining some meat and beans is cheaper

than eating lots of meat. Winter vegetables in winter are cheaper than summer vegetables in winter. Raising two children is cheaper than raising ten.

The burden on the environment is determined by the number of people, the amount of activity per person, and the nature of this activity. Because activities with little or no impact on the environment can be expanded, the shift to environmental sustainability comes down to adapting the number of individuals of our species and the kind of activities we engage in to the carrying capacity of our planet. This adaptation is extraordinarily cheap.

Of course there is an economic sacrifice to be made; otherwise there would be no environmental problem. Most of us would love to make unrestricted use of the private car, are mad about eating meat, and prefer to have sex without a pill or condom. Recent initiatives to calculate a sustainable level of activities, the eSNI, show a major difference with the standard NI. But if we delink our credo of progress from the growth of our consumption, there is no reason at all to panic. In the first place, shifting to sustainability will not damage our health. On the contrary, environmentally-friendly activities are usually healthier than those that harm the environment. Second, a sustainable level of activity by no means implies a return to the Middle Ages, as often claimed. The global national income is in 1990 four times higher than that in about 1950. Were living conditions in 1950 worse for most of the people in the world than they were in 1950? A sustainable level of activity will probably be considerably higher than that of forty years ago. Thus, according to a rough estimate by Tinbergen and Hueting global production and consumption in 1990 would have to be halved in order to attain sustainable levels, thus to repay our debt to future generations (see Tinbergen and Hueting, 1991). The same holds true for The Netherlands in 2005 (see above).

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