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The Genuine Progress Indicator: A Better Measure of Progress?

In an article that appeared in the October 1995 issue of the *Atlantic Monthly* (*"If the GDP is up, why is America down?")* an organization called *Redefining Progress* criticized the use of gross domestic product (GDP) as a measure of economic progress. The group argued that the negative or "illth" side of GDP outweighs the wealth that it purports to measure, and that "some of the fastest growing portions of the US economy include crime and prisons, gambling, disease, and entertainment". Furthermore, they contend that GDP places an arbitrary and indefensible value of zero on the social structure and natural habitat, assuming that their breakdown has no economic consequence. The publication of the article has engendered a considerable debate in both Canada and the United States about the validity of GDP as a measure of economic progress over time. This article provides an overview of the issues raised in the *Atlantic Monthly* article, a summary of the methodology used to derive the Genuine Progress Indicator, and a discussion of some of the advantages and drawbacks of this alternative approach to economic accounting.

What's wrong with GDP as a measure of progress?

In the traditional approach to economic accounting, four types of transactors are identified: individuals or households, businesses, governments, and non-residents. Their expenditures are added together to produce an estimate of total market-based economic activity–the gross domestic product, or GDP. Only those activities which add to current production are included in GDP: transfers from one economic agent to another, such as pension payments, are explicitly left out. So are activities, such as parenting or household work, for which no payment has been made. Similarly, black market activities are explicitly excluded. GDP restricts itself to the market place, and in general, only those activities which involve an exchange of money are counted. However, even though certain activities are not explicitly measured in GDP, social and environmental ills, by negatively affecting the ability of individuals to produce goods and services, and to function in society, do act as a drag on GDP.

The major flaws the authors of the *Atlantic Monthly* article see in GDP as a measure of progress are:

- It makes no distinction between economic transactions which add to well-being and those which diminish it. They argue that a significant portion of GDP growth is the result of fixing previous blunders and correcting for social decay. Natural disasters, pollution cleanups, crime, divorce, societal breakdown, and other ills, they argue, increase GDP even though few would claim that they add to the well-being of society.

- It takes no account of changes in income distribution over time.

- It ignores the depletion or degradation of natural resources.

- It only assigns a value to goods and services that are exchanged in the market place. Other activities which make important contributions to the well-being of society are not accounted for in GDP. The “informal economies” of family and community are ignored. Non-market, non-polluting activities such as walking and the serenity of parks make no contribution to GDP, even though other activities which have a negative effect on the environment (such as driving and sales of noise-making ghettoblasters) increase GDP. Moreover, GDP can be increased simply by shifting functions from the realm of the community and household into that of the monetized economy.

- Continued growth in consumption doesn’t necessarily imply that people are better off. Consumption is only clearly a good to the extent that it meets our basic needs. Beyond that, it begins to have some negative elements because not all individuals have the same access to goods and services, and certain goods are valued mainly for their exclusivity. Other goods (such as cigarettes) are consumed to excess, and have a negative effect on people who wish they hadn’t consumed them.

- GDP ignores the liability of living on foreign assets.

In order to correct for these perceived deficiencies in how economic progress is measured, the Genuine Progress Indicator (GPI) was proposed as an alternative to GDP. In the GPI, a number of factors which have contributed to a decline in the well-being of society are identified, and their cost to society is quantified.

What is the Genuine Progress Indicator and how is it calculated?

The Genuine Progress Indicator (GPI) looks at the economy from the point of view of the individual, and how he or she is affected by various types of market and non-market activities. The estimate is calculated as:

GPI = (P – C)+ O, where

P = Economic progress;
C = The cost to society of economic activity, social and environmental decay; and
O = Other factors, which may have a positive or negative value

The first step is to determine a measure of economic progress (P) over time:

The starting point for the GPI is consumer spending on goods and services, which makes up about two-thirds of total GDP. Consumer spending is adjusted by an index of income inequality that is based on the share of national income received by the poorest 20% of households each year. The assumption is that the well-being of society increases the most when the lot of its poorest members is improved, so when income inequality decreases, the GPI goes up.

The next step is to add in the value of non-market activities such as household work, parenting, and volunteer work. This is based on an estimate of the average amount of time spent on these activities, and an average hourly wage. Also included is the value of the services consumers receive from owning consumer durables such as cars, appliances and furniture (amortized over the life of the durable goods).

Finally, an estimate of the value of the services of roads and highways constructed by governments is included. All other government services are excluded from the GPI, since they are deemed to be defensive in nature (correcting for social decay and erosions in the quality of life) and therefore don’t increase social well-being.

These components are all added together to determine an initial estimate of economic progress: the benefits that consumers derive from market and non-market based economic activities. All other types of expenditures either do not enter the equation, or are viewed as costs because they are deemed to be defensive in nature, or because they do not add to the well-being of society.

The next step is to look at all of the costs associated with economic growth (C):

In the GPI, these costs can be grouped into five main categories:

- Social decay (crime, family breakdown, and the cost of accidents)
- Loss of time: (leisure time, work time lost due to underemployment, and time lost due to commuting)
- Pollution (household pollution abatement, and costs associated with water, air and noise pollution)
- Environmental degradation (loss of wetlands, loss of farmlands, depletion of nonrenewable energy resources, other longer-term environmental damage, the cost of ozone depletion, and the loss of old-growth forests)
- The cost of purchasing consumer durables (deducted to avoid double-counting)

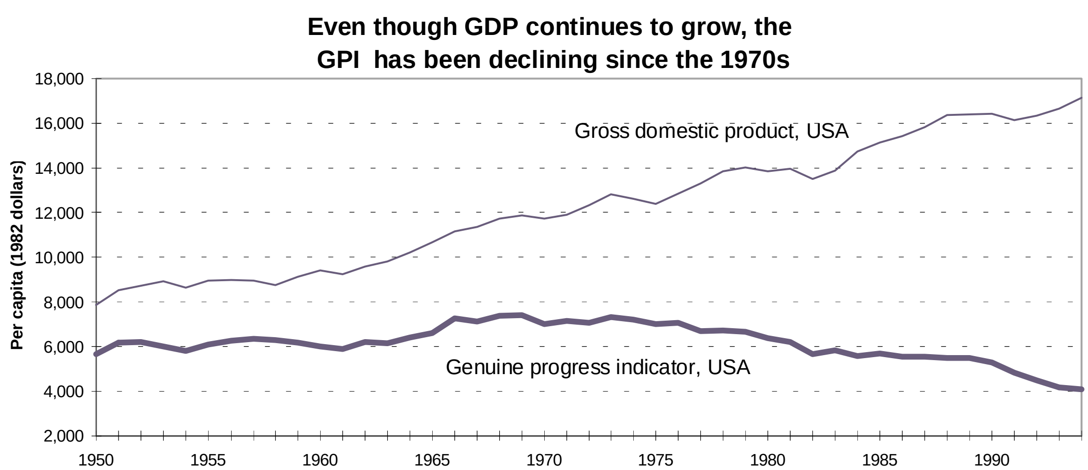
The costs associated with each of these activities are estimated using a variety of different methods, many of which are largely based on a subjective evaluation. For example, variables such as the number of hours spent watching television, legal services, counselling, real estate and other costs associated with divorce are used to put a value on the cost of family breakdown. The net effect of all these deductions is to decrease the initial estimate of economic progress for 1994 by about 75 percent.

Finally, two components (O), which may have either a positive or a negative value, are considered:

- Net capital investment–a measure of the extent to which investment growth exceeds labour force growth (it is assumed that the amount of capital per worker must stay the same or increase)
- Net foreign lending or borrowing—a measure of the extent to which investment and consumer purchases are financed by lending from abroad.

How does the GPI compare to GDP?

As Figure 1 illustrates, when all these adjustments have been made, the end result (the GPI[1]) is an estimate of economic progress that is significantly lower than the traditional GDP measure. More importantly, although GDP per capita continues



Source: Redefining Progress: The Genuine Progress Indicator, Summary of Data and Methodology

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1 Although GPI estimates are not available for Canada, an unpublished study based on a similar methodology suggests that in this country, the gap between GDP per capita and the GPI is smaller, and that the Canadian GPI is flat rather than declining.

to climb, the GPI has been falling since the 1970s. In 1994, the GPI was ***lower*** than in 1950, suggesting that Americans are worse off now than they were forty years ago.

Why has per capita GPI fallen so much while GDP continues to grow?

The difference between the two measures is largely due to the underlying assumptions and methods used to calculate the GPI. By definition, the GPI is lower than GDP for two reasons:

The GPI ignores or does not fully count the benefits to society of the following activities[2]:

- Government investment in human capital through publicly funded health care and education.

- Spending by governments on social services, defence, and other services provided by the public sector. In the GPI, these are viewed as purely defensive expenditures needed to correct for societal ills.

- Investment in new housing by both business and government.

- Export activities (imports are implicitly included in the GPI, but exports are left out).

- Investment in non-residential building projects such as hospitals, schools, recreational facilities, and shopping malls, and investment in machinery and equipment. Business and government sector investment is linked to labour force growth and production. Only the portion of investment which exceeds the amount required to maintain the same level of capital per worker is counted in the GPI. This means that if facilities are built to serve an aging or young population (those not in the work force), the effect on the GPI is larger than if they had been built to serve a working-age, employed population.

The fact that the GPI excludes some types of expenditures and is therefore lower than GDP does not explain the difference in growth rates. However, if some of the activities (such as spending on health care or education) which are not included in the GPI have become more important over time, the GPI may be understating growth.

Estimates of the cost of social decay, the loss of leisure time and other negatives, are deducted from the GPI, but are not explicitly accounted for in GDP.

The estimated costs to society of the ills resulting from economic growth, loss of leisure time, societal breakdown, pollution and the degradation of the environment have increased more rapidly than the benefits to consumers. In particular, the estimated costs associated with environmental degradation, the loss of leisure time, and underemployment showed phenomenal growth during the 1970s. These costs appear as negative entries in the GPI, but they are not explicitly accounted for in GDP.

Should we scrap the GDP? Is the GPI really a better measure of economic progress?

The GPI has been proposed as a better measure of progress than GDP because it takes into account various non-market activities such as income distribution, the value of unpaid work, the cost of social ills, and the effects of degradation of the environment and the depletion of natural resources. The question is, is the GPI really a better measure of progress? To answer this question, we must first look at what GDP really is, and then consider whether the GPI is a more accurate measure of progress.

GDP was never intended to be used as a measure of the social welfare of a nation. It makes no attempt to judge whether a particular income distribution is good or bad, or whether economic activities are harmful to the environment or to individuals. GDP should be

2 In British Columbia, these activities account for about a third of the province's GDP.

viewed simply as a measure of the dollar value of the goods and services produced in an economy and exchanged in the market place. It gives an idea of whether the economy is producing more, or less over time. It indicates whether the average citizen has more or less money to spend in one year compared to another. It describes how a market economy is structured, and can be used to compare one economy with another. However, it is not, and never can be, a measure of whether society has improved or declined. Those sorts of questions cannot be answered accurately using a composite measure because the answers depend so much on individual opinions. One of the main strengths of GDP as a measure of progress is that it is, to the largest possible degree, an objective measure.

Some of the activities included in GDP but excluded from the GPI contribute to the well-being of society. For example, publicly funded education and other investment by government in human capital would be viewed by most as a benefit to society, but are not included in the GPI.

The GPI is a very subjective measure. In attempting to account for various costs, assumptions are made about the utility or disutility of various activities which are somewhat questionable. Many of the costs specified in the GPI are based on subjective assessments of whether a particular activity is good or bad. The valuation of these activities (and even the choice of which activities to include) depends to a large degree on individual preferences. For example, time spent watching television is viewed as a symptom of family breakdown. Time spent commuting to work is viewed only as a cost. Time spent working is viewed as a cost because it eats into the leisure time available to individuals. However, leisure time is only a good for those who are fully employed: for workers who would rather spend more hours on the job, it is viewed as a cost.

In other words, if GDP errs on the side of ignoring the social costs of human activity, the GPI errs on the side of putting too much weight on these costs–and in some cases, in assuming that all people will see them as costs. The problem, of course, is that it is almost always difficult to try to attach a price to something which is not exchanged in the market place. This is one of the main reasons why GDP estimates do not include an assessment of the value of non-market activities.

Even though GDP does not explicitly take into account the costs associated with some activities, they are implicitly reflected in its value. For example, when a crime is committed, it is true that the costs of apprehending an offender, court proceedings, legal fees, and jailing those found guilty of crimes all tend to increase GDP. It is also true that society would be better if we didn't have criminals, and did not have to engage in these types of "defensive" activities. However, crime does not just add to the value of GDP, it also decreases it. It affects the ability of victims to work (both in and outside the home), lowering their productivity. Property losses incurred by the victims of crimes have to be recovered by either an insurer or the victim. The criminal who is in jail is not able to work, and instead of contributing to economic output (and spending money on goods and services), society has to pay to house and clothe him. These costs are not reported in terms of dollars and cents, because it is difficult to measure them accurately, but they have an effect on GDP just the same.

One of the strengths of GDP—as it is currently measured—is that it is constructed based on standards set by the United Nations and other international organizations. The definitions used and the choice of what to include in GDP are subject to scrutiny and review by experts in the field.

GDP is a valid measure of economic progress, based on what happens in the market place. It is not a measure of social progress or of the state of the environment, even though societal breakdown and damage to the habitat will eventually have an effect on economic growth. However, GDP gives no indication of whether or not current growth levels are sustainable.

What implication does all this have for the way we measure economic progress in BC?

The GPI is an initial attempt to quantify the effects of changes in society and the environment on the well-being of individuals. However, it is flawed in that it relies heavily on subjective evaluations of whether certain non-market and market activities are good or bad. In addition, the choice of factors to be included in the index is subjective, and until there is some agreement on which factors should be included in a well-being index, and how they should be measured, the GPI should not be viewed as an alternative to GDP or even as a measure of the economy's progress over time. Instead, it is a subjective measure of how *individuals* have been affected by *some* changes in the economy, and in their social and environmental well-being.

However, it does provide some useful information. An index like the GPI, and its components, can be viewed as an adjunct to GDP, in the same way that other "satellite accounts" are viewed. They are not replacements, but they provide important additional information about some of the trends in society that have an effect on overall well-being. This is consistent with the approach taken by the United Nations for the System of National Accounts. Estimates of non-market activities, and the cost of depleting the national wealth are reported in the SNA, but they are not used to adjust GDP.

Is it practical to produce the same type of estimates for BC?

Regionalizing statistical information is always a challenge–and even more so when the data in question are the types of series used in the GPI. Apart from the issues raised above, producing a reasonably robust set of estimates for the province would be a very difficult task. However, some of the indicators used in the GPI (such as crime rates, accidents, the number of divorces, and various estimates of the value of unpaid household or volunteer work) are available at the provincial level. These data, together with GDP, can be used to gain a more complete picture of how the economy, and the social and natural environment are changing over time.