review article

R. Eckersley (Ed.), *Measuring Progress: Is Life Getting Better?*
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Reviewed by Frank Stilwell

If we ask ourselves whether our personal lives are getting better, we have to weigh up many factors. We need to take account of our personal health, our housing conditions, our environmental quality and the amount of time we have for leisure and personal fulfilment, as well as money income. As it is with individuals, so it is with nations. A simple index of national income, such as Gross Domestic Product (GDP), won't do.

Not surprisingly, the primacy accorded to GDP as the principal indicator of national progress has long been a target for criticism. Over a quarter of a century ago, in the same year as the publication of the Club of Rome's *The Limits of Growth,* US economists Barkley and Seckler (1972: 18) wrote that:

> the more developed nations of the world have now reached a state where all reasonable and rational demands for economic goods have been or can be satisfied. As a result, the virtues of added economic growth may be an illusion because growth does not come free. In fact, the costs of added growth are climbing quite rapidly as the pressures against certain resources, and on the environment as a whole, increase. The developed countries may have reached a level at which the costs of additional growth in terms of labour and loss of environmental quality exceeds the benefits.

It is a theme that many environmentalists have been emphasising ever since, (while the growth process continues regardless!) Political economists have typically sought to weave in additional equity considerations, emphasising that the distribution of the fruits of growth is crucial to the assessment of its effects on social well-being (eg. Stilwell,

1992). Other social critics have gone further in challenging the underlying assumption that well-being has any necessary connection with the volume of monetary transactions (eg. Hamilton, 1998). Perhaps the problem is, to adapt Oscar Wilde's jibe, that orthodox economists know the price of everything but the value of nothing!

The development of new measures of economic and social progress to supplement or replace GDP can be understood as a response to these concerns. Some such proposals for measuring 'net economic welfare' (NEW) emerged in the 1970's. More recently there has been a veritable flurry of publications calling for a new 'index of sustainable economic welfare' (ISEW) and 'genuine progress indicators' (GPI). Proponents of these new measures have illustrated their work with complex calculations, most of which show that GDP measures grossly overstate the rate at which living standards have progressed. Now we have a book exploring the relevance of these ideas in the Australian context (Eckersley 1998). It comprises a collection of papers presented by economists, social and natural scientists at a conference organised by the CSIRO in July 1997.

The themes raised by these critics of conventional GDP calculations warrant careful consideration by government policy makers, by businesspeople and by an informed citizenry. They certainly warrant consideration by economists, since they challenge basic assumptions underpinning the discipline. They also pick up on some widespread popular concerns. According to a survey cited by the editor's introductory chapter, only 24% of Australian teenagers thought that the world would improve in their lifetime (compared with a global average of 30%). Michael Pusey's chapter notes that half of 'middle Australians' think that their quality of life is declining. As he says, 'this seems to point to a mismatch between the economic measures of progress and the experience of ordinary people' (p185).

'Is life getting better?' is indeed a pertinent question to explore in these circumstances. Once posed, it leads into follow-up questions about whether one can move from a purely subjective to a more objective answer, and on to considerations about whether and how economic, environmental and other influences on the quality of life can be reconciled. It raises fundamental concerns about the posited link

between production/consumption of commodities and the well-being of a society. In orthodox economic thinking there has been an awkward connection between the utilitarian conceptual underpinnings – emphasising individual rationality – and the measurement of collective welfare. The British economist, AC Pigou, writing more than half a century ago, was careful to distinguish between a broad conception of social welfare and a narrower economic welfare. He also emphasised the 'externality' problems that bedevil attempts to connect individual welfare with aggregate welfare, even when restricted to economic considerations (Pigou 1932). Mainstream economists nowadays are typically so keen to get on with quantitative analysis that those philosophical concerns are set aside. They make their appearance in the better undergraduate textbooks (e.g. Varoufakis 1998); but in the arena of practical economic policy GDP rules OK.

What is Wrong with GDP?

That there is a tenuous link between social well-being and the volume of marketed goods and services is comprehensively demonstrated by many of the contributors to the CSIRO volume. In defence of GDP it is pertinent to note that its calculation has its own internal logic, most obviously explicable in terms of Keynesian economics. Gross domestic product, income and expenditure (and associated aggregates such as consumption, investment, exports and imports) are the quantitative components in the construction of a particular type of economic model. They are elements in macroeconomic theory. Their value for that purpose has to be distinguished from their use for other normative purposes, as the chapter by Dowrick and Quiggin and some of the discussants at the end of the CSIRO volume strongly emphasise. Of course, it is the inappropriate use of GDP data for such normative purposes – for assessing changes in 'economic welfare' – which is where the problems start.

Such problems include the neglect of non-market transactions. A lot of valuable goods and services which are necessary for economic and social reproduction are produced for direct consumption rather than for exchange in the market. Much household production is of this character.

A bias then arises because measured GDP is affected by shifts between unpaid domestic production and marketed production (eg. buying take-away food rather than cooking at home, or using a laundromat rather than washing clothes at home.) As the authors of a recent paper on breastfeeding of children argue, the switch to more formula bottle-feeding (particularly in the 1960's and 70's) inflated GDP, while adding to health care costs and environmental problems (Smith, Ingham & Dunstone, 1998). It could not properly be considered to add to economic welfare, although it added to measured GDP.

Other forms of expenditure which count towards GDP are more concerned with damage repair than genuine economic progress. These are sometimes called 'defensive expenditures'. Health services provided to treat cancer resulting from excessive tobacco consumption add to GDP. If you smash your car in a traffic accident, the work done by a panel-beater in repairing that damage adds to GDP. The costs of cleaning up environmental decay caused by previous rounds of production and consumption are included in GDP calculations. The costs of installing pollution-control devices in industry add to GDP along with the market value of the goods produced by those polluting industries.

The issue of distribution is also important. Conventional GDP measures are neutral in this regard. It matters not whether the additional goods and services being produced are consumed by just one individual or equally shared by all. GDP is an aggregate. As such, there is an apparent ethical neutrality regarding distributional equity, parallel to the neutrality between the production of 'goods' and 'bads'. This may seem admirable, at least to the extent that it avoids the minefield of ethical judgements about distributional issues. However, one cannot properly ignore distributional issues if one is to draw conclusions about any connection between GDP and 'economic welfare'. A number of contributors to the CSIRO volume, particularly Peter Saunders and Ann Harding, stress these distributional concerns by pointing to the evidence on growing socio-economic inequality. If generating growth requires greater inequalities – as John Howard's 'incentivation' viewpoint implicitly assumes – it becomes self-defeating as a strategy for general social improvement. Indeed, it may ultimately generate greater costs in

terms of the breakdown of social cohesion and the allocation of more and more resources to social control.

Producing goods and services also takes time and effort. Economists have traditionally acknowledged the existence of trade-offs between income and leisure (although the implied assumption that all work is a source of 'disutility' flies in the face of much sociological evidence about the functions of work in practice). However, when it comes to GDP calculations, the human cost of producing the goods and services is not set against the market value of those items. Implicitly, this means that either the shortening or lengthening of the working week does not have a material effect on this measure of economic welfare. Of particular significance (and herein lies a link with the distributional issue just discussed), this means that it doesn't matter that some people are working very long hours while others are unemployed. It is only the aggregate output that counts. So contemporary social concerns about the coexistence of overwork and unemployment are treated as irrelevant to economic welfare as measured by GDP. Sue Richardson touches on such concerns in her chapter, although this is more a general review of trends in employment, real incomes and job security.

Finally, as some of the scientific contributors to the CSIRO volume emphasise, the production of marketed goods and services may be at the expense of depleting stocks of natural capital. Examples abound. Forest resources and fish stocks are commonly used up more rapidly than they are naturally reproduced. The productivity of arable land may be reduced by over-use, boosted for a while by inorganic fertilizers but eventually degraded. Non-renewable energy resources are particularly vulnerable to existing patterns of economic growth. As Sharon Beder (1993: 38) had previously noted, 'economists would not consider taking money out of the bank to be equivalent to earning income'. So it is with the relationship between GDP and stocks of natural capital: if the former increases at the expense of the latter it does not constitute a sustainable increase in economic welfare. Following the logic of that argument through, the national economic accounts should include estimates of national assets (natural, human and manufactured) alongside (modified) GDP calculations. This is not without its problems though: valuing

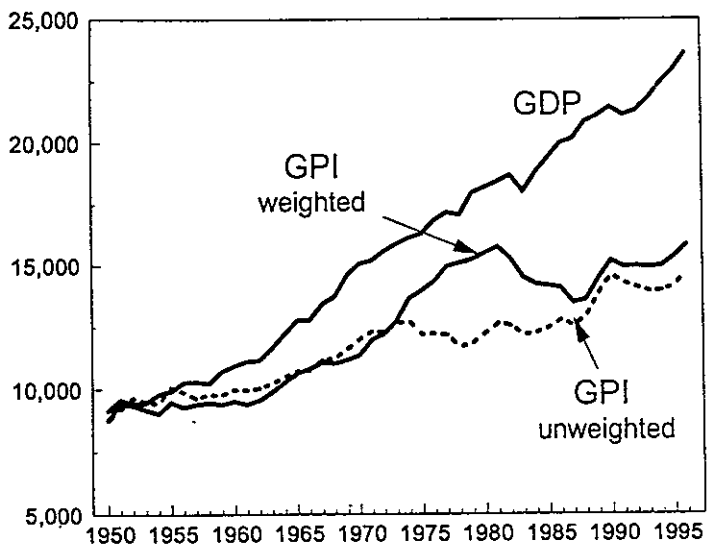
natural capital, for example, tends simply to extend to environmental 'goods' the normative valuation techniques being criticised here.

What Constitutes Genuine Progress?

In practice, the main thrust of the CSIRO volume is to emphasise the case for replacement or, more cautiously, supplementation, of GDP with other environmental and welfare indicators. The key issue here is whether it is better to reconstruct a single progress index or to have a multi-strand rating system (with different indicators for health, education, inequality, and so forth).

The former position is most clearly illustrated in the CSIRO volume by the chapter contributed by Clive Hamilton. This presents the retrospective calculation of a Genuine Progress Indicator (GPI), drawing on research reported in an earlier publication by the Australia Institute (Hamilton, with contributions by Saddler, 1997). The GPI includes estimates of the value of non-marketed goods and services. It makes some deductions for 'defensive expenditures'. It takes account of the depletion of at least some types of natural capital and the depreciation of built capital. It also takes account of financial capital, reducing the GPI to the extent that national economic growth is based on a growing foreign debt. It takes account of changes in the distribution of national income. It does not add in the value of leisure (as has been done for GPI calculations in the USA), but does make adjustments to deal with the costs of overwork, unemployment and underemployment. Other estimates are made of social costs to be set against the material benefits of growth as measured by GDP: these include the costs of crime, commuting, air pollution and noise pollution, transport and industrial accidents, irrigation water use and urban water pollution, as well as the resource depletion associated with land degradation, loss of native forests, use of non-renewable energy resources and the costs of climate change and ozone depletion. In each case the assumptions and bases of the estimates are clearly explained. Illustrative figures are calculated for Australia for every year from 1950 to 1996.

Figure 1. Gross Domestic Product and the Genuine Progress Indicator, Australia



Source: Hamilton, with Saddler (1997)

The results are striking, as shown in the above chart. Whereas measured GDP grew pretty steadily over the whole 46 year period, estimated GPI (weighted according to changes in the income distribution) has grown much more slowly. In the period from 1950 to 1980, the weighted GPI did increase significantly, albeit not as rapidly as GDP, but the two series diverge sharply after that time. Indeed GPI fell so much in the 1980's that its recovery at the end of that decade and through into the 1990's only restored the 1996 value to the 1981 level. In other words, no progress was made during those fifteen years.

It is interesting to tease out the underlying reasons. According to Hamilton's own calculations, the dominant influence on movements in GPI in the 1970's and 1980's was changes in the distribution of income. The share of total income received by the bottom quintile (20%) of

taxpayers declined in the 1970's and rose significantly in the 1980's. Taking this as the basis for the distributional weighting system, the effect is to increase the GPI in the 1970's and reduce it in the 1980's. The impact of removing these distributional effects is a more steady long-term divergence between GDP and GPI over the whole post-war period. This is shown by the 'GPI unweighted' line in Figure 1. According to Hamilton, this long-term divergence between GDP and GPI over time is primarily due to:

- unsustainable levels of foreign debt;
- the growing costs of unemployment and overwork;
- the combined impact of a number of environmental problems;
- the escalating costs of energy resource depletion and greenhouse gas emissions;
- a failure to maintain investments in national capital stock.

In the author's own words, 'the living conditions of Australians are not improving ...we are borrowing from the future to prevent our living standards falling further' (p89).

Remaining Concerns

I have singled out Hamilton's chapter in the CSIRO volume because it takes a particularly distinctive approach, making quantitative adjustments to the conventional aggregate indicator of economic activity. Together with the other chapters, it brings sharply into focus five concerns about alternative measures of this kind.

First, there is the question of whether a composite index like GPI is appropriate. Our well-being, individually and collectively, is multi-faceted. The chapters in the CSIRO volume by social scientists such as Alex Wearing, Bruce Headley and Eva Cox place much emphasis on the elements of subjectivity and complexity in the determination of our well-being. Some would go further and say that spiritual values are ultimately more important than material ones, even material values more broadly defined to encompass health and environmental quality. Hamilton

himself has raised such concerns in an earlier book (Hamilton 1994). Such a view ultimately questions the legitimacy of any quantitative progress indicators. But, even among those who feel comfortable about quantitative measures, there is a school of thought which denies the value of using a single composite welfare index. It is well represented in the CSIRO volume, particularly among the discussants at the end, stressing the need to recognise that we need *multiple* indicators to show progress (or regress) in the various dimensions of our lives – material consumption, health standards, education standards, environmental quality, and so forth. As the economists Quiggin and Dowrick say, 'Why should we wish to reduce the enterprise to the production of a single number? Rather we should accept that national welfare is a multi-dimensional concept and present it as such' (p106).

The editor's introduction toys with one such 'indicators story for Australia'. The important contribution by Mike Salvaris also notes the multi-dimensional character of indicators about citizenship and progress. In some of the later chapters the natural scientists also exhibit professional caution in measuring the specifics of biological diversity, land resources, atmospheric quality, water quality, and so forth. It remains an open question as to whether the advantages of having a simpler and more dramatic composite measure like GPI outweigh the disadvantages of losing the detail which a multiple indicators approach would provide about this inherently complex set of economic, social and environmental issues. The GPI has immediate impact: a multiple indicators approach gives a fuller picture.

Second, there are concerns about the detailed calculations involved in any of these measures of progress. Of course, it is easy to be 'picky' about particular assumptions and methods of calculation underpinning GPI estimates such as those presented by Hamilton. The author himself anticipates such concerns. He notes, for example, that the treatment of education and health expenditures is contentious. Public spending on primary and secondary education is excluded because it is deemed to be investment in human capital rather than consumption; while only half of the spending on health counts because the rest is regarded as 'defensive expenditures'. As Hamilton concedes, different assumptions about the treatment of human capital could see more of such expenditures

included. To the extent that these have been significant growth items, the effect would be to shift the GPI curve upwards. Other assumptions are similarly questionable (all assumptions are!). The treatment of income distribution is particularly contentious: combining aggregate and distributional aspects in a single index has an inherently arbitrary element in the choice of relative weights.

How damaging are these problems? As with the use of cost-benefit analysis in the assessment of public projects, it is evident that the incorporation of a broad array of social and environmental considerations comes at the expense of some quantitative ambiguity. The key issue is whether the GPI estimation process has rough-and-ready usefulness (eg. in drawing broad contrasts with trends in GDP and/or making international comparisons) *or* whether it is a case of 'garbage in, garbage out'. The balance of advantage probably lies with the former viewpoint. GPI estimates, while never definitive, provide a springboard for debates about what is really important to our collective well-being. Therein lies a key reason for favouring the GPI approach, not as an alternative to a multiple indicators approach, but as a starting point for more wide-ranging considerations of both quantitative and qualitative character.

Third, there are concerns about how we value additional consumption. Here is one particularly important focus for debate about the determinants of economic and social welfare. Expenditure on goods and services remains central to GPI estimates. Other items tend to be *additions* (eg. production of non-marketed goods and services), *subtractions* (eg. depletion of natural capital) or *weightings* (eg. income distribution). So the underlying assumption that extra material consumption adds to well-being remains embedded in the calculations. There is an assumption of a linear consumption-welfare relationship. Additional consumption, so long as it does not have adverse environmental impacts, is deemed to be a good thing, and that is just as true for rich nations as it is for poor ones. However, as Eckersley (1998: p15) notes, other research suggests the existence of a non-linear relationship, at least as far as the developed nations are concerned. Increased production and consumption brings about improvement in the perceived quality of life up to a certain point, but beyond that threshold there is no consistently positive connection. It is an observation that cuts

at the core of the case for using GDP as an indicator of well-being, but it has similarly unsettling implications for the GPI to the extent that it shares the basic assumption of linearity in the consumption-welfare relationship. Indeed, it is an observation that harks back to the earlier concerns of the Club of Rome about the posited association between growth and progress. It is not just that growth is ultimately unsustainable; it has no necessary connection to welfare. Capital accumulation loses its legitimacy if what it generates is just 'growth for growth's sake'.

This concern leads into a fourth. Just how wasteful is the economic system? Do GPI measures really get to grips with the fundamental tendency towards the production of 'waste' in modern capitalism? GPI estimates are quite limited in their definition of 'bads' to be excluded. Environmental damages of various kinds are treated as debit items, as previously noted. However, there is a reluctance to make broader judgements about which forms of consumption and production are socially useful and which are not. This evidently reflects the wish to retain, as far as possible, the ethical neutrality which mainstream economists have traditionally claimed. A comparison that springs to mind is with the more audacious approach of Bowles, Gordon and Weisskopf (1984) who, in recalculating US data on economic growth, subtracted items such as 'excessive' armaments production and commercial advertising, for example, on the grounds that they constitute waste. Such items were held not to add to community well-being in the same way as, say, food, clothing, housing, health or education. These calculations produced the startling conclusion that approximately half of the US economy is based on the production of waste. If nothing else, it is a comparison which makes the Australian estimates of GPI seem relatively conservative.

Finally, there is the big practical question, 'does changing measurement change behaviour?' Would replacing GDP by GPI as the official basis for judging national well-being make any difference to how the economy *actually* works? A capitalist system has its own internal driving-force, the quest for profit, which is independent of how social scientists measure progress. So, to the extent that business decision makers remain focussed on their 'bottom line', nothing changes. And remain focused

they must, unless both product markets and financial markets impose only weak constraints on their behaviour. In other words, even 'enlightened' managers in potentially 'soulful corporations' can only temper their pursuit of narrow economic goals with these broader social and environmental concerns to the extent that (i) they are not threatened by loss of market share if their production costs are pushed above those of their more narrowly profit-seeking rivals *and* (ii) they are not threatened by takeover as a result of their shareholders selling out in response to lowered dividend pay-outs or capital appreciation. Otherwise it is profit-maximising 'business as usual'. In the aggregate, that means the pressures for economic growth are systemic.

If the adoption of new forms of measurement, such as the GPI, were to lead governments to change their economic policies, that might be a different matter. Profit-oriented capitalist businesses could then be expected to respond to new environmental taxes, for example, by changing their patterns of resource use (as well as by seeking new avenues of tax avoidance!). So the key question is whether politicians would respond to the new GPI-type measures by changing the nature of their policies. To the extent that political promises remain focussed on 'the hip-pocket' nerve that seems unlikely. But ultimately it depends on the judgement of our political leaders about the priorities of the citizenry on which their support depends, and on their willingness to confront the powerful interests wedded to the existing economic structures. It is in that broad political economic context that the significance of these debates about the measurement of progress needs to be situated.

Conclusion

Discussions about the meaning and measurement of progress necessarily lead on to concerns about power and social change, as the preceding points illustrate. The CSIRO volume does not explicitly confront these broader political economic concerns, but the book is a landmark contribution nevertheless. It is primarily about replacing crude income-based measures like GDP with more sophisticated measures of progress which take account of diverse social and environmental concerns. But along the way it compiles a wealth of information about changing

patterns of income inequality, the changes in environmental quality, the stresses associated with the changing patterns of work and unemployment, and the way in which we subjectively evaluate our own well-being. In other words, it is a stocktaking of how effectively the economy serves the society. It offers little joy to those who would wish to celebrate the 'triumphs of capitalism' at the close of the twentieth century.

So what starts out as a discussion about measurement ultimately poses a radical challenge – how to gain control over the economy and change the principles of which it functions so that it serves social needs and becomes ecologically sustainable. Perhaps it is because it is a bridge into these fundamental concerns with social and political change that more people are joining the movement for new measures of progress. By the same token, it is no wonder that others are keen to get the genie back in the bottle.

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