INTERNATIONAL CENTRE FOR ECONOMIC RESEARCH

ICER

WORKING PAPER SERIES

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GDP AS A MEASURE OF ECONOMIC WELFARE

Working Paper No. 3/2011

GDP as a Measure of Economic Welfare[1]

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February 2011

Abstract
Ever since the early days of National Income accounting we can observe periodic surges of demands to fix the measurement of GDP to better reflect progress, welfare or even happiness. In recent years even Presidents and Prime Ministers in Europe have joined the chorus of the discontent. In this paper I argue that the critique is mostly misguided. Welfare measurement has not been the objective of the GDP accounts especially since the late 1940s when National Accounts became a vehicle for applying Keynesian economics for, primarily, short run stabilization. I also argue that the search for a unique index of welfare, well-being, or happiness is a chimera.

[1] Revised version of the paper presented at the meeting on "SVILUPPO ECONOMICO E BENESSERE", Ancona, November 2010. It was presented in a session on "Misure e indicatori del benessere".

Gross Domestic Product (GDP or PIL in Italian) is the best known and most widely used measure of the economic size of nations. Its rate of change is the measure by which we assess the general health of the economy. When divided by population it gives us, in the form of GDP per capita, the most common yardstick for measuring the standard of living, and from here it is a short step to its use as a measure of welfare, well being, or even happiness.

Ever since the early days of National Income accounting a debate has been raging about the adequacy of GDP[2] as a measure of welfare. With uncanny regularity GDP is criticized as an inadequate measure of welfare and suggestions appear and reappear on how to "fix" GDP to make it closer to a welfare meter or proposals to replace it outright with a true gauge of welfare or even happiness.

The most recent wave has gone beyond the seminar room, the editorial, or even the Working Group and has reached top national decision makers including a President and a Prime Minister in Europe.

First President Sarkozy established a commission headed by Joseph Stiglitz and including Amartya Sen and Jean-Paul Fitoussi to:

> "… identify the limits of GDP as an indicator of economic performance and social progress, to consider additional information required for the production of a more relevant picture, to discuss how to present this information in the most appropriate way, and to check the feasibility of measurement tools proposed by the Commission." http://www.stiglitz-sen-fitoussi.fr/en/index.htm

Not to be outdone others in Europe have offered or suggested their own blueprint: Prime Minister Cameron recently asked the Office of National Statistics to construct a survey-based measure of the country's general well-being[3], and the Commission of the European Communities in a recent communication (2009) offered its own recipe for *Measuring Progress in a Changing World*.

In this paper I argue that attempts to replace GDP are misguided and that the search for a unique index of welfare, well-being, or happiness is a chimera. Moreover, based on the writings of Giorgio Fuà I believe that, with some nuances, he would have agreed.

Origins

Around WW1 there were many individual economic series but no picture for the whole economy. The Depression of the 1930s showed the need for more comprehensive measures and led to the development of the national income accounts. Richard Froyen describes in his macroeconomic text (2005) how: "One reads with dismay of Presidents Hoover and then Roosevelt designing policies to combat the Great Depression of the 1930's on the basis of such sketchy data as stock price indices, freight car loadings, and incomplete indices of industrial production." [Froyen (2005), as quoted in Landefeld et al. (2008)].

Before that, it was not possible to talk about distributional issues, such as the differential impact of fluctuations or wars, on various groups of the population. These were some of the topics that guided Kuznets in his earlier studies on cyclical fluctuations and secular movements in production and prices. In 1932 at the request of the United States Senate, the Department of Commerce commissioned the National Bureau of Economic Research to develop a set of national economic accounts. Kuznets carried

[2] GDP, in its GNP form, was probably first used in 1934 (Warburton, 1934). Today GDP is the best known concept of national accounts and, accordingly, in this paper I use it generically and do not differentiate between the income and product variants.

[3] As reported in the Guardian of November 14, 2010, http://www.guardian.co.uk/politics/2010/nov/14/david-cameron-wellbeing-inquiry.

out the task and presented preliminary results in a report to the US Senate in 1934 (U.S. Senate, 1934) and later in a research report (1934), *National Income, 1929–32*. In 1942, annual estimates of gross national product were introduced to complement the estimates of national income and to facilitate war time planning[4].

In the UK, official national statistics were virtually nonexistent at the outbreak of the Second World War in 1939. At that time only scattered estimates were available, almost all of them due to Colin Clark, and Keynes, aware of this deficiency[5], gave his full support to the development of national accounts by Meade and Stone.

The main task (to provide a gauge of the size and health of the *economy)* has remained pretty much what it was in the 1940s. Over time the accounts have been expanded in response to changes in the economy and in the requirements of policy but always within the framework of the size and structure of the economy[6].

Objectives

The beginnings of national accounts were in the need of measures to gauge the performance of the economic system. But performance towards what? Most economists have followed Pigou in clearly distinguishing *Welfare* from *Economic Welfare* and restrict economic analysis and the measurement of the 'national dividend' to "that part of social welfare that can be brought directly or indirectly into relation with the measuring-rod of money. This part of welfare may be called economic welfare." **(**Pigou, 1932, Part I, Chapter 1, I.I.5). Pigou also discussed how the 'national dividend' leaves out various other factors affecting 'economic welfare'.

For Kuznets the design of national income accounts must start with a clear view of what the basic purposes of economic activity are. For him national income estimates are primarily indicators of *economic welfare* and only to a lesser degree measures of short-run productive capacity. "National income is for man and not man for the increase of the country's capacity" (1946, p. 114)[7]. But he was also conscious of the limitations of the enterprise; e*conomic welfare* as a distant aim with many caveats and qualifications but not *welfare*: "...the welfare of a nation can, therefore, scarcely be inferred from a measure of national income..." (in U.S. Senate, 1934).

[4] The Commerce department is not shy about its accomplishments. In 2000 J. Steven Landefeld Director of the Bureau of Economic Analysis referred to GDP as 'One of the Great Inventions of the 20th Century' (Landefeld, 2000).

[5]Keynes writes in the *Economic Journal* in December 1939 "The statistics on which to base an estimate of the income potential of the country and of the proportion of it which can be made available to the Government are very inadequate. ... A better guess should become possible as time goes on and further evidence accumulates..."

[6]Included in the list of revisions and expansions: "... quarterly estimates of GDP and monthly estimates of personal income and outlays, regional accounts, wealth accounts, industry accounts, and expanded international accounts. In the past decade, the accounts have been updated by introducing measures of real output and prices that reflect current expenditure patterns; quality-adjusted prices for high-tech goods; and most recently, investment in computer software and a new measure of banking output that recognizes ATMs, electronic funds transfers, and the wide range of other services that banks provide. " (Landefeld, 2000).

[7] This led him to dwell during the next half century on some conceptual problems which recur in his work, and in some memorable disputes: the problems of scope, netness/grossness and valuation

In 1949 Kuznets refers to national income as a measure "closest to a comprehensive estimate of economic welfare" and adds that it is "not only permissible but necessary to view national income measures as approximations to economic welfare, since they are, by definition, appraisals of the yield of the country's economy from the standpoint of the wants of its ultimate consumers" (1953/1949, p. 193).

US – UK differences

Sometimes the issue of GDP as welfare appears in two other major debates that marked the development of the field in its early stages up to the immediate post-war period: the valuation of final goods, at market prices or factor cost, and the treatment of government expenditures in the national accounts. The differences appear as dry technicalities but can be seen to reflect deep conceptual and theoretical perspectives.

Market prices or factor cost?: The Meade-Stone enterprise encouraged and supported by Keynes advocated a net version of income at factor cost excluding depreciation whereas in the US income/GNP was calculated at market prices inclusive of depreciation[8]. The valuation difference reflects in the UK a focus on productivity as opposed to the US approach that relies on market prices as reflecting consumer choices. For Meade and Stone "There seems to be an underlying notion that value at factor cost is the true economic value and that the rest is a disruptive superstructure." (Vanoli, 2005).

Government expenditures: The most contentious issue during the early stages of conceptualization was the treatment of government services. Originally, Kuznets argued for treating most of government expenditures as intermediate products; he viewed them as consisting of intermediate services to business or as necessary outlays for the maintenance of the fabric of society at large; a "necessary regrettable", but not a source of final utility to ultimate consumers.

Kuznets' approach was rejected even in the US in the early 1940s. A decade later he writes about the view that prevailed of classifying all government expenditures (except for transfers) as final products that it: "seems to me to do violence to the basic aim of national income measures – that of gauging the *net* positive contribution of the economy to some end-goals of social life. Certainly, in measuring economic welfare, it seems far-fetched to count ... the outlays .. on ... welfare, police work and the like" (1953/1949, p. 198).

Defining national product as the sum of expenditures for final use provided the empirical scaffolding for the Keynesian framework. In the postwar period, the short-run perspective of the Keynesian approach and the related requirements of the political system for a more active macroeconomic policy to maintain full employment with price stability lead to the development of systems of national income and product accounts that Kuznets considered adequate for measuring short-term changes in current economic performance, but not as gauges of economic growth and welfare (1972). The short-run approach, focusing more on production than on consumption, prevailed in part because of the spread of Keynesian theory but also, paradoxically, because of the application of the Kuznets system of national income accounts to the war effort.

The dramatic demonstration of the feasibility of applying the national income framework for measuring economic potential was an important factor in determining the direction of the postwar developments of systems of national accounts. Kuznets continued to argue for a "peacetime concept" of GNP as opposed to the practice during the World War II when "success in war and preservation of a country's social framework [were] a purpose at least equal in importance to welfare of individuals." (Kuznets, "Government Product," pp. 184-85, cited in Higgs, 1992).

[8] In the UK, Clark and Hicks had advocated market prices but Keynes advocacy of factor costs carried the day.

Recent accounts of the developments in the US (Mitra-Kahn, 2009) are revealing of the debates and of the organized opposition to Kuznets within the BEA (Bureau of Economic Analysis) of the Commerce Department. George Jaszi, the director of the BEA, recounts of his joining the Bureau as an economist in 1941:

> "I resisted the will-o'-the-wisp of forging national output into a measure of economic welfare, which required an independent point of view. I was a minority of one in a company that included such mental giants as the late Professor Kuznets and Professor Hicks. Before long I had to defy a forceful secretary of Commerce who had 'instructed' BEA to prepare a measure of welfare" (Jaszi 1985: 4, cited in Mitra-Kahn, 2009, p. 9).

Jaszi did not remain alone for long. Mitra-Kahn writes that Gilbert had:

> "… wanted to move away from Kuznets's ideas in 1941, and "when he became chief of the National Income Division he sought to work out a national income system that would explain the current business situation in Keynesian terms. He sought to bring demand components into national income estimating" (Carson 1975: 167). Therefore, … he "brought into the division half a dozen new professionals" (Carson 1975: 167) … to contradict Kuznets's theory of a consumption welfare economy. … Despite a new team and new intentions, Kuznets's influence was still strong within the BEA, but Gilbert was intent on moving towards a more 'Keynesian' concept of the economy, more suited for war preparations." Mitra-Kahn (2009, p.10).

Standardization

The US and the UK then, proceeded independently and only after the ascendancy of the Jazzy-Gilbert group at the department of Commerce some convergence in approach and methods was established. There was at least one major attempt to harmonize the accounts in the 1944 tripartite meeting of the US, the UK, and Canada but, as the brief report of Denison in *Studies in Income and Wealth* (1947) shows, the attempt was not quite successful. While differences remained at the national level these were all but eliminated by fiat with the standardization of accounts and the publication of international guidelines in the UN's System of National Accounts of 1953[9].

The SNA is widely lauded as a major accomplishment and Stone went on to be awarded the 1984 Nobel Prize in Economics for his contributions to the development of systems of national accounts. Without the SNA we would not be able to make any international comparisons of income, growth, structure, etc.[10]; but, seldom noticed or mentioned, the "one size fits all" approach had a downside too. The main shortcomings of the unique system were:

a) Establishing a unique standardized system ignored differences in the organization of society, in institutions, in values, and in the goals pursued by the nation and its citizens.

b) It fostered a 'competitive league' mentality where nations and individuals came to see the ranking on GDP tables as a status good of intrinsic value. This was reinforced by Cold War considerations but still persists. Could President Sarkozy's dissatisfaction with GDP have anything to do with the persistence of France's lag (and the EU's) behind the US in the GDP per capita tables?

[9] The first report with international recommendations on national accounting was published in 1947 and was mostly due to Richard Stone who authored the substantive appendix. However it was not an officially approved document and was listed only as a Technical Report.

[10] And very significantly for me personally, in light of what comes next, my studies with Hollis Chenery on *Patterns of Development* (beginning with Chenery and Syrquin, 1975), would have remained unwritten.

c) Since many global decisions were now based on these figures it created incentives for gaming the system; manipulating data so as to qualify for aid, or for structural funds, or to hide deficits, or to join the Euro.
d) Preparing and reporting standardized data became an almost mandatory requirement for dealing and applying to UN bodies, the IMF, and the World Bank. For a while the Bank even added to the list the preparation of a development plan. This fostered the illusion that what can be measured can be modeled and controlled. Hence the reservations by economists from the 'Austrian School' about the construction of national accounts. Once available it is easy, and tempting, to forget that they are artificial constructs aggregating the results of myriads of decisions by individual agents into an aggregate devoid of volition or agency.

The Keynesian roots of the current systems of national accounts contributed to the almost total disappearance of structural change from the study of economic growth. The focus in the postwar period shifted from long run transformation and welfare (Kuznets' preoccupations) to short run demand management and stabilization. The neglect of structural change remained even after the revival(s) of growth theory (old and 'new') in both, representative agent models and in simple Keynesian models.
Both Kuznets and Fuà emphasized the importance of disaggregating the national accounts to consider structural change. Growth for Fuà, is related to development understood as "evoluzione strutturale, cioè cambiamento nella composizione e nella utilizzazione del prodotto, nonché nella struttura sociale". (1993, p. 16). For Kuznets:

> "single totals without subdivisions, are not sufficient, … We must know in what branches of the productive system national income originates; how its monetary equivalents are distributed; and what the apportionment is between savings and ultimate consumption of various types. A national income total is like an amalgam of metals in unknown quantities that must be analyzed before meaningful statements can be made concerning its composition or changes in it." (1941, pp.59 – 60).

Some more history of GDP as welfare
Following the publication of the SNA guidelines in the early 1950s there was a large increase in the number of countries complying with the guidelines and developing standardized national accounts. In developing countries such information (regardless of its worth) was quickly put to use in the framing of development plans. Growth was the main and often sole objective and GDP its measure.
By the late 1960s the emphasis in public discourse shifts from growth to the costs of growth. Widespread poverty notwithstanding, growth, and particularly 'capitalist', 'consumerist', US type growth becomes now the scourge of humanity. The *Zeitgeist* at the time ranged from the more scholarly *Limits to Growth* (Meadows and others, 1972) to the wildly alarmist *The Population Bomb* (Ehrlich, 1968)[11].
The attack on capitalistic growth is accompanied by the lament that GDP is now, more than ever, an inadequate measure of welfare.

Remarking on the obvious Robert Kennedy, in a 1968 address, castigated GNP because it does not allow:

> "for the health of our children, the quality of their education, or the joy of their play. It does not include the beauty of our poetry or the strength of our marriages, the intelligence of our public

[11] Written by an eminent biologist the early editions of book stated that: "The battle to feed all of humanity is over. In the 1970s and 1980s hundreds of millions of people will starve to death in spite of any crash programs embarked upon now. At this late date nothing can prevent a substantial increase in the world death rate." The Green Revolution was just around the corner!

> debate or the integrity of our public officials. It measures neither our wit nor our courage, neither our wisdom nor our learning, neither our compassion nor our devotion to our country; it measures everything, in short, except that which makes life worthwhile."

Not for the first time, alternative measures were put forward including: Physical Quality of Life (PQOL), Social Indicators (Nordhaus and Tobin, 1972), Measure of Economic Welfare (MEW), and Gross National Happiness (GNH) proposed by the King of Buthan. Some of the items these measures were correcting for are the exclusion of leisure, the deterioration of the environment, and the exhaustion of natural resources.

These criticism were met head on by economists and national income statisticians. Two in particular deserve mention: Okun (1971), "Social Welfare Has No Price Tag" and Denison (1971), "Welfare Measurement and the GNP." I quote now extensively from Okun's brief but punchy piece[12].
About the criticism that GDP does not yield an unambiguous measure of national welfare Okun writes:

> "...Obviously, any number of things would make the nation better off without raising its real [GDP] as measured today: we might start the list with peace, equality of opportunity, the elimination of injustice and violence, greater brotherhood among Americans of different racial and ethnic backgrounds, better understanding between parents and children and between husbands and wives, and we could go on endlessly. To suggest that [GDP] could become the indicator of social welfare is to imply that an appropriate price tag could be put on changes in all these social factors from one year to the next.... It is asking...the national income statistician to play the role of philosopher-king...and it is absurd to suggest that, if the national income statistician can't do that job, the figure he writes for [GDP] is not interesting." (pp. 129-130).

On the issue of "regrettable necessities he advises the young statistician:

> "...Don't start down that path. If you should do so, regrettable and unnecessary as it would be, you would find it winds along forever. Physicians' services and all other medical care costs are obvious regrettable necessities. So are the services of lawyers, policemen, firemen, sanitation workers, and economists (including national income statisticians). So are heating and air-conditioning outlays. Except for the few people who live to eat, rather than eat to live food is a regrettable necessity. Indeed, it is hard to imagine any output which clearly serves the purpose of pure, unmitigated enjoyment..." (p. 132).

And on externalities:

> "If a ban is placed on activity that is inherently dangerous, or fees and taxes are imposed, [national accountants] will follow the signals and properly reflect them in [their] valuation of output. If society changes its mind. [they] will make...changes in [their] definition and coverage of outputs. But any puzzles that arise concern the volatility of the Nation's collective judgment, not of [their] practices..." (pp. 132-133).

As was clear to Pigou and Kuznets, GDP is not designed to be an overall welfare measure nor can it be tweaked into one. That is why for Okun:

> "… the big danger is that, by taking a few steps in the direction of an allegedly more comprehensive measure of welfare, a reformulation of the accounts might mislead the Nation into supposing that [GDP] was at last measuring social welfare. And that would impede the

[12] I found Tarasofsky (1998) exposition and summary very helpful in the writing of this section.

progress which we so urgently need toward better measurement and evaluation of various changes in our social and physical environment, our health, and the diffusion of well-being across the country..."(p. 133)

1990s – new attempts

Around 1990s following the enormous success of the World Bank's flagship annual publication, the *World Development Report,* several international organizations followed suit each trying to carve for itself a unique niche. The UNDP packaged the dissatisfaction with GDP with some of Amartya Sen's ideas (capabilities) and came out with its *Human Development Report* centered around the promotion of an alternative index - the Human Development Index (HDI) which combines income per capita with two other indicators (one for health and one for education) with *fixed weights*. It made its first appearance in 1990. This "new" index of development could have easily cited Fuà who already in 1957 in *Reddito* (1957, p. 141) had argued that a policy designed to increase output cannot focus just on the total. It must at least consider capital formation understood broadly to include "le spese per l'educazione e per l'igiene della popolazione" – thus anticipating by some three decades the Human Development Index (HDI) of the UNDP.

Is it useful? As an index not really. It yields very little additional information over income per capita (both are highly correlated) and where they differ we could easily have anticipate this without the HDI.

Inevitably there followed attempts to go further and add variables to make the HDI more comprehensive but still present the results as a single number. This is a perilous route to take. In spite of its deficiencies the HDI is at least an easily comprehended measure and not really controversial. Not so more recent attempts to substantially broaden the composite measure of progress or happiness, or to redefine poverty as a "multidimensional problem". These end up being vacuous or politicized. Recent suggestions for broadening the HDI can clearly be identified as "left" or "right"; the former lists among the determinants of happiness or progress union participation and various measures of empowerment and inclusion, while the latter would consider family, community, and faith.

The case of Buthan's GNH is instructive. Since it calls for a less materialistic view and focuses on happiness it is endorsed by many without bothering to find the details of what it measures. A brief sample of the questions in the surveys underlying the construction of the GNH should help to give pause to facile endorsements:

Do you say/recite prayers?
Do you practise meditation?
Do you consider karma in the course of your daily life?
How often do you experience selfishness?
Do you know the name of species of plants and animals in your local surrounding?
Do you know how HIDS/AIDS virus is transmitted?
Is sexual misconduct justifiable?
Do the members of your family argue too much?

GDP: handle with care but still useful

"In stressing the limitations of the current measures of national income as gauges of economic welfare, it is not intended to suggest that because of the limitations the measures should be discarded." (Kuznets, 1949, pp. 213-214].

This appears more forcefully in Fuà. In *Insidie* he first shows his pragmatism and common sense and warns against stretching the concept of national income to include lots of other stuff:

> “mentre ogni sforzo di analizzare ... le attivita e le soddisfazioni non mercificate merita il massimo apprezzamento, mi sembra desiderabile che queste analisi non siano inserite all’interno del sistema dei conti economici nazionali...” “...finche i conti economici si limitano ad eporre i flusi di merci valutati ai prezzi effettivi, possono avere una notevole completezza, coerenza ed utilita come mappa del mercato.” (p. 54).

Mixing the income measures with estimates of non-market activities gives un quadro ibrido no longer valid as market representation without getting even close to a mappa valide del ‘benessere’. But, this doesn’t mean that national accounts “abbiano perduto la loro utilita: assolutamente no” (p. 94), these accounts perform other functions not related to measuring growth. It is also possible to extract from them better indications on growth than those in use. The conclusion is that it is best to give a range of indicators rather than a single number[13].

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[13] Recently, Martin Ravallion (2010) strongly urged a similar course of action warning against "embracing new composite indices with little guidance from economic or other theories" referring to the composite measures as 'mashup' indices of development.

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