WELFARE MEASUREMENT AND THE NATIONAL ACCOUNTS*

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August 1975

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The stated objective of the author is "to lay a bridge between income accounting and welfare theory". There are two contrasting ways of pursuing this objective. The first, in the realm of pure theory, examines the relationship between welfare and hypothetical, perfect measures of national product, while the second lies in the domain of national income accounting with attempts to redefine concepts, extend data coverage and improve measurement. Professor Romans's attempt at bridge-building begins in the realm of theory with the construction of a welfare maximisation model designed to establish the conditions in which it can be asserted without ambiguity that net national product and welfare are moving in the same direction.

The model is a simple one, consisting of a two-person, two-good, static, closed economy. Even within this narrow framework, the conditions of correspondence between changes in NNP and in welfare are dauntingly restrictive. When these restrictive conditions are relaxed one at a time, in the direction of reality, there are few unambiguous statements that can be made about the relationship between changes in NNP and in welfare. In what appears to be the most optimistic and strong conclusion in the paper, we are told that movements along the surface of the transformation curve always bring changes in the same direction in NNP and welfare, no matter whether NNP is valued at the old or the new prices. But, in fact, this conclusion is of limited help. Not only does it depend on the other restrictive conditions holding, but also no one, in practice, has given us a rule for distinguishing NNP changes that represent movements along the transformation curve from those that represent movements inside it, or from those that represent shifts in the curve. The author may not have intended his results to be operational, but, in that case, one may ask what kind of "bridge" he has built. If it is possible to establish a correlation between NNP and welfare only under such limiting circumstances, one cannot be hopeful about the emergence of a usable concept of NNP that always and certainly moves with welfare. Moreover, we are still a long distance away from being able to derive even a rough measure from this approach.

The possibility that NNP might never be capable of modification to serve as a fully satisfactory welfare indicator, does not, of course, mean that NNP and its components are not extremely useful in other connections. I make this remark only because of the author's somewhat sceptical question as to why we bother to measure NNP if there is no implied relationship between NNP and welfare. Regardless of whether or not there is such a relationship, NNP and its components provide invaluable information as a basis for many kinds of decisions on taxation, pricing, investment, stabilisation policy, and a host of other activities necessary for the functioning of society.

Having said that, however, it remains true that the very existence of NNP creates a strong temptation to associate it with welfare. And, no doubt, we could hope for better decisions on taxation, pricing, etc, if it were a closer approximation to welfare. The major alternative approach to improving the correspondence between the two is the pragmatic one of attempting to correct existing measures of NNP for the more serious discrepancies. As is only too well known, the available measures of NNP include some important items (e.g. pollution costs) and exclude others (e.g. housewife's work) that detract from its relevance to welfare measurement; the methods of valuation leave much to be desired; and the absence of a breakdown of NNP by significant distribution units is a grave obstacle to the use of NNP in examining welfare changes. Efforts are being made along these pragmatic lines, an important example being the Measure of Economic Welfare offered by Nordhaus and Tobin,[1] which does not, however, tackle the income distribution problem. The pragmatic approach also raises formidable theoretical issues. A great deal more research and debate will be necessary to arrive at the type of broad consensus needed to establish such data on a regular, institutional, basis. Even then, of course, there is no prospect of a measure that will conform to all the requirements of the rigorous welfare theorist. Moreover, measures developed for welfare purposes may not be the most suitable for other uses of NNP, such as counter-cyclical policy. Nevertheless, I see great merit in approaches along these lines, subject to certain reservations expressed below.

However, the fact that personally I would favour the pragmatic approach as the one most likely to yield some useful practical results in a reasonable time, does not mean that I regard Professor Romans's

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1. William D. Nordhaus and James Tobin: "Is Growth Obsolete?" in Milton Moss (Ed.), The Measurement of Economic and Social Performance, Studies in Income and Wealth No.38 (New York: NBER, 1973).

approach as having no value. Its major value, I think, lies in providing a salutary reminder of the complexity of making welfare evaluations. As Professor Lancaster aptly put it in another paper read at this Conference, one of the functions of theory is to keep everyone honest. This should have two healthy effects on the pragmatists. First, it should act as a constant stimulus to them not to rest content with any new measure. Secondly, it should act as a warning not to elevate any one new measure into the measure of welfare. Indeed, I feel that the objective of the pragmatists for the foreseeable future should be, not so much to gain institutional acceptance for any single all-embracing welfare index, but to secure in the national accounts framework much more of the kind of data that will facilitate empirical welfare analysis. The illusion of the single answer could be dangerously misleading when we are dealing with a complex, multidimensional problem. National income accountants in the institutional setting must deal with generally accepted concepts. It is unlikely, given the confused state of welfare theory itself, that any one generally-accepted welfare index could emerge. There is no reason, however, why empirical welfare analysis should not proceed as specific analytical projects. And, as in the case of other forms of analysis, such as demand analysis, the task of the national income accountant is not to provide all the answers but as much material as possible relevant to the task of finding answers. Even at the risk of misuse, the data should ideally be presented in some systematic framework; otherwise, as Professor Ruggles pointed out, it becomes difficult to cope with the volume of such data.

While the pragmatist is proceeding along these lines, there is still much to be done in extending the approach adopted by Professor Romans. His paper draws attention to the drawbacks of formal welfare theory. It is true that the first-best, necessary conditions for a Pareto optimum are straightforward and rigorous: however, the real world is clearly an imperfect, second-best world, and the corresponding conditions for a second-best optimum are not nearly so clearcut even in simple models.

In developing his approach, the author might pay particular attention to the social welfare function. This plays a key role in formal theory: yet no attempt is made in this paper to explain where it comes from and it is treated as given. This question has attracted much attention in recent years. The social choice literature examines the necessary assumptions for formulating social welfare functions and the logical consistency of Paretian welfare economics with the various forms of such a function.

In principle, a social welfare function could be derived from one of three sources: (i) it could be determined outside society and imposed on it, e.g. by a dictator; (ii) it could be derived from the common preferences of the members of society; or (iii) as a consensus from the divergent preferences of members. The first two sources imply an absence of conflict, while the final source most closely resembles the process of a democratic society.

In such a society, if there is any such thing as a social welfare function, there must exist some mechanism by which differences are resolved and a single set of goals derived as the aim of society as a whole. This means that a set of rules (e.g. a constitution) must be evolved for transforming the conflicting objectives of all into a social choice. Arrow's Impossibility Theorem shows that it is impossible to devise a constitution that will overcome the well-known voting paradoxes with simple majority rule and also satisfy certain apparently desirable properties.

However, subsequent attention has focussed on relaxing some of the axioms and conditions of Arrow's theorem so as to devise a system of social ordering that will meet most of the requirements. This applies particularly to the conditions that require social preferences to be derived entirely from the ordinal preferences of individuals. These conditions accord with the neo-classical concept that utility is purely ordinal; but, if this can be suitably modified, the maximisation of aggregate utility could constitute the basis for a complete social ordering. In this way, systems of welfare weights, such as pioneered by Meade, might be used to operationalise the social welfare function.

Even assuming that all this is satisfactorily accomplished, however, we will still be faced with the problem of interdependence in utility, which may be much more far-reaching than is commonly allowed, and may provide the thorniest problem of all for welfare theory and measurement.