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A Note on Time, the Neglected Numeraire*

Only some of the activities, choices and policy decisions relevant to material welfare - the traditional focus of economics - are covered by monetary variables (income, price, etc.) Excluded - as must be very evident to women's libbers! - are housework of all kinds (collection and preparation of foods, house cleaning, nursing, do-it-yourself house repairs etc.), travel to work, leisure activities and voluntary service.

This omission of such a large part of economic life leads to distortions in analysis and policy, primarily because there are many activities which are both monetary and non-monetary, and the non-monetary aspects and implications get overlooked - they are swept up in ceteris paribus assumptions. (A Swedish economist pointed out a long time ago that if a man married his housekeeper, the national income would fall even though everything continued exactly as before!)

The distortion becomes much more serious when rural economies in the Third World are being analysed because there the great majority of productive activities are unremunerated, especially in the peasant household, and structural change is fast - thus most of the reduction of output^{1/} during 'economic growth' is invisible. The overwhelming importance of non-monetary but economic activities lies at the root of the inappropriateness of concepts such as 'economically active', 'unemployment', in such contexts.

* Prepared as a basis for a Sussex seminar, revised for the life cycles workshop.

1/ E.g. handloom weaving and tailoring, food preparation, fetching water, raising chickens, child care.

Moreover sequence has largely been ignored in mainstream economics, except in the crude sense that events (e.g. increases in output) take place some time subsequent to their 'causes' (e.g. capital investment).

We can broaden the scope of economics to cover these if we focus on time as a numeraire. Our individual economic welfare depends essentially on day-to-day decisions on how we divide our time between activities, paid and unpaid, and on important periodic decisions - whether to undertake higher education, whether to marry, whether to take a job or look after the children, when to retire, etc. These shape the economic pattern of our life.

An important dimension of our welfare is, moreover, the length of this life. Indeed distribution of length of life is of major importance comparable to distribution of income: very few would prefer a short life in a rich family to a life of national average length at an average income except perhaps in very poor countries. Distribution of the length of life would be even more relevant if we worked in terms of the time we were 'healthy' (assuming this can be defined effectively). Similarly, a nation's chief economic resource is ultimately not the 'labour force' but the labour time available for economic activity, including much uncompensated labour - as war mobilisation reveals.

I am not suggesting the displacement of monetary analysis - of course income, apart from its other implications, partly determines the length and composition of life, as well as health, educational opportunity, etc. But to concentrate on it greatly distorts analysis.

Of course time was in the forefront of economic analysis, when the labour theory of value dominated the literature. But income supplanted it during the 19th century for various reasons. It had less radical implications; there were

problems with concepts like 'socially necessary' labour time, especially in empirical research; price and income opened up opportunities for sophisticated models, which made economics a more suitable basis for academic syllabi and professional careers.

Various techniques are now available for analysing time apart from partitioning life expectancy - viz. time budgets, surveys of seasonal patterns of farm work, longitudinal analysis, transition matrices. Merely mentioning these makes one realise the limitations of life profiles based on the main economic sequence: only a small part of each week (say 40 hours out of 168) is spent in an educational institution or a productive establishment.

There would be obvious payoffs from pulling these various strands together into an integrated 'system' of social statistics, with time as the central concept.

The tasks might run roughly as follows:-

(1) Constructing an overall frame to accommodate the various types of research indicated - the ultimate envelope of which must, I think, be a total life (covering the whole 24 hours) of the whole of the population. Presumably this would be defined as expected duration. (Is there any alternative?)

(2) Defining and distinguishing the sequences that run in parallel. Apart from the sequence of economic activities there exist, at least in principle, marital, health and geographical ('migration') sequences.

(3) Developing concepts appropriate to this frame and relevant and operational definitions, e.g. of 'occupation', 'marriage', 'ill-health', 'residence', etc. and systems of index numbers (age-weighted).

(4) Developing tools of social analysis to exploit this framework, with special attention to sequential patterns and the relations between different sequences. These could be related also to income analysis, obvious links being time spent in education and employment, already partially developed ('manpower planning', 'productivity').

The analogy that we can bear roughly in mind is how national income accounts were developed:-

- (1) Putting various partial studies of personal income, investment, etc. into an integrated framework of a nation's income generation and expenditure (defined as indicated above).
- (2) Constructing within this framework parallel tables (sectoral, factorial, expenditure breakdowns),
- (3) Developing concepts (such as 'savings'), coefficients (such as the 'multiplier'), index numbers (such as added value at constant prices),
- (4) Subsequently, using this as a framework for demand management, project evaluation, etc.

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