Cet article arborde les problèmes de définition, de classification et de mesure dans les comptes nationaux d'une manière axiomatique. Il avance que les unités élémentaires qui doivent être classées en comptabilité nationale sont des objets économiques (réels et financiers) plutôt que des transactions. L'article définit sommairement un ensemble de postulats et montre qu'on peut en déduire la structure d'un système simple de comptabilité nationale. Il y a vengt postulats — certains d'entre eux établissent des catégories telles que secteur, temps, objet économique, valeur (prix) ; d'autres établissent des relations entre les catégories (par exemple la notion de propriété) ; d'autres décrivent des opérations qui peuvent être effectuées sur les objets économiques tels que production, consommation finale, changement de propriété, changement de débiteur or de créancier (dans le cas d'objects financiers). On montre que le système de postulats permet de considérer un grande nombre de postes des comptes (flux ou stocks) comme des classes (« paniers ») d'objets réels (ex : exportation, capital réel), ou d'objets financiers (ex : paiements, dettes totales d'un secteur). Ces postes peuvent être définis sans référence aux prix, bien que les prix soient nécessaires pour les mesurer. D'autres postes des comptes ne peuvent pas dan ce système de postulats être définis de la même façon, par exemple la valeur ajoutée, le solde du commerce exterieur, l'épargne, l'avoir net. Cependant on peut définir et mesurer, en termes de valeur des grandeurs du second type : par exemple la valeur ajoutée peut être définie comme la différence entre la valeur des entrées et la valeur des sorties d'un secteur. C'est pourquoi l'on peut établir des relations algébriques entre les postes des comptes nationaux. (Cet article est un résumé de certaines parties de la thèse de Doctorat de l'auteur, publiée en Norvégien en 1955.)

COMMENT

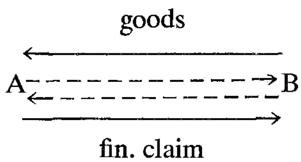
BY G. STUVEL
Oxford University

Basically the difference between us is, I think, that Mr. Aukrust in his axiomatic approach aims at observing, classifying and measuring *economic objects* (real and financial) whereas I in my more traditional approach[1] aim at observing, classifying and measuring transaction flows *and* internal bookkeeping entries and the stocks of *related* assets and liabilities. This, of course, is a little more than the recording of economic transactions with which he identifies the traditional approach. It would seem that here Mr. Aukrust's approach has the edge over mine since he starts off with just one broad category (economic objects) whereas

1. See my *Systems of Social Accounts* (Oxford, 1965).

I have to distinguish straightaway two categories of flows and two categories of stocks. But the difference, not surprisingly, turns out to be more apparent than real for he finds pretty soon that not all national accounts entries can be defined as classes of economic objects and neither can he escape the distinction between assets and liabilities.

The difference between the two approaches is in effect much more deep-rooted. It shows itself most clearly in the reasons Mr. Aukrust gives in a footnote on page 180 for his rejection of the traditional approach. The first of these—*ambiguity of the concept of economic transaction*—I find unconvincing, for it is not as if Mr. Aukrust proposes to record more or less in the accounts than is customary. But perhaps he was thinking of the recording of *saving*, a flow which does not form part of an economic transaction and which accordingly I describe as belonging to a separate type of flow categories: internal bookkeeping entries. The second reason—economic transactions cannot be used to define *stocks*—I have already accepted. It is the *third reason* which I find I cannot accept. It is that "we are forced to interpret the entries in the national accounts as payments flows ("flows of payables") which . . . is unfortunate". I do not think this is unfortunate; it is essential. To see what is involved let us consider the case of A purchasing goods on credit from B. In this case there are four flows:



The dotted lines represent flows of instantaneous claims, constituting a receivable for one transactor and a payable for the other. It is these payables and receivables, which immediately offset each other, that are recorded in the accounts and *not*—I repeat not—the flows of economic objects from which they arise. The latter are only used to classify the various payables and receivables. The reason for this is—as we all know—that we cannot aggregate apples and oranges unless we price them. Mr. Aukrust's axiomatic approach is directed at the flows which we use for *classifying* payables and receivables—in itself a useful exercise. Mr. Aukrust then goes on to assume that it is these flows of economic objects which we record in the accounts (see for instance page 187) and not the payables and receivables which arise from them and which they classify. It is on this subtle point that Mr. Aukrust's approach runs into the sands. True we cannot conceive of a basket with three oranges *minus* two apples, but we have no difficulty in conceiving of the corresponding net payables and that is what we are concerned with in the national accounts.

For some obscure reason factor services—unlike non-factor services—do not qualify in Mr. Aukrust's approach as economic objects. As a result his notion of what constitutes production gets rather confused. On my reading postulates V defines *Pure Transformation* rather than *Production*. As I see it, production is the complete antithesis of final consumption, i.e., the creation of product as against the destruction of product. This creation of product results from the using up of factor services in production processes. These factor services result from the use—not the using up—of factors of production. I wonder if Mr. Aukrust could have chosen his postulates in such a way as to enable him to define factor services, intermediate product and final product (i.e., consumption) flows in terms of the number of production boundaries they cross and the direction in which they cross them. I adopted this device in my *Systems of Social Accounts* and found it very satisfactory for the purpose in hand.

A propos the exclusion of factor services from the economic objects category, which results in Mr. Aukrust treating *value added as a balancing item,* I would like to mention that what he calls balancing item I call "residual item". Thus on the production account, part of factor income payables, i.e., entrepreneurial income, I consider a "residual item", but the "balancing item" on that account in my approach is the internal bookkeeping entry in respect of capital formation. On income account the internal bookkeeping entry in respect of saving is both a balancing item and a residual item. I mention this point simply to avoid confusion. It would take me too far to elaborate it further here.

My next observation concerns postulate XIV, which given the almost complete symmetry between the postulates for the real circulation and the financial circulation, corresponds to postulate IV among the real circulation postulates. I would have been happier if both these transformation postulates had clearly stated that one object is transformed into, i.e., substituted for, another. The notion that a financial object can undergo a change of debtor upsets, in my view, the whole basis of our classification of financial claims, and would seem to me to be untenable in itself. To take Mr. Aukrust's example on page 183: B cannot accept responsibility for A's debt to a third sector without the consent of this third sector—the question of credit worthiness cannot be treated that lightly —and anyway if that consent is obtained A ceases to be liable, B becoming liable instead.

Mr. Aukrust states on page 187 that one important finding of his approach is the distinction between classes of objects on the one hand and balancing items on the other. But how does this square with the fact that *wealth,* the (logical) sum of all past savings and net capital gains, is defined as a class of objects whereas *saving* is defined as a balancing item?

On page 188 he claims that this distinction also throws light on the *lack of "balance" of deflated values.* But this lack of balance is simply due to deflating things which have no price (balancing items and constructs like import surplus) by way of difference in two separate accounts. This lack of balance can readily be overcome by clearly distinguishing between level and structure changes of prices.[2]) If the eco-circ relationships do not account for that, they had better be adjusted.

Finally I note that on page 189 Mr. Aukrust states that one of the implications of accepting the general philosophy of his paper is that "domestic" concepts be given predominance over "national" concepts. I fail to see why this should be so. In my opinion both types of concept should be given equal rights in a system of national and domestic accounts. *Inter alia,* is—as we are told on

2. See *The Economic Journal* of June 1959, pp. 282 ff.

page 187—the sum of the consumption of all sectors the *domestic* consumption? and is the sum of the net financial investment of all sectors the net *domestic* financial investment? and is the sum of the saving of all sectors the *domestic* saving? If so, how are the sectors defined? I rather suspect that when Mr. Aukrust and I use the term "domestic" we do not mean the same thing.

Although I cannot accept Mr. Aukrust's system as presented in his thesis and in this paper, I like to conclude by saying that I consider the axiomatic approach as such a promising one and I am sure that I speak on behalf of many and possibly all of us if I congratulate Mr. Aukrust on his unique and pioneering effort to put this approach into orbit.