A Note on Professor Ishikawa's 'Choice of Technique during the process of Socialist Industrialisation'

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May I be allowed to make a few incidental comments on the very interesting article about Choice of Technique and the so-called 'Chinese Method', in which Professor Shigeru Ishikawa is good enough to refer to my own work (*Essay on Economic Growth and Planning*) ? With the views he expresses I have very little disagreement; and the few notes I append here are intended merely to clarify the standpoint of my *Essay* in one or two respects. (He will no doubt understand if I speak simply of 'China' and do not follow him in using the American term 'Mainland China'.)

In the first place, Professor Ishikawa sets out to restate my analysis of technical choice in terms of a Wicksellian 'production-function'. I fully agree that such a translation is possible; and I have no quarrel, of course, with his way of doing this. Whether the matter is "far more understandable" in this form (as he says) is, I suppose, a matter of opinion, and depends on the sort of concepts one has been accustomed to use. What I should like to make clear, however, is that my alternative way of putting it was by no means accidental. True, the curve which I myself used is a kind of production-function (as is also that used by Dr. A. K. Sen). But while the Wicksellian one is based on the notion of Capital as a factor of production, my own construction was expressly designed so as to represent the matter exclusively in terms of labour productivity in different sectors or stages of production (my relationship being one between labour productivities in making machines and in using them, whereas his is a relationship between production and the ratio of fixed capital to labour). The difference is, I believe, not purely formal. One could claim, I think, that the former represents a certain degree of simplification by avoiding the concept of capital as a factor of production and hence the difficulty about measurement of capital, (only concrete capital goods, measured in product-units of themselves, and having a particular effect on the productivity of the labour using them, enter into my model). But I do not wish to argue about the comparative merits or demerits of the two modes of representation: merely to point out that mine was a deliberate attempt to represent matter in non-traditional way (whether successfully or not each reader must judge for himself).

Secondly, Professor Ishikawa seems to imply that in speaking about the 'Chinese case' I was offering an explanation of the reasons which had actually influenced policy in this case—an interpretation of actual behaviour; and he says that I pay insufficient attention to the "empirical evidence" on this matter. Here I should like to make clear that my analysis was concerned with establishing a norm or standard for investment policy *in so far as* maximum growth is to be regarded as the proper aim of policy; and it was in this light that I considered the circumstances in which a 'dualistic' development, such as China seems to have pursued deliberately for some years, would not be prejudicial to the aim of maximum growth. This is very different from an examination of the *actual* motives (which may well be complex rather than simple) which guided the behaviour of any government or planning body at a particular time.

Thirdly, Professor Ishikawa seems to attribute to me the view (if I understand him correctly) that the rate of interest (or of discount) to be used (purely as an accounting notion, of course) in order to calculate the optimum length of the period of production, or the durability of an investment project, is identical with "the rate of capital accumulation" (he writes: "it may be possible in the usual cases to consider it as the rate of capital accumulation"); the implication being (to judge from what follows in the next sentence) that this is in turn dependent on 'time-discount' as customarily determined in theories about subjective time-discount. It is true that this rate of interest, r, in the context of my analysis is *connectd* with the rate of capital accumulation; but it is not identical with it (at least, not with accumulation; or investment expressed as a ratio to national income). It is the rate of surplus per unit of time, ds/dt, accruing as a result of current investment (a rate of surplus which can be gained if any given quantity of surplus product is reinvested at an earlier date, and which is lost to the extent that current or past investment is locked up in long production-periods or in slow-maturing projects). This rate of surplus is dependent on the prevailing conditions and methods of production (in my simplified model, on the productivity of labour in wage-goods industry compared with the level of real wages) and *not* on any subjective time-discount. Moreover, since in my model these conditions of production determine simultaneously *both* this rate of surplus *and* the rate of investment, the former cannot be said to be determined by the latter, or to require the prior postulation of investment before it can be derived.

With Professor Ishikawa's summary (in what he calls the "second case in which the 'Chinese Method' is theoretically not disadvantageous") of the conditions under which dualistic development will not reduce the rate of growth I entirely concur.

I have only one further comment, and this concerns his reference to the dependence of the choice of dual techniques on the availability of additional investment funds outside the 'centralised funds'. Here I venture to think that there may be some difference of substance in our approaches to the question. Professor Ishikawa is here speaking of the matter at *financial* level, whereas my analysis was conducted in terms of the *real* resources for investment independently of the particular ways in which and the sources from which the finance for investment is raised. I should not wish to deny that the sources and circumstances of financial provision may in a particular case influence what it is feasible to do. I also have little doubt that the actual wage-policy pursued had something to do with the adoption in the Chinese case of relatively primitive techniques on a local basis (i.e. to the extent to which additional employment was possible in such local schemes *without* involving any considerable addition to consumption). But it may nonetheless remain true that, to the extent that additional employment involves additional consumption (which was of course the assumption that I was making), it would be economically better, from the standpoint, of growth if the additional investment provided by these 'non-centralised funds' went into more capital-intensive forms of production, yielding higher levels of productivity for those employed thereby.