Annals of Economic and Social Measurement, 6/1, 1977

REAL VALUE ADDED ONCE AGAIN

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I am grateful to Professor Sims for his prompt attention to my discussion of real value added; but it seems to me that he has overlooked the most fundamental point I sought to make. That point, to repeat, is that a measure of real value added (in the original context of the problem) is a measure of *value* by an invariant ("real") standard, and not (as is commonly believed) a measure of physical things as such. It follows from this that a proper measure of real value added should reflect relative prices as well as physical flows of goods and services.

Consider Sims' criticism of the class of indices I propose. In the absence of intermediate inputs, as he points out, the traditional indices identify real value added with physical output; mine do not. In such cases, I would argue, real value added should be identified with the real *value* of physical output (its current equivalent in the chosen standard); if changes in output and (relative) prices are mutually offsetting, real value added *should* remain constant. So too in the fixed-coefficients case: according to the traditional indices, real value added is independent of price changes; I argue it should not be. Sims declares that my indices are "anomalous," not "natural" or "reasonable," because they differ from the traditional ones with which "most economists would agree"; but my point is precisely that those conventional measures are in fact inappropriate. The nature of my indices follows directly from my arguments to that effect; Sims' comment does not consider these arguments at all.

Neither can I accept Sims' claim that separability, which I threw out the window, is brought back through the door by my own criteria for a good measure of real value added. I argue that (once we complete the framework of our accounts) the *value* of activity equals the *value* of its results; and I dwelled on this point, because its denial is at the root of the orthodox notions of real value added. But the point I made is not the one Sims bases his arguments on: within a sentence of quoting me, even as he says "I agree that . . .," he has abandoned my concerns for a different problem altogether. Once again, he identifies real value added (activity, results) with a purely physical measure, independent of changes in relative prices: precisely what I am unwilling to do. His notions of real value added, real primary input, and real net output are therefore not equivalent to my notions of real value added, the real value of primary inputs (activity), and the real value of net output (the results of activity); what he proves for his categories proves nothing for mine. I can only repeat

what I argued in my paper: the issue of separability is of interest in a different framework, and irrelevant to the problems with which I am concerned.

Sims' comments raise other, minor points, which I should perhaps briefly address in the interest of clarity. First, Sims says that I assume that "value added has only one price"; his interpretation of this suggests that I am in the position of someone who wants to compare the height of different men, and implicitly assumes they are all six feet tall (note 7). Rather, I argue that all men should be measured in the same standard 12-inch foot, and not, as is currently done, in their own specific "natural" feet; only in this sense do I say that "all men have the same foot." Second, Sims claims that the orthodox Divisia indices of primary inputs and net output are both locally exact; but these indices differ in the presence of technical progress (e.g., if output is unchanged and the consumption both of materials and of primary inputs is reduced, the net output index moves up and the activity index moves down). Third, Sims repeatedly suggests that my simulations mask the misbehavior of my index because they assume a single primary input (thus implying separability). In fact, this simplification was adopted to highlight the differences between my measure and the other measures *of real value added* that appear in the literature (at the cost of obliterating the less interesting differences between my index and the orthodox index of activity): its insignificance is apparent from Sims' own discussion of my index in Section 1. Fourth, Sims concludes with a reference to a case where "real value added" cannot be taken to measure both activity and its results. That case, dealing with valuations at international prices, is of interest in its own right (though a positive economist might be wary of identifying foreign goods with domestic goods in the presence of tariffs which imply that origin is considered a relevant attribute of a good): once again, however, it concerns a measurement problem that is not the one at hand, and (as I argued) it would be best if the phrase "real value added" were here not utilized at all.

But these points are by the bye. The main issue remains whether "real value added" should, or should not, move with relative prices as well as quantities: and that issue should be decided on its merits.

Received August 1976

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