

(g) As (t) increases (i-r) decreases proportionally. For example, if $t = .5$, the (i-r) values for Table I are halved.

(h) The IBV method will estimate exactly the tolerable cost differentials if Northern and Southern investments follow the pattern assumed here. If (t) is different in the North and South, as it seems reasonable to assume, then an element of bias is introduced even when investments are assumed to yield equal (G's) in each year. This is also a source of bias in the computation of (r) in the cases used in the Ackley-Dini article. Since D_{s1} in the Southern cases does not provide the best estimate of I_n for structures (i-r), will be slightly larger than indicated in Table I above.

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Reply to Comment by Dr. Kauffman

We welcome Dr. Kauffman's interesting comment on our article on fiscal and credit incentives for Southern investment. We would agree with him that an investor contemplating specific investments should probably use a compound interest comparison. This is particularly true if he is comparing investments whose "time shape" is radically different. Our method was only a rough approximation, and we indicated some of its theoretical limitations in the text of our article.

For the purpose of our study, which was primarily that of assessing differences in yield between essentially similar investments in North and South, we believed that our method was adequate, and Kauffman appears to concur in this belief.

However, Kauffman's "correct method" still involves certain difficulties. Recognition of these difficulties (along with computational complexities when numerous comparisons were required) was among the reasons why we chose our simplified approximation. Kauffman has calculated the "true" rate of return (Keynes' "marginal efficiency of capital", or Fisher's "rate of return over cost") on the total capital invested, regardless of how the investment is to be financed. That is, his method takes no account of the special interest rates available for financing investment in the South. One might assume that he could take account of these differences merely by comparing the true rates of return on the total investment, North and South, with the appropriate rates of interest, North and South. (This is how Keynes — and others — have

formulated the rational investment decision: compare the marginal efficiency of capital with the market rate of interest). But what is the appropriate rate of interest? We submit that the rate for the South cannot be the rate available on loans from the special credit institutes. In the first place, this rate is applicable only to *part* of the capital used — that part borrowed from the special institutes — and only over part of the life of the assets (here terms of amortization become of crucial importance). What should we take as the appropriate market interest rate for the remainder of the capital needed in the South, and for all of the capital needed in the North? Should it be the rate available on ordinary bank loans applicable to this type of investment? Or should it be the opportunity cost of alternative investments available to the owner of the capital? The usual theoretical analysis assumes a perfect capital market in which these rates are the same. But the Italian capital market (indeed any capital market) is far from perfect. For an entrepreneur, who has opportunities for investment in other enterprises, this rate may be 25 percent; for an ordinary citizen it may only be the yield on government securities. Only if investment were carried in all directions to the point at which all rates of return on real investment were equalized, and were equal to the market rate of interest on publicly-traded securities would the usual assumptions be appropriate (1).

The problem is far from simple, either in theory or in practice. Our methods were imperfect, and probably could be improved. (For example, if we were repeating the study we might use as the investment base for computing rates of return not the initial book value but rather an average of beginning book value and book value at the end of ten years). But Kauffman's method is incomplete (until he explains how he would take account of the terms of financing), and raises almost insuperable theoretical problems. Further, to measure *differences* between North and South, which was our objective, it is not clear that his approach is superior.

We regret the arithmetical error in our tables to which Kauffman has called attention.

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(1) SEE A. ALGHIAN, "The Rate of interest, Fisher's Rate of Return over Cost and Keynes' Internal Rate of Return", *American Economic Review*, LVX (Dec. 1955), 938-43; and R. ROBINSON, "Interest - Return over Costs or Internal Rate: Comment", *ibid* XLVI (Dec. 1956), 972-3.