The Pasinetti Paradox in Three Steps: A Mathematical Note

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L. Pasinetti (1961-2), in a now famous article, showed that when workers save, invest, and earn a return on their investment, their saving propensity does not affect the rate of profit in a Golden Age model. In the golden age, the rate of profit is determined by the saving propensity of capitalists and the rate of growth of the economy alone.

Pasinetti adds two assumptions to Kaldor's theory to derive his result. The first assumption is that workers get a return on their investment, and their rate of return on capital is the same as that of capitalists. Algebraically:

$$r \quad \frac{P_c}{K_c} \quad \frac{P_w}{K_w} \qquad [1]$$

The second assumption is called a "condition of equilibrium growth", by Pasinetti in his correspondence with the author. This holds that the share of capitalists in total capital remains constant in the golden age: viz.

$$\frac{S_c}{S} \quad \frac{K_c}{K} \qquad [2]^1$$

In his later book "Growth and Income Distribution" (1974), Pasinetti shows that if I/Y stays constant for a sufficiently long period of time, condition [2] results in a steady state model (p130) given s_c and s_w.

Given assumption [1] and condition [2], Pasinetti (1960-61) derives his well known distribution relation $g=s_c r$ as equation [14], after a large number of substitutions. These are unnecessary. This note shows that this result can be derived in three steps from his assumption [1] and condition [2]. It is hoped that this derivation will help teachers and students of post-Keynesian Economics alike.

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Proof

Condition [2] gives:

$$\frac{s_c P_c}{S} \quad \frac{K_c}{K} \qquad [3]$$

Substituting S with I, and shifting I to the RHS and K_c to LHS, we get:

$$\frac{s_c P_c}{K_c} \quad \frac{I}{K} \qquad [4]$$

Which by eqn.[1] becomes (since $P_c/K_c = r$ and $I/K = g$):

$$s_c r = g \qquad [5]$$

Which is Pasinetti's fundamental equation [14].

References

L. Pasinetti (1961-2) 'Rate of profit and income distribution in relation to the rate of economic growth', Review of Economic Studies, vol. 29, pp 267-79.

L. Pasinetti (1974) Growth and Income Distribution, Cambridge University Press.

A. Nagaraj & R.A. Shastri (1985) 'The Pasinetti Paradox', Asian Economic Review, 1985, Vol. 1&2.

Note

[1] Actually, Pasinetti assumes $S_w/S = K_w/K$, which implies $S_c/S = K_c/K$