

### SHORT NOTE ON THE SUPERMULTILIER

To our knowledge, it has not hitherto been noticed that Michal Kalecki's masterful 1967 paper on Tugan-Baranowski and Rosa Luxemburg is a contribution on how to overcome the Harrod instability problem. The argument of the paper is well known. Tugan-Baranowski shows that, in principle, a capitalist system can maintain an equilibrium growth path as long as capitalists employ all their savings to create new capital goods. This reflects a distinctive characteristic of capitalism, i.e., that it is a system in which the aim of production is not the satisfaction of human needs, but the generation of profits, which can well be achieved through the production of means of production. A tacit pact could, in principle, be stipulated amongst capitalist to ensure that the entire social surplus, if not consumed, is invested so that all output is sold. But of course, we cannot expect capitalists to follow Say's Law, either blindly or deliberately, since 'capitalists do many things as a class but they certainly do not invest as a class. And if that *were* the case they might do it just in the way prescribed by Tugan-Baranowski' (Kalecki, 1967, p. 152).

Rosa Luxemburg saw more clearly than Tugan-Baranowski the difficulty of capitalists to absorb the social surplus through their own consumption and investment. Hence the necessity of 'external markets'—external to the capitalist income circuit—that might serve to absorb the surplus production. Typically these markets are financed by the capitalist system itself through the financial system (Kalecki, 1934, pp. 15n, 18–19; 1967, p. 153). Kalecki includes in these markets net exports to the peripheral countries and government spending. We may usefully add consumer credit.

We shall later call these external markets 'non-capacity creating autonomous components of aggregate demand'.

According to the Classical-Keynesian approach, the autonomous components of aggregate demand (AD) – autonomous consumption, government spending, exports and in the short-run investment – are the determinants of the degree of capacity utilisation in the short-run, and of the growth rate of the economy in the long-run (Freitas and Serrano 2015; Cesaratto 2015).

Specifically, let us refer to two equations:

a) the first is the traditional determination of output in the short-run through the *Keynesian multiplier*. The autonomous components (autonomous consumption, investment, public spending and exports) regulate AD ( $Y_D$ ) given the marginal propensity to consume  $c$ , the average tax rate  $t$  and the marginal propensity to import  $m$ :

$$Y_D = \frac{1}{1 - c(1 - t) + m} (\bar{C}_a + \bar{I} + \bar{G} + \bar{E}) \quad (1)$$

Keynes's belief was that in capitalist economies AD is not on average sufficient to fully

utilise productive capacity, so that the level of output  $X$  and the degree of capacity utilisation adjust to the level of  $Y_D$ .

b) In the long period, however, capacity tends to adjust to expected effective demand (ED) (ED is defined as the amount of AD forthcoming at normal or long-period prices.) In particular,

capitalists will not invest blindly, but on the basis of expected ED. This is expressed through an investment function based on the old concept of the *accelerator*:

$$I = v_n g^e Y_D \quad (2)$$

in which  $g^e Y_D$  expresses the expected growth of ED, and  $v_n$  is the capital-output coefficient, that is, the desired quantity of capital per unit of output (we met this expression in Harrod). We thus obtain an equation similar to equation [1] in which the fraction is named *supermultiplier* (after Hicks 1950):

$$Y = \frac{1}{1 - c(1 - t) - v_n g^z + m} (\bar{C}_a + \bar{G} + \bar{E}) = \frac{1}{1 - c(1 - t) - v_n g^z + m} Z \quad (3)$$

where  $Z$  and  $g^z$  are the level and rate of growth of the autonomous/non capacity-creating components of AD, respectively, and investment is an induced and not an autonomous component of AD, as it must be in a long-run growth model. In writing the equation we assumed  $g^z = g^e$ . It can be shown that within reasonable assumptions the actual and expected rates of growth tend to adjust to the growth rate of  $Z$  (Freitas and Serrano 2015).

Suppose we move from a situation in which productive capacity is adequate for AD. A rise in  $g^z$ , if perceived as persistent, will stimulate AD including investment. Normally, firms are endowed with spare margins of productive capacity (e.g. in so far as they do not want to leave some customer unsatisfied in case of sudden peaks of demand). In the short run this allows firms to increase production of both consumption and investment goods before new capital goods are installed. Once the latter become operational, in the long run productive capacity slowly adjusts to the new level and growth of AD.

Notably, in this approach investment is not the independent variable in the determination of AD, as in most Post-Keynesian growth models; the autonomous components of AD play the role of independent variables, with investment induced by the accelerator mechanism. The model does not therefore rely on “animal spirits” to explain investment, as in most Post-Keynesian models (see Cesaratto 2015, p. 170).