Convergence towards the normal rate of capacity utilization in Kaleckian models: A Sraffian mechanism

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Outline

- Introduction to the issue
- The addition of an autonomous non-capacity component (Serrano's 1995 super multiplier)
- The formalization of the addition of this component to the standard Kaleckian model

- This is a subsection of the chapter on growth of my manuscript on *New Foundations of PKE.*

A key feature of the Kaleckian growth model

- The rate of capacity utilization is **endogenous**.
- There is no mechanism to bring the rate of utilization towards the normal (or optimal) rate of utilization.

$$g^i = I/K = \gamma + \gamma_u (u - u_n)$$

It is clear from the equation that the exogenous parameter γ represents the expected (trend) growth rate of sales.

This has generated a critique

- As recalled in Eckhard Hein’s lecture this morning, this has given rise to several critiques by various heterodox economists, mostly Marxians and Sraffians, who believe that in a consistent model, the actual rate of utilization should converge towards the normal rate in the long run.
- ‘It is inconceivable that utilization rates should remain significantly below the desired level for any prolonged period’ (Auerbach and Skott, 1988)

Questioning the necessity of any adjustment of u towards u_n

- Provisional equilibrium; everything moves anyway (Chick and Caserta 1997)
- There is a large range of acceptable “desired” or “normal” rates of capacity utilization (Dutt 1990; cf. Hicks, 1974).
- A firm may operate each running plant at optimal capacity (cost-minimizing), while being unable to run all segments of plants (idle capacity) (Caserta 1990).
- Firms have several different targets, and cannot achieve them all at the same time (Dallery and van Treeck, 2011).
- The normal rate adjusts to the actual rate of capacity utilization: there is hysteresis (Lavoie, 1996)

Even some Sraffians accept that firms usually have idle capacity

- ‘It is virtually impossible for the investment-saving mechanism … to result in an optimal degree of capacity utilization…. It is, rather, expected, that the economy will generally exhibit smaller or larger margins of unutilized capacity over and above the difference between full and optimal capacity’. (Kurz 1994)
- ‘One must keep in mind that although each entrepreneur might know the optimal degree of capacity utilization, this is not enough to insure that each of them will be able to realize this optimal rate’. (Kurz 1993)

A Sraffian mechanism so that u goes towards u_n

- This is the mechanism tied to an exogenous growth component.
- This mechanism has been proposed by Franklin Serrano (1995a, 1995b) under the name of the Sraffian supermultiplier.
- His intent is to show that some Keynesian results will still hold despite the actual rate of capacity utilization being brought back to its normal level in the long run.
- Some Sraffians support it: Heins Bortis (1997), Sergio Cesaratto (2013) and Oscar DeJuan (2005);
- Others don't, as they believe that the mechanism is unstable: Roberto Ciccone, Man-Seop Park, Antonella Palumbo and Attilio Trezzini.

An autonomous component

- The crucial point made by Serrano is that the average propensity to save will move endogenously when there are autonomous (non-capacity creating) expenditures – for instance consumption expenditures – even if the marginal propensity to save and the profit share are constant.
- This will be the case both in the short run, when the expenditure is a given, and in the medium run, when the autonomous expenditure is growing at some given rate, different from the rate of accumulation.

Key implication

- *Z* only contains autonomous expenditures which do **not** lead to the creation of productive capacity.
- Even if the propensity to save out of profits and the share of profit are constant, the average propensity to save will be endogenous as long as *z* is itself endogenous.

First claim of Serrano

- The main point that Serrano wishes to make is that saving can adjust to investment even when assuming that the marginal propensity to save, income distribution and the rate of utilization are all constant.
- The argument is thus that the ‘Keynesian Hypothesis’ (the adjustment of saving to investment) is more general than previously thought, since it does not need to rely on an endogenous rate of utilization in the long run (the Kaleckian approach); nor does it need to rely on an endogenous profit share (the Kaldor-Robinson approach).

Second main claim of Serrano

- Serrano believes that as long as demand expectations by entrepreneurs are not systematically biased, the average rate of capacity utilization will tend towards the normal rate of utilization and hence that the economy will tend towards a fully-adjusted position.
- This is what has been questioned by other Sraffians (Trezzini, 1995, 1998), who question the stability of the process.

Autonomous growth components determine endogenous ones

- Serrano (1995): consumption expenditures
- Kaldor (1970s); Thirwall (1979); McCombie and Thirlwall (1994): exports (tomorrow!)
- Godley and Lavoie (2007, ch. 11), government expenditures;
- Trezzini and Garegnani (2010), consumption expenditures.
- Allain (2012), government expenditures.
- Steve Fazzari (2013, yesterday): ?

A revised Sraffian mechanism

- Olivier Allain (2012) has put forward a formalization of this ultimate adjustment mechanism.
- His model is based on autonomous government expenditures and is thus different from what Serrano first proposed
- I propose here a mechanism based on autonomous consumption expenditures, but Allain’s article is the inspiration for all that follows here.
- The mechanism requires two components.

First component

- The simplest way to put this is to write a new saving equation:

- $g^s = s_p \pi u/v - z$ (6.57)

- with $z = Z/K$, where Z are the autonomous consumption expenditures of the capitalists, and hence where z is the ratio of autonomous expenditures to the capital stock.

Equation of motion of *z* = *Z/K*

$$\hat{z} = \dot{z}/z = \hat{Z} - \hat{K} = \bar{g}_z - g = (\bar{g}_z - \gamma) - \gamma_u(u^* - u_n)$$

$$\frac{d\hat{z}}{dz} = \frac{-\gamma_u v}{s_p \pi - v\gamma_u} < 0$$

If there is Keynesian stability

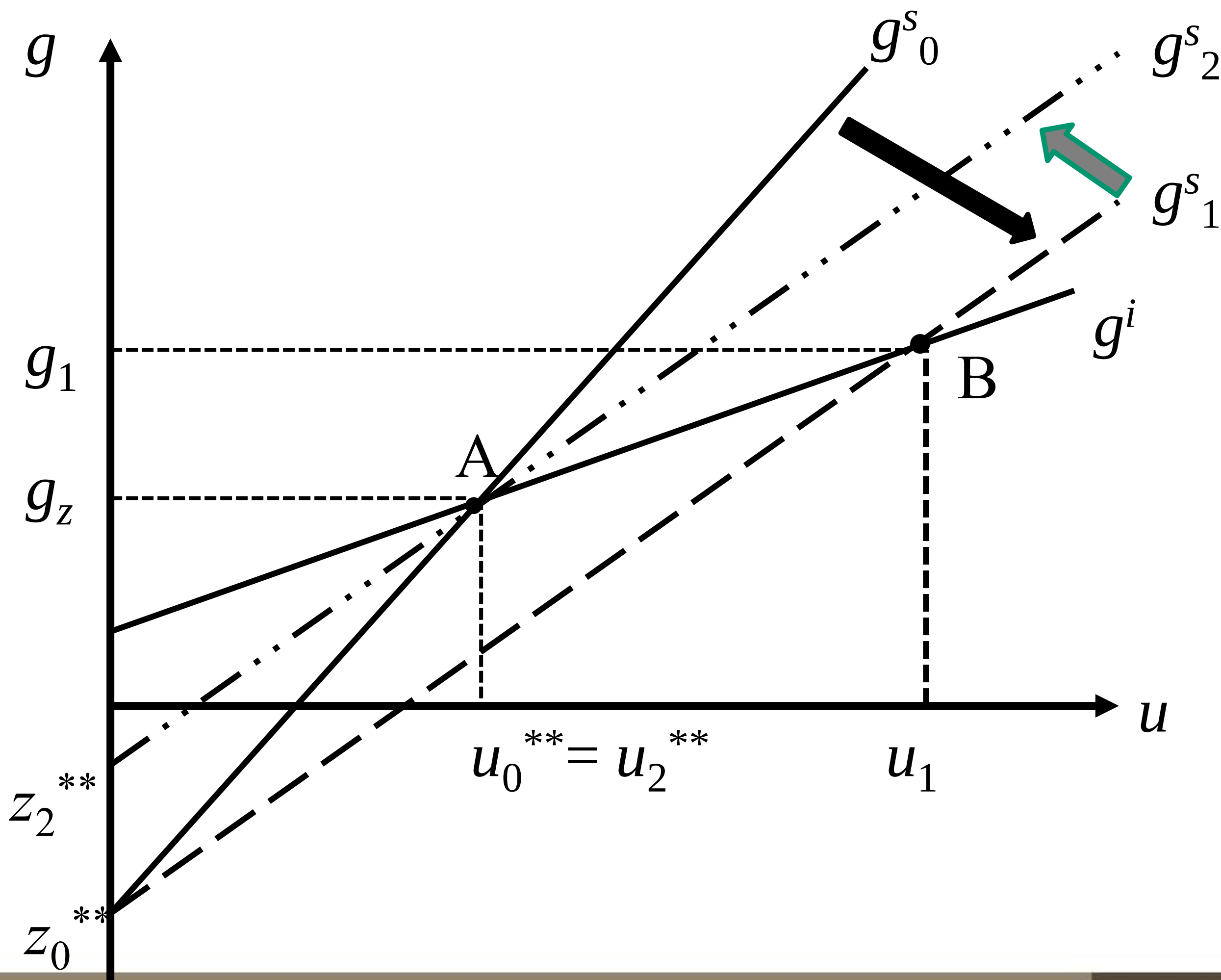
$$u^{**} = u_n + \frac{\bar{g}_z - \gamma}{\gamma_u}$$

In general, we are not back at u_n

Consequences of first mechanism

- The addition of the autonomous growth rate of a component of aggregate demand forces the entire economy to grow at the growth rate of this autonomous component.
- However, it does not bring the economy back to the normal rate of utilization of capital.

6.19 Impact of a decrease in the propensity to save out of profits or in the profit share



What about the normal rate of utilization?

- We need an additional mechanism.
- This mechanism is the Harrodian equation (which normally creates dynamic instability). Recall the investment equation:
- $g^i = \gamma + \gamma_u(u - u_n)$
- The Harrodian equation is:

$$\hat{\gamma} = \mu_2(u^* - u_n), \quad \mu_2 > 0$$

A system of two differential equations

- So now we have a system of two differential equations (on z et on γ). For the system to exhibit stability and converge to an equilibrium, the determinant needs to be positive and the trace needs to be negative

$$\text{Det } J = \frac{\mu_2 v}{s_p \pi - v\gamma_u}$$

$$\text{Tr } J = \frac{(\mu_2 - \gamma_u)v}{s_p \pi - v\gamma_u}$$

Conclusion

- We thus have reached a conditional proof that Kaleckian results can be preserved even if the economy comes back systematically towards a constant normal rate of utilization, as long as we interpret them as averages measured during the period of transition.
- This is achieved by taking into account an autonomous growth consumption component, assuming Keynesian stability and incorporating a Harrodian instability mechanism.