Comment on "Capital in Neoclassical Theory: Some Notes" by Professor Piero Garegnani

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Equilibrium with Capital

A leading idea of the paper is the correct observation that capital, which is fluid for the individual investor, who can sell one type and buy another, is not fluid for the economy as a whole. Keynes lays great emphasis on this point in his General Theory. Two questions flow from this observation. First, is there a formal equilibrium model that resolves this problem? Secondly, what are the implications of the tension between demand-fluidity and supply-rigidity for a less formal, more realistic, view of the world? Garegnani notes correctly that the key to a resolution of this problem is to be found in price dynamics, but his discussion of those dynamics does not include the most powerful specification. A lot has happened in Economics since pre-war John Hicks.

The key insight is the old observation that a capitalist economy in an idealized equilibrium behaves like a planned economy that is following an optimized path. What do the dynamics of an optimized economy with many capital goods look like? That question was answered long ago. Dorfman et als (1958) does it nicely for an economy with linear processes. See also Bliss (1975), Chapter 10. Particularly useful is Hahn (1968). Hahn showed that in general, equilibrium conditions for the various capital goods, equal net returns for each good, depend upon the rate of change of prices, not just on the prices alone. Then the intertemporal dynamic equilibrium of the system is defined by a set of simultaneous differential equations. What can we say about those equations? The easiest route to the answer comes from the theory of optimal growth, as with a many-capital-good Ramsey model. From there we obtain dynamic equilibrium conditions (Euler equations), but these do not suffice by themselves. We need to add transversality conditions. The dynamic equations are of the saddle-point variety. Only transversality ensures that the system converges to a particular asymptotic state.

It is transversality that takes care of the possibility of multiple equilibrium, including multiple steady-state solutions. We have these already in a simple two-sector model with aggregate capital, so we certainly cannot exclude them with many capital goods. If multiple equilibrium is the end of neoclassical theory, then it is dead and buried long ago. But if we want just some equilibrium solution, then we can stay with the idealized equilibrium dynamics for a while. It is a rock-solid theory, but how useful is it? Its price dynamics are essentially the dynamics of correctly-foreseen prices. Hicks's elastically-adjusted expectations will not do. We do not live in a world where price movements are accurately foreseen. Just look at the gyrations in the oil market in recent months to confirm the point.

Unfortunately it gets worse. Not even price movements accurately foreseen in the short or medium term will do. As a non-optimized dynamic equilibrium is just like the necessary conditions for an optimized system, there will be infinitely many "equilibrium" paths for prices, but most of these will crash into the sign-constraint barriers of the race track. A successful capitalist economy needs to have the right idea of where it should go in the long-run. Real life capitalist economies are extremely bad at knowing where they are going in the long-run, and judging that destination correctly. Recent financial crisis, and similar crises in the past, remind us that capitalism is often driven by unsound expectations and foolish intellectual fashions.

Please forgive me. I have strayed into writing about the real world. A striking feature of the school to which Piero Garegnani belongs is its seeming lack of interest in the real world. Its target is formal abstract neoclassical economic theory. And it insists on taking on that theory on its own long-past ground. This is not a well-chosen target.

Some Closing Remarks

Professor Garegnani is completely confident that his opinions are the right and the true. He is so certain that he has discovered the key to what is wrong with orthodox economics that he can hardly contain his disdain for anyone who declines to follow him into the new dawn. Not even Hicks is spared his condescending attitude. If that is his view, then so be it. But to him I would say this. Despite some refinements, the argument is the same as he has been putting about for the last 30 years. The impact of this argument has been notably limited. Not even in Italy does a significant proportion of the profession know his case and take it seriously, and in the world at large the impact is negligible. There is of course no guarantee that a crude majority will not be terribly mistaken, but there is equally a possibility that the intellectual loner, or his small school, has lost the plot. If you believe in your cause you have to learn to communicate effectively, and to engage with outsiders in the contemporary world. Our world is changing rapidly and in ways that demand economic analysis of what is happening. A backward-looking negative view of current economics will not do.

General acceptance of a particular view can never be the final test. What always matters is intellectual productivity. Over the last 30 years so-called neoclassical economics has been extraordinarily productive. And from Akerlof to Stiglitz (and Hahn cited above) it has been its own most rigorous critic. What has been the contribution of the post-Sraffa school in the same period? Nothing at all as far as I can see. This has been an exceptionally sterile approach. Where are the new ideas? Where are the illuminating insights into what is happening today? What about China’s economic miracle, or the pensions crisis that results from aging populations? Would David Ricardo have considered such questions unworthy of his consideration?

Bibliography

Bliss, C.J. (1975), *Capital Theory and the Distribution of Income*, North-Holland

Dorfman R., Samuelson, P.A. and Solow, R. (1958), *Linear Programming and Economic Analysis*, McGraw-Hill

Hahn, F.H. (1968), "On Warranted Growth Paths", *Review of Economic Studies*, Vol. 35, 175-84