

Conclusions

As stated in the Introduction, the present dissertation is intended to be a preparatory, *theoretical* work paving the way for institutional analysis and empirical applications.

Pasinetti's (1981) original theoretical framework, developing the *foundational stage* of the analysis, still needs at least one further step to be completely generalised: the treatment of *fixed capital*. However, it is my contention — even though, for the time being, still at the stage of an intuition — that the device of vertical hyper-integration allows this generalisation to be performed in a quite straightforward way, without necessarily going through fixed capital as a joint product.

I would also like to add that I am aware of the fact that some issues faced in the dissertation, and especially in the second and third chapters, would deserve a deeper treatment and a more careful analysis. However, I have tried here at least to mention the results I considered as being relevant, though sometimes without the possibility of fully developing them.

In order to implement empirical applications, then, it will be necessary to scrutinise the relation between the nature of the data provided by national accounts and the building categories of the theoretical framework itself. This further preliminary work is, in my opinion, necessary for having a clearcut idea of the consequences of data limitations, and therefore for trying to overcome them. It is a matter of fact that as time goes by, national accounting practice becomes more and more influenced by, and directed to meet, the necessities of 'mainstream' economics.

Moreover, the lack of inter-industry matrices in physical terms compels to look for proper deflation methods aiming at avoiding as much as possible the loss of information, and the distortion of data. Clearly, once constant price matrices are computed, the kind of empirical analyses that can be performed have as their object *changes through time*; this makes the necessity of a framework allowing to deal with dynamics, such as the device of vertical hyper-integration, even more binding.

Coming to the possible lines of further research, I would like to mention

at least three of them, which I consider particularly interesting and which I myself would like to pursue in the future, though with the awareness that institutional analysis is opened up to cover a much wider scope of investigation.

First, I am thinking of the reappraisal of a research field which has been very fruitful especially in the Seventies and in the Eighties: the analysis of changes in labour productivity. In the third chapter of the present dissertation I have provided a series of different decompositions of each sector's vertically hyper-integrated labour. It can be decomposed as the sum of direct, indirect, and hyper-indirect labour; but also as the sum of vertically integrated labour for the production of the final consumption commodity and of vertically integrated labour for the production of the corresponding additional productive capacity. Moreover, through series expansion of the inverse matrices $(\mathbf{I} - \mathbf{H}c_i)^{-1}$ ($i = 1, 2, \dots, m$) it can be seen as the sum of vertically hyper-integrated labour for producing final consumption commodity i , plus vertically hyper-integrated labour for producing the corresponding productive capacity, plus vertically hyper-integrated labour for the production of productive capacity for vertically hyper-integrated productive capacity itself, and so on.

All these decompositions might be the basis for computing different measures accounting for changes in labour productivity: as stated in Garbellini & Wirkierman (2010, section 5), "it is difficult to accept the usefulness of the search for a unique synthetic index of labour productivity changes that can also describe the structural processes of technical change lying behind them. On the contrary, we think that is very useful to dispose of a set of related measures allowing us to uncover such structural processes".

Closely connected to this first line of applied research, there comes a second one, to be faced first from a theoretical, and then from an applied, point of view. I am thinking of the effects of *technical progress* on the process of growth and capital accumulation, through the analysis of the dynamics of labour productivity, capital intensity, and degree of mechanisation.

Finally, and again in close relationship to the first and second items of this short list, there is a further issue which would be interesting to face first theoretically, through the development of an 'institutional' framework of analysis, and then empirically. I am thinking of the effects that differences in the dynamics of labour productivity, capital intensity, and degree of mechanisation in different countries have on international trade relations. Pasinetti (1981, chapter XI) himself gives interesting insights on how to deal with this is-

sue, deriving what he called “principle of comparative productivity-change advantage” (Pasinetti 1981, p. 266).

To conclude, I would like to quote a passage from the very beginning of Pasinetti’s (1981) book. In this passage, after having mentioned a series of, at that time recent, promising contributions by some ‘heterodox’ economists, Pasinetti stated the most fundamental aim of his theorising:

At this point of our discussion, it is not difficult to see that all the contributions to economic theory just mentioned stem from what has been called above the production or industry approach to economic reality [...]. But their authors themselves did not perceive this very clearly. Each of those theories have been presented under the compulsion of certain facts, which current theory was unable to explain. As a consequence, they have been presented independently of one another, without an explicit relation to any unifying principle. This has made things easier for the Marginalists. It seemed natural to look for a unifying theoretical framework and marginal economics had one to offer. Although the authors of the new theories have, most of the time, [new page] strongly protested that their theories had nothing to do with Marginalism, the Marginalists have been at an advantage. They have had the advantage of synthesis. For they have always clearly presented their arguments around a unifying problem (optimum allocation of scarce resources) and a unifying principle (the rational process of maximisation under constraints).

Yet it seems to me that it is possible to build a unifying theory behind all the new contributions to economics mentioned above. The foregoing discussion has been constantly pointing towards it. It is a theory the basic elements of which can be traced back to various stages in the development of economic thought; they can be found, here and there, in Smith, in Ricardo, in Malthus, in Marx, in Keynes, in Kalecki, in Leontief, in Sraffa, and in the recent models of economic growth and income distribution. However, these basic elements have not yet been brought out and fitted together in a unifying theoretical scheme. Those economists, who understood remarkably well the requirements of production, did not go into the dynamics of it, which is indeed the aspect that gives it full relevance. The others mainly concentrated on the exploration of particular — though important — aspects, or only on the macro-economic aspects of the process of production in a modern society.

(Pasinetti 1981, pp. 18-19)

I hope I could give, with the present dissertation, my modest contribution.

References

- Garbellini, N. & Wirkierman, A.L. (2010). Changes in the productivity of labour and vertically hyper-integrated sectors. Unpublished.
- Pasinetti, L.L. (1981). *Structural Change and Economic Growth*. Cambridge University Press, Cambridge.