



Garzarelli, G., & Kuchar, P. (2018). Measurement versus Hermeneutics of Capital. *StoriaLibera*, 4(7), 191-199.

Peer reviewed version

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Measurement versus Hermeneutics of Capital

Giampaolo Garzarelli

DiSSE, Sapienza – Università di
Roma, Rome, Italy & IPEG, SEBS,
University of the Witwatersrand,
Johannesburg, South Africa
giampaolo.garzarelli@gmail.com

Pavel Kuchař

Facultad de Economía-División de
Estudios de Posgrado, Universidad
Nacional Autónoma de México,
Ciudad de México, México
pavel.kuchar@economia.edu.mx

In a lengthy but carefully argued article, Carmelo Ferlito (2018) methodologically tackles an economic topic that, by his own admission, is very challenging: capital theory. Ferlito reminds us that capital goods form part of the capital structure not by virtue of their physical properties but by virtue of their economic function. The core of the capital theory that Ferlito develops rests on the idea that economics is not about things and their physical attributes, but about individuals and their understanding of things and their physical attributes. That is, economics is about subjectivism, and, since capital theory is a subset of economics, so should be capital theory. Ferlito thus tries to distance himself from the Bohm-Bawerkian strand of Austrian capital theory and to position himself in the Austrian strand started by Carl Menger and later picked up by the radical-subjectivist Ludwig Lachmann.

To this end, Ferlito proposes an intriguing distinction between potential and actual capital goods. Potential capital goods may become actual capital goods as a result of a subjective or, as Lachmann would later rechristen it and Ferlito prefers, a hermeneutical process. While potential capital goods are “goods that, in a specific moment in time, are *thought* to be suitable for generating a certain output when combined with other goods,” actual capital goods “*are* actually implemented in such a production process” (Ferlito 2018: 35, our emphasis). The point being that goods become potential capital goods by

way of a hermeneutical moment in which different individuals might, even though they see the same physical object, interpret their situations differently and, as a result, assign different values to the productive capacities of the same potential capital goods.

Ferlito continues by criticizing the neoclassical production function from the perspective of the capital theory he proposes. If we acknowledge that the heterogeneous capital structure is composed, first, of all the goods and their combinations that are at some point thought to be suitable to contribute to the implementation of production plans (potential capital goods) and, secondly, of all the combinations of actual capital goods, then the structure of capital that “is determined by expectations and production plans ... can hardly be viewed as stable over time” (Ferlito 2018: 46). According to Ferlito, it follows that the neoclassical production function is “unable to grasp the essence of the production process” (Ferlito 2018: 46), which consists of finding new combinations of capital goods over time.

If a consistently subjectivist theory of capital does not depend on the physical character of capital goods and what matters for a good to become capital is what an individual, such as an entrepreneur, imagines can be done with it, then the neoclassical separation of labor and capital is not helpful. Labor *is* capital. While the neoclassical production function assumes a separation between labor and capital, Ferlito follows Lachmann in suggesting that what matters for our understanding of capital is not which resources are man-made, but rather which goods can become man-used. If what matters is the use to which a good can be put, rather than where it originates from, then labor – but also land – is in fact included in the capital structure. Production output does not ensue from the mechanical mixture of land, labor and capital. Rather, output is a function of subjective expectations, the flow of time, and the implementation of actual capital (that includes land and labor).

We agree with the overall methodological thrust that Ferlito develops in his analysis of capital. Here, however, we want to point out two points that we are less in agreement with. First, Ferlito tries to develop a method of measuring capital. We cannot help but wonder whether he should not be concerned with developing a way to understand and interpret the meaning of the capital structure rather than with trying to measure such a structure that is based on subjective expectations that change over time. Second, we wish Ferlito pushed his thinking about the production process from the perspective of his capital theory a little further to consider other kinds of goods that are not typically thought of as capital goods, but perhaps should be. We have in mind intellectual infrastructures, which on our account are jointly produced capital goods.

Ferlito recognizes that “the heterogeneous nature of capital goods create [sic] several problems in order to reach a meaningful measurement for the value of capital goods” (Ferlito 2018: 38). At the same time, he proceeds to ponder “if and how capital can be measured” (Ferlito 2018: 38) employing his distinction between potential and actual capital. One of the conclusions is that “the value of actual capital changes according to the different moments at which we are looking at it” (Ferlito 2018: 40), partly because agents modify their expectations and acquire different interpretations based on which different ends/means frameworks make use of different capital goods.

Ferlito does take into account that capital structures do not consist of things but rather of understanding and interpretations of how diverse artifacts can be used for productive purposes. Yet we must insist that if we see the capital structure as a kind of knowledge of complementary and substitute uses of things – that is, organized representations of reality of individual mental maps each giving order to reality in its own idiosyncratic way (Hayek 1952) – then the usefulness of measurement of such a flow of knowledge *as such* is dubious. What we should instead attempt to do with such mental mapping

that consists of diverse interpretations and that correspondingly motivates human action is to *understand* it and *classify* it (Lachmann 1978: 4, 88-90), rather than just attempt to measure it.¹

We now turn the second and related point. If we believe that capital goods are defined by their economic function rather than by their physical characteristics, we must wonder whether a conceptual separation between land, labor and capital is meaningful. We do not think it is, but we believe that Ferlito does not make the best of this question. We want, therefore, to suggest another kind of good that is typically not properly accounted for by the neoclassical production function but that is not taken into account by Ferlito either.

We refer to a particular kind of infrastructural resources, which run behind the background of any kind of social and economic interaction. We can say that they are “consumed nonrivalrously for some appreciable range of demand,” that a “demand for the [infrastructural] resource is driven primarily by downstream productive activity,” and, finally, that the infrastructural resource tends to “be used as an input into a wide range of goods and services” (Frischmann 2012: xiv). Typically, things like roads and highways, railways, bridges, lighthouses, water systems, power grids, optical fibers, etc., come to mind. The importance of these kinds of infrastructures is picked up by the neoclassical analysis of production.

However, Ostrom and Hess (2007) and Frischmann (2012), among others, extend the

¹ This does not necessarily mean that capital measurement is not useful. More precisely, our point is that perhaps capital measurement ought to serve a broader economic analysis rather than be performed per se. In a more mainstream (but still not fully orthodox modeling) spirit, Limam, Miller and Garzarelli (forthcoming) for example employ a measurement of the age of physical capital as a proxy for capital quality in an effort to understand how, in a sample of 90 countries, capital of different age differently contributes to economic growth. We return to capital measurement below in an institutional guise.

analysis of physical infrastructures to include intellectual infrastructures. We might think of language as a central example of an intellectual infrastructure. But apart from language, intellectual infrastructures “include a broad set of resources that create benefits for society primarily through the facilitation of downstream productive activities, many of which generate spillovers” (Frischmann 2012: 275). They are simply non-rival inputs into a wide variety of outputs; think basic research, general purpose technologies, and ideas. Are these infrastructures capital goods?

The importance of infrastructures seems to be most conspicuous in the case of its malfunction. This is especially true when we talk about “legal infrastructure” (Hadfield 2016). Most people are well aware of the importance of physical and intellectual infrastructures. We are aware of the importance of uncongested highways or high-speed railways during our daily commutes and we are well aware of the enabling power of language. Such awareness becomes much more vivid when the road becomes congested, when the railway workers go on a strike, or when we cannot simply “plug in”, as Hadfield puts it, into a framework of people who would share our language or adhere to a common legal code.

With legal infrastructure, which may be considered a subset of Frischmann's intellectual infrastructure, things are different to the extent that the enabling function of legal and institutional rules *is almost always hidden*, it mostly runs in the background; what we typically notice about law is that it tells us what not to do.

Hadfield, as Buchanan (1975) also similarly suggested, makes the case that legal infrastructure is a form of capital (Hadfield 2017: 89). Just like with other kinds of infrastructure, we do not typically have the legal infrastructure tailored and constructed just for our purposes. The legal infrastructure must be general enough to allow

entrepreneurs with different kinds of plans to plug into it and make use of it. As such, the legal infrastructure seems to be a part of the environment – “it was there before you got here” (Hadfield 2017: 87) – which may be the case why economists often take it as an exogenous variable. But law is an economic input, there is an economic demand for law. That legal infrastructure enters into any production function along with other production factors that form parts of the entrepreneurial plan is a key point that we should take into account while developing a theory of capital that defines capital goods based on their economic function (Foss and Garzarelli 2007).

If we admit that there is a sense in which law is an infrastructural production factor, we must wonder what the market for that production factor looks like. Is there a market for law that can be understood in a way as we understand the law for other capital goods and production factors in general? How are intellectual infrastructures produced and reproduced? Are they a form of non-perishable capital (Ostrom 2000)?

Indeed, Dekker and Kuchař (2017) have argued that certain key parts of institutional infrastructures are jointly produced shared goods. Consequently, these infrastructures can be seen as a form of shared capital goods that are used to facilitate understanding of diverse actors such as buyers and sellers and that are produced and reproduced as we use them.

Returning to our first critical point, the fact that for various reasons – how to deal with the measurement of a flow of knowledge? Does an interpersonal comparison of the perception of capital value mean anything? – we do not find attempts to measure the capital structure particularly useful does not mean that we cannot say anything about it or that the capital structure is random. There is an intrinsic order to the capital structure and observing agents contributing to its formation requires an interpretation and

understanding of the context in which economic agents act. We need, as Karl Popper (1976) suggested, to understand the situational logic of economic agents. Such an understanding is, in principle, falsifiable.

Institutions, or at least certain parts of the institutional infrastructure, can be seen as networks “of constantly renewable meaningful relations between persons and groups of persons who may not all ascribe the same meaning to the same set of relations” (Lachmann 1991: 137). These institutional infrastructures, we believe, enter into the production process and must thus be seen as a kind of a shared capital good. Institutional infrastructures form part of the capital structure. The task of a consistently subjectivist economic science thus should not be to measure the value of these capital goods but rather to extract the meaning that they convey to the agents whose actions are enabled and constrained by them, and to interpret this meaning of the situational logic that they create to others.

Other capital goods – apart from intellectual infrastructures – are no different. They do not generate value that could be meaningfully measured. Rather, they create values or modes of orientation that are open to interpretation and understanding. Interpretation and understanding of the capital structure should be our key concern.

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