

# The economic unit of measure

## Introduction

Although the *Subjective and Solidarity Economic Theory* (SSET) covers the central themes of all economic theory (interest, currency, measurability of value, distribution, prices emerge from values, etc.), I have considered this work opportune by virtue of:

- The relevance of the theory of the economic unit of measure, perhaps the most controversial and difficult issue to theorize in economic science <sup>1</sup>— the distinctive feature of the double relativity of wealth justifies it.
- That one of the topics on which I have been most consulted, on all those dealt with in *Subjective and Solidarity Economic Theory* (SSET) has been that of the *economic unit of measure*. From which I deduce that a special treatment was pending on this subject, as I have done on most of the others, this maybe because:

a) It is surprising that the function of the unit of measure of currency (when selected as such) is given greater importance than the function as a medium of exchange. It has an immediate response, as a means of exchange it fulfills the function of a unit of measurement of exchanges, but as a unit of measurement it does so over all manifestations of wealth (including that exchanged).

The foregoing can be stated in another way, the unit of measurement must allow to measure all manifestations of wealth, the exchanged and the non-exchanged. It is another way of confirming that: the use value <sup>2</sup> precedes the exchange value, in addition to existing without the need for the latter to exist. That is, if the wealth to be exchanged is not measured, there is no exchange, then the unit of measurement is prior to the exchange, it does not arise from it. *All of which implies that the value is measurable*, which arises from the existence of an economic unit of measure.

b) On the other issues there was a generalized dissatisfaction with the current state of the current economic theory, which makes the arrival of a new theory that surpasses the known one more plausible. As for the economic unit of measurement, it seems that discontent was not so evident, *because its relevance had not been understood*. Order of things influenced by the “revealed truth” of the current theory: *the economic unit of measure was an “abstract” entity*, <sup>3</sup> without theoretical and practical incidence, as “inconsequential” as the metro.

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<sup>1</sup> It is consequence of having tried it to solve from the theory of the currency, without realizing that it was independent of this.

<sup>2</sup> **According to the Subjective and Solidarity Economic Theory, here it is convenient to remember that use value refers to the useful value of wealth, whatever its destination. That is, the use that can be given to wealth can be: saving, destroying and exchanging (from which we speak of exchange value).** This note was incorporated by the wise suggestion of Manuel Polavieja.

<sup>3</sup> All the effort was in developing an unnecessary “special” theory of the currency, scope to which the theory of the economic unit of measure was circumscribed.



## Definition

We consider the economic unit of measure as a *term of comparison with the others of its species*.

From the preceding concept it follows that there is an entity shared by all those belonging to the species, which in the field of measurement is the dimension: each of the *magnitudes of a set that serve to define a phenomenon*. The fundamental units known so far are length, mass and time, here we add *utility*.

## Need for a unit of measure

Given that in any discipline of knowledge there is a diversity of elements that share the same dimension, it is essential to obtain one of them that acts as a unit of measurement of the dimension of all of them. Eg: the distance *dimension* of one metro is used to measure the length, width and height of the infinity of physical entities.

It is from this unit of measurement that calculation arises in each discipline of knowledge, which is called measuring.

In addition to daily use, measuring is a very powerful epistemological tool since it refers to the greater-lesser consistency in the corroboration of theories.

## Neutrality of a unit of measure

Following Popper's epistemology, the essential condition of a unit of measurement is that the act of measuring does not alter the dimension of the thing to be measured. We call this: *neutrality of the unit of measurement*.<sup>4</sup>

## Entity to be measured in economics

According to the *Subjective and Solidarity Economic Theory (SSET)*, the element to be measured in economics is **wealth**: *subjective value that the human being assigns to economic goods (useful and scarce things for him)*.

## Economic dimension to measure

By deduction it is the dimension of wealth, which, as it emerges from the utility that things provide to the human being from scarcity, then, to verify if an entity is wealth, and its level, we must dimension it based on its **utility**.

## Measure

Synonymous with measuring, is to *compare a quantity with its respective unit, in order to find out how many times the first contains the second*.

This concept is key to obtain a consistent unit of measurement in a science, as we know it determines *the essential condition of a unit of measurement: that it determines how many times it is contained in the dimension to be measured*.<sup>5</sup>

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<sup>4</sup> Popper generally referred to the influence of the observer in the laboratory, "the observed observer."

When measuring a length we see the number of times that the metro is contained in it. Proceed in which we have first determined the dimension of the metro, to use the same dimension in each measurement. It is clearly appreciated that measuring the length, height and width does not alter the dimensions of the thing to be measured.

### To measure in economics

Let us see the conditions presented by the economic measurement:

From the law of wealth, expressed with the general equation of wealth of the Subjective and Solidarity Economic Theory ( $U_x = q_t / q_x$ ), these restrictions arise:

- *Restriction of the law of wealth when measuring:*

We know that from the law of wealth, expressed with the general equation of wealth of the *Subjective and Solidarity Economic Theory* ( $U_x = q_t / q_x$ ), these restrictions arise:

*Restriction of scarcity:* given that the quantity of economic goods available must be less than those needed, it is essential to know the *total quantity* of goods available ( $q_t$ ) to determine the scarcity through the relative value of each unit that composes it ( $q_x$ ).

The restriction of scarcity implies that ***the unit of measurement must be wealth***, which destroys all theories that consider it a virtual, abstract, worthless thing, a simple numerary or unit of account (Walras's *numéraire*).

*Restriction of inconstancy:* given that the dimensions-utilities of each unit of wealth of the same economic good [ $U_{q(1)} \neq U_{q(2)}$ ] are different, it implies that any of these dimensions can be a unit of measure, all being they are different from each other. That is, there is no record of the unit of measurement prior to the measurement, given three conditions:

- a) Each unit of measurement is a variable dependent on the totality to be measured.
- b) Each unit of measurement is different from the others.
- c) The difference in value of each economic unit with respect to another, with which it shares a wealth stock, is ordinal in nature: it depends on the prerelative order in the total of units considered: [ $U_{x(1)} > U_{x(2)} \dots > U_{x(n)}$ ]. The difficulty that the dimension of each unit of the same economic goods is different from another is solved by knowing the ***sense-direction of the difference***, an essential element to compare —path that allowed us to develop a theory of the economic unit of measure, in tune with the foundations of the *Subjective and Solidarity Economic Theory* (SSET).

All of the foregoing is represented in what we have called the intrinsic relativity of wealth.

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<sup>5</sup> As can be seen, without altering the spirit of the previous measuring concept, it broadens it by allowing the incorporation of economic measurement, which does not require knowing the dimension of the unit of measurement prior to the act of sizing, as could underlie in the previous concept.

It is appreciated that science could not circumvent the aforementioned restrictions, a difficulty similar to trying to find the *economic square of the circle*, in Menger's terms.

Regarding the restrictions on economic measurement, it is worth mentioning the foundations of the Austrian School. It refers to measurement in his theory of economic calculation, and its impossibility in socialism, impossibility that arises due to the non-existence of prices, due to the non-existence of private property that allows voluntary exchanges. Reflection that leads us to summarize it like this:

- Individual subjective value is not measurable.
- But, exchanges generate prices, which are sufficient to guide the economic calculation, from which human actions arise. It implies assuming an error in the measurement of the subjective value, since they originate the prices.
- Currency prices are accepted for economic calculation - again, they are sufficient measurers of subjective value, which drives human actions.
- In summary, the analysis focuses on showing the impossibility of economic calculation where there are no prices, which is to say that there are no prices as a consequence of the fact that there is no private property that originates them. In *Theory of Economic Relativity (TER)* we already stated that even in slavery the human being exchanges, which implies the presence of prices that is: factually and theoretically, the non-existence of prices in a society of exchanges is impossible. Reflection that leads us to state that: what the Austrian School intends to say is that price control alters relative values, but as it not knows them, it opted for an *ad hoc* theoretical inconsistency: the impossibility of the existence of prices in the socialism. In short, socialism is the extreme case of the imposition of factual causality, where prices affect relative values — the failure of socialism arises from trying to measure wealth according to the objective value, not from the non-existence of prices.

What is relevant is to highlight that the fundamentals that are used by the Austrian School to deny the measurability of subjective value are not consistent: a) if it is feasible or satisfactory to settle for currency prices to terminate the value issue, but this does not differ of the other schools (Marshall): with prices the value issue is solved (that is why they do not reject the supply and demand curves); b) if it is only feasible to measure the value through prices, it is not considered that it precedes them; c) where there is exchange, there is price; d) all price control affects the natural order: *socialism is unfeasible because it is based on the failed theory of objective value, not because of the non-existence of prices.*

Before closing the chapter of the Austrian School on economic calculation (measure), this quote from Horwitz (2004) is worthwhile:

“In a brief section of *Human Action*, Mises (1966:331–333) further explicated how this process works. As Salerno has argued, the key is the idea of “valorization.” The current set of prices reflects the historical process of price formation, and serves as the starting point for further human action.

Those valuations are revealed in the acts of choice that drive the pricing process of the market. From a Misesian perspective, market prices are the emergent result of individual acts of valuation that are in turn the result of appraisal of the market (p. 311).

It is appreciated that the *Subjective and Solidarity Economic Theory* (SSET) has given causal-logical-deductive scientific rigor to the idea of “valorization”.

Well, then we go on to express the solution to the natural constraints of economic measurement.

- *Solution to scarcity and inconstancy restrictions:*

To overcome the natural restrictions imposed by the law of wealth, we observe that we must obtain a unit of measurement that: is unit (1), that is contained in the dimensions to be measured, and that is neutral in the act of measuring.

The double relativity of subjective value is the foundation of a theory of the economic unit of measurement that complies with the two natural restrictions: the *intrinsic*<sup>6</sup> with respect to wealth whose value will be considered a unit of measurement, and the *extrinsic*<sup>7</sup> with respect to the entities to be measured.

In order to comply with the natural restrictions (typical of the economy, which refers to scarcity), we must resort to:

- 1) Define an economic good (ounce of gold, \$, etc ...) whose unit value (utility) is considered a unit of measure of all manifestations of wealth.
- 2) Define the quantity of economic goods to be measured (10q1, 5 q1, 20 q2, 15 q2,... 150 qn, 100 qn,...). It is a feasible task to do because the economic good is not the element of the economy, but wealth: the value of the economic good to be measured. Here we can see the enormous relevance of the epistemological causal order that we have given to economic entities: **economic good**, whose subjective value is **wealth**, whose dimension is **utility**.

Let us see how the unit of measure of a manifestation of wealth made up of qt units of a type of economic good arises. Knowing that the law of wealth has a specific sense of orientation, from higher to lower utility, it is easy to identify that the one with the smallest dimension will be that of the last measured unit:  $U_{qt} = q_t / q_t = 1$ .<sup>8</sup> Then, because it is the smallest dimension, it is contained in all the others, with which we circumvent the first requirement of any unit of measure.

This is how we understand the relevance of knowing in advance what is the economic good that we are going to measure and the amount to be measured ( $q_t$ ), for two reasons: 1) the quantity defines the relative scarcity of each unit, and 2) because although that of the last unit will always be 1, they will not be equal to each other —unit 10 of a stock of 100 units of bread is not worth

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<sup>6</sup> It is the different value of each unit with respect to the other, components of the same wealth - the law of wealth.

<sup>7</sup> It is the value relative to another manifestation of wealth - the law of exchange or human action.

<sup>8</sup> This shows that knowing the sense-direction of the variation of the value of each unit of measurement, we can measure its movements.

the same as unit 10 of a stock of 50 units of bread, and to know what a unit of bread is not worth the same than a unit of an ounce of gold.<sup>9</sup>

Thus, the only thing that must be done is to define the manifestation of wealth whose unit value (value of **\$1**) will be considered an economic unit of measure. Once that is done, it is only necessary to determine how much wealth is delivered by a unit of measure (**\$1**).

With the simple procedure (which the human being found spontaneously), we completely respect the law of wealth, inasmuch as it all comes down to *considering a unit of economic good, whose value will be a unit of measure, as the total of it in the act of measuring*:  $\$t = \mathbf{1}$ , then we have:  $U_{\$(t)} = \$1 / \$1 = \mathbf{1}$ . In this way we obtain the **relative value-price of \$1** with respect to each manifestation of wealth:  $v_{\$(a)}, v_{\$(b)} \dots v_{\$(n)}$ .

We have determined an economic unit of measure according to the restrictions imposed by the *law of wealth*.

We can conclude that current economic theories failed to obtain a consistent theory of the economic unit of measure by virtue of some of these considerations:

- Assume it as a simple abstract or absolute unit of account,<sup>10</sup> not consider it wealth.
- To suppose that the intrinsic value is constant.
- Not realizing that its function as a unit of account, of all manifestation of wealth, makes it relative to the value of each of these manifestations with respect to it —reverse causality.
- *Not fully aware of the ordinal nature of the wealth law* (decreasing marginal utility of each unit of wealth measured), which means that within the same totality, the values of each unit are not equal.

We can summarize by saying that the theorists did not notice the double relativity of the economic measurement unit: the value of each unit of wealth relative to the number of units of wealth of which it is a part [ $U_{\$(x)} = \$t / \$x$ ] —from which arises that of the last unit as a unit of measurement—, and that relating to other manifestations of wealth [ $v_{\$(q)}$ ].

We conclude on the enormous importance of not altering the natural order of the economic measurement unit, which implies that: considering the value of a unit of currency as such, the inadmissibility of manipulating its quantities, imposing price to the currency and unnatural money prices, as well as the indeterminacy of the economic good whose value will act as a unit of measurement.<sup>11</sup>

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<sup>9</sup> It is explained by the law of exchange, through its relative values, positive by axiom.

<sup>10</sup> From this was where the fateful absolute prices come from.

<sup>11</sup> In direct allusion to irregular credit currencies (paper money).

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