



On the Monetarized and Non-monetarized Contributions to National Wealth

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Abstract

We consider here the necessity of redefining the concept of economic value and the system of measuring the contributions to national wealth, to be included in a new paradigm in economics, whose application should guarantee constant improvement of human well-being. Such a paradigm should be based on an adequate cultural value system. We begin with a brief description of the traditional concept of value, in which the price of a good is determined by the equilibrium between its supply and demand resulting from an unimpeded exchange. Then, the concept of value that should be the basis for the future system necessary for measuring contributions to wealth is introduced. In this concept, the value of a commodity should comprise all the costs that appear during its entire lifetime as well as a margin of profit, and the resulting value ought to be compared with the value corresponding to the utility coming out of its consumption. The corresponding prices are called the total production price and the utilization price, respectively. This comparison should lead to the proper price of the commodity, to be determined using the tools of economic anthropology. This concept of value is nondeterministic. We further discuss the various forms of capital, which are physical, biological, human, social, manufactured and financial. We assume that capital as a whole cannot behave as a simple sum of its forms, and propose that the evolution of capital is modeled as the evolution of a complex system. Application of this approach may show that capital exhibits novel properties, which cannot be explained via the properties of its forms. The central part of the paper is devoted to clarifying the wrong assumption that each monetarized activity positively contributes to human welfare and security. It is explained that there are many such activities whose contributions to wealth are negative. Besides, there are numerous non-monetarized activities that substantially contribute to improving human well-being. We emphasize and illustrate the fact that the non-monetarized sector is a rich source and breeding ground for future progress. In the final part of the paper, we outline that the future system of measuring contributions to wealth should consist of three components—measuring the flow of all monetarized activities, the flow of all non-monetarized activities, and the resulting stocks of all forms of capital. Each component should include a set of indicators. The first component is well-known, but the comprised calculation should include

the proper prices of commodities. The second and third components ought to be developed. The results obtained in measuring the value of the whole stock of capital would indicate whether the society is on the path toward sustainable development or not.

1. Introduction

This study is based on the conviction that a new economic theory, to be developed with the objective of increasing welfare and security for all, should be a crucial element of the new paradigm of human development [1, 2]. Such a theory should include a redefinition of the concept of value in economics, and the way of measuring contributions to economic growth.

In part 2 of the paper, we shall briefly introduce the notions of personal and cultural values. These notions are important for understanding the necessity of establishing a cultural value system as a solid foundation for constant generation of welfare and provision of security for all members of society. Part 3 is devoted to the traditional concept of economic value, in which the price of a good is determined by the equilibrium between its supply and demand in an open and competitive market, and to the concept of value that should be the basis for the future system necessary for measuring contributions to national wealth. The latter concept includes valuing the utility of a commodity coming out of its consumption.

The subject of part 4 is capital in the widest sense and its forms. We shall classify capital in six forms, these being physical, biological, human, social, manufactured and financial capitals, and propose to analyze its evolution as the evolution of a complex system. In part 5, we shall describe the essence of a contemporary economy, which has emerged instead of an industrial economy. This is the service economy, in which service activities are fully integrated with production activities.

Part 6 of the paper concentrates on the wrong assumption that each economic growth positively contributes to human well-being. Namely, there are numerous economic activities that deplete or destroy rather than increase human welfare and security. The monetarized values of such activities should be treated as negative. In part 7, we shall focus on non-monetarized activities, in which no economic exchange occurs, but whose contributions are of substantial importance for improving human well-being. We shall illustrate the great potential of the non-monetarized sector with two concrete examples. Part 8 is devoted to measurements of all contributions to national wealth. We shall present a proposal of the structure of this system, enabling one to measure the flow of all monetarized and non-monetarized activities, and the resulting stocks of all forms of capital.

2. Cultural Values

Personal values are principles accepted by a person regarding his or her survival, accomplishments and fulfillments [3]. They provide an internal reference for what is good, useful, beautiful, desirable and important. Values have a major influence on attitudes and behavior of people, and serve as broad guidelines in solving problems they encounter. They determine our relationships with the social and natural environments. There are ethical, aesthetic, religious, ideological, political, economic and social and personal values [3]. They

are studied in philosophy, psychology, anthropology, theology, political science, economics and sociology. Some values are physiologically determined, and are considered objective, such as a desire to avoid physical pain. Other values are connected to beliefs, and are taken as subjective. A personal value system is a set of consistent personal values [3].

A cultural group is a social entity having common personal values, which are designated as cultural values [4]. They are established in a process of communication of various personal values within the group. A cultural value system represents the foundation of customs and norms of behavior, which lead to laws and other rules of conduct for all members of the group [4]. It permits collective understanding of right, good, beauty and harmony, and, thus, enables the establishment of common goals and expectations of the group.

Personal values can converge with cultural values or diverge from them [4]. Therefore, cultural values represent an external reference against which personal values are measured. That reference ensures integrity of the cultural group.

3. Economic Value

In classical economics according to David Ricardo, the value of a good equals the amount of labor needed to produce it [5]. However, according to Karl Marx, the notion of value is meaningless without an act of exchange, *i.e.*, without a market. In that tradition, Keen [6] wrote that value was the innate worth of the good, determining the ratio at which it is exchanged. That corresponded to the classical concept of cost-determined price, called the production price by Marx. Adam Smith based his concept of economic value on the prices of goods determined by the equilibrium between their supply and demand resulting from an unimpeded exchange [7]. For him, that was the best way of showing producers where to invest and what to produce, and of ensuring the lowest possible prices of goods for consumers.

In today's mainstream economics, Smith's concept of value is unquestioned [7]. Generally, the value of a commodity, *i.e.*, a good or service that is exchanged, is expressed in units of currency. Therefore, it is usually interpreted as the amount of money a buyer is willing to pay for the commodity, *i.e.*, as the price of the commodity. This is a deterministic view, in which the existing uncertainty in valuing a commodity is explained by the insufficiently accurate determination of the price, a deficiency that can be minimized and even eliminated [7-9].

However, during the past century, a non-deterministic view in economics has been founded [9, 10]. It has been realized that the certainty in valuation occurs very rarely. The value of a commodity should comprise all the costs that appear during its entire lifetime, *i.e.*, prior to, during and after manufacturing. The resulting value should be compared with the value that is a measure of the utility coming out of the commodity's consumption, *i.e.*, the return on investment. The corresponding prices can be called the total production price and the utilization price, respectively. The former price should also include a margin of profit. This comparison should lead to the price of the commodity to be referred to as its proper price, which remains to be determined. The time prior to the manufacturing process is necessary for research and development, the costs of which often represent a major part of

the price. On the other hand, during the time after the sale, the costs of commodity liabilities, maintenance and disposal occur and may significantly contribute to the price. The facts that the measurement is performed over an extended period of time, including the utilization time, that the utilization value is also measured, and that the results of the two measurements are compared with each other imply that a certain degree of uncertainty exists [9, 10]. This makes the valuation process probabilistic, *i.e.*, non-deterministic. However, one should look at this uncertainty as a very large area of opportunity for demonstrating imagination and creativity in order to improve human quality of life [10].

“In measuring economic activities, one should also try to address the questions of ethics and social justice.”

According to Appadurai [11], in determining the value of a commodity, one must take into account all the corresponding historical, cultural and political facts. The historical facts should help one understand the whole process of creation of the commodity. The cultural meanings and expressions associated with the commodity in the social context in question and possibly beyond it should be explained by the corresponding cultural framework. The political facts should enable one to fully comprehend the political background established by the interests of different stakeholders involved in the commodity’s supply and demand, resulting in its exchange, and the instabilities that can emerge from this background.

Kopytoff [12, 13] wrote that a commodity is a culturally constructed good exchangeable through certain structured terms. In order to illustrate different cultural constructions, he gave the example of human blood that is exchangeable in Europe as a gift while sold at a certain price in the US.

In measuring economic activities, one should also try to address the questions of ethics and social justice. Related to that, it is worth mentioning Ruskin’s ethical approach to the concept of value in economics [14]. His central point in the book *Unto This Last* was: “It is impossible to conclude of any given mass of acquired wealth, merely by the fact of its existence, whether it signifies good or evil to the nation in the midst of which it exists. Its real value depends on the moral sign attached to it, just as strictly as that of a mathematical quantity depends on the algebraic sign attached to it. Any given accumulation of commercial wealth may be indicative, on the one hand, of faithful industries, progressive energies, and productive ingenuities; or, on the other, it may be indicative of mortal luxury, merciless tyranny, and ruinous chicanery”. Let us note that Gandhi was very much impressed with this book. He said: “I determined to change my life in accordance with the ideals of the book” [15].

Our opinion is that the future way of measuring economic growth should be based on the above described non-deterministic concept of value combined with the concept of value accepted in economic anthropology [16, 17]. The latter concept ought to be used to determine the proper prices of commodities. In economic anthropology, the ways of production,

distribution and consumption of various objects in different social settings as well as their cultural meanings and expressions are studied. The objects include material things, non-material things such as ideas, and things that people do for each other, such as services. The social settings range from small units, like households, through intermediate ones, like companies and villages, to large ones, like regional markets and global advertising systems. Economic anthropologists approach these processes in two main ways [16]. The former approach is social. The questions are: which people make, give, take and consume which objects, and in which situations do they do this? The latter approach is cultural. The questions are: how do different people understand these activities, the objects included, and the people involved? In this holistic approach to understanding all manners of socio-cultural exchange, both monetary and non-monetary aspects of production, distribution and consumption are taken into account. Some economic anthropologists have emphasized individual and collective moralities that should pervade all the relations involved in these activities [17].

“A shift from dependence on manufactured capital as the principal source of economic growth to dependence on human and social capital, capable of unlimited renewal and augmentation, has taken place.”

4. Forms of Capital

The Earth is endowed with physical capital (air, water, soil and minerals) and biological capital (plants and animals), which can be jointly called natural capital [7, 10, 18]. In order to enhance their well-being, people have added to these forms of capital human capital (health, talents, motivation, knowledge, skills, experience, competence *etc.*), social capital (trust, cooperation, communities, schools, enterprises, citizens' groups, governments *etc.*), manufactured capital (technologies, tools, machinery, buildings, vehicles *etc.*), and financial capital (all forms of money) [7, 10, 19-21]. Human, social and manufactured capitals can be jointly called cultural capital. The different forms of capital continuously interact with each other. In these interactions, some forms of capital are enhanced while others are depleted. This process must be taken into account in analyzing the ways of change of the value of all forms of capital, *i.e.*, the level of human welfare and security.

The interactions of the forms of capital are complex, and, consequently, one cannot expect capital as a whole to behave as a simple sum of its forms. Therefore, our opinion is that the evolution of capital should be analyzed as the evolution of a complex system [22]. This means that the process can be conceived as the evolution of a network in which the nodes represent different forms of capital and the links, their interactions. Applications of this approach, in which the focus is on the collective behavior rather than on the individual behavior, have shown that a system can exhibit non-linear properties. In this case, this means that a change in one form of capital may produce a non-proportional change of capital as a whole, *i.e.*, the resulting change in the whole capital can be significantly greater or smaller

than the proportional change. Moreover, a very small change of one form of capital might induce a dramatically large change of capital as a whole. For example, a very small investment in research, in order to enlarge human capital, may result in a very large increase in the whole capital. Such a behavior is referred to as chaotic. Capital as a whole, as a complex system, might exhibit other novel properties, which cannot be explained via the properties of the particular forms of capital [22].

The environmental movement that became increasingly active after the publication of *The Limits to Growth* [23], a report to the Club of Rome, reminded us of the obvious fact that our economy is founded on the existing natural capital. Accumulation of monetary capital alone cannot ensure sustained economic growth and inclusive development [7-10]. On the other hand, this form of capital can cause serious problems like depletion and destruction of resources if growth does not occur in a way that preserves and enhances natural capital. In fact, the report announced the limits of the industrial model of growth, and showed that a significant change in structuring and valuing economic activities is needed [7-10, 13]. Over the past half century, the industrial model has progressively changed to the knowledge-based model of growth, *i.e.*, the economy has evolved from industry to service. This means that a shift from dependence on manufactured capital as the principal source of economic growth to dependence on human and social capital, capable of unlimited renewal and augmentation, has taken place [7-10, 13].

5. Service Economy

The greatest challenge of the XIX century was increasing supply through more efficient production [7]. However, the greatest challenge of the XX century was developing markets capable of consuming the results of increased production.

As the production process increased in complexity and sophistication, the knowledge and expertise required for its components, *i.e.*, for research, development, designing, manufacturing, testing, maintenance and disposal as well as for organization and management, increased enormously [7-10]. Few of these activities were directly connected to manufacturing, but all of them became essential services without which manufacturing could not be undertaken and sustained. Thus, today, a large majority of employees in industrial enterprises are engaged in performing services. In parallel and connected to that, a huge infrastructure of service-related organizations have emerged, specialized in numerous areas of expertise to support expanding industry. What we have today is the service economy, an economy in which service activities are integrated into production activities rather than emerging as a tertiary sector that is divorced from agriculture and manufacturing. Services now account for more than 60% of the global output [7-10].

Before and during the industrial revolution, only food, shelter and clothing were considered essential human needs [7]. Today, that is not the case—services related to healthcare, education, communication, recreation, entertainment, tourism *etc.* have become standard human needs [7-10, 24].

6. Positive and Negative Monetized Values

Money of various types has existed for thousands of years. However, until the beginning of the industrial revolution, only a small part of economic activities involved monetary transactions [7]. Monetization of the economy was an essential characteristic of that revolution. Money has been acting as a catalytic medium to facilitate economic exchange. Today, money appears in the forms of coins, bank notes, checks, deposit receipts *etc.* Its value is based on the public acceptance of the whole social organization created to issue, accept, store and regulate it [10]. The value of money is standardized to enable one to measure the values of all commodities on a common scale.

Until the end of the XVIII century, banks had been mainly engaged in providing commercial loans for trading activities [7]. Little recognition had been given to money as a means of stimulating production. But the high costs of tools and machinery required for industrialization transformed banking into a highly effective social organization for collecting public savings and using them for investment in industry. As industry became an increasingly important source of national wealth and military power, the power of aristocracy and church gave way to the power of money [7]. The monetization of economy led to the monetization of society.

As has been said in part 3 of the paper, for contemporary mainstream economists, the price of a commodity, as its monetized value, is a clear and easily quantifiable measure of the economic activity involved [7-10]. This is a positive monetized value, meaning that the activity involved positively contributes to national wealth. However, there are numerous activities that decrease rather than increase human welfare and security. The monetized value of such an activity is negative, *i.e.*, the activity negatively contributes to wealth creation. It is well known that depletion of non-renewable natural resources and pollution of the environment may significantly negate the beneficial effects of some activities. For instance, the rising costs of mining for oil from deeper layers below the earth's surface increase the price of oil, resulting in a greater contribution to wealth [10]. However, because of the excessive exploitation of this natural resource, resulting in a reduction in the stock of the resource, a negative value is added to wealth for future consumption. Connected to this, one should recognize the activities that are undertaken to compensate the previous negative contributions to wealth.

It should be mentioned that the concept of negative value added was introduced in the context of measuring production changes [25, 26]. The concept can be briefly described as follows. If in an industry within a small open economy established under the protection of a tariff system both final products and intermediary inputs are evaluated at their respective world prices, a negative value added may appear. In such a case, the value of the intermediate inputs at their world prices exceeds the value of the final products at their world prices. This difference is attributed to the inefficiency of domestic production. It is clear that this concept of negative value added differs from the one used in this paper.

As a result of acknowledging the possibility of depletion and destruction of natural capital, the concept of sustainable development was introduced. It was based on the requirement

of best use and preservation of both natural and cultural capital. In September 2015, the UN General Assembly approved a resolution in which 17 Sustainable Development Goals, including 169 targets, to be reached by 2030, were defined [27]. The Goals are: no poverty, zero hunger, good health and well-being, quality education, gender equality, clean water and sanitation, affordable and clean energy, decent work and economic growth, industry, innovation and infrastructure, reduced inequalities, sustainable cities and communities, responsible consumption and production, climate action, life below water, life and land, peace, justice and strong institutions, and partnerships for the goals. However, there are opinions that by attempting to cover all that is good and desirable in society, the chosen targets have ended up becoming vague and hardly reachable [28].

“The monetary way of measuring economic growth fails to reflect enormous improvements in human quality of life because it ignores activities that are carried out without monetary transactions.”

It has been a serious mistake to assume that every form of economic growth positively contributes to human welfare and security [7-10]. The monetary way of measuring economic growth, based on the yearly gross domestic product (GDP) per capita, often fails to recognize the increasing inequalities between various sections of the population and the decreasing living standards of a large number of them. This has been a consequence of a disproportional contribution of the financial sector to fast growth. In his book *Capital in the Twenty-First Century* [29], Piketty shows that, over time, financial capital has grown faster than economy, and that income from this form of capital has been much less evenly distributed than income from labor [30]. This has led to a strong rise in income inequality. He shows that rising income inequality is not a necessary byproduct of prosperity, and that financial capital does not deserve protected status because it brings economic growth.

On the other hand, the monetary way of measuring economic growth fails to reflect enormous improvements in human quality of life because it ignores activities that are carried out without monetary transactions [7-10].

7. Non-monetarized Activities

A substantial part of activities in a society are performed outside the monetarized sector [7-10]. Non-monetarized activities are those in which no economic exchange occurs, *i.e.*, to which no economic value can be assigned, such as self-production, unpaid housework, self-education, recreation, leisure activities and citizen’s group activities. Most classical economists devoted considerable portions of their studies to the general concepts of activity and value, which encompassed non-monetarized activities and values as well [7-10]. But the concept of value Smith defined led in practice to neglecting the non-monetarized contributions to national wealth. Since then, economists have continued to ignore these contributions.

While a focus on monetarized activities has proven to be very useful for understanding production and exchange of commodities, it cannot help one obtain a clear and comprehensive

picture of all the contributions to national wealth [7-10]. In order to obtain such a picture, a broader concept of activity is needed, which will take into account the complex interactions of the monetized and non-monetized sectors. This means that the concept of value should be expanded to enable one to measure the contributions of non-monetized activities to wealth. For instance, let us imagine the impact of stopping all individual assistance provided within families in order to understand how important these activities are for our quality of life [10]. If these activities were performed by somebody else as paid services, the contributions of monetized activities would increase enormously, giving the impression of a huge addition to wealth.

“The non-monetized sector is a rich source and breeding ground for new opportunities.”

As a rule, new social potential first appears in the non-monetized sector, and then in the monetized sector [10]. In this sense, the non-monetized sector is a rich source and breeding ground for new opportunities, *i.e.*, for future progress. Education is an example [10]. From an informal arrangement of transferring knowledge and skills from one person to another many millennia ago, via institutional public teaching and learning in the XIX century, education has become a global industry, comprising all types and levels of acquiring knowledge and skills.

Another example of the great potential of the non-monetized sector is the explosive growth of the microfinance industry in recent decades, serving a large number of people, predominantly women [10, 31]. This industry has shown positive results in reducing poverty in developing countries. The initial idea was to provide microloans to low-income households, which did not qualify for regular borrowing and insurance services. These loans provide the poor the opportunity for self-employment and investment in small sustainable business. The interest rates are determined so, to cover the operational costs and are most often at the market level. The return rates are reportedly very high, coming up to more than 90%. In 2006, Muhammad Yunus and the Grameen Bank shared the Nobel Peace Prize for their contribution to developing the industry.

Let us also mention the work of Elinor Ostrom [32, 33], for which she was awarded the Nobel Prize in Economic Sciences in 2009. Collecting data from a number of different fieldworks and synthesizing the academic work that had been undertaken in the area of common-pool resources, she worked on the relationship between a self-organization of individuals investing in such resources and an institutional government of the resources. Typical common-pool resources are forests, grazing lands, underwater basins, irrigation systems and fisheries. Her aim was to identify the principles that led to success or failure in using those common goods. The research showed that self-organization of individuals could produce successful protection of the common goods and sustainable development solutions over long periods. She analyzed in detail the problem of preservation of common goods with the example of water industry, and developed a successful approach to dealing with the combined non-monetized and monetized activities related to consumption of common goods.

8. Measuring All Contributions to National Wealth

The basic deficiencies of the monetary way of measuring economic growth are the assumptions that each monetarized activity adds to national wealth and that these additions solely determine wealth [7-10]. The value added to wealth is taken to be equivalent to the sum of prices of all commodities, *i.e.*, to the flow of all monetarized activities, which is commonly represented by GDP. The problem arises from the fact that these activities include recovering from natural disasters, remediation for pollution *etc.*, which are undertaken to make up for the contributions that should be deducted from wealth. Furthermore, in this system, the contributions of non-monetarized activities to wealth, which may be greater than the contributions of monetarized activities, are neglected.

The monetary way of measuring economic growth is the same as checking the performance of a business without considering its assets and liabilities [10]. In order to obtain a clear picture of this performance, one must analyze the flow of activity appearing in the profit and loss statement, and changes in the assets and liabilities shown in the balance sheet. The true contributions to national wealth over a longer time can be determined only if changes in the resulting stocks of all forms of capital are analyzed.

The future system of measuring contributions to national wealth should include three components. The first component ought to provide measurement of the flow of all monetarized activities, which has been well-defined [10]. It includes a set of economic indicators [34, 35]. However, the calculation should include the proper prices of the commodities, which are determined through the comparison of their total production prices and utilization prices. The second component should enable one to measure the flow of all non-monetarized activities, which ought to be developed [10]. The quantification of the contributions of these activities to wealth ought to be achieved by a set of non-economic indicators [36, 37]. Finally, the third component should provide measurement of the resulting stocks of all forms of capital, which should be developed too [10]. It should include a set of capital indicators [38-40]. The value of the whole capital should constantly increase, *i.e.*, human quality of life should constantly improve. This quest is based on the experience and belief that human capacity to generate wealth and provide security can constantly increase—but only if an adequate cultural value system is established, in which economic development is focused on people rather than things [10]. Thus, the results obtained in measuring the value of the whole stock of capital would indicate whether the economic growth is truly positive, *i.e.*, whether the society is on the path toward sustainable development. These results should be correlated with the results of measurements of all monetarized activities, whose contributions to wealth can be positive and negative, and of all non-monetarized activities.

Economic indicators enable one to analyze current monetarized activities and predict future activities. There are three types of these indicators—the leading, coincident and lagging indicators [34, 35]. The leading indicators usually change before the economy as a whole changes. Therefore, they are useful in making short-term (six to nine months) economic predictions. The coincident indicators change at approximately the same time as the whole economy changes. Hence, they provide information about the current state of the economy. GDP is one of these indicators. The lagging indicators usually change after the economy as a whole changes. Typically, the lag is a few quarters of a year.

Non-economic indicators should be defined to enable us to identify non-monetized activities, such as self-production, unpaid housework, unpaid daycare, self-education, recreation, visiting theatres, attending art exhibitions, citizens' group activities *etc.*, and measure their contributions to improving our well-being [36, 37].

“The way of measuring economic growth should take into account both the positive and negative contributions to wealth.”

Natural capital indicators ought to be defined to provide relevant information about fresh air, clean water, fertile soil, the available minerals *etc.* as well as about the state of the existing plants and animals [38]. Human capital indicators should tell us in a concise way about human health, existing talents and motivation, developed skills, acquired knowledge, experience and competence *etc.* [39, 40]. Social capital indicators should provide concise information about the state of trust, cooperation, communities, schools, enterprises, citizens' groups, governments *etc.* within the society [40]. Manufactured capital indicators should provide summarized information about developed technologies, manufactured tools, machinery and vehicles, erected buildings *etc.* Finally, financial capital indicators should tell us in short about the state of all forms of money.

The transition to the future way of measuring economic growth requires the acceptance of certain goals and expectations, which will change with time. These goals and expectations are determined by the cultural values, *i.e.*, the common personal values, of the society. In this system, every person should be able to satisfy not only his or her necessity of survival but also the modern necessities of welfare and security.

In the end, we would like to mention and illustrate very briefly the idea of measuring the value of the world's ecological system services, which are critical for functioning of life on the Earth, *i.e.*, for ensuring human well-being, in addition to the above discussed measurement of monetized and non-monetized activities. This kind of measurement is important for understanding the whole picture of sustainable development of mankind. Costanza *et al.* [41] estimated that the average value of 17 services of the entire biosphere was USD 33 trillion per year. This amount should be compared with the global gross national product per year, which was USD 18 trillion the previous year.

9. Conclusions

We have considered here the concept of economic value that should be part of the new economic theory, to be developed with the aim to guarantee constant improvement of human well-being, as well as the corresponding future system of measuring contributions to national wealth.

The first conclusion of the study is that the value of a commodity should comprise all the costs that appear prior to, during and after its manufacturing as well as a margin of profit [9, 10]. The resulting value should be compared with the value as a measure of the utility coming

out of the commodity's consumption. The corresponding prices are called the total production price and the utilization price, respectively. The result of this comparison should lead to the proper price of the commodity, which ought to be determined using the tools of economic anthropology. The facts that the former measurement is performed over time, including the utilization time, that in the latter measurement the utilization value is determined, and that the two results obtained are compared with each other using an anthropological approach, make the valuation non-deterministic.

As has been said in part 8 of the paper, the basic flaws of the monetary way of measuring economic growth are the assumptions that each monetarized activity adds positively to national wealth and that only these contributions determine wealth. However, these activities include the ones whose contributions to wealth are negative as well as the activities undertaken to compensate for the previous negative contributions to wealth. Also, the contributions of non-monetarized activities to wealth are neglected. Thus, the second conclusion is that the indicator for measuring economic growth should take into account both the positive and negative contributions to wealth [7-10].

The third conclusion is that the future system of measuring contributions to national wealth should be made of three components—for measuring the flow of all monetarized activities, the flow of all non-monetarized activities, and the resulting stocks of all forms of capital. Each component should include a set of indicators. The first component has been well-defined. However, the corresponding calculation should include the proper prices of the commodities. The second and third components should be developed. A special research task would be to properly quantify the contributions of non-monetarized activities to wealth and determine the resulting stocks of all forms of capital, *i.e.*, to define non-monetary and capital indicators. We think that the evolution of capital should be analyzed as the evolution of a complex system. However, understanding the interactions of different forms of capital and the behavior of capital as a whole requires a meticulous research effort. We think that successful results along this line would definitely be a valuable contribution to a new economic theory, and, thus, to defining the path toward sustainable development of mankind [1, 2].

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