

Critiques of the Practice of Decomposition: Keynes, Sraffa, Marx and Behavioral Economists

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Abstracts

This paper argues that the apparently innocent practice of decomposition which neoclassical economists conduct on economic data contains some theoretical, methodological and ideological bias. Due to this bias, Marx, Keynes and Sraffa were critical of decomposition and each in his own way. Keynes opposed himself to this process by means of his refutation of the classical dichotomy. For him, the major problem lay in precluding or segregating the dimension of money from economic phenomena. Sraffa focused on the difficulty in measuring the quantity of capital and drew attention to its quantity as economic magnitude, not as physical magnitude. He castigated the neoclassical attempt to disentangle the 'value' dimension from economic phenomena. Marx was most comprehensive in his critique of decomposition. Especially by means of his value concept, he objected to fragmenting social relations into relations between isolated individuals and things. Last but not least, behavioral economics, relying upon the notions of reference-dependence and context-specificity, criticized decomposition of a set of consumption bundles.

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I. Abstraction, aggregation, decomposition

Like other scientists, economists engage in classification and abstraction at the preliminary stage of their investigation. The process of abstraction purports, primarily, to construct basic concepts and to determine units of analysis. This process, among others, includes homogenization and (dis)aggregation. This applies to all economic entities which are roughly said to fall under three headings: quantities, prices and agents.

To elaborate, abstraction may be conducted on apparently 'physical' entities such as commodities or goods, various forms of money, individual capitals, heterogeneous labours and lands of various degrees of fertility.¹⁾ For instance, a proponent of labour theory of value would homogenize various kinds of labour into simple labour. And abstraction may also be performed on various price entities such as prices, price level and interest rates, profit rates, wages and rent. These kinds of abstraction could be made at firm level, industry level or on the level of the whole economy. One obvious condition for the process of aggregation is that the same level of aggregation applies to physical quantities and prices.

Moreover, they may be applicable to various kinds of agents, e.g. individuals, stratifications or classes. In concrete terms, if individuals share some properties which concern the inquiry or if relations or interactions between individuals are not at issue, individuals can be aggregated. Moreover, if aggregates have no autonomy of their own, they would have to be deconstructed and

1) To illustrate, definition of the price of a commodity requires classification of commodities according to its uses and physical properties. Almost all economists of different schools seem to share the view that it is meaningless to distinguish one unit of a commodity (e.g. a Volvo) from its another (e.g. a Benz) unit, in terms of its price, production, etc. This represents a kind of aggregation.

comprehended as disaggregated.

To illustrate, outputs and prices of all the industries are aggregated to constitute GDP (by calculating weights in terms of prices) and the general price level (by calculating weights in terms of quantities). Conversely, the economy may be conceptualized as it is disaggregated into industries. Moreover, if the economist is interested in behaviors of individuals, he or she is to impose some consistency on the behaviors of economic agents and to postulate a metric in which various desires and goods are measured and calculated.

This process seems harmless as the levels of aggregation and disaggregation may depend on the purpose of inquiry and may be relatively independent of theoretical and ideological position of an economist. However, there is one particular part of abstraction which is to be distinguished from the mere aggregation or disaggregation and which has much to do with theoretical and ideological positions of economists. It might be dubbed composition and decomposition.

Aggregation and disaggregation relate to either quantities or prices, but not both. By contrast, composition and decomposition concern the question whether or not economic magnitudes can be divisible into prices and quantities or whether or not persons(agents) and things(goods and services) are separable.²⁾ In concrete terms, decomposition presupposes that a certain compound entity can be neatly dichotomized into value or money and real magnitudes. This kind of (de)composition may be carried

2) The notion of decomposition is not a well-established jargon in the academia. However, Niehans (1969, p.508) and Tversky & Kahneman (1983, p.310), forerunners of behavioral economics, utilized the term in the same sense as used in this paper (as will be explained later). It is also confirmed that the term and its adjective form 'decompositional' are of daily usage in the domain of analytic philosophy or logical positivism (Beany. 2007).

out on both aggregates and disaggregates and on both dependent and independent variables.

Composition may be conceived as the procedure of combining simple entities for the purpose of taking account of emergent properties. As a consequence, the new and combined concept is assigned an autonomous role. To the contrary, decomposition may be understood as an analysis of compounds into apparently constituent parts. In particular, the need for decomposition arises from the existence of economic magnitudes as compounds of physical properties and value properties.

In particular, the notion of decomposition seems closely linked with theoretical and ideological position of economists and is closely bound up with their ideology and theory.³⁾ Especially, a neoclassical economist (NE, hereafter) tends to perform decomposition on economic phenomena in their construction of concepts or variables. For example, they are prone to dichotomize value magnitudes into prices and physical quantities, and to anatomize monetary magnitudes into money and real variables. The neoclassical practice of decomposition has much to do with its postulate of rationality.

The point this paper attempts to make is that decomposition which NE is used to is neither innocent nor neutral. Aware of this, Keynes, Sraffa and Marx were critical of the practice of decomposition in various ways. This comes as no surprise, since NE is imbued with Humean or analytic philosophy, whereas Marx, Keynes and Sraffa are opposed to it.

Suppose two simple entities (x, y) . which could stand for two agents or two markets, may have emergent properties, when they

3) As Aristotle explained long time ago, a pound of beef is a simple entity as it can be divided into many homogeneous parts with no qualitative change. By contrast, human being is a compound or composite since it is more than the sum of its parts such as hands or nose.

are combined. This could be expressed, in simplest form, by $Q = f(x, y) = f(x) + f(y) + f(xy)$. What advocates of decomposition engage in is to attribute changes in aggregate results Q either to changes in x or in y , with little regard to the existence of non-zero partial derivatives.

This paper endeavors to show that Keynes, Sraffa and Marx offered partial or comprehensive critiques of the embeddedness of neoclassical economics in analytic philosophy. Besides, it argues that behavioral economics attacked the most innermost part of neoclassical economics.

II. Keynes on the decomposition of macroeconomic phenomena

Classical dichotomy was the major target of Keynes' critique of mainstream economics. This dichotomy was foreshadowed by classical economists and inherited and refined by NE such as Patinkin and Friedman. Basically, Keynes was convinced that the dichotomy tends to preclude the dimension of money by means of decomposing complex economic phenomena into the real and the monetary (cf. Wicksteed, 1988). Upon decomposition the real gets stripped of monetary aspects and the monetary becomes devoid of real aspects (cf. Wicksteed, 1988).

It is broadly agreed that such quantities as tons of iron or apples are defined in themselves as real, and thus cannot, and need not, be subject to decomposition. It is a variable intrinsically embedded in prices and monetary aspects which constitutes an object of decomposition. Among them are counted prices and costs, the price level, money wage, profit rate and interest rate.

To elucidate, first of all, NE such as Pigou (1941) and Friedman

(1968) are accustomed to decomposing money wage (W) into real wage (w) and general price level (P), i.e. $W = wp$ (or $\dot{W} = \dot{w} + \dot{P}$). In similar fashion, money rate of interest (i_m) is very often analyzed into real rate of interest (i_r) and a change in the price level (\dot{P}), i.e. $i_m = i_r + \dot{P}$, as was done by Fisher (1977, pp.36-44).

A more extreme version of decomposition is that nominal balance (M) is divided by the price level to obtain real balance (M_p), i.e. $M = PM_p$ (or $\dot{M} = \dot{P} + \dot{M}_p$), as advocated by Pigou. Moreover, this accords well with the much older procedure of anatomizing money prices (P_i) into real or relative prices (p_i) and the price level (P), i.e. $P_i = p_i P$ (or $\dot{P}_i = \dot{p}_i + \dot{P}$). This procedure underlies most classical and neoclassical theories of value, in particular Ricardo's and Walras'.

These various kinds of decomposition are designed to capture the real and to exclude the monetary which is alleged to merely hide the real. Overall, these real concepts are obtained, as monetary aspects are segregated from the variables and aggregated into the price level. In this formulation, the real variables are supposed to be determined independently of the general level of prices. It implies that, in the neoclassical world, individual prices are interacting immediately upon each other without producing emergent forces which might, on their own, have impact on individual prices.

Due to their decomposition, NE tends to dissect the market into several independent and isolated markets and then to reassemble them in order to constitute the market system. Hence simultaneous equilibrium. Since NE believes that the whole is no more than the sum of its parts, it does not allow for unintended consequences of human actions.

Since wage, rate of interest and prices represent labour, capital

and commodity markets, changes in the price level stem from other markets in general or from changes in aggregate demand. In fact, it is widely agreed that changes in aggregate demand, as engendered by changes in money supply, would give rise to changes in the general price level than changes in any other variable. Thus this kind of decomposition has the implication that labour market, capital market and commodity market functions independently of aggregate demand.

This may, furthermore, be understood as the claim that the general price level and aggregate demand do not have their own autonomy, or they are merely the ex post sum of individual prices or individual demands, Keynes' insights to the contrary. Another way of interpreting the same idea is that the operation of decomposition rules out coordination failures or unintended consequences of human action.

This implies that the operation of decomposition, though apparently innocent at first sight, has the consequence of precluding money and plays the role of excluding instability and disorder inherent in capitalism. Along this line of thought, NE is prone to claim that real variables constitute the basis for decisions and actions of economic agents much more than Keynes or Keynesians have thought. In fact, NE's adherence to real variables such as real wage, real interest rate, real balances and real derives from their position that an economic agent is more interested in what to buy and consume than how much (s/)he earns or pays in monetary terms.

In other words, NE presumes that it is real variables, not monetary variables, that concern agents. Moreover, the message contained in the 'real' concepts may be enlightening and civilizing in the sense that it warns consumers and labourers not to be deceived by the amount of money they paid or are paid, but to

pay attention to its "real worth".⁴⁾

This encourages the neoclassical view that such agents as labourer and capitalist, creditor and debtor, entrepreneur and consumer are rational enough to be able to change money wages, money rate of interest and money prices in step with changes in the general price level, at least in the long run. As long as this allegation holds good, their presumption that only real variables matter is valid.

This assumption entails several significant implications. First, agents themselves, not to mention economists, are well-equipped to extract changes in relative prices, in real wage and in real interest rate from changes in the general price level. Put another way, they are capable of distinguishing between local and global movements. Moreover, agents should be able to predict changes in the various variables, in particular, in the price level.

The reason why NE used to engage in decomposition seems to be the following. They tend to conceive economic relations as relationships between agents and things (e.g. goods or assets). Moreover, they are prone to explicate price variables as aggregate results of agents' choices based upon these relations.

On the one hand, this motivates NE to conceptualize agents' objects of choices purely in physical or natural quantities. Especially, this accounts for their adherence to real balances rather than nominal balances. On the other, this also induces them to reformulate prices completely as aggregate results of their choices. On this basis NE dichotomizes economic entities neatly into objects

4) This neoclassical practice may be traced back to the classical notion of subsistence wage. The classical notion also supposes that it is real wage that matters and it defines real wage more rigidly in the form of wage basket. Notably, the postulate of rationality which excludes money illusion and on which, in fact, the entire edifice of mainstream economics is built is being threatened by some recent findings of behavioral economics (Shafir et al, 1997).

of choices and into aggregate economic results. This entails decomposition of economic entities into physical quantities and prices.

It is natural that Keynes who was fully aware of the importance of money was a sharp critic of the dichotomy. He insisted that the academic community should put an end to the double life of classical and neoclassical economists between real and monetary (Keynes, 1936, pp.292-293). As a whole, he was concerned with the dichotomy between real and monetary, conceived as a division between parts and aggregate either in terms of prices or quantities.

To concretize, Keynes reasoned that (changes in) aggregate demand which is a monetary compound has its autonomy, which later divides itself into (changes in) output and (changes) the price level. It is only later on that output and the price level are further decomposed into relative prices and relative quantities.

This implies that an aggregate exists prior to its parts, or an aggregate is a compound which is more than the sum of its parts and probably functions independently of its parts.⁵⁾ The rationale for his critique rests on his presumption that real magnitudes are the aggregate consequences of economic processes, in particular changes in the price level, which go on in terms of monetary magnitudes.

From the foregoing it turns out that the operation of decomposition which may be dubbed methodological carries with

5) It may not be far-fetched to vivify this point by some Chinese characters. *Hue*(休) or *Ge*(憩) stands for rest, but one can decompose neither *Hue* nor *Ge* into its constituents without destroying its meaning. The meaning of *Hue* does not become salient until it is interpreted as a man(人) leaning against a tree(木). More seriously, *Ge*, like *Sik*(息), relates closely to breathing a breath which is much more than the sum of a tongue(舌), a nose(自->鼻) and a heart(心). In other words, each of these characters is more than the sum of its components.

it the theoretical consequence of precluding money. Moreover, it may also exercise the ideological function of allowing us to pretend that capitalist economies are stable enough.⁶⁾

As regards physical quantities, Keynes employed aggregates such as effective demand, output, capital, price level, wage, profit etc.⁷⁾ Although he was aware of heterogeneity of various types of labour and of capital goods, he did not regard them as crucial for his analysis. What sets him apart from mainstream economists is to embrace money as a social entity. This means that, for Keynes, money should be conceived as affecting the entire economy, not as functioning in individual markets. In other words, economic magnitudes are so intrinsically monetary that their monetary aspects cannot be separated out and handled by themselves.

This is in line with an interpretation of Keynes as a common-sense theorist, since the monetary and common-sense notions share the commonalities that they are concrete, observable and of daily occurrence (Coats, 1996). As a corollary, Keynes went along with analytic philosophy and logical atomism nor with the earlier Wittgenstein.⁸⁾

6) It is to be conceded that, although Keynes was emphatic on the importance of money, he was not foundational enough to delve into the emergence of money (1936, chapter 17).

7) However, as regards this type of aggregation, the recurrent question is whether the aggregates can be taken as real or substantial in some sense or merely as denoting the existence of more than the sum of its parts. This issue runs through a wide gamut of thinkers; Aristotle (substance and form); Kant (transcendentalism); Marx (value substance and value form); Keynes (effective demand); Hayek (unintended results); Bhaskar & Lawson (critical or transcendental realism).

8) In this regard, Keynes may have some affinity with the later Wittgenstein. Moreover, it is now widely known that Malthus is a forerunner of Keynes not only in his espousal of a underconsumption theory but also in his emphasis on common sense notions and concreteness.

III. Sraffa on the decomposition of the quantity of capital

According to the famous capital controversy, it is of crucial importance for neoclassical theory of capital to define quantity of capital in physical terms. This presupposes that quantity of capital can be measured independently of distributional variables and relative prices. Since, on the neoclassical view, labour and other factors of production can be measured in 'natural' units (only with minor difficulties), production function is safely postulated. This presupposes that land, labour and capital are conceivable as original factors of production which go into the production of consumption goods.

By positing quantity of capital independently of distribution and prices. Samuelson and other neoclassical economists tend to overlook the dimension of 'value'. This amounts to decomposing profits(Π) into real rate of profit(r) and physical quantity of capital stock(K), i.e. $\Pi = rK$ or $\Pi_r = \dot{r} + \ddot{K}$.

it is this practice of decomposition which constituted the target of Sraffa's critique. In fact, his critique aimed at analytic philosophers including Russell and the younger Wittgenstein, as can be revealed in his innovative critique of the latter. This reinforces the argument that Sraffa's position is based on a critique of neoclassical decomposition.

The Sraffian critique centers focus on difficulties in measuring the quantity of capital independently of profit rates and prices (as was foreshadowed by Wicksell) (Roncaglia, 1978, pp.99-101). Sraffians allege that, once it is admitted that real rate of profit is intrinsically related with prices given inter-industry differences in 'capital-labour ratios', quantity of capital cannot be defined and measured in physical or natural units.

In similar fashion that Keynes conceived effective demand as a monetary compound, Sraffa suggested that capital is a value compound which has its own autonomy. In other words, the magnitude of capital is so intrinsically embedded in value aspects that they cannot be separated out and handled on their own. This was demonstrated by the phenomena of capital reswitching and capital reversing, which were shown to destroy neoclassical production function and the demand/supply mechanism in factor markets.⁹⁾

To be concrete, in the well-known production model, $p = wl + (1 + r)pA$ and $q > Aq$, Sraffa's argument is equivalent to the claim that K cannot be posited *in natura*, but must be specified as pAq . The rationale for his critique rests on his presumption that the value magnitude of capital is determined as the result of economic processes, in particular, of variations in relative prices.

It follows that Sraffa may be understood as stressing the 'value' dimension of economic entities. Moreover, exclusion of the value dimension amounts to the fallacy of conceiving a disaggregated economy as if it were an physical aggregate. Unless organic composition of capital is unrealistically assumed to be uniform across industries, this kind of conceptualization and decomposition does not hold.

From Sraffa's point of view, not only a commodity (e.g. five tons of flour) and labour (e.g. six hours of labour time), but also

9) Preference reversal, one of the many anomalies which have provided materials for behavioral economics, is similar to capital-reversing. But preference reversal seems to undermine the foundations of neoclassical economics more seriously than does capital-reversing. On the neoclassical view, the former concerns demand for goods from which is derived demand for "factors of production", the concern of the latter. More important, the former occurs on the level of the ultimate unit of analysis, i.e. individuals, whereas the latter occurs in the market.

money (e.g. ten dollars) can be defined and measured in themselves. However, capital (e.g. two units of machines and three tons of wood) cannot be measured in itself.

Let us highlight Sraffa's critique of decomposition by comparing it with Keynes'. Sraffa had some affinity with Keynes as he gave a cue to the later Wittgenstein's turnaround from his *Tractatus*. Sraffa refuted the decomposition of 'value' magnitudes into price magnitudes and physical quantities, while Keynes was critical of the decomposition of monetary magnitudes into nominal and real magnitudes.¹⁰⁾

However, difficulties in measuring the quantity of capital did not concern Keynes because Keynes was occupied with short-run problems rather than with long-run problems. Employment or capacity utilization on which Keynes focused are relevant in the short-term. By contrast, Sraffa concentrated on long-run position and the quantity of capital which is significant in the long-run.

Keynes was concerned with the issue of monetary versus real concepts, whereas Sraffa was occupied with the question whether the quantity of capital can be measured in physical terms. Moreover, Keynes attempted to convince us that aggregates such as effective demand or the price level do exist and function on their own. By comparison, Sraffa endeavored to demonstrate that an physical aggregate labeled K does not exist and has to be couched in value terms and disaggregated, Keynes' argument against decomposition is linked to his view that economic aggregates are autonomous, whereas Sraffa's critique of decomposition is combined with respect for value dimension and for disaggregation,

Due to their respect for disaggregation, Sraffa cast little doubt

10) In this context, one is tempted to ask what is the difference between price and nominal magnitudes, and between physical quantities and real magnitudes.

on the division of economic magnitudes into relative prices and relative quantities. Moreover, he agreed with NE that the problem of measuring quantity does not arise with respect to land or labor. The reason is that, although labor and land are equally heterogeneous in qualities and kinds, they are distinct from capital in that they are original factors of production which are not produced in the economy. As a result, unlike capital, land and labour may be measured with little reliance on prices.¹¹⁾

Moreover, decomposition of money price, money wage, money rate of interest or nominal balances does not concern Sraffa. Differences between the natural rate of interest or the rate of profit and money rate of interest may be of paramount importance for Wicksell and Keynes, whether they bear upon the general price level or output, By contrast, Sraffa was primarily concerned with differences between general rate of profit and individual rates of profit.

Whereas Keynes' critique focuses on division between parts and aggregate, Sraffa's critique revolves around division between prices (or rates of profits) and quantities. The first type of decomposition, i.e. separation between parts and the whole does not concern Sraffa who was not interested in macroeconomic problems, especially the existence of money and the price level. Consequently, Ricardo and Sraffa may allow for the practice of decomposition as regards money wage, money rate of interest and money prices. Not unexpectedly, economic instability à la Keynes is nearly unknown to the Sraffian as well as to the Walrasian.

Conversely, the second type of decomposition, i.e. division into prices and quantities, was of little relevance to Keynes who was not in the microeconomic field. Not unexpectedly, long-period

11) This may be a clue to the question of possible differences between Ricardians and Marxians.

position à la Sraffa is not familiar to Keynes' viewpoint.¹²⁾ The targets of Sraffa and Keynes might be dubbed microeconomic and macroeconomic decomposition, respectively

In this regard, it is to be noted that Mises' determination of the value of money, since it seems to have much to do with the Sraffian problem (Mises, 1980, pp. 129-131). Mises struggled to explicate the value of money in terms of the Austrian theory of commodity value. He conceived the question of the value of money as entailing circularity.

According to the Austrian theory of value, in order to determine the value of a given stock of money, one has to translate it into a set of consumption goods to which economic agents can attach subjective value or utility ($M/P \rightarrow \sum_i b_i p_i$). However, in order to translate a specific amount of money into a bundle of consumption goods, the value of money or the level of prices should be known in advance. Since the value of money is the one to be explained, there arises circularity.

In order to overcome the circularity, Mises traced the historical value of money back to the time when money was a commodity, instead of proposing simultaneous determination of the value of money and commodities. And, taking its historical value as the starting-point of a chain of revaluations, he came to the determination of the value of money.

What concerns us primarily is the circularity itself. Here the value of money and the 'real' quantity of money are inseparably interlinked, although its nominal quantity may be given. In other terms, Mises was convinced that the quantity of money is defined in economic terms, not physically. His idea that the quantity of money is inseparable from its value is similar to the Sraffian view

12) It is to be conceded that Keynes gets more comparable to Sraffa when he comes to chapters 16 and 17 of *The General Theory*.

that the quantity of capital is neither definable nor measurable independently of its 'value'.¹³⁾

IV. Marx on the decomposition of value and of social relations

Marx seems opposed to both microeconomic and macroeconomic decomposition. Marx would have gone beyond Keynes and Sraffa in his critique of analytic philosophy and the practice of decomposition. For this reason, Marx would have been partially critical of Keynes and Sraffa themselves for their lack of thoroughness.

For this critique, Marx needed the concept of value, which encompasses both the dimension of money and the dimension of value. In other words, economic categories such as money and capital are conceived, in Marx's system, to be value compounds. For example, on Marx's view, capital is a compound of capital goods and money.

Moreover, for Marx, economic categories represent social relations. Of particular importance, capital is a complex social relation in which exchange relation is combined with exploitation relation. Exchange relation and exploitation relation. are reproduced by the circulation of capital goods and money and by the creation of surplus value.

This has the connotation that advocates of decomposition presuppose that social relations and social structure are either unknowable to humans or knowable but invariant. If they were

13) However, Mises' solution seems, ultimately, to run counter to Keynes' stress on the money dimension, as it is likely to reduce the value of money to the value of goods and to admit of little dynamic role of money.

unknowable, one should rest content with empirical regularities between simple entities. If they were knowable but invariant, they could safely be assumed away.

Among other things, Marx constructed such categories as commodity, money, capital. To illustrate, he thought that not only cars or houses, but also commodity in general, as distinct from money and capital, is a useful category. These categories may be akin to animal as the generic name for dogs, horses etc. This means that there are individual x and social x where x stands for commodity, capital, value. And there are two levels of agents, that is classes and individuals.

Neither Keynes nor Sraffa makes a clear distinction between social and individual. Moreover, Sraffa, not to mention Keynes, came up with a value concept as comprehensive as Marx's.

For Marx, social relation is a basic unit or a compound which cannot be decomposed into exchange ratios or into volitions of two agents involved in the relation. More specifically, neither exchange relations can be resolved into exchange ratios between two commodities nor into decisions and actions of two self-regarding parties to the exchange. Moreover, exploitation relations cannot be reduced to wage/profit ratios or to decisions and actions of labourers and capitalists. In Marx's account, money is a compound of social relations, especially exchange relations.

It is characteristic of Marx to conceptualize economic phenomena as a complex of economic relations. From Marx's viewpoint, the critical target of decomposition performed by NE is social relations based on relations between things into relations between economic agents and things. Since Marx conceived the value concept as representing social relations, decomposition is tantamount to giving up the concept itself.

Even Keynes and Sraffa seem to have thought of them primarily

as a compound of economic magnitudes, despite their common objection to the decomposition of the magnitudes. Even when Keynes and Sraffa had social relations in mind, they treated them solely as external to economic entities, i.e. agents and things or commodities.¹⁴⁾ By comparison, Marx conceived social relations as being internalized in economic agents and entities such as capitalists and capital.

Of utmost importance for Marx is the value concept which, through its substance and form, encompasses not only classes and social relations, but also commodity, money and capital. As it is all-embracing, Marx's value concept is a compound of more dimensions than is Keynes' effective demand or Sraffa's concept of value or capital. For the same reason, among the three, Marx is the most diametrically opposed to the practice of decomposition.

V. Kahneman and Tversky on the decomposition of endowment and preference

Kahneman and Tversky initiated behavioral economics in the neighborhood of neoclassical economics. The basic tenet of behavioral economics (BE) is that neoclassical postulate of rationality is untenable (Kahneman, 1994). As it aims to criticize the expected utility theory (EUT), the core of neoclassical economics, it focuses on consumer behavior. For the same reason, BE offers a critique of neoclassical economics in the closest range of the latter, compared to the other three strands of thought already considered.

¹⁴⁾ Needless to say Sraffa neither explained the source of surplus product or surplus value nor relied on exploitation relations. What is at stake in the Sraffian framework is distributional conflict between labourers and capitalists, given the surplus product of whatever origin.

The theoretical position of BE is encapsulated in the so-called value function. The value function is contrasted by its subjectivity with Marx's value equation or Sraffa's notion of value. More to the point, the value function is distinguished from the traditional utility function by the following characteristics: the relevance of gains and losses instead of asset position; loss aversion or asymmetry between gains and losses; diminishing sensitivity to an increase in gains and losses.

From the perspective of BE, agents are sensitive to the current endowment or the status quo which serves as a reference point for choices (Kahneman et al, 1990). In BE, a reference, combined with a specific set of alternatives, creates a context for decision-making. This brings about a series of irrational consequences such as editing, framing, anchoring, and so on.

The significance of reference and context has the implication that BE must be critical of the neoclassical practice of decomposition. In fact, Tversky and Kahneman utilized the pair of terms, composition and decomposition, with a view to distinguish between holistic or intuitive judgment and analytic or probabilistic judgment, the latter of which is taken as the basis of EUT (Tversky & Kahneman, 1983, p.310).

As already pointed out, neoclassical economics posits agents as independent firms and consumers who rarely interact with each other. On this view, each individual agent in isolation is supposed to relate himself or herself to goods, services and factors of production. The independence of alternatives or events which underlies EUT seems to push the practice to its extreme, as it goes so far as to dissect the subjective domain of each individual into independent bundles of goods.

More specifically, EUT argues that alternatives or events or choices are independent of each other at a certain point of time or

over time. More concretely, in EUT, any bundle of consumption goods is defined to be neither related nor connected with any other bundle. EUT is convinced that a set of bundles can be treated not only physically but also economically as a simple collection of isolated bundles. That is to say, a set of bundles is decomposed into independent bundles.

The axiom of independence is refuted by BE. BE argues that the value of a specific bundle varies, depending on the initial point or the status quo. As a set of bundles can create a reference-dependent and context-specific economic space.

Suppose that, in a choice over bundles of apples and books, an agent is indifferent between [1 3] and [2 2]. Seen from the point [1 3], one finds [1 3.5] to be definitely better than [1 3]. But, looked at from the point [2 2], [1 3.5] may be judged to be worse than [2 2] due to loss aversion (Simonson & Tversky, 1992). [1 3] and [2 2] serve as different reference points which provide the basis for different contexts for decision-making. In this example, different references and different contexts result in different choices at the given prices and within the given budget constraint.

It is true that BE shares the view with EUT that an individual such as a consumer is the unit of analysis, in contradistinction to the Marxist perspective. Moreover, BE conceives the concept 'context' more narrowly than linguistic discourse analysis does. But BE does not agree with EUT on the latter's postulate that a set of alternatives and intertemporal choices can be decomposed and made independent of each other. In a nutshell, BE admits of a subjective value space, although it may not go so far as to allow for its being embedded in a society.

VI. Some implications

Due to its practice of decomposition, NE would suppress or omit systematic uncertainty (Keynes), interrelations between quantity of capital and distributional changes (Sraffa), social relations (Marx) or reference-dependence and context-specificity (behavioral economics).

In particular, the practice of decomposition undertaken by NE coheres with its presupposition that economic agents are rational and well-equipped enough to forecast and keep aggregate results of their actions under their control. This implies that they do not accept the view that aggregate results of agents' actions may have their own autonomy or they may turn out to be unintended or destabilizing, nor that the economic system as a whole may demonstrate its own dynamics which is irreducible to its constituent parts.

This is also associated with the fact that NE tends to overlook dynamic processes of the economy, especially since they keep money out of account. This implies that neoclassical economists are prone to rest content with correlation and prediction, as they focus on registering results of economic processes instead of unravelling the processes themselves. As a consequence, in their models which are employed for this purpose. these dynamic processes are captured as shocks or residuals.

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경제현상 분해에 대한 비판: 케인즈, 스라파, 마르크스와 행동경제학자

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논문초록

이 논문은 신고전학과 경제학자들이 경제현상에 대해 일상적으로 감행하는 분해 작업이 겉보기와는 달리 무해한 것이 아니라 특정의 이론적, 방법론적, 혹은 이념적인 편향을 가지고 있음을 주장했다. 이 때문에 케인즈, 스라파, 마르크스는 모두 나름대로 경제현상에 대한 신고전파적인 분해에 대해 반대했다. 케인즈는 고전적 이분법에 대한 반박을 통해 이런 분해에 반대했다. 케인즈의 주요 관심사는 주류경제학이 경제현상으로부터 화폐 차원을 배제하거나 격리시킨다는 데 있었다. 또한 스라파는 자본의 수량을 측정하는데서 발생하는 어려움에 초점을 맞추어, 자본의 수량이 물리적인 수량이 아니라 경제적인 수량임을 내세웠다. 그는 경제현상으로부터 '가치' 차원을 떼어 내려는 신고전학파의 시도를 공격했다. 끝으로 마르크스는 주류경제학의 분해에 대해 가장 포괄적으로 비판한 셈이다. 특히, 그는 가치개념을 통해 사회관계를 개인들이나 물체들로 분해하거나 파편화하는 것을 중점적으로 비판했다. 끝으로 행동경제학은 준거의존성이나 문맥특정성을 강조하면서 소비재 묶음들의 집합이 개별 묶음들로 완전히 분해되지 않는다고 비판했다.

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핵심 주제어 : 분해, 케인즈, 스라파, 마르크스, 행동경제학

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