

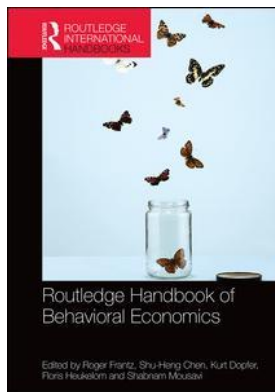
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10

GEORGE KATONA'S CONTRIBUTIONS TO THE START OF BEHAVIORAL ECONOMICS

Hamid Hosseini

Katona and the start of behavioral economics

Since the author of these pages considers George Katona as one of two founding fathers of behavioral economics, the other being Herbert Simon, this chapter begins with some introductory remarks about behavioral economics (see Hosseini, 2003 and 2011).

Behavioral economics is a type of economics, or an approach to doing economic research, that gradually emerged after WWII. According to Gilad, Kaish, and Loeb (1984), its name—that is, behavioral economics—was forged by George Katona. However, Angner and Loewenstein (2012) suggest that the name had first been used by Kenneth Boulding and Harold Johnson in their paper in 1958, and according to Esther-Mirjam Sent (2004), the term had been used by several (un-named) writers in the 1960s.

But what is behavioral economics and how do we define it? According to Herbert Simon (1986), it is a type of economics that augments and amends the existing body of classical and neoclassical economic theory to achieve a more realistic picture of economic process. In their 1986 *Handbook of Behavioral Economics*, Gilad, Kaish, and Loeb proposed three postulates in assessing the nature of behavioral economics. First, economic theory must be consistent with the accumulated body of knowledge in the behavioral sciences, including/especially psychology, which is at the root of the attempt to improve the assumptive realism of economic theory. Second, economic theory should concentrate on, and be able to explain, real world observed behaviors, thus requiring a shift of emphasis to what actually happens rather than the logical condition necessary for things to happen. A manifestation of this postulate is the survey-based research that Katona conducted at the University of Michigan. Third, economic theory must be empirically verifiable with field, laboratory, survey, and other microdata generating technicalities. Furthermore, Hosseini's 2003 paper cites a summary of the general attributes of behavioral economics according to a survey of SABE (Society for the Advancement of Behavioral Economics) members conducted by Gilad, Kuiska, and Loeb. The summary includes the following attributes associated with behavioral economics: first, behavioral economics rejects positivism as a methodological foundation for economic research; second, it refuses to use deductive reasoning as a sufficient basis of economic research; third, it dislikes a static analysis of equilibrium analysis, preferring a disequilibrium process; and finally, it especially objects to the use of the simplistic economic model of rational agents exhibiting

optimizing behavior. This explains why Herbert Simon, as an alternate, introduced the notion of bounded rationality.

According to the author of this chapter, behavioral economics for the most part began in two American institutions—Carnegie Tech’s Graduate School of Industrial Administration and the University of Michigan (Hosseini, 2003). However, Earl (1988), Sent (2004), and Angner and Loewenstein (2012) also add the UK universities of Oxford and Stirling. Whether behavioral economics emerged in two or four academic institutions, Hungarian born (former) University of Michigan professor George Katona should be viewed as one of the two founding fathers of this type of economics, the other being Carnegie’s Herbert Simon.

Thanks to the popularity of Simon’s bounded rationality and satisficing, not to mention that he was the recipient of Nobel Prize in economics in 1978, Herbert Simon is well known and needs no introduction. However, while in at least two papers this author (Hosseini, 2003 and 2011) has demonstrated the contributions of George Katona to the start of (old) behavioral economics, and Curtin had a chapter about him in 1984, contributions of this Hungarian born, psychology trained author to behavioral economics have for the most part been overlooked by historians of economics. And, as suggested by Jose Edwards (2010: 208), Katona was also misunderstood by some economists. This neglect was in spite of the fact that Katona was mentioned in Joseph Schumpeter’s seminal book *History of Economic Analysis* as early as 1954 (p.24). In my view, George Katona and his contributions should not be overlooked. After all, according to Burkhard Strümpel (1972: 3), Katona was the father of behavioral economics or, according to Robert Pratt, Jr., virtually all research done in the field of behavioral economics is an outgrowth of the research done by Katona (p.193).

This chapter intends to demonstrate that George Katona was a founding father of behavioral economics, thus he made substantial contributions to the start of this type of economics. And, although historians of economics such as Esther-Mirjam Sent (2004) believe that Katona’s contributions to behavioral economics were those related to macroeconomics, I would also argue that Katona’s contributions to behavioral economics were also in microeconomics, more specifically regarding the theory of the firm. An example is his 1945 *AER* paper “Psychological Analysis of Business Decisions.” Of course, Katona’s contributions to macroeconomics, in particular to Keynesian consumption function, are more significant. This explains why James Tobin, a towering figure in macroeconomic theory, stated in 1972 that “The careers of consumption function and George Katona have been intertwined since 1945. The consumption–saving decision has been a major subject of theoretical and empirical inquiry to which no one has contributed more than Katona” (1972: 37).

George Katona: from experimental psychology to behavioral economics

Born in Budapest, Hungary in 1901, George Katona entered the University of Budapest in 1918. However, as a result of political turmoil in Hungary after WWI, Katona soon transferred to Germany’s Göttingen University to study experimental psychology under prominent psychologist Müller. Concentrating on the role of experiments in the psychology of perception, Katona received his PhD in 1921. After graduation, he moved to Frankfurt to teach at the University of Frankfurt. To support his income, he also worked in the research department of a bank. In Frankfurt, he continued his research in experimental psychology which resulted in the publication of an award winning monograph in 1923. Working for a bank and witnessing the now famous German hyperinflation when he lived in Germany, he also published a paper on the psychology of inflation in the same year, a paper that received a great deal of attention. According to Wärneryd (1982: 1), because of the success of that 1923 paper, his working for a bank and his

observation of German hyperinflation, Katona became interested in the study of economics. It was because of his decision to learn more about economics that he decided to move to Berlin, and to also work for the Berlin Center of Gestalt Psychology. In Berlin, while learning gestalt psychology from Max Wertheimer, he also learned economics from economist Gustav Stolper (of the famous Stolper–Samuelson theorem). In fact, Stolper, who was at the time editing the weekly *German Economist (Der Deutsche Volkswirt)*, asked Katona to be an assistant editor of that publication. As a result, and gradually, Katona became more interested in economic issues. In fact, between 1926 and 1933 (the year he immigrated to the United States), Katona published numerous articles and commentaries about economic issues, in addition to his paper on the psychology of perception. According to his 1972 published *Reminiscences*, he also wrote a lead editorial for that publication on the causes of stock market crash in the United States a day after the October 28, 1929 stock market crash.

Since that German weekly was one of the first German publications to be banned by Hitler's government in 1933, both Stolper and Katona immigrated to the United States in that year (Katona became a US citizen in 1939). Arriving in New York City, those two established an investment firm with the purpose of advising European investors in the United States. However, that collaboration ended in 1936 when Katona became very ill (with a severe case of tuberculosis), which lasted until 1939.

Psychologist Wertheimer, friend/mentor of Katona, had also immigrated to the United States to teach at the University in Exile (now New School University) in New York City. In 1939, Katona also joined the faculty at the University in Exile, to teach and do research in psychology. Supported by a grant from Carnegie Corporation while at that university, Katona published his important book in psychology in 1940. Because of his scholarship, Katona was invited by Jacob Marschak in 1942 to conduct and direct studies of business reaction to price controls during WWII at the University of Chicago's Cowles Commission for Research in Economics. This engagement enhanced his understanding of business sector behavior. In fact, as suggested by Richard Curtin, "The opportunity for direct observation and measurement of both the attitudes and the actions of business decision makers appealed to Katona" (1984: 501).

In 1944, at the invitation of Rensis Likert, who directed the US Department of Agriculture Division of Program Survey, Katona moved to Washington to utilize his knowledge of the survey method working for that division. It was in Washington, DC that Katona co-directed the first nation-wide survey of ownership of liquid assets in the United States (see Hosseini, 2011: 979). However, in 1947, Katona, Likert and other colleagues at the above-mentioned center moved to Ann Arbor, Michigan in order that they would create the University's Survey Research Center (SRC). Additionally, Katona was also appointed as Professor of Economics and Psychology at the University of Michigan. At SRC, Katona directed nationwide surveys of consumers for some twenty five years. Although officially retired in 1972, Katona remained active at SRC until his death in 1981, when visiting Berlin (at that time West Germany).

Katona: how did he contribute to behavioral economics?

As I argued in 2003 and 2011, Katona should be viewed as a founding father of behavioral economics. As an advocate of behavioral economics, Katona emphasized the psychological foundations of economic behavior, believing that this fact had been ignored in traditional economics. In his 1951 *Psychological Analysis of Economic Behavior*, Katona stated that: "economic process stems directly from human behavior and that this simple but important fact has not received its due in modern economic analysis" (quoted by Hosseini, 2011: 979). In fact, in the same paragraph, Katona stated his aim of helping to create what we now call behavioral

economics. In his own words: “This author has set for himself the task of describing a psychological approach to economic analysis and the current research in the field of economic behavior” (Ibid).

The American Psychological Association (APA) acknowledged George Katona as a founding father of behavioral economics in 1977. In a citation by APA we read:

Katona pioneered the development of a new body of knowledge bridging the gap between economics and psychology . . . His great methodological innovation in behavioral economics was to explain changes in the economic system by analyzing actions and predispositions to action or the individual level of applying micro-data to macro-economic analysis and prediction.

(quoted by Curtin, 2004: 496)

Interestingly enough, Katona, in addition to being critical of “economics without psychology”, was also critical of “psychology without economics.”

Katona’s contributions to behavioral economics appeared in many of his books and essays, especially in three of his books—his 1951 book *Psychological Analysis of Economic Behavior*, his 1975 *Psychological Economics*, and his 1980 book *Essays on Behavioral Economics* (in which he includes an essay by James Morgan). In his 1980 book, Katona identifies three attributes of behavioral economics. First, that behavioral economics is concerned with the actions of economic decision makers that function as consumers, workers, and entrepreneurs. These actions, to him, require the integration of psychological antecedents of economic behavior such as motives, attributes, and expectations (see Hosseini, 2011). Second, that behavioral economics emphasizes the study of the process of decision making rather than the economic consequences of human behavior. For example, how do individuals decide to make major purchases or new investments rather than the exact amounts consumed or invested. Third, behavioral economics is empirical and utilizes an inductive methodology (Ibid).

As an advocate of behavioral economics, Katona questioned some of the basic assumptions of conventional economics. For example, while neoclassical economics assumes a given/fixed utility function, Katona was interested in finding the empirical laws that could be able to describe individual behavior as accurately as possible. Or, while neoclassical economics assumes a close connection between rationality and the maximization of both utility and profit, like Simon, Katona “scrutinized the implications of departures of actual behavior from neoclassical assumptions” (Sent, 2004: 742). Katona, in fact, was critical of the neoclassical assumption of rationality as early as 1951. In his 1951 book, Katona stated that: “unlike pure (neoclassical) theorists, we shall not assume at the outset that rational behavior exists or that rational behavior constitutes the topic of economic analysis. We shall study economic behavior as we find it” (p. 16). He made a similar argument in his 1975 book (p. 218). However, contributions of Katona went through various stages, reflecting his life and economic experiences, as well as the various political and economic situations and events that he faced. While his 1923 essay on the psychology of hyperinflation reflected his reaction as a young psychologist living in Germany to that inflation, his 1924 award winning monograph reflected his exposure to the gestalt psychology of Max Wertheimer when living in Berlin. Katona’s 1940 book in psychology was on the basis of his pre-WWII research in psychology while a professor at New School. However, the outbreak of WWII in Europe renewed his interest in economics. Describing that change of interest, he later wrote: “But I was not fully satisfied with research in psychology. In 1939 WWII broke out in Europe. It provided the opportunity to integrate my interest in economics and psychology” (quoted by Hosseini, 2011: 982). In fact, in 1942 he published a

book entitled *War without Inflation* in which he applied his psychological arguments of his 1940 book to economic behavior, demonstrating that the psychological cause of inflation cannot be ignored.

As a result of his association with the Cowles Commission earlier, which coincided with the US involvement in WWII and its price controls, Katona became interested in the study of business behavior, thus the study of business reaction to price controls in the United States. This explains why, in his 1984 chapter, Curtin argued: “the opportunity for observation and measurement of both attitudes and actions of business decision makers greatly appealed to Katona” (1984: 501).

As a result of that interest, Katona collected and analyzed survey data on reactions to price controls on the part of business, whether produces, distributors, or retailers that provided/sold household durables, relating compliance or circumvention to both economic and psychological factors. In fact, Katona's 1945 book *Price Control and Business* reflected his association with the Cowles Commission, and his studies of business reaction to WWII price controls in the United States. As he stated, the book, which was based on his 1942 to 1944 study, was devoted to the analysis of the “actions of American businessmen as affected by price regulations and other wartime conditions” (1945: 2).

The study, as the basis of the 1945 book, had the following characteristics. In terms of method, this qualitative study included detailed interviews with a small sample of businessmen which he found to be better suited for discovering the types and motives of business adjustments than compiling quantitative data on prices, sales, costs, and profits. The sample included various manufacturers and distributors of a few important consumer goods in Chicago area, not all being affected by price controls (1945: 2). In his 2010 University of Paris dissertation, J. Edwards makes the mention that Katona had viewed his study as an alternative to NBER (National Bureau of Economic Research)-type of analysis whose purpose was twofold. Explaining those two purposes, Edwards wrote: “It was intended at the same time as a recollection of data to support war planning, and as a test of the potentiality of the method of interviews as a legitimate tool of economic research” (Edwards, 2010: 198–9).

At the time, the method used by Katona was rather innovative; it consisted of gathering data/information questionnaires designed (for the first time) to make businessmen discuss with qualified interviewers who were granted relatively wide freedom (Katona, 1945: 8). These data acquired contained information about different pricing procedures utilized for different types of activities. Katona found this method very fruitful. To him, the analysis of the motives and attitudes of businessmen was a worthwhile approach for the study of economic phenomena. And, the method of detailed interviews he found to be an appropriate tool of analysis for that purpose.

Moving to Michigan and establishing the Survey Research Center

As stated before, in 1947, Katona moved to Ann Arbor where, with the support of Likert and Angus Campbell, he founded the University of Michigan Survey Research Center (SRC). At SRC, at least during those immediate post WWII years, Katona's aim was to provide an empirical analysis of the attitudes and motives of consumers. More specifically, Katona's focus at SRC was to understand the role of the consumer in the transition from a wartime economy to “what all hoped would be a new era of peace and prosperity” (Curtin, 2004: 131). To understand Katona's purpose and appreciate that transition, one has to realize that at the end of WWII many, among both economists and the general public, were fearful that the mass unemployment and the deflationary spiral of the 1930s would return. Hosseini's 2011 paper includes a very long

quotation from Katona's 1975 book which describes that false prediction (2011: 981). To many, during the war economic activity had been sustained by government purchases of war materials. Thus, when the war ends, government orders will cease, which would lead to another depression.

False prediction also existed on the inflation side, since others predicted that rapid inflation would emerge after the end of WWII. In fact, Katona also explained that false prediction in the same 1975 book. In his words:

Some economists predicted rapid inflation. During the war an unprecedented large proportion of income had been saved. For several years in succession people had saved approximately a fourth of what they earned and most of the money had been put into war bonds and bank deposits which would be cashed or withdrawn without delay. When people would be spending both their incomes and their accumulated liquid assets, demand would exceed the supply of goods and runaway inflation develop.

(quoted by Hosseini, 2011: 981)

Interestingly enough, Katona had argued that neither of those two catastrophes would occur. In his 1975 book, Katona explained why those catastrophes did not occur:

Surveys conducted in 1945 and 1946 revealed that the American people did not think along those lines. In contrast to the experts, people on the whole were optimistic about economic development as well as about their own financial situation. They believed that the end of the war—a most welcome event—could not have any but good economic consequences . . . nor was rapid inflation expected.

(Ibid)

In fact, many found those two inaccurate predictions problematic. As suggested by Curtin, many economists, as critics, were wondering “whether the underlying economic theory or statistical methodology or both were wrong” (2004: 31). Among those economist critics we can include Nobel Laureate Lawrence Klein who, in 1946, stated that “the order of magnitude of the error involved is great and, what is more serious, it is great enough to lead to disastrous policy recommendations” (1946: 291). To correct such grave mistakes by economists, Klein suggested better (macroeconomic) models with more detailed equations, fewer exogenous variables, and more dynamic specifications (*Ibid*).

Of course, Katona and his SRC colleagues, as proponents of behavioral economics, could not agree with what was suggested by Lawrence Klein. As demonstrated in both his 1946 *AER* essay and his 1951 book, Katona argued that, in addition to information about consumers' financial situations, forecasting (macroeconomic) models also require information on the psychological factors that shape changes in consumers' spending and saving decisions. In other words, according to Katona such economic models also require a correct and realistic psychological foundation.

As stated by Katona in 1975, by incorporating the Index of Consumer Sentiment in his Wharton econometrics model during the 1960s, Lawrence Klein took care of that problem (see Hosseini, 2011: 981). The Index of Consumer Sentiment (ICS), a tool that determines the general feelings of consumers towards the economy, was developed under the direction of George Katona at the University of Michigan's SRC during the late 1940s.

As a behavioral economist interested in macroeconomics, Katona challenged what he called the Keynesian “fundamental psychological law”, one that deals with consumption behavior. Specifically, Katona's intent was to update Keynesian consumption function. In his 1946 *AER* essay, Katona wrote “J. M. Keynes, in describing psychological characteristics of human nature,

did not borrow from psychologists but proposed, without their aid, what he called a psychological law referring to prosperity to assume under the influence of changes in income” (quoted by Hosseini, 2011: 981).

To appreciate Katona's contribution in the area of consumption behavior, the following statements by Rensis Likert are helpful:

When Katona started his work, the prevailing view among economists was that the general level of the total economy and major changes in this level were controlled by the actions of business and government. Consumers were felt to have no influence, since their rate of expenditures was determined by their income, which in turn was controlled by the decisions of business and government.

(quoted by Hosseini, 2011)

And:

When Katona began his nationwide consumer surveys, the prevailing view was that the rate of consumer expenditures was not an independent factor affecting the level of economic activity. Increased or decreased rates of expenditures by business or government were viewed as the factor which determine whether we had good times and bad times. Consumers were felt to have little independent influence.

(Ibid)

To emphasize Katona's contribution, Likert continues: “Amid considerable skepticism, Katona persevered in his view that consumers are important as an independent factor . . .” (Ibid).

Influenced by his 1940 book on psychology, Katona emphasized the role of expectations in macroeconomic analysis, especially as it relates to consumption behavior. Influenced by that 1940 book about psychology of learning, Katona related any type of expectations to psychology. This is obvious in his 1946 *AER* essay. In his own words: “The study of expectations forms part of the psychology of learning, since expectations are not innate or instinctive form of behavior but rather the result of experience” (Ibid: 982).

However, to Katona, the Keynesian consumption function was based on economics without psychology, since, to Keynes, variations in consumption and saving are only explainable by changes in income. Emphasizing psychology and expectations in the 1946 essay, Katona introduces psychology and expectations into the Keynesian notion of consumption and saving and remedies those notions in the following way: first, the volume of consumption and saving does not follow income in a mechanistic way, since it also depends on prevailing expectations; second, one's past experience is not the only factor shaping expectations, since expectations can also be influenced by present factors; and third, thus the average propensities to consume and save too can be influenced (Katona, 1946). To him, that influence could result from “certain types of public and private policies” (see Hosseini, 2011: 98). Katona's critique of the Keynesian consumption function was summarized by Robert Pratt. According to Pratt, for Katona, at any given time, willingness to spend varies according to the degree of optimism or pessimism felt by consumers; optimism and pessimism of consumers being psychological components (1972).

For Katona, consumers, as psychological beings, respond to various stimuli that include television and radio advertisement, packaging, extended warranties, point of purchase displays and others. To him, these stimuli are likely to differ among different individuals at a given time, and for the same person in different points of time. According to Katona, the reason is that individuals perceive and interpret stimuli differently. Here Katona is emphasizing what gestalt

psychologists have called intervening variables which include motives, beliefs, assumptions, prejudices, attitudes, aspirations, feelings, emotions, expectations, values, etc. According to Pratt, for Katona, intervening variables that play a dynamic part in a person's buying or not buying decisions provide the psychological framework within which perceived environmental stimuli are organized and interpreted (Pratt, 1972). On the basis of the arguments Katona had made in his 1940 book on psychology, he assumed that intervening variables are constantly changing; as a result of new learning and experiences acquired by individuals overtime. This analysis by Katona went beyond the Keynesian assumption that individual disposable income is the sole cause of consumption. Katona's conclusion was based on the sample interviews which he conducted with Likert, and using the first national survey on liquid assets. The purpose of that survey (sponsored by the Fed) was to explore the American household's use of the considerable amount saved during WWII (see Edwards, 2010: 204). The steps of the survey method used in those SRC surveys of consumption and savings of the United States' households were explained in the 1946 *Review of Economics and Statistics* paper by Katona and Likert. On the basis of those surveys, Katona (and Likert) concluded that while income may explain consumption behavior in the short run, however, it cannot explain it in the long run since people's behavior changes in the long run. In fact, Katona was surprised as to why Keynes could not see that difference. This surprise can be seen by what Katona wrote in 1951: "Keynes, who assigns great importance to the expectations of businessmen in shaping their policies, does not take expectations into account when he analyzes the factors influencing consumer behavior" (quoted by Hosseini, 2011: 982). Thus, it was Katona who insisted that consumers constitute an important and independent factor affecting the economy. For, as suggested by Likert, "the data he collected, and the analysis that he and colleagues made, gradually demonstrated even to the most skeptical that consumer perception, expectations and motivations can exercise a significant, independent impact on the economy" (1972: 8).

Obviously, what Katona did at the SRC, or his attempt in the creation of his version of behavioral economics, would not have been done without several crucial advances at the time—advances such as probability method of sample selection and other advances in statistics, valid and reliable survey instruments, and methods for machine tabulation and others, since he could not rely on established methods.

Conclusions: Katona's contributions and the economics profession

Katona's contribution to economics in general and to consumption behavior in particular was not appreciated by the economics profession at the beginning. This lack of initial appreciation of Katona's contributions by the economic profession was expressed by James Tobin, a Nobel laureate, and a macroeconomic theorist with many contributions in consumption theory, in his 1972 essay "Wealth, Liquidity, and the Propensity to Consume." In Tobin's words:

A behavioral scientist by training and temperament, he [Katona] brought to economic research quite a different bag of tools and insights from those of technical economists. As a social psychologist, he was probably not surprised to find that he annoyed many of the brethren of his adopted scientific community. What put them off was his disdain for utility maximizing or profit maximizing models of individual behavior, and his failure to base his statistical inferences and macroeconomic conclusions on explicit formal system-wide models.

However, in the next sentence Tobin (obviously not a behavioral economist) appreciated Katona's contributions to economic theory by stating that: "But today we can appreciate, even

from the perspective of economic theory and econometrics themselves, Katona's perception, prescience and persistence" (Tobin, 1972). According to Philip Mirowski, one should not be surprised that neoclassical economist associated with the Cowles Commission would not appreciate the contributions of Katona. The reason Mirowski gives is that: "the Cowles men had little respect for survey techniques or participation observation of social actors. This was illustrated in the cool reception given to the survey on war time price controls conducted by Katona . . ." (quoted by Edwards, 2010: 190). No doubt, Katona's contributions to economics were tremendous. In addition to helping to start (old) behavioral economics, he made substantial contributions at SRC (and its survey methods) and other aspects of economics and influenced various economic theories, as demonstrated in Hosseini's 2011 paper. For example, as argued by José Edwards (2010: 187), Katona's influence on economic analysis can be seen in the "Measurement without Theory" debate that began with Wesley Mitchell, and which later involved Tjalling Koopmans and Viring, as well as the full-cost controversies of the late 1940s and later. James Tobin, in the concluding remarks of his 1959 *Review of Economics and Statistics* paper, made the following comments about Katona's contributions at SRC and to consumption theory:

I would not conclude without stressing the very considerable debt the profession owes George Katona and his colleagues at the Survey Research Center for the imaginative and pioneering work in the collection and interpretation of buying intentions and attitudinal data. Without their leadership, we must still be talking about the importance of consumer psychology for short-term business fluctuations and bemoaning our inability to measure it. Thanks to the experience they are accumulating, we can investigate the questions which attitudes are the most important ones to investigate in periodic surveys and what is the best way to use these data in combination with other economic information.

(1959: 144)

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