



The Austrian Theory of Consumption Period Planning: Some Neglected Contributions from the Interwar Period

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In his famous *Essay on the Nature and Significance of Economic Science* (1932), Lionel Robbins showed through his footnote references that it was the writings of the Austrian economists in the 1920s who were among the primary originators of his own refined definition of economics as “the science which studies human behavior as a relationship between the ends

The revival of the Austrian School of Economics over the last fifty years has been due to a small handful of dedicated and insightful individuals who have successfully built upon the earlier Austrian tradition that ran from Carl Menger to Ludwig von Mises and Friedrich A. Hayek. One of the most outstanding of these contributors has been Jesús Huerta de Soto, and it is in appreciation of him as scholar and educator that this essay has been written.

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and scarce means which have alternative uses” (p. 15).¹ The leading Austrian authorities drawn upon by Robbins on this theme were very clearly Ludwig von Mises (1881–1973) and Hans Mayer (1879–1956). A year before his *Essay* appeared, Robbins referred, in the foreword he wrote for the first edition of Friedrich A. Hayek’s *Prices and Production* (1931), to the “marvelous renaissance” the Austrian School had experienced in recent years “under the leadership of Professor Mayer and Professor Mises” (p. ix).²

Already in his essay on “Economic Calculation in the Socialist Commonwealth,” (1920) and in *Socialism: An Economic and Sociological Analysis* (1922), Mises had outlined the logic of human action under the conditions of scarcity, that made all conscious conduct instances of “rational” decision-making between ends desired and means insufficient to serve all purposes. All “actions” were instances of exchange, the trading between more and less preferred circumstances, independent of their “material” or “non-material” natures, and always occurring in the passage of time, and under conditions of imperfect knowledge and uncertainty

¹The footnote references in the first edition of Robbins’ *Essay* show more clearly the strongly “Austrian” influence on his thinking than in the second edition (Robbins, 1935), in which modifications in the text and deletions in and additions to the footnote references create the impression of different authorities having influenced his ideas.

²Robbins made a point of saying in the preface to his *Essay on the Nature and Significance of Economic Science* (p. viii–ix), his “especial indebtedness to the works of Ludwig von Mises.” But this was made even clearer in the letter that Robbins enclosed with the copy of the book that he sent to Mises on 20 May 1932, just after it was published: “I send you herewith a copy of my modest attempt to popularize for English readers the methodological implications of modern economic science. I hope you will not mind my especial mention of your name in the preface. I have no wish to make you in any way responsible for my crudities of exposition, but if there is anything of value in what I have said it would be most unjust that your name should not be associated with it. It is not easy for me to put into suitable words the magnitude of my intellectual debt to your work.” Mises replied on 18 June 1932, expressing his thanks and complete agreement with Robbins’ contribution: “Only today, I have the time to thank you for the pleasure that I found in having received your book. I have read it with great interest. It is needless to say that I fully agree with your arguments. I only regret that you did not expand your book to include the treatment of a number of other important problems. I am, however, convinced that your latest work will prove to be very successful.” And as F. A. Hayek later pointed out, “Robbins’ own most influential work, *The Nature and Significance of Economic Science*, made what had been the methodological approach to microeconomic theory established by the Austrian School the generally recognized standard [within the wider economics profession]” (Hayek, 1992, p. 53). On the Austrian School tradition, in general, and Ludwig von Mises’s contributions to economic theory and policy, in particular, see, Ebeling (2003, 2010a, 2010b, 2014, 2016).

(1922, pp. 96–97). In a series of essays written during the 1920s and early 1930s, Mises elaborated on this theme, arguing its universality in explaining the logic of any and all human actions. Or as he expressed it in a 1931 essay on the, “Development of the Subjective Theory of Value”:

First, there is the realization that the economic principle is the fundamental principle of all rational action ... If, however, all conscious conduct is an act of rational economizing, then one must be able to exhibit the fundamental economic categories involved in every action, even in action that is called “non-economic” in popular usage. And, in fact, it is not difficult to point out in every conceivable human—that is, conscious—action the fundamental categories of catallactics, namely, value, good, exchange, price, and costs

Action takes place only where decisions are to be made, where the necessity exists of choosing between possible goals, because all goals either cannot be achieved at all or not at the same time. Men act because they are affected by the flux of time. They are therefore not indifferent to the passage of time. They act because they are not fully satisfied and satiate and because by acting they are able to enhance the degree of their satisfaction. (1933, p. 148 & 150)

Hans Mayer was Friedrich von Wieser’s (1851–1926) favorite student. He was appointed as Professor of Economic Theory and Public Finance as Wieser’s replacement at the time of his retirement in 1923. Mayer was considered one of the leading figures of the Austrian School between two World Wars, in the 1920s and 1930s. His most notable contribution during this period was generally recognized to be a one-hundred-page monograph, “The Cognitive Value of Functional Theories of Price” (1932, pp. 55–168), in which he offered a fairly detailed critique of the mathematical equilibrium theories of Antoine Augustin Cournot, William Stanley Jevons, Leon Walras, Vilfredo Pareto, and Gustav Cassel. He contrasted what he called their “functional theories of price,” which focused primarily on the determination and specification of the conditions for a given state of economic equilibrium to exist, with the more dynamic “causal-genetic” approach of the Austrian School, which was concerned with analyzing the origin and formation of prices through the interactions of individuals in the market process, out of which equilibriums may arise.

Because of this and other contributions by Hans Mayer during this period, Wilhelm Weber, in his biographical essay on Mayer for the *Handwörterbuch der Sozialwissenschaften* (1961), said:

Hans Mayer, together with Ludwig von Mises and Joseph A. Schumpeter, formed the three stars of the “younger Austrian School,” with certainly each of them reaching heights of distinction equal to the classic three stars of the older Austrian School [Carl Menger, Eugen von Böhm-Bawerk, and Friedrich von Wieser], out of which they grew. Mayer was, himself, the most consistent keeper and administrator of the inheritance of his teachers; and here, again, especially Wieser’s system, which he continued and reshaped in his own work, and whose essential aspects he protected from all methodological criticism. (p. 264)³

However, the work by Hans Mayer that had the most impact on influencing Robbins’ famous 1932 definition of economic science, evidently, was Mayer’s 1921–1922 article, “Untersuchung zu dem Grundgesetz der wirtschaftlichen Wertrechnung” [Analysis of the Fundamental Law of Economic Calculation”]⁴ Mayer laid out what he considered to be the summary premises of what later became known as the formal “logic of choice”:

From now on, the elementary postulates [of economics] will be expressed in the following generalized form:

1. A *plurality* of given ends.
2. A quantitative *insufficiency* of given means.
3. An arrangement of all the given ends in *a system of ends in an order of importance*. (All the individual ends ranked in terms of significance.)
4. A *connection of all the realizable ends* dependent upon the same means.

Already contained in 1 and 3 is the norm: As many of all the ends should be attained as is possible. The very concept of ends to be attained implies such a norm. And the very essence of a rank ordering of ends implies the requirement that no attainable end of lesser importance is to be achieved before an end of higher importance:

The presence of these postulates clearly necessitates economizing behavior. Behavior that incorporates the distribution of available means for the

³For more detailed overviews of Hans Mayer’s life and contributions, see, Mahr (1956) and Klausinger (2015a).

⁴Hans Mayer, “Untersuchung zu dem Grundgesetz der wirtschaftlichen Wertrechnung,” *Zeitschrift für Volkswirtschaft und Sozialpolitik* (1921–1922). The following references to this article are taken from its reprint in the *Zeitschrift für Nationalökonomie*, Vol. XV, No. 3 (Mayer, 1956). All italics in the quotes from Mayer’s article are in the original. All English translations of passages from this article are by me.

realization of particular ends involves a disposal of the “goods” in an unequivocally determined manner. It is unequivocally determined because given the specific rank ordering of the ends (in terms of their importance: first, second, etc., within the entire array of ends) and given the means, the latter would be insufficient for any arbitrary application of any portion of the total means available. It is obvious that the scarcity of means limits the ends that ultimately can be achieved. Hence, economizing is perpetual problem-solving, a perpetual making up of one’s mind: How shall I divide the total sum of means regularly available to me among the particular ends that, in general, would be most feasible to attain with the given means? This situation of realizing the problem of an insufficiency of the means in relation to the plurality of ends rest upon a clear knowledge of our ordering of the ends (Mayer 1921–22, p. 290)⁵

In the 1920s, a defining characteristic of Austrian theory became this emphasis on the “economizing” act as the unifying concept for the understanding of human decision-making. For instance, a year after Mayer’s formulation, Richard Strigl (1893–1942), another leading member of the Austrian School during the interwar years in Vienna, offered a similar formulation of “the economic problem,” in his work, *Die ökonomischen Kategorien und die Organisation der Wirtschaft* [*Economic Categories and the Organization of the Economy*] (1923):

Suppose that an individual has control over a set of resources which can be devoted to the fulfillment of various ends; and suppose those ends have been arranged in scale of descending importance. The question then arises: How does this determine the ends to which the resources will be in fact devoted? This is the question to which theoretical economics must find the answer ... The formula “distribution of resources among given possible uses” expresses the unifying principle of economic theory. (p. 123)

⁵ Mayer also emphasized that all economic action begins with the “wants” of individuals, but such wants were to be understood in the widest meaning, being anything to which the individual assigns importance as a basis of satisfaction, regardless of being it being “real” or “imagined,” see, (Mayer, 1924, p. 450): “In the theory of economics the doctrine of wants has the task of depicting the final psychological determinants of economic action, of which the economic subjects are still conscious, and of deducing with their help the laws in the course of economic action ... The scientific notion of wants is wider than the customary language; it includes not only ... those desires which occur with great intensity, but every desire from the greatest to the least, and in particular also because in the reality of economic acts, equally, the effects of ‘imagined wants’, that is, things wanted not because you ‘need’ them, but because you ‘want’ them.”

CARL MENGER AND PERIODS OF PLANNING

Economic action is undertaken according to an individual human plan in which the actor has constructed a set of desired ends in a hierarchy of importance and for which he applies means at his disposal for their attainment. From the beginning of the Austrian School, this has been seen as central to the logic of human conduct. Carl Menger (1840–1921), the founder of the Austrian School of Economics, had emphasized that men needed to have a clear knowledge of both their “requirements” (ends) and the available goods (means) to service them. Without knowledge of the first, he argued, men would be acting “blind,” since they would lack the goals to guide their actions in particular directions. And without knowledge of the second, their actions would be “planless,” since they would not know what they had available to work with in bringing their goals to successful conclusion (1871, p. 80).

Menger also explained that the construction of a period of production is for the successful provision of future ends, for which it is necessary to plan ahead. The periods of production are guided by a conception of a “period of provision” for which individual plans to provide. Thus, the human actor designs both production plans and consumption plans. Menger’s theory of consumption planning, as developed in his *Grundsätze der Volkswirtschaftslehre*, is constructed with one consumption period in mind. In his famous table (p. 127) of the logic of individual decision-making, Menger explains the allocation of an actor’s means among alternative competing and complementary ends according to the principle of marginal significance in the context of a single period.

For example, (see Table 1) suppose that an individual has \$100 to allocate among three alternative uses, with an ordering of the marginal

Table 1 Carl Menger’s single period marginal income allocation

| A | B | C |
|----------------------|----------------------|----------------------|
| (\$10) | (\$5) | (\$15) |
| A ₁ | | |
| A ₂ | B ₁ | |
| A ₃ | B ₂ | C ₁ |
| A ₄ | B ₃ | C₂ |
| A₅ | B₄ | C ₃ |
| A ₆ | B ₅ | C ₄ |

significance of the goods as indicated below, given the prices at which units of the goods could be acquired:

The actor would allocate his \$100 of means for the satisfaction of those ends indicated by the bold underlining. That is, five units of “A,” four units of “B,” and two units of “C.”

HANS MAYER AND CONSUMPTION PERIOD PLANNING
GUIDED BY “THE LAW OF THE PERIODIC RECURRENCE
OF WANTS”

In his 1921–1922 article, Hans Mayer tried to extend the logic of Menger’s analysis in a setting of multi-period consumption planning. Mayer argued that the allocation of the individual’s means among these alternative ends seemed “unequivocal,” given the rank ordering of the ends and the means at his disposal. But the allocation that seemed most optimal changed its character if it was remembered that men make their allocational decisions subject to, what Mayer called, “the law of the periodic recurrence of wants”:

Hence, it is certain that because of the law of the periodic recurrence of wants the allocation of goods has to be related to a period of time. This is already verified from the general preconditions of the empirical economy, and not only for a highly developed economic culture with its tendency for as far as possible to make more and more distant future arrangements independent of “chance.” However, the length of the time period over which the economic subjects allocate goods for the satisfaction of wants in the future seems, at the moment, to depend purely on the individual, i.e., on the foresightedness, imagination, and willpower of the individual economic subjects ...

The representation of the system of ends by means of a scale of wants and curves of wants, which is commonly used in theory, does not take into account this characteristic feature of the system of ends of the empirical subjects: that they necessarily exist through a temporal succession of ends with a regular recurrence of the same ends. Scales of wants and curves of wants only capture a non-recurring, timeless representation of an uninterrupted stream of satisfaction for each type of want, from the highest to the lowest intensity of each want. As it were, they only provide a cross-section of an economic subject’s system of ends ...

They are only an *elemental construction* – however indispensable – of the empirical system of ends, but not of the second part, the periodic recurrence of similar ends in time. *In the scale of wants (curves), each point of intensity is found only once in each type of want, but many times in the system of ends in the empirical economy.* (pp. 299–300)⁶

The logic of diminishing marginal utility is usually presented in textbooks by means of a diagram. Units of the available means are applied to serve the end in question, with each unit providing a lower degree of marginal utility than the previous unit, until that degree of marginal utility is reached at which the supply of the means is completely used up. Under the assumption that the individual was to allocate the entire supply of the means during the present period (period t_1), he would attain a level of marginal utility of MU_3 .

Mayer's argument is that this ignores the fact that the same wants reappear with some periodic regularity. A time axis has to be added to the diagram to indicate the periodic recurrence of this particular want. It is assumed that during the income period over which the actor plans the use and allocation of the means at his disposal this particular want reappears three times, that is, three "consumption periods." An optimal allocation requires that he distribute the available means in such a way that no degree of marginal satisfaction is reached for this good in any one of the planned consumption periods lower than in the other two. Or in Mayer's words:

[The actor] satisfies at first wants of the highest intensity during the present consumption period (period of wants). But then, before he starts satisfying less intensive wants in the same (present) period of consumption – guided by the experience of the periodic recurrence of wants – he also secures for himself the satisfaction of the same wants of highest intensity for future periods of wants, over a certain range of time, approximately until the point in time at which he can expect a new inflow of goods (in the form of new output or new income).

⁶Or as Mayer expressed it more formally in a later reformulation of his theory, "Zur Frage der Rechenbarkeit des Subjectiven Wertes" ["On the Question of the Calculability of Subjective Values"] (Mayer, 1953, p. 73): "The introduction of the time factor into value theory and with it the assumption, consonant with empirical fact, that economic subjects in evaluating goods do so in relation to a space of time, leads to the following arrangement: if T denotes periods of the plan, $t_1, t_2, t_3 \dots t_n$, the needs for goods $a, b, c \dots n$, which emerge in the course of their periodic recurrence during the space of time, there results with every type of good a marginal stratum of utilization within which, in a homogeneous series, the marginal utility occurs t_n times."

Only after securing the satisfaction of the top layer of wants within a certain range of time by the allocation of the fixed quantity of goods, does he begin to cover the layer of wants of next highest intensity; once more he evenly divides the goods among the present period of consumption and a number of future periods of consumption. Hence, he arrives at levels of wants of lower and lower intensity by dividing the total quantity of goods available equally among the wants of a longer period which enables several or many small periods of consumption (periods of wants). Finally, he attains a certain marginal layer of satisfaction for each type of want. (p. 297)

By following this rule, Mayer said, the individual “was proceeding strictly according to the norm of economic behavior. He also utilized no part of the supply of goods available to satisfy a less important want at the cost of a more important one. He secured the highest total satisfaction possible, though not only for one, the present period consumption, but for a period of longer duration.”

Mayer’s argument can be explained by using a modified version of Menger’s table, Table 2. There are three consumption periods during which certain wants recur. If the income period over which means at the actor’s disposal are being allocated covers all three of these consumption periods, the agent must allocate his income in such a manner that as many of his wants are satisfied in each consumption period without infringing upon one of those wants that is deemed more important in one of the consumption periods.

Table 2 Hans Mayer’s multi-period consumption period planning

| <i>Income period = \$100 = Three consumption periods</i> | | | | | | | | |
|--|----------------|----------------|-----------------------------|----------------|----------------|-----------------------------|----------------|----------------|
| <i>Consumption period 1</i> | | | <i>Consumption period 2</i> | | | <i>Consumption period 3</i> | | |
| <i>A.</i> | <i>B.</i> | <i>C.</i> | <i>A.</i> | <i>B.</i> | <i>C.</i> | <i>A.</i> | <i>B.</i> | <i>C.</i> |
| <i>(\$10)</i> | <i>(\$5)</i> | <i>(\$15)</i> | <i>(\$10)</i> | <i>(\$5)</i> | <i>(\$15)</i> | <i>(\$10)</i> | <i>(\$5)</i> | <i>(\$15)</i> |
| A ₁ | | | A ₁ | | | A ₁ | | |
| A ₂ | | | A ₂ | | | A ₂ | | |
| A ₃ | | | A ₃ | | | A ₃ | | |
| | B ₁ | | | B ₁ | | | B ₁ | |
| A ₄ | B ₂ | C ₁ | A ₄ | B ₂ | C ₁ | A ₄ | B ₂ | C ₁ |
| | B ₃ | C ₂ | | B ₃ | C ₂ | | B ₃ | C ₂ |

The scale of value in this table has been modified from Menger's to emphasize that now the individual, in having to economize over several consumption periods, may possibly change his preference ordering. Hence, if category "A" represents food, he would wish to assure for himself three meals a day before satisfying any other want in the three periods over which he is allocating his income.

With an income period of once every three days, and each consumption period equal to a day, the actor would plan to allocate \$30 per day to assure his "recurring" desire for food during the entire income period. The remaining \$10 would be allocated among the three "B's" (a drink at a local bar, perhaps, which is also a recurring want). The decision as to the allocation among the "B's" would be indeterminate (unless more clearly specified). It could be "B₁" Period 1 and Period 2, or in Period 2 and Period 3, or in Period 1 and Period 3. This would depend upon his time preference (though this is an element to the allocational decision that Mayer does not discuss).

PAUL N. ROSENSTEIN-RODAN AND PLANNING FOR "THE ECONOMIC PERIOD" UNDER UNCERTAINTY

Paul N. Rosenstein-Rodan (1902–1985) is best known in the economics profession as a pioneer of the "Big Push Model" in the post-World War II period with his theory of economic development through large government-planned and directed investment projects. However, in the period between the two World Wars, his focus and interest were more in the "Austrian" tradition of economic theory. He studied at the University of Vienna under Hans Mayer, and in the late 1920s, served as a managing editor, along with Oskar Morgenstern, of the Austrian journal, *Zeitschrift für Nationalökonomie*, under Hans Mayer's general editorship of the publication.

His 1927 article on, "Marginal Utility" ([1927] 1994) is considered a classic summary of the state of the theory up to that time, and in highlighting the "Austrian" contributions to the theory of marginal decision-making.⁷ He also focused on the role and element of time in economic

⁷Rosenstein-Rodan remarked that, "Hans Mayer was the first to introduce the time factor with his 'law of the periodic recurrence of needs.' When making his economic plan, i.e., when choosing the most suitable allocations, the economic subject must indeed consider several or many need periods and evaluate the importance of his needs over a longer span of time" (p. 179).

decision-making and monetary processes. Part of this emphasis was in further developing themes formulated by Hans Mayer on consumption period planning. Rosenstein-Rodan moved to Great Britain in 1930, teaching at the London School of Economics, before going to work for the World Bank in 1947, and taking up a teaching position at MIT in 1953, which he held until 1968.

Rosenstein-Rodan attempted to develop Hans Mayer's theory of consumption period planning in an article on, "The Role of Time in Economic Theory," (1934), originally delivered as a lecture at the London Economics Club in 1932. He argued that "so far the time factor has not been sufficiently analyzed, and it is generally agreed that such analysis constitutes one of the main tasks of economics in the future." One of the problems concerning the role of time that has not been fully developed was "the determination of the length of time which economic activity has in view – the problem of the economic period." (p. 77).

Like Mayer, Rosenstein-Rodan emphasized that the optimal allocation of means among competing ends could not be determined until a time period over which the means were to be used was specified. "To each change in the period of time for which one is economizing, the economic period as it may be called, there corresponds a change in the optimal distribution of resources. The period of time for which one economizes must be defined in order that conduct may be unequivocally determined" (p. 78).

But the selection of the time-frame over which the economic period was to be defined, he said, was not arbitrary. It was determined by the individual's "system of wants." Rosenstein-Rodan argued that a principle for determining the period for which the individual planned for the satisfaction of his wants was "to be found in a certain quality of the imperfection of human foresight" (p. 80). Rosenstein-Rodan suggested:

Let us consider an individual who establishes an economic plan on a certain definite date. He will estimate his concrete wants (wants for particular units of a good) in such a way as to envisage the most important ones as far in advance as possible. He will not be able to foresee his less important concrete wants so far in advance, but as they decrease in importance he will foresee them only for shorter and shorter periods. This is not because he underestimates future wants – in our opinion that is a false hypothesis – but because the risk factor, which where it can be isolated is represented by a slight modification of the intensity of the concrete wants, becomes so great the further one looks into the future that it becomes impossible in most

cases to evaluate the intensity of such wants in isolation. The fact that the uncertainty factor enters in, makes it necessary to keep, as it were, a special account (“blocks of wants”) in which the concrete wants of the future are lumped together. (pp. 80–81)

The uncertainty of the future, including the specific nature and circumstances in which one will concretely determine the types and characteristics of the goods the individual may desire to consume, therefore, set a limit for him concerning the details of the economic period for which he planned. The nearby Fig. 1, which Rosenstein-Rodan uses, helps to clarify his point.

The horizontal blocks represent concrete wants the satisfaction for which they are specifically planned. The vertical blocks represent “blocks of wants” of a more general and less specific type. The wants considered most important would be most concretely planned for from the perspective of the beginning of the economic period. While those wants of less importance whose character and detail would be less certain would be only planned for a general way.

In Consumption Period 1, the present period, within the wider economic planning period, the actor would have a fairly detailed idea of the particular shape of most of his wants, though even here there would be certain groups of wants about which only a general or blurry idea would be held in the mind of the actor. For example, the individual might have fairly detailed ideas about the food or clothing he wished to purchase during that consumption period (say, a “day”), but only a more general idea about the

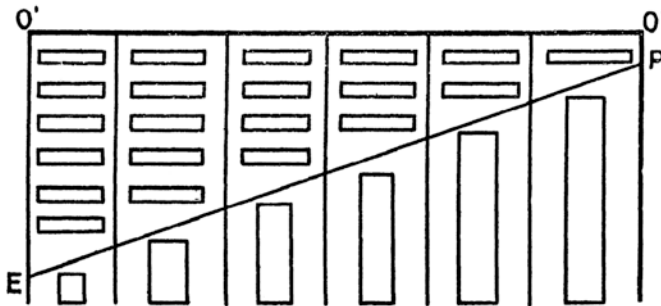


Fig. 1 Rosenstein-Rodan's time planning under uncertainty. Source: Rosenstein-Rodan (1934)

type of entertainment he would possibly pursue that evening (going to the movies, or going out dancing, or having a drink with friends).

As consumption periods extend further out into the future from the perspective of the point in time from which an economic plan is being constructed, more and more of the individual's wants become lumped together in general block categories. Finally, looking far into the future, the individual might only have the most general notion of any wants (say, Consumption Period 6 in the overall economic planning period), for example, that he will want various "somethings" under the general headings of "food," "clothing," "entertainment," "books," "time with friends," and so on. Only as those more distant consumption periods move closer to the present would those "blocks of wants" become disaggregated and particularized into concrete, or specific, wants.

In the diagram, Rosenstein-Rodan said, the diagonal line separating the horizontal blocks of concrete wants from the vertical general "blocks of wants" set the limit of the economic period for which specific multi-period consumption planning is made. Thus, the economic planning period extends over six consumption periods, beyond which the individual's planning takes on a completely non-specific character, that is, an intention to acquire income to assure the future satisfaction of wants, though the content takes on only the broadest of meanings.

OSKAR MORGENSTERN AND MULTI-CONSUMPTION PERIOD PLANNING WITH EXPECTATIONS

Oskar Morgenstern (1902–1977) is best known for his collaboration with mathematician, John von Neumann, in developing, *The Theory of Games and Economic Behavior* (1944). But Morgenstern's interests in the questions of planning coordination and expectations began under the mentorship of Hans Mayer at the University of Vienna. His first book was on *Wirtschaftsprognose* [*Economic Forecasting*] (1928), in which he challenged the ability for economic prediction solely through the use of quantitative and statistical methods.

This led him to analyzing how actors can successfully anticipate the actions of others for purposes of competition and cooperation. This also led him to question the assumption and use of the "perfect knowledge" postulate due to logical contradictions and absurdities when applied to actual market processes.

Morgenstern also attempted to extend Hans Mayer's theory of consumption period planning by introducing "expectations" into the analysis under a variety of alternative assumptions in his article, "The Time Moment in Economic Theory" (1935), which was originally delivered as a lecture at the Vienna Economic Association in 1933. Morgenstern also credited Hans Mayer with being, "the first author who clearly recognized the significance of the time element in value theory," and gave it a "precise formulation" (p. 151). While stating that he took Mayer's formulation as his own starting point, he believed that it represented, at best, only a first approximation for analyzing the nature and process of consumption period planning (p. 157).

Mayer's reference to the periodic recurrence of wants, Morgenstern pointed out, was constructed on the assumption of a uniform rhythmical repetition of all wants. As a result, the actor's task was merely to divide his income into equal portions to cover each consumption period within the wider income period. He suggested that under Mayer's construction there was only a "pseudo introduction of time into value theory."

The next logical step was to assume that wants, while repeating themselves, did not in a non-simultaneous and non-synchronized pattern. Thus, wants recurred during an income period, but with different frequency. For example, the desire for food would emerge each day, while other wants might reemerge only every other day, with still others appearing only once during, say, a three-day income period. The actor would have to allocate his income over the three consumption periods in unequal proportions to assure the maximum degree of satisfaction, or "utility," over the entire income period.

In Table 3, if the actor's income for the period was \$120, the "optimal" allocation, which would exhaust the available means and enable the achievement of the highest degree or ranked order of importance, would be \$35 in Period 1, \$45 in Period 2, and \$40 in Period 3. This allocation would assure optimal utility satisfaction over the entire income period.

However, the real meaning of income management over time, Morgenstern argued, only comes to the fore in the next extension of the theory. The new assumption is

that the course of the recurrence of wants even if still dominated by a strong rhythm is so irregular, that the income periods are no longer mutually congruent. Should the individual totally use up his income in each income period, the income periods would show very dissimilar states of satisfaction

Table 3 Oskar Morgenstern’s multi-period consumption period planning

| <i>Income period = \$120 = Three consumption periods</i> | | | | | | | | | |
|--|----------------|--------|-----------------------------|-------|----------------|-----------------------------|----------------|--------|----------------|
| <i>Consumption period 1</i> | | | <i>Consumption period 2</i> | | | <i>Consumption period 3</i> | | | |
| A. | B. | C. | A. | B. | C. | A. | B. | C. | D. |
| (\$10) | (\$5) | (\$15) | (\$10) | (\$5) | (\$15) | (\$10) | (\$5) | (\$15) | (\$5) |
| A ₁ | | | A ₁ | | | A ₁ | | | |
| A ₂ | | | A ₂ | | | A ₂ | | | |
| A ₃ | | | A ₃ | | | A ₃ | | | |
| | B ₁ | | | | C ₁ | | B ₁ | | D ₁ |

or very different total welfare ... Therefore, in each income period, already decisions have to be made which extend over this period ... Herein lies the actual meaning of management over time ... It seems that one must differentiate between the mere expectation of future events and the action in the present with regard to the future. (pp. 158–159)

The actor’s wants may have a recurring rhythm, or a repeated pattern of reappearance, with their reemergence only in an income period after the present one. The individual must incorporate within his present income period planning some allocation of the means at his disposal into a future income period. Hence, the actor is required to undertake multi-period income planning to assure an optimal satisfaction of his wants.

In the previous example, the respective consumption periods for the respective wants (with the frequency with which each want reoccurred) were shorter than the income period. In this new case, the income periods are shorter than at least some of the consumption periods. The individual’s consumption period planning horizon has to encompass several income periods, with the income allocation to any one income period including the entire *period of provision*.

In Table 4, with an assumed income of \$130 per period, an income allocation limited only to consumption periods within the income period (i.e., the wants that reoccur only with the given income period), would result, in Income Period 1 in complementarity of goods made up, at the margin, of “A₄,” “B₂,” and “C₁,” in both consumption periods.

However, if the individual’s economic period planning horizon extends beyond individual income periods to incorporate the recurrence of want, “D,” which reappears only once in every two income periods (in

Consumption Period 2 in Income Period 2), a different allocation of income is required.

Suppose there is a transfer of \$20 of income from Income Period I, with the foregoing of want-satisfactions, “A₄,” in Consumption Periods 1 and 2. From the perspective of a multi-income period of provision, that is, an economic plan covering both income periods, the want-satisfaction gain, “B₂” and “C₁” in Consumption Periods 1 and 2 in Income Period 2, results in a higher general degree of “utility” satisfaction, under the given assumptions.

Morgenstern also argued that the individuals do not always defer the satisfaction of wants in the present income period to satisfy want satisfactions in a future period, even when the importance of the want satisfaction in the future income period appears to have a higher ranked ordering than the want satisfactions in the more immediate income period. He said that this need not be taken as a demonstration of a positive time preference, that is, as the result of which the future want satisfaction is discounted against the present. Rather, it merely may be due to expectations on the part of the individual that anticipated income in the future will be sufficient to service those more highly ranked future wants. Tomorrow, in other words, will take care of itself, based on present expectations about the future (pp. 162–163).

Table 4 Oskar Morgenstern’s economic period planning over multi-income periods

| ← Economic period = \$260 = Two income periods → | | | | | | | | | | | | | |
|--|----------------|----------------|----------------------|----------------|----------------|-----------------------|----------------|----------------|----------------------|----------------|----------------|----------------|--|
| Income period 1—\$130 | | | | | | Income period 2—\$130 | | | | | | | |
| Consumption period 1 | | | Consumption period 2 | | | Consumption period 1 | | | Consumption period 1 | | | | |
| A | B | C | A | B | C | A | B | C | A | B | C | D | |
| (\$10) | (\$5) | (\$15) | (\$10) | (\$5) | (\$15) | (\$10) | (\$5) | (\$15) | (\$10) | (\$5) | (\$15) | (\$40) | |
| A ₁ | | | A ₁ | | | A ₁ | | | A ₁ | | | | |
| A ₂ | | | A ₂ | | | A ₂ | | | A ₂ | | | | |
| A ₃ | | | A ₃ | | | A ₃ | | | A ₃ | | | | |
| | B ₁ | | | B ₁ | | | B ₁ | | | B ₁ | | D ₁ | |
| | B ₂ | C ₁ | | B ₂ | C ₁ | | B ₂ | C ₁ | | B ₂ | C ₁ | | |
| A ₄ | B ₃ | C ₂ | A ₄ | B ₃ | C ₂ | A ₄ | B ₃ | C ₂ | A ₄ | B ₃ | C ₂ | | |
| A ₅ | B ₄ | C ₃ | A ₅ | B ₄ | C ₃ | A ₅ | B ₄ | C ₃ | A ₅ | B ₄ | C ₃ | | |

Morgenstern also challenged Rosenstein-Rodan's conception of consumption period planning. He stated that it was not necessarily true that the further off into the future one looks, the less certain the specific nature of what one's wants will be, so that various wants can only be closeted into general "blocks":

It should be noted that the claim that there exists a uniform degree of diminution of the specification of all wants is at most a first approximation. Empirical observation of man teaches us rather that there are some wants which are determined in detail over very long time intervals, while others become already foggy after a few hours. At this point one should be warned not to make the mistake of assuming that needs which can be specified on a long-range basis are necessarily of a higher rank than other wants not itemized or not capable of specification.

Rather, we will be able to show conclusively that these things, perhaps contrary to expectations, do not have to indicate any connection with each other ... The proof that many transactions of tomorrow are not at all organized to the last detail and made clear and that, on the other hand, I know exactly that in three months I will go to a health resort for a week in order to lead a well-defined life in an exactly specified sanitarium, etc., that is, that I will be able to determine this more accurately than where and what I will eat for dinner in a week, i.e., in a much shorter period, will lead one to discard the assumption that the crux of the matter had been hit by those writings which have hitherto been pre-occupied with the more global nature of needs seeing in it a solution to the problem of time in value theory. (p. 161)

For the remainder of his essay, Morgenstern merely touched upon the points that would require further development in a theory of consumption period planning. For example, not only did wants reoccur in an irregular rhythm, but an individual's income might be irregular, too, both in terms of amount and frequency of receipt. "Empirically, of course, both need and income, are subject to constant changes and the problem of it to attain a uniform state of welfare over time is evidently different in degree of difficulty according to the various layers and cases of consumers. In addition, economic managements take place usually in an unstable environment of changing prices. The components of expectations thus become more and more complicated," Morgenstern pointed out. "This is certainly a field that opens up a myriad of possibilities before the theorist" (p. 165).

There are also the complexities that arise from the fact that time periods when choices are made, when plans are executed, and when goods are consumed, may overlay in various different ways. There are also durable goods that can service wants several times before needing to be replaced through new acts of production. (pp. 165–166).

And, finally, there is the extension of the theory to the arena of market exchange. “A complete survey of the problems arising from the inclusion of time in value theory and the ways to their solution requires, however, further treatment of time management by the entrepreneur, because they show up a number of peculiarities,” Morgenstern continued. “From the management of time by the consumer and the entrepreneur, then, results a genuine inclusion of the time element in theory of the exchange economy. Such an approach penetrates the problem much more than some introduction of time-parameters into some system of equations and the tagging of all economic processes with time indices” (p. 167).

THE “END” TO THE AUSTRIAN SCHOOL IN VIENNA

The types of questions and additional lines of inquiry raised by Oskar Morgenstern for an “Austrian” theory of consumption period planning were, seemingly, never developed further by any of the members of the Austrian School. And few historians of economic thought (particularly in English) have even taken notice of this interwar literature.⁸ It may be reasonably asked, “Why”?

First, by the end of the 1930s, many of the active members of the Austrian School had left Vienna. For instance, in 1930 Rosenstein-Rodan moved to Great Britain, followed by Friedrich A. Hayek in autumn 1931, when he accepted a position at the London School of Economics. Gottfried Haberler left for a research position at the League of Nations in Geneva, Switzerland in 1933, and then took up a professorship at Harvard University in 1936. Fritz Machlup accepted a position at the University of Buffalo in New York State in 1934. Ludwig von Mises departed in the fall of 1934 for a visiting professor’s position at the Graduate Institute of International Studies in Geneva, where he remained until leaving for the

⁸ See Emil Kauder, *A History of Marginal Utility Theory* (Kauder, 1965, pp. 163–167), which is a notable exception. Kauder spends five pages very briefly outlining parts of Mayer’s and Rosenstein-Rodan’s discussions of “the time element and consumer strategy.” He does not, however, refer to Morgenstern’s article discussed in this essay.

United States in the summer of 1940. Oskar Morgenstern found himself exiled in the United States during a lecture tour, when Austria was being invaded and annexed by Nazi Germany; he found it politically impossible to return to Vienna. Several others associated with the Austrian School in Vienna found themselves in similar situations, and relocated to the United States during 1938 or 1939.

With this “Austrian” diaspora, the close proximity of like-minded thinkers interested in the same theoretical and applied questions was noticeably lost. They were dispersed to other parts of Europe and America, where economic questions and concerns into which they needed to be academically integrated were different than those they had shared with each other on a regular basis in Vienna. Remaining in Vienna, besides Hans Mayer, were only a handful of “Austrians” affiliated with him, including Leo-Schonfeld-Illy and Alexander Mahr, both prominent members in Mayer’s circle. Richard Strigl died in Vienna in 1942.

Second, in the English-speaking world, theoretical interests surrounding consumer choice and marginal decision-making were increasingly focused on, especially, Pareto’s “indifference curve” approach, as restated in J. R. Hicks and R. G. D. Allen’s, “A Reconsideration of the Theory of Value” (1934), which soon became the dominant analytical framework in microeconomics. That Hans Mayer had offered trenchant criticisms of the assumptions and logic behind the Paretian indifference curve approach in his 1932 monograph on functional theories of price (pp. 109–125), did not go unnoticed. Hicks and Allen said, in passing, at the beginning of their “Reconsideration” that there had been “some very interesting inquiries into what may be called the dynamics of the subject, due to contemporary writers of the school of Vienna.” (p. 52) But no other comments were made.⁹

The Pareto-Hicks indifference curves seemed to offer simplicity and conceptual elegance by capturing in one image the idea of the individual’s field of ordered preferences superimposed on the trade-off constraints of relative prices in the form of the budget line. Through their interaction, there was offered a mathematical determination of both the “objective” and “subjective” marginal rates of substitution between alternatives, along with the (real) income effects resulting from shifts in relative prices at which alternatives were offered and taken.

⁹And even this comment was not repeated in Hicks’ *Value and Capital* (Hicks & Allen, 1939), a few years later.

No such diagrams or mathematical formulations were found in the writings of the interwar Austrians. No similar easy-to-read-off-the-diagram “solutions” to economic questions that were asked were offered to the reader. Besides, practically all the writings on this “Austrian” theory of consumption period planning were only available in German in the interwar period, most especially Hans Mayer’s writings, a language in which most British and American economists were not always comfortably conversant.

But even if some of them were able to read German, any theoretical alternative to the growing appeal of the indifference curve approach for consumer choice theory was not brought forward by the “Austrians.” Oskar Morgenstern’s 1935 article seemed to end the discussion, even though the questions and problems he said remained open to debate with the introduction of the “time element” into consumer choice theory, failed to bring about any noticeable contributions. As the originating expositor of the theory, it would have been expected that Hans Mayer would have extended and developed his own “first approximation” to the idea. Yet, Mayer failed to add anything more to what he already had said in the 1920s.

HANS MAYER’S “BETRAYAL” OF THE AUSTRIAN SCHOOL

This gets us to a third reason for the theory remaining unfinished: Hans Mayer, himself. Many of the interwar generation of Austrian economists in Vienna later said that after suggesting so much early “promise,” Mayer turned out to be, in their words, unreliable, “neurotic,” and an “intriguer.” He resented and envied what he considered to be the greater intellectual successes and the wider popularity with students of his “rivals” for influence on the faculty at the University of Vienna, and for the “leadership” of the Austrian School, especially in the person of Ludwig von Mises (Craver, 1986).¹⁰

Even worse, Hans Mayer chose to stay in Vienna and collaborate with the National Socialist regime following the annexation of Austria into the

¹⁰In a footnote in his essay on “Economics and Knowledge” as published in *Economica* (Hayek, 1937, p. 47), F. A. Hayek said, “It is true that Professor Mayer has held out before us the prospect of another, ‘causal-genetic’ approach, but it can hardly be denied that this is still largely a promise.” It is noteworthy that when Hayek reprinted this essay in his collection, *Individualism and Economic Order* (Hayek, 1948, p. 35), this footnote had been removed.

Greater German Reich in early 1938. Indeed, as president of the Austrian Economics Association, Mayer sent out a letter to all members almost immediately after the arrival of the German Army and the Gestapo that under the new circumstances “non-Aryan members” were being expelled from the association (Mises, 1940, p. 99).¹¹

Then at a meeting of German economists held in Berlin, Mayer participated in a symposium on, “Serving the National Economy as a Task of Economic Theory” (1939). While defending the “autonomy” and universal logic of economics in the form developed by the Austrian economists (in comparison to the Walrasian and Paretian mathematical general equilibrium approach), Mayer also made it clear that in the “new political reality” created by German National Socialism, the task of economic theory and its application was to serve the tasks set for the German people by the regime:

There is a necessity of reformulating anew German economic theory in the context of the new purposes that exist for German political economy to solve, as these have materialized under National Socialism [...] Just as the “individualistic” theory of economics has shown the necessity of establishing a descending ordering of ends, given the scarce availability of means to serve them, the same logic applies now where the starting point is the national economic system as a whole, from which the particular features of a new “national” political economy may be understood, under new relevant assumptions ... Economic research methods are nothing but tactics on the battlefield of problems to solve, and must adapt themselves by various means to ever-changing situations [...] It will be possible to use many a brick of earlier [economic] theories for the construction of a new theory of a “national socialist” economy.

Through political intrigue and opportunistic maneuvering in the Nazi “new order,” Mayer succeeded in maintaining his position as a senior professor at the University of Vienna during the National Socialist period of Austrian history (1938–1945). He was also able to successfully play the same games in the postwar period of the Allied occupation of Austria and Vienna, to maintain his professional standing, until his death in 1956.

Mayer’s active accommodation with the Nazi regime lost a good part of his remaining stature and reputation both inside and outside the

¹¹For a history of the Austrian Economics Society, including this episode and Mayer’s conduct following the annexation of Austria and during the war, see, Klausinger (2015b).

Austrian School. Furthermore, the postwar period saw little new in the essays and articles that he wrote in the last ten years of his life. For the most part, they were restatements of his earlier writings from the interwar period (e.g., 1953). One exception was his, “John Maynard Keynes’s ‘New Foundation’ to Economic Theory,” (1952), in which he offered a micro-Austrian critique of Keynes’s “aggregate” approach in *The General Theory*.

Those who had known and interacted with him in the Vienna of the interwar period often expressed contempt for his conduct during the Nazi era. He and his earlier contributions often lost all respect in their eyes. An especially strong instance of this is found in Lionel Robbins’ *Autobiography of an Economist* (1971). He explained that his trips to Austria in the post-World War I period had made him deeply attached to the Vienna of that time. But ... his “love-affair” with the culture of the city had been imbittered by the National Socialist period and, especially, the conduct of someone like Hans Mayer:

This [...] cemented [...] a love-affair with Vienna, its setting and its culture, which only terminated on the morrow of the *Anschluss* [the German annexation of Austria in March 1938] when, to his eternal shame, Hans Mayer, the senior Professor of Economics in the University of Menger, Wieser and Böhm-Bawerk, whom I myself had more than once heard denouncing Hitler and all his works, instead of closing it down as he honorably could have done, expelled the Jewish members from the famous Nationalökonomische Gesellschaft [the Austrian Economics Association] of which he was the president. (p. 91)

Thus, closed one of the chapters in the history of the Austrian School. The school’s continuation and revival in the period since the Second World War has fallen to other hands, mainly in America and in a number of important centers in Europe.

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