THE ROLE OF THE FRAME OF REFERENCE IN WAR
AND POST-WAR ECONOMY

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ABSTRACT

Viewing a situation or problem within different frames of reference—either appropriate or inappropriate—may account for different reactions to the same economic situation and different answers to the same economic problem. A new experience can be fully understood only if it is placed in the proper framework. In the light of these psychological principles it appears more probable that, after the war, wartime economic habits will be completely discarded than that they will persist. To achieve economic behavior appropriate to the requirements of an unstable and changing post-war world is a major task of social education.

The purpose of this paper is to show what role the frame of reference of important economic groups plays in determining economic decisions and actions, especially in times of rapid changes such as occur in war and post-war economy. An attempt will be made to indicate that changes in the field conditions may require changes in the frame of reference—in other words, that one framework may be adequate for coping with certain field conditions but not with others. The argument will be presented that real understanding of new experiences is possible only if they are placed in a framework appropriate to them. Instead of discussing these issues theoretically, concrete and specific examples will be analyzed to illustrate, amplify, and support the points made.

That different behavior in the same objective situation—that is, different responses to the same stimuli—frequently occurs, depending, for example, on the past experiences, the personality, the desires, or the expectations of the responding persons, is commonplace. Yet economic thinking is frequently governed by the implicit assumption that new stimuli predetermine the prevailing response to them. Thus manufacturers and farmers are said to react to price increases by increasing their sales or production, or businessmen to react to the imposition of price ceilings by selling their merchandise at the ceiling prices. In the analysis of such actions the manner in which differences in motives and attitudes may affect or alter business decisions is usually neglected. The following example of two different decisions taken under similar circumstances is selected to point to the significance of linking economic and psychological analysis and to introduce the term “frame of reference.”

Of two manufacturers of men’s shirts, one, at the beginning of 1943, had lowered the quality of his product in order to save a few cents in the cost of each shirt. He had done this by buying cheaper fabrics, cutting down on workmanship, and eliminating collar linings. The other manufacturer had done nothing of the sort; in the autumn of 1943 he was still making the same quality shirt as he had a year before.

Why had the first manufacturer changed the quality of his product? He explained his decision thus: “Every student of economics will readily understand that the function of a businessman is to make as much profit as possible. Likewise, there is no doubt about the fact that we have now what is called a seller’s market; orders on hand are much larger than our current output, although we are working at full capacity. We could sell much more than we produce, but due to the war we cannot increase our output. Finally, there is price control: we are forbidden to raise our prices even though some of our expenses have increased and our customers would be willing to pay higher prices. I have been in business for 20 years; I always charged the highest price the market could bear; now for the first time I am forbidden to do so. Isn’t it natural that I should save what I can on my expenses? Before the war competition made such savings impossible, but now in a seller’s market, it’s different.”

The Committee on Price Control and Rationing at the University of Chicago, of which the au-
In studying the business policy of the second manufacturer one might have expected to find certain differences in his market which would explain why he had acted differently. But this man described his business situation in the same way as his competitor. He could sell whatever he could produce at high prices, but, of course, he is subject to ceilings. True, some expenses increased; but, because of large volume and steady production, business is not unprofitable. "Price control is a good thing," said the second manufacturer. "It applies to the fabrics I buy as well as to the shirts I sell, and runaway prices would hurt my business. What I am most interested in is keeping the goodwill of my customers, which I am going to need very much when the war is over. That is why I scrupulously watch the quality of the fabrics I buy, and why the workmanship of my shirts will not deteriorate as long as I can help it."

The two manufacturers are in the same situation. To put it in psychological terms, they react to the same stimuli, namely, to demand exceeding supply and to price ceilings. Yet they react differently. Why? Because their frame of reference differs. In explaining his business conduct the second manufacturer spoke of the war, of inflation, and of what would happen after the war; while the first one never mentioned any post-war problems and spoke of the war as if it were nothing but another upward swing in a business cycle. The business decisions by the first manufacturer are made within his old, traditional, pre-war context; what the economist calls "maximizing profits" rules his frame of mind. The second manufacturer, however, lives in a new "field"; within the war framework, costs, prices, and profits have acquired a new meaning. Business conduct appears to be determined by such changes in the frame of reference.

The example of the two shirt manufacturers is a rather complex one. The main-

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The argument in the text is based on research of Gestalt psychologists. "In different whole situations, an A changes necessarily as part, in its role and function" (M. Wertheimer, Social Research, II [1935], 357). Concerning the usage of the concept "frame of reference" in psychology, see K. Köhler, Principles of Gestalt Psychology (New York, 1935). This concept has been applied to economic behavior.
One frame of reference may be inappropriate and inadequate for a given task or a changed situation, while another frame of reference may be the appropriate one or may fit a new experience. The example of the two shirt manufacturers is perhaps not fully suitable to illustrate the criteria which determine, in some cases at least, whether or not the organization of an experience within a framework is appropriate. The clearest example of the distinction between appropriate and inappropriate frames of reference is provided by analyzing the process of solving problems or answering difficult questions; for the solution of a problem often consists in reorganizing a given frame of reference or in finding the appropriate frame of reference for a new and puzzling experience. The analysis in G. Katona, War Without Inflation: The Psychological Approach to Problems of War Economy (New York, 1942). We cannot attempt here to discuss the history of the concept "frame of reference," since this would require a separate article.

Support for this proposition of Gestalt psychology can be presented by reference to a problem taken from an entirely different field. N. R. F. Maier (Journal of Comparative Psychology, X [1930], 142) presents the following task: Here are nine points:

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\begin{array}{c}
1 \quad \cdot \quad \cdot \\
\cdot \quad \cdot \quad \cdot \\
\cdot \quad \cdot \quad \cdot \\
\end{array}
\]

The problem is to draw four straight lines, passing through each of the points, without lifting the pencil and without retracing. The solution is difficult because most people see the nine points as a square with a center point and try to solve the problem within the perceptual frame of the square. The solution consists in "going out of the frame"; it requires supplanting an inappropriate frame by an appropriate one. In this example the rigid frame of reference which makes it difficult and often impossible to solve the problem is brought about by a law of perception (seeing symmetrical points as a unified figure with fixed boundaries).

The following question was asked in a nationwide poll in the fall of 1942: "If income taxes are increased next year, will this affect prices in general, or won't it make any difference to prices?" A substantial number of people answered that (a) raising income taxes would not make any difference to prices. Some people argued that (b) if taxes are raised, prices will go up, because taxes are business costs, and higher costs mean higher prices. Others again concluded that (c) under present conditions increased income taxes would help to keep prices stable or—other things being equal—would even lower prices: money available for spending is curtailed by additional income taxes; with higher taxes, less money competes for the limited wartime supply of consumer goods.

The three different answers to the same question show what is meant by lack of understanding (answer a), misunderstanding (answer b), and real understanding (answer c). Let us analyze, first, lack of understanding as illustrated by the assertion that higher income taxes would not affect prices. According to the classical theory, it is always the new, the unfamiliar, which we do not understand. Suppose someone reads the Latin words *vis major* for the first time. He does not understand them. Then he looks in the dictionary and finds the definition "act of God." By repeating "*vis major*—act of God" several times, by forming an association between the two, he makes sure that the next time he reads those Latin words he will understand them. Understanding, according to the classical theory, is the result of association.

The question was asked in connection with a survey initiated by the Office of War Information concerning the people's knowledge of, and their attitudes toward, anti-inflationary measures.

This theory is based on the traditional analysis of learning to read, according to which that process consists in forming an association between three elements—a printed or written word, its sound, and its meaning. "To give meaning to an object one must form associations with it" (H. B. Reed, Psychology of Elementary Subjects [New York, 1927]). F. W. Bridg-
More and more evidence seems to indicate that this theory is, to say the least, one-sided. Understanding in typical and most important instances is not obtained by forming a connection between the new and the familiar. And what we do not understand is not necessarily new or unfamiliar. To those who said that raising income taxes would not affect prices, the two ideas “tax increase” and “price movement” were not unfamiliar, and mere repetition of the two ideas would not have brought about an understanding of the problem. Lack of understanding results not merely from the absence of any connection between two experiences but also from the absence of a frame within which an experience finds its place. Understanding may be lacking with respect to familiar matters, such as prices and taxes, just as well as to new discoveries, such as radar and airplanes.

Lack of understanding is overcome by viewing previously unrelated items as integral parts of the same context. The greater context may, however, not be the appropriate one. In that case misunderstanding may result. One typical instance of misunderstanding is characterized by the carrying-over of a framework, a principle, a general consideration, which is appropriate in situation X, to situation Y without regard to the different requirements of the two situations. In considering the problem of higher taxes, for instance, some people recalled that “wage increases tend to cause price increases, because wages are costs, and what is one man’s cost is the other man’s price” and concluded that “taxes, too, are costs and therefore tax increases would also cause price increases.”

The analogy between wage increases and tax increases, however, cannot provide the adequate frame for solving the problem presented, because it does not clarify the relationship between wartime tax increases and price movements. Within the inappropriate frame of reference the essential relationship is not properly established: while higher wages would result in an increase in the wage-earners’ purchasing-power, higher income taxes would have the opposite effect. Misunderstanding is characterized by lack of structural clarity, despite the presence of a seemingly unifying framework; the relation of the parts to one another is not clarified, the parts do not fit, and “gaps” or unsolved problems remain.

On the other hand, by viewing both tax increases and price movements within the context of available purchasing-power, not only are the two items related, but their meaning and mutual relationship are properly established. Having a frame of reference in which tax increase means diminution of spendable money, the correct answer to the question about the effect of higher income taxes on prices may be found easily. Real understanding requires the integration of all data in such a way that the gaps are closed. To be fully understood, a problem or an experience must be fitted into its proper and consistent context, and its role within that context must be clarified.6

Understanding, in the sense of acquiring a general orientation that determines the appropriate place of the data of experience, may perhaps not be needed for our everyday conduct in normal times. Our habits, that is,

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6 The author’s book, Organizing and Memorizing (“Studies in the Psychology of Learning and Teaching” [New York, 1940]), constitutes a study of acquiring experience by understanding, as contrasted to learning by memorizing (blind repetition, drill). While the latter consists of the attaching of new contents or responses to old contents or stimuli and the strengthening of the connection between them, understanding is reached when a given material is organized or reorganized in a way appropriate to it. Appropriateness of organization does not depend on the private feeling of an individual but is determined by the relation of the parts to their whole.
the application of customary frameworks to the situations confronting us, may be sufficient and adequate guides of conduct if our world is stable and unchanging. But sudden and fundamental upheavals, such as the onset of the depression of the 1930's or the transition to total war or the eventual transition to peace, may require the ability to reorganize experiences, as well as the ability to acquire an understanding of the requirements of new situations.

The lack of realization of changed field conditions or the improper carry-over of an old customary framework to a new situation could be illustrated by some of the examples already cited. But the role of understanding during the economic upheavals brought about by total war may perhaps be shown more clearly by discussing a new problem.

In the summer of 1943 spokesmen for the farmers used the following argument in support of their demand for higher farm prices and the abolition of the Office of Price Administration: “When supply and demand ruled the market, food was plentiful; when the O.P.A. set ceiling prices on corn, meat, and eggs, shortages became the rule; this proves that the mechanism of supply and demand cannot be replaced by government fiat—prices therefore should again be determined by supply and demand, and everybody will get what he wants.” The fundamental problem involved in this argument is that the concepts “supply and demand” are used as if they operated in the same way in war as in pre-war times; the pre-war determination of prices by fluctuations of supply and demand is carried over to war conditions. It is overlooked that in times of peace the tendency toward equilibrium works smoothly: if demand rises, small price increases suffice to enlarge supply, and vice versa (except under monopolistic conditions). During total war, however, demand of the armed forces expands greatly, while supply is inelastic: price increases often do not enlarge the supply, which is limited by the available production facilities and man-power. Demand is also inelastic during the war inasmuch as price increases do not reduce the government’s purchases. Under such conditions, in contrast to pre-war conditions, free-market forces would not bring about a stable equilibrium between supply and demand (except perhaps at extremely high prices which would suffice to excude the demand of large parts of the population, in other words, to reserve the available supplies to the wealthiest segments of the population).

The more general conclusion to be drawn from the example just presented is the following: viewing wartime price control as nothing but artificial interference with the free market indicates a lack of realization of changed field conditions; for, in times of war, military demand and the conversion of factories to military output transform the traditional mechanism of the free market, even in the absence of price control. In order to understand the price movements during total war a frame of reference is required which necessarily differs from the pre-war frame, inasmuch as it must encompass and integrate such new factors as growing demand by the army and lack of man-power. Price control must be placed in its proper frame before it is possible to appraise whether specific price regulations were well or badly prepared and administered. The result of an understanding of the functions of price control, arrived at by viewing price control as a part within its proper frame of reference, is not a set of rigid rules but flexible and adaptable knowledge. By understanding we do not learn that “price ceilings are necessary whenever demand exceeds supply,” but we do acquire the ability to apply principles to different circumstances and to find out, under given future conditions, what factors make it advisable, and what factors inadvisable, to impose maximum or minimum prices.  

*Limitations of space make it impossible to analyze the reorganization of a frame of reference which has been recently accomplished by some experts with regard to the proper function of government deficits and taxes and which likewise should result in flexible and adaptable knowledge. Because public debt was considered in the same light as private debt, deficits were traditionally held to be unsound and dangerous. The accomplishment of Keynesian economists in this respect is not the discovery of the principle that “government borrowing is sound” but rather the enlargement and reorganization of the context within which public debt must be appraised. If such a full understanding of deficits is achieved, it can be applied to different circumstances.*
Let us turn now to the role of real understanding in post-war economy. Which of the following three broad alternatives will we face when hostilities cease: Will wartime habits, ways of thinking and acting, be carried over to the post-war situation? Or will they be supplanted by the pre-war framework? Or will there be an attempt to organize post-war experiences in a manner appropriate to whatever conditions may then exist?

Those who explain human conduct by the persistence of oft repeated recent habits would support the first alternative. A staunch Associationist, for instance, might argue that during the war millions of people will have acquired the habit of saving, of not spending money on new cars, radios, home utensils, and other durable goods, and of letting the government decide how much they should buy and what prices they should pay. Therefore, according to this theory, after the war the habit of saving and of submitting to controls and planning will continue to prevail.\footnote{Such predictions follow not only from the theory of the classical nineteenth-century Associationists but also from the writings of several modern scholars: “The most certain and dependable information concerning what a man will do in any situation is information concerning what he did in that situation on its last occurrence.” “The greater part of all that we can predict of the individual man is predicted in terms of the association of specific features of response with specific features of a situation” (E. R. Guthrie, The Psychology of Learning [New York, 1935], pp. 228 and 19). According to Guthrie, “repetitiveness is the outstanding characteristic of human behavior,” while Thorndike and most of the conditioned-response psychologists maintain that “learning in the spheres of interest and action is caused largely by repetition and reward” (E. L. Thorndike, The Psychology of Wants, Interests, and Attitudes [New York, 1935], p. 160), or “Responses become attached to stimuli only when they are practiced with reward” (M. A. May, A Social Psychology of War and Peace [New Haven, 1943], p. 53). The practical conclusions to be drawn from the latter theory may be somewhat different from those of classical Associationism: possibly, according to the reward theory, an enduring habit of saving may be established during the war, but hardly one of not buying automobiles or drinking little coffee. Yet, with regard to the essential point discussed in the text the conclusions of the two theories are the same: rational behavior and sudden learning are a priori excluded by both. Action based on the requirements of a situation and on the anticipation of its effects differs from that based on (a) repetition, (b) repetition plus reward, or on (c) following suggestions blindly.}

From this point of view there might be justification for the fear of certain Latin-American countries that they might lose part of their post-war market because during rationing the people in the United States would get used to drinking little coffee and eating little beef.

However, from the point of view of the theory which maintains that conduct depends on the given frame of reference, such predictions as to the persistence of wartime habits do not follow. Two other possibilities appear more probable. One of them is that we shall discard our wartime behavior suddenly and completely, as having been imposed upon us by the war and nothing but the war. Many slogans, currently used and accepted, make it probable that this will be the case. At present we buy war bonds to pay for planes, ships, and tanks. We approve of rationing because the growing requirements of the armed forces have curtailed the supplies available to civilians. We approve of price control because at a time when factories are producing war goods we cannot leave prices to the free play of market forces. Some of us drive less, buy fewer gadgets, and spend less in order not to deprive our soldiers of what they need. Therefore, the day hostilities cease, we may stop saving, may try to buy all the goods we have missed during the war, and may demand the prompt abolition of all wartime controls as well as the balanc-
ing of the government budget. Such conduct, arrived at without a real understanding of the functions of saving and spending, of rationing and price-fixing, and of government deficits, may be appropriate under certain post-war conditions but may be catastrophic under others.

Then, finally, there is one other possibility: instead of either the persistence of the war framework or the revival of the pre-war framework, it may be that we shall realize the requirements of the field in which we shall live after the war. If during the war we have not just mechanically submitted to regulations imposed upon us but have learned to understand what functions such experiences as government spending and individual saving have within their appropriate context, then there is a good chance that after the war we shall grasp the need for a proper frame of reference. That frame may not be one of peace alone but may be one of industrial reconversion, or perhaps of abundance of money and threatening inflation. No simple customary rules of conduct can be set for such complex field conditions. Learning to act in a certain definite way—for example, to follow a habit of saving—would not help. Intelligent behavior, adapted to the needs of a given situation, is, however, not impossible, because fully understood experiences are not carried over mechanically but can be applied to changing conditions.*

Realizing certain requirements of the post-war situation and adopting a frame of reference appropriate to them do not, of course, preclude genuine and violent disagreements and controversies. Convictions of different groups, such as those who propose to depend on “governmental planning” or those who prefer to rely on “free enterprise,” can and should clash in the post-war world because both these and many other proposals may be rooted in an endeavor to understand the given situation. The point to be made is that there can be no sound basis either for reliance on the efficacy of government controls merely because some of them worked in wartime or for faith in freedom from government interference merely because that was successful under certain pre-war conditions. Rational behavior implies the conviction that criteria exist for an intelligent decision between several alternatives, and it also implies the earnest endeavor to find out what decision or action is proper in the given situation.

The difficulties any post-war government will face in attempting to gain the people’s co-operation based on the understanding of the situation and of the governmental policies should not be underestimated. The task of explaining to the public why certain measures were taken and why it should respond to those measures in a certain way has hardly been accomplished successfully during the war, as indicated, for example, by the partial failure of certain price and rationing regulations and the existence of black markets. Yet wartime patriotism and the imminence of danger serve to discourage shortsighted egoistic interests and to promote the acceptance of public duty and the willingness to sacrifice. The conflict between our desires and reality may be more acute after the war, and the endeavor for understanding may be impeded by emotional reactions against controls previously endured, by the urgent wish for change and for absence of restraint after long submission to regulations.**

The task of the teacher and the maker of public opinion is, then, to help the public to gain a general orientation for war and for post-war conditions. By making use of conceptual tools developed by the scholar and the research worker, writers and teachers

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* Applying an experience intelligently, in contrast to carrying it over mechanically, is the main result of “understanding,” as shown by experimenters described in katona, Organizing and Memorizing, pp. 127 ff.

** In Wartime Prosperity and the Future (New York: National Bureau of Economic Research, 1943), p. 31, W. C. Mitchell discusses the customary reversal in the citizen’s attitudes at the end of wars and points out under what conditions such a reversal may be avoided.
must help others to acquire appropriate frames of reference for new experiences, in order that more and more people may learn to see why and how certain forms of behavior fit into the requirements of the situation, while others do not. Since the situation may change rapidly, the appropriate conduct may also change. It is not rigid principles that must be taught and spread but rather the willingness and the ability to understand.

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