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INTEREST AND USURY

BY BERNARD W. DEMPSEY

WITH AN INTRODUCTION BY
JOSEPH A. SCHUMPETER



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In the case of money, we are dealing with something which is handled in our generation by methods that are extremely different from those in vogue a century or half a century ago. When there was a multitude of private banks, the system by which credit was issued may perhaps have been appropriate, but with the amalgamation of the banks, we have now reached a stage where something universally needed—namely money, or credit which does duty for money—has become in effect a monopoly. . .

The private issue of new credit should be regarded in the modern world in just the same way in which the private minting of money was regarded in earlier times. The banks should be limited in their lending power to the amount deposited by their clients, while the issue of newer credit should be the function of public authority.

This is not in any way to censure the banks or bankers. They have administered the system entrusted to them with singular uprightness and ability and public spirit. But the system has become anomalous, and, as so often happens when an anomaly has persisted through a long period of time, the result is to make into the master what ought to be the servant.

THE REVEREND WILLIAM TEMPLE

Archbishop of Canterbury
London, September 26, 1942

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A book which, like *Interest and Usury*, has been a long time in the making and reflects much of the writer's intellectual formation is the result of far more influences than can readily be recorded. First of all, the author must acknowledge his indebtedness to members of his family and to his colleagues and superiors in the Society of Jesus, in particular to the Reverends John E. Cantwell, Stephen J. Rueve, Paul V. Kennedy, and Charles W. Mulligan for their patience and care in pruning a long manuscript and to the Reverends Leo C. Brown, Samuel H. Horine and Peter A. Brooks for their interest in the work.

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BERNARD W. DEMPSEY, S. J.

Department of Economics
St. Louis University
St. Louis, Missouri

INTRODUCTION

This book is an important contribution to the history of economic thought. In introducing it to the professional public I wish, first of all, to stress its distinctive merit. Economics as a field of intellectual interest boasts of a line of descent that can be traced from Aristotle to Francis Hutcheson, the teacher of Adam Smith. But theorists do not usually concern themselves with developments prior to the eighteenth century. For this there are no doubt excellent reasons: one of the most convincing ones is that most economists are not qualified to go much into the past because the requisite knowledge forms no part of their professional equipment. In consequence, a sort of tacit arrangement has evolved, according to which, with rare exceptions, the older stages are being dealt with by historians or philologists while economists are content to accept results at second hand, comforting themselves by assuming that the thought of remote times, though interesting as a part of a general picture of by-gone civilizations, is essentially "pre-scientific" and thus of no direct interest to scientific economics. Unfortunately, that is not always so; and whenever it is not, the historian, however competent as a historian, is at a disadvantage which, though different, is not less serious than the disadvantage under which a theorist labors when he tries to extract economic doctrine from Aristotle without knowing Greek and without understanding the world of ancient Greece.

Now Father Dempsey labors under no such disadvantage. Both the necessary tools of analysis are equally at his command. His training as a theologian and the cultural background which his Order gives to every member made it easy for him to read the scholastic thought on interest and usury without any danger of misunderstanding. Moreover, his professional training as an economist put the methods and results of modern professional analysis at his command. And his peculiar personal merit is that, being more impressed than anyone has been so far with the necessity of bringing to bear on the interpretation of the former a full complement of the latter, he worked out what really amounts to a treatise on modern interest theory before presenting his interpretation of that of the Schoolmen. This treatise, covering almost half of the pages of his book, has in fact a value of its own quite independent of the comparison that follows it.

The time-honored controversy on the nature and functions of interest that had almost died out has flared up again during the past decade. New points of view have emerged. Propositions diametrically opposed to some that used to command almost universal assent have been put forth. My impression is that, as a result, a majority of economists interested in the problem have modified their views. Needless to say, no agreement has been reached. The reason is not far to seek. Interest holds so central a position in the capitalist organism that it intrudes in practically every economic consideration or valuation. In consequence, the phenomenon of interest as such and any particular rate of interest are the result of so many factors that it is easy to evolve a distinctive theory by the simple device of stressing one of them at the expense of others. To illustrate by an example: in a sense, it is correct to say that interest is the price paid for inducing somebody to part with "cash." If people's propensity to hold cash suddenly changed, then the market rate of interest would certainly change also. But this indicates just one of the many conditions to which the equilibrium rate of interest must conform and does not in itself provide sufficient ground on which to build a theory of interest.

Understandable or not, however, that state of things is deplorable. For much of our outlook on economic life and on its most pressing practical problems depends upon the views about the nature and function of interest which we happen to hold. The critical analysis presented by Father Dempsey should therefore be welcome to many a reader beyond the narrow circle of specialists.

But to return to the comparison which he institutes with the views of his three representative Schoolmen, Molina, Lessius, and de Lugo. Most readers will be struck by their "modernity." Of course, they were *late* scholastics and lived in or near the centers of early capitalism. Before their eyes was a reality that, so far as the fundamental categories of the capitalist economy are concerned, did not differ so very greatly from ours. There were money markets and speculators. There was the negotiable paper, big business, high finance. If those Schoolmen rose from the dead today, they would readily understand our world and be quite prepared to take part in the discussion of its problems. This is not all. Their "modernity" extends to their methods of approach. They had, of course, much less material at their disposal than we have. But what there was of it they collected by observation and inquiry in a thoroughly objective spirit. They had not our techniques, statistical and theoretical. But the scope and logical character of their procedure did not differ from ours. As

Duhem's work in the history of physics has shown for another field, so Father Dempsey's work shows for the field of interest theory that their reasoning was truly scientific in nature. To many people this will be a discovery.

But how is this possible? Have we not heard, and does not Father Dempsey himself emphasize that, in aim and attitude, the thought of the Schoolmen was so different from the thought of the modern economist as to be incommensurable with it? Did they not speak from the citadel of an immutable faith and were they not exclusively concerned with canons of justice that were timeless in essence and meant to be asserted against mere facts, not to be derived from them? A simple argument, however, suffices to dispel the apparent paradox.

No moral principle in itself decides a particular issue of right or wrong. In order to arrive at a decision—that is to say, to pronounce that a given class of cases is to be subsumed under a given principle—it is first necessary to diagnose those cases. Such diagnosis requires analysis and this analysis in turn is essentially neutral with respect to the ultimate purpose for which it is undertaken. If a bacteriologist establishes some proposition about the behavior of some bacillus or other, that proposition will be valid or invalid quite irrespective of whether or not his intention is to serve a medical purpose. Similarly, economic analysis is economic analysis and valid or invalid autonomously, i. e., irrespective of whether or not its results are to form part of the material from which a moral judgment is to be derived. This judgment itself, of course, transcends the pale of empirical science, but its analytic component does not.

Hence, the mere economist is no more entitled to object to, or to criticize, such use of the results of economic analysis than he is entitled to object to, or to criticize, any other use that may be made of them. What he is entitled to object to is the all too common practice which allows the analysis to be vitiated by the purpose or interest for the sake of which it is undertaken. This, however, the Schoolmen did not do. And the three men selected by Father Dempsey are shining examples of correct practice not only in this but also in another respect.

More often than was the case a hundred years ago, we today hear pronouncements by leaders of religious communities of all types not only upon general issues of social right or wrong but also upon economic questions of a complex character. Admirable intention is practically always in evidence. But so is, also practically always, lack of familiarity with what the economic facts are and what they mean. This was not so with the

great Jesuits of the sixteenth and seventeenth centuries. They were no doubt judges and directors of consciences. Their fundamental system of belief was the same as that of the *Doctor Angelicus*. But, to put it bluntly, they always knew what they were talking about. Their pronouncements rested as much on a mastery of economic facts and of the relations between these facts—that is to say, of “theory”—as they did on that hyper-empirical system. This fact not only makes them interesting to the scientific economist. It also lends a weight to their pronouncements which those of modern ecclesiastics of all denominations very often fail to carry. Finally, it goes a considerable way toward explaining how so inflexible a system of fundamental belief was able to remain so flexible in its application to changing social patterns.

To the instance of interest and usury the above applies with particular force. Our time witnesses not only another revival of the theoretical controversy about interest but also another revival of the practical controversy about the reform of money and banking. Few people will be so foolish as to deny the existence of a moral aspect of it or the right of the churches to speak out about it. But those who wish to do so had better recognize in turn the rather technical nature of the subject. However far some of them may feel themselves removed from Father Dempsey in matters of theology, they might be well advised to peruse his book which, though with the restraint proper to a scientific study, indicates clearly enough how analysis may implement moral principle—in a spirit not unworthy of intellectual descent from Cardinal de Lugo.

JOSEPH A. SCHUMPETER

*Professor of Economics
Harvard University
Cambridge, Massachusetts*

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CHAPTER I

THE TERMS OF A COMPARISON

This study attempts to compare two distinct schools of economic doctrine. Such a study may seem like a brave but useless effort; medieval and modern writers on interest apparently have little in common except the subject to which they address themselves. Their eras are so different and so distant that the intellectual influence of the one upon the other has been inappreciable. The economic circumstances of these eras are such that the practical problems involved, though fundamentally the same, cannot apparently be discussed from a common viewpoint.

Close inspection would seem to yield nothing more than a further catalogue of divergences. The two schools differ notably, if not irreconcilably, in purpose. The medieval writer scanned the facts to see what, given such and such conditions, was right and just. The modern writer looks at the facts to see what will be "sound policy." This involves a difference in emphasis that is quite important. Where the "School-man," late and early, stressed his preoccupation with justice and equity, current academic decorum frowns upon an urgent concern with what ought to be rather than with what is. The two schools differ in method as well as in purpose. Statistical data were scarce for the Schoolman even in the later decades of that era. He had to be content with statistical inference drawn from a sample so large and with characteristics so well defined and so well known as to render detailed enumeration superfluous. This limitation has the disadvantage of making the conclusions broad and generic; refinement to specific situations may be difficult. There is the advantage, however, that the conclusions are substantial and commend themselves to common sense. Fortunately for the sake of the comparison, we shall see that the method of statistical induction does not underlie many of the basic theorems of contemporary monetary theory.

Interest theory in both periods does present one characteristic in very marked degree. Writings on the subject are abundant. There are dozens

of modern economists, each with enough authority, accomplishment, and adherents to be included in any list of influential writers. So, too, around the year 1600 there was a large group of Scholastic moral philosophers, theologians, and canonists each with sufficient personal weight to be called a truly significant writer. Consequently, a difficult question of procedure arises; any attempt to deal with the unwieldy mass of both medieval and modern material would render this study both endless and unintelligible. The solution adopted has been to select certain writers in each period as typical of their times. In both the modern and late medieval schools, the writers, even though holding distinctively personal opinions on some complex, obscure, or disputed matters, nevertheless also adhere to a more or less well-defined body of principles and methods characteristic of their period and their school. The author of the present study has therefore sought theorists who, for all their individual and special characteristics, still address themselves to their problem in terms which are the common terms of a generally accepted technique. The writers here chosen thus constitute a "representative sample"—though it has no other quality of a statistical sample than its representativeness. Detailed reasons for the selection of each individual writer are to be found at appropriate points in the text.

To quarrel with the choices that have been made would, of course, be easy. Undoubtedly certain names that are missing could be substituted for some that are included, without loss to the typical quality of the group. But neither among the modern nor among the medieval writers could a completely different group replace the one selected without affecting its quality and without doing some damage to that characteristic which indicates why certain writers exemplify the mood of their generation better than others. Any other entirely different combination would mean that the group would be less representative of the principles, methods, and attitudes we seek to compare.

* * *

It need hardly be pointed out that when usury analysis is served up with literary elegance, with ingenious pictorial statistics, adroit satire and the posing of sly dilemmas, it behooves both the professional economist and the well informed citizen to be clear about what "usury" means and

about the precise historical content of a theory that was influential for centuries.¹

"Usury" is a word that may readily become a battle-cry in any period of economic distress. When the first and chief disorders of which people are aware manifest themselves in monetary, banking, financial, fiscal, or price matters, usury may easily be invoked as a cover-all for the vague distrust of the process by which people feel they have been victimized. In these circumstances debt, both public and private, is an overwhelming fact and payments which in times more benign were light-heartedly undertaken come to be regarded as usurious.

Even in such circumstances, "usury" may be used in two quite distinct ways. It may be no more than an ugly word to toss about loosely as an expression of frustration felt by various economic classes; and "usurers" may well be a collective condemnation for all persons to whom money is owed. With these connotations of the terms we are not here concerned. But the word may also be employed to characterize a fairly definite set of principles, a species of analysis which seeks to ground itself on fact and to reach a practical conclusion consistent with its principles. In this sense, usury analysis has been dealt with since the war of 1914-1918 by two different groups of people. The first group to bring up the question was composed of professional economists who saw a kinship between the monetary and interest theory of the post-war world and that of the medieval world.² The writers of the second group are not exclusively professional economists. Able and sincere intellectual effort lie behind their views; they make a strong appeal to facts as well as to principles.³

The choice of representative writers is not the only problem that confronts us when we try to reduce the pertinent material to manageable proportions. Some matters interesting and instructive enough in themselves simply must be neglected.

How should the theory of consumption loans be dealt with? Must it receive separate treatment or may it be included in a theory which is concerned chiefly with production loans? Loans may be divided into two broad classes according to their purpose. The borrowed money may be used to purchase finished goods which are thus permanently withdrawn from the market and are destroyed in consumption. Or the money may be spent to buy unfinished goods with the express purpose of later returning the goods to market for sale in the hope of a gain on the transaction. The

goods may or may not have been transformed in the meantime. Evidently there are important differences in the nature of the interest payment on these two types of loans. Therefore, though the theory of interest for consumption and production loans may be made into one continuous and symmetrical theory (as Irving Fisher has done), the two types of loans will not be treated in quite the same way. Indeed, even a comprehensive theory including both will have two parts or phases. Many current writers on interest simply disregard consumption loans, in effect treating them merely as a deduction from the supply curve of savings available for business purposes, as so much dis-saving. If the demand and supply curves of savings both reflect the consumption uses—that is, if the consumption demand is viewed as added to the business demand, both together bidding for a given supply of savings—then the theory must allow for the fact. But it is much simpler to regard funds directed to consumption uses as never entering that market which the theorist seeks to explain.

In the consumption loan market, the declining marginal utility of income and variations in the utility of income at different times are considered an adequate explanation of interest. Circumstances are easily imagined in which a reasonable man would willingly pay \$107 *a year hence* in order to have \$100 *now*. Again, take the case of two neighbors living under almost identical standards of comfort on \$1,500 a year. When one lends the other \$100, the loss to the lender of the fifteenth hundred dollars is greater than the gain to the borrower of the sixteenth hundred dollars; and if the lender wishes to equalize this inequality, as he would, an interest charge is called for. Considerations such as these enter into the currently acceptable explanations of consumption-loan interest.

We shall not enter into a detailed discussion of consumption-loans for several reasons. First, the Scholastic explanation of interest centers on the status of the lender, and as in Fisher's analysis, includes both consumption and production loans in a single theory. Secondly, the Schoolmen did not think in marginal terms, although many of their ideas could without distortion be recast in those terms. For reasons which they regarded as adequate and which we will consider in due course, a sum of money borrowed a year ago, if strictly appraised, was fully equated to the same sum delivered today. Therefore, since the modern writers address themselves directly to loans for investment purposes without making a special case of consumption-loans, the author of the present study does not

make a special case of consumption-loans in his summary of the Scholastic doctrine.

The question of procedure regarding consumption loans is typical of a difficulty which pervades the entire modern side of the discussion. The Scholastics presented a doctrine which was consistent because it was based on a unified system of thought that enjoyed general acceptance. Among the modern writers, however, this structural unity is less complete; moreover, where it does exist, it is obscured by the fact that the modern writers take up a problem where it seems most expedient even though the issue involved at that point may be neither theoretically nor logically the most fundamental. Nevertheless, in spite of their various starting points, the author of this study has sought in the case of each writer to indicate those principles which are at once most basic and most characteristic. This prevents the presentation of a detailed theory. The controversial literature has been considered only where it seemed necessary to show that in spite of the challenge the elemental points of the theory were still tenable. However, no attempt has been made to bring out refinements of doctrine or statistical verifications, because to do so within the scope of this study would serve no purpose. There is no medieval counterpart with which to compare such elaboration.

The problems of method in constructing acceptable summaries are superadded to all the difficulties inherent in the subject of interest itself. These include the drawback that interest is defined under "stationary conditions" which are not themselves always well defined; the handicap that when interest as a price is discussed, "price of what" is not always clearly indicated; the disadvantage that in topics which involve both the fact and the rate of interest, such as savings, investment, capital, rents, profits, the fact and the rate are not sharply differentiated. Under these conditions, it is far from simple to formulate a summary, however limited to essentials, which all would accept as being truly characteristic of modern writers. Nevertheless, such a summary has been attempted. Whether or not the author of this study has succeeded is for the reader to judge as the argument proceeds. But the reader should bear in mind the limited scope of this study and the drastic requirements of relevance to the purpose in hand.

¹Of course, an historical investigation of the development of usury analysis would be desirable for its own sake, especially in view of the astonishing statements that

abound in the introductory chapters and footnotes of modern writings on interest and money. For some reason or other, the more self-conscious a certain type of writer is about his "scientific method," the freer he feels in generalizing about authors whom it is clear he has not read, let alone studied. On occasion, the proponents of usury doctrine furnish the opportunity for uplifting moral observations. (Cf. Alfred Marshall, *Principles of Economics*, 8th ed., p. 586, note.)

²See Chapter IX below.

³See especially J. L. Benvenisti, *The Iniquitous Contract*, London, 1937, and *The Absent-minded Revolution*, London, 1938. Also Hilaire Belloc, *Usury*, pamphlet, London, 1931, and the review thereof by E. J. Coyne in *Studies*, Dublin, June, 1932; Hilaire Belloc, *Economics for Helen*, London, 1924, pp. 152-172, 199-211; Francis H. Drinkwater, *Why Not End Poverty?*, London, 1935, and *Money and Social Justice*, London, 1934; Reginald Jebb, various papers in the *Weekly Review*, London; Jeffrey Mark, *Analysis of Usury*, London, 1935, and *Modern Idolatry*, London, 1934; Robert McNair Wilson, *Defeat of Debt*, London, 1935, and *Promise to Pay*, London, 1934; Harold Robbins, *Sun of Justice*, London, 1938. Also various papers by R. Dana Skinner and Henry Somerville in the *Commonweal*, New York. These writers, though proceeding from different premises, acknowledge a fellowship with Frederick W. Soddy, *Wealth, Virtual Wealth and Debt*, New York, 1926.

CHAPTER II

THE RATE OF NATURAL INTEREST

The writings of Knut Wicksell furnish a handy point of departure for the present inquiry for several reasons. First of all, his analysis is quite complete; we are not confronted with the necessity of piecing together occasional papers. A general theoretical treatise and a special monograph on interest enable one to present his views without fear that the presentation may be fragmentary or not fully representative of his thought. His ideas, moreover, seem to have undergone no radical change in the course of the years, although they have frequently had the benefit of careful reconsideration. All things considered, his views are seasoned, well-rounded and free from improvisation. Finally, Wicksell has had a direct or indirect influence on almost all the writers in the field and the effect of his work is still growing. "His theory of money and interest, in particular, has been the foundation of modern monetary theory."¹

Wicksell's main work on the subject under examination is *Interest and Prices*. In German the book bears the somewhat more instructive title, *Geldzins und Güterpreise*, which, with a sub-title may be translated thus: Interest on Money and the Prices of Goods—A Study of the Basic Determinants of the Exchange Value of Money. This wording places the emphasis most aptly; for Wicksell saw in the relationship of money and prices not only a sequence of economic causation noteworthy in itself but also an essential characteristic of modern economy, an element which, if not rightly appraised, could be the cause of grave disorder. Though we shall refer, when it seems useful, to other writings by Wicksell, *Interest and Prices* may be regarded as the complete expression of his views on interest. To the end of his life he himself considered it in that light.

Any modern national economy may be justly described as a credit economy. Borrowing and lending, if not strictly universal, are so widespread as to influence the whole of the economic process. Though it is goods which the borrowers need in order to fulfill whatever wants they may have, goods are rarely borrowed; indeed, in the domain of business

enterprise, they are practically never borrowed. "He who borrows money at interest does not, as a rule, intend to keep it but to exchange it at the first suitable opportunity for goods and services."² If the desired good could be borrowed directly the entrepreneur's needs would be met equally well, but the borrowing of goods "is never the case."³ In a monetary economy, the buying and selling of those things toward which the buyer's attitude is fundamentally that of a borrower is a phenomenon of essential significance. "It is not as is so often supposed, merely the form of the matter that is thus [by the substitution of money-buying for goods-borrowing] altered but its very essence. For real capital goods can no longer be supposed to be actually borrowed and lent; they are now bought and sold."⁴

This attribute of modern economy—that all credit transactions are performed in money though their real object is the control of goods—is basic to Wicksell's thought and to it he attaches the highest importance.

"It is usually said that in modern communities, capital (of the mobile kind) is lent *in the form of money*. But this is a metaphorical and inexact manner of speaking which can easily lead to error. Liquid capital, which is what we are considering, or, in other words, goods, are never lent,—they are never given and taken by way of borrowing; they are simply bought and sold."⁵

"It is not true that 'money is only one form of capital,' that the lending of money constitutes a lending of real capital in the form of money, etc."

"Liquid real capital (*i.e.*, goods) are never lent (not even in a system of simple merchandise credit); it is money which is lent and the commodity capital is then *sold in exchange for this money*."⁶

"Money does not enter into the processes of production; it is in itself, as Aristotle showed, quite sterile."⁷

This point is labored because it permeates Wicksell's entire work; any lesser emphasis would fail to reflect his attitude.

There are two things at work here, the relations of which are obviously of prime significance: (1) the amount of loanable funds, and (2) the amount of goods to be bought with borrowed funds and so used as to enable the borrower to repay his obligations. Some kind of unity must prevail over this duality, or the economic process will arrive at a terminus quite different from that expected by those who believe that the lending of money is the lending of capital in a different form. But in the first stage at least, there is no direct economic apparatus to maintain this equivalence.

"The supply of real capital is limited by purely physical conditions, while the supply of money is in theory unlimited, and even in practice is held [only] within

fairly elastic boundaries. . . . This is true even of merchandise credit, indeed to a marked degree. A lender cannot provide more goods than he actually possesses but he can provide any amount of money—in fact, he provides exactly the sum borrower promises to pay for the goods.”⁸

Because of the possible divergence between money lent and goods purchasable by borrowers, economic transactions present an acutely schizoid temperament, one phase slow-moving and intractable, the other capable of assuming any numerical value in a short period of time. Wicksell, besides making the statement on his own account, twice quotes approvingly Emil Struck’s proposition that in modern credit economy the supply of money is determined by the demand.⁹

The avoidance of economic nervous breakdown and the maintenance of the integrity of the economic process was regarded by Wicksell as an obviously desirable objective. In this connection he developed a small but impressive armory of analytical tools which he applied with success to both historical and theoretical situations. The following quotations make clear his views as to the nature of interest.

“If nevertheless, present goods and services *for which payment need be made only in the future* fetch on the average a higher price corresponding to the level of loan interest—and this is the essence of every loan transaction and every advance of money—this is due simply to the ordinary laws of interest, or to the fact that labor and land, *if their fruits are not to be consumed immediately, may assume such forms as to give them a greater (marginal) productivity, a greater yield in consumable commodities than in their present form.*”¹⁰

* * *

“He who borrows money at interest does not as a rule intend to keep it, but to exchange it at the first suitable opportunity for goods and services by the productive use of which he hopes to be able to acquire not merely the equivalent of their price but also a *surplus value which constitutes the real rate of interest and more or less corresponds to the interest on the loan which he himself must pay.*”¹¹

* * *

“Interest is this surplus value, for experience shows that the replacement of a certain quantity of current labor and land by an equal quantity of stored up resources of a similar kind tends in many cases to increase productivity, and since we assume that the quantity saved is only sufficient for use in these cases (and not even in all of them), it follows that the marginal productivity of the saved resources of labor and land is greater than that of current resources—at any rate up to a certain point.”¹²

"This marginal productivity, and the share in the product which it determines, provides in the first place a recompense for the actual capital used in production but *it also provides something more*. Under stationary conditions, the exchange value of goods and services necessarily remains unchanged year after year so that a person who in one year purchases land and labor in order to convert them into capital intended for production in the following year, can always count upon obtaining more product or value than he has himself paid out. *This surplus is called interest*. We thus arrive at the following definition: '*Capital is saved up labor and saved up land. Interest is the difference between the marginal productivity of saved up labor and land and of current labor and land.*'"¹³

* * *

"For in the interval of time thus afforded, the accumulated labor and land have been able to assume forms denied them in their crude state by which they attain a much greater efficiency for a number of productive purposes—as Böhm-Bawerk better than any other modern writer has analyzed and demonstrated in such a masterly manner. In this circumstance is also to be found the whole value-creating power of capital or its so-called productivity. What emerges is simply the importance of the time element in production. In the real sense, of course, only living human beings and self-perpetuating natural forces, especially the sun and the earth's physical and chemical forces are productive; only the original factors, man and nature. But the productivity of both becomes, or at any rate may become, greater if they are employed for more distant ends than if they are employed for the immediate production of commodities. As has been said, this increase in efficiency is a *necessary condition of interest*, it is the *source* from which it flows (just as the fruitfulness of the earth is the source of rent and the productivity of labor the source of wages). But it does not on that account regulate the rate of interest."¹⁴

That is to say, resources which are withheld from consumption make it possible to effect combinations which could not be effected if only currently available resources were obtainable. In such forms, they yield a net product either from natural maturing or seasoning or through human contrivance. The difference between the product of goods so withheld and transformed and currently available resources is interest. Wicksell, with his accustomed filial piety, feels that in this he has added nothing to Eugen von Böhm-Bawerk but a simpler and clearer exposition which was impossible before Böhm-Bawerk. Actually, he relegates Böhm-Bawerk's first and second reasons to determinants of the amount of capital accumulation; they affect the *rate* of interest rather than specify the phenomenon itself. The third reason, the technical superiority of present goods over future goods, he does not regard as a universal attribute of all goods. The exposition, moreover, gains in concreteness by being set forth as of past goods over present goods rather than of present goods over future.

These goods, which, with the passage of time, have assumed or can as-

sume such forms as to give them a greater "marginal productivity, a greater yield in consumable commodities," Wicksell, for purposes of exposition, conceives as being borrowed *in natura* by the entrepreneur from the capitalists. And the entrepreneur then pays them out *in natura* in the shape of wages and rents.

"At the end of the period of production, out of his own product, either directly or after exchanging it for other commodities (relative prices being assumed to remain unaltered) he repays the natural loan received. If this procedure were adopted by all entrepreneurs who work with borrowed capital, there would be built up through competition a certain sum of interest to be paid to the capitalists which would itself be paid in goods of some sort. The amount (*Höhe*) of this interest would be determined by the 'supply and demand' for capital. The phrase does not, it is true, tell us much; but we can, to be sure, set an upper limit for the sum of interest referred to which has a somewhat more comprehensible meaning. The upper limit is the surplus which production (or the net proceeds of production in other goods) makes possible to be left over, above the sum of wages, rents, etc., paid out, a quantity dependent on the one hand upon the productivity of business, and on the other upon the level of wages and rents Evidently, the entrepreneur cannot pay more than this."¹⁵

On the "purely imaginary assumption" that "the phenomena of capital and interest . . . could take place without the intervention of money or credit," we find that when goods are thus lent *in natura*, and repaid in the same way, there is a definite limit to the sums available for interest payment without encroaching on funds already ear-marked for rents and wages (including managerial wages). This margin—whether considered as "surplus value," or as "real interest of actual business"—is natural interest; it is "the real yield of capital in production."¹⁶

As we proceed to a more accurate description of Wicksell's thoughts on the subject vexing problems of terminology arise. Prof. Arthur W. Marget, in a properly vigorous footnote, objects to the translation of Wicksell's *in natura* in German to mean "in kind."

"To render it by a phrase which fails to show its connection with the phrase 'natural rate' is to miss the significance of a linguistic accident, the consequences of which have been as amazing as, in my opinion, they have been deplorable. The most far-reaching of these consequences has been the identification of the 'natural rate' as the rate which would be set if real capital were lent *in natura*, with the natural rate in a sense in which the word natural has connotations attaching to the word in phrases such as the 'natural price'—that is, the equilibrium price of classical economics."¹⁷

Unfortunately, Prof. Marget does not explore the full consequences of his radical observation. Does the lending of goods *in natura* mean that

we are dealing with a crude barter economy, with only the most vague relative values as is sometimes assumed;¹⁸ or with a barter economy with a well-applied though perfectly abstract *numeraire*; or with a money economy with a well-developed price system for final goods, in which only lending operations are *in natura*? Certainly, Wicksell supposed a well-developed system of relative prices accompanying his lending operations *in natura*. For those critics who dislike the idea of natural interest and attempt to disallow it, it is important to know both what Wicksell held and what he could logically hold. We shall return to this subject later.

Bound up with the concept of lending *in natura* is a kindred matter, perhaps even more critical. Wicksell's doctrine is commonly referred to as a theory of the "natural rate" and its relation to money rate. It is essential to know whether, for Wicksell, the "natural rate" was a definite conception *as a rate* (despite all the statistical difficulties involved) or whether he was concerned with a *sum* of goods which would be in itself quite well-defined. The latter conception, a sum of goods, might be quite specific, even though the vagueness of the other term of the ratio might make the expression of this sum as a rate very unsatisfactory. Which did Wicksell regard as important—an abstract ratio, or the sum of goods which would be one term of that ratio?

The trouble is that Wicksell's basic term "*der natürliche Kapital zins*" is so grievously equivocal. In strict literalness the phrase means simply "natural interest" and is so translated by some persons quite conversant with the text.¹⁹ Yet by a metonymy so easy as to be practically inevitable, the same phrase may be translated as "the natural rate of interest."

The translator of the English edition renders "*der natürliche Kapital zins*," the title for chapter eight, as "The Natural Rate of Interest," which is quite defensible. So far so good. At the end of the first paragraph, he translates "*der jeweilige Stand des natürlichen Kapitalzins*" into "the current value of the natural rate of interest on capital." This raises the question as to whether the prolepsis involved in the first expression was prudent. Might not the second phrase simply be "The current rate (level, condition) of natural interest"? On the following page of the book occurs a paragraph in which Wicksell is clearly speaking of quantities, not rates; competition brings about not a certain rate of interest but "*Zinsbetrag*." "*Die Höhe dieses Zinses*" (translated "the amount of this rate of interest") is not a ratio between two quantities, but a quantity, *der Überschuss . . . über die Summe . . . eine Grösse*. The same problem arises on page 152: "the immediate cause of the fall in prices is the same as in the case where

the quantity of capital and output remain unaltered; the immediate cause is the excess of the money rate of interest over the natural rate of interest. If no such divergence had existed . . . the quantity of "money" would have kept step with the quantity of goods." There is question of *Überschuss des Geldzinses über den natürlichen Kapitalzins* in the absence of which excess, *das "Geld"* increases evenly *mit den Waren*.

No one would wish to cavil at the translator's brave wrestling with an involved text; but there is something to be gained by knowing whether Wicksell maintained that there is a rate of interest which merits the title "natural" in any sense, or whether there is merely natural interest, *der natürliche Kapitalzins, der reale Ertrag des Kapitaless in der Production*.²⁰ *Natural interest*, the real yield of capital in production, is a concept which one can readily allow without wishing to call any *rate* natural except by a sort of prolepsis, as when we say "back and forth," or put on "shoes and stockings."

Prof. Bertil Ohlin, in his introduction to *Interest and Prices*, after quoting from one of Wicksell's last papers, states: "These remarks are, in my opinion, worthy of the greatest attention. The question of the reaction of the monetary mechanism is placed in the background and the movement of prices is discussed in terms of total incomes and the total supply of commodities." Prof. Ohlin concludes that "even if there is equilibrium between saving and investments as commonly understood [this, he rightly adds, is not Wicksell's formulation], incomes and prices may rise or fall *ad libitum*. Thus one of the very foundations of Wicksell's original theory would have to be given up." Is it so clear that Wicksell here is admitting a fundamental change in his old analysis?

If the emphasis shifts and it is the interest alone which is regarded as natural, and if the rate of natural interest is regarded merely as a statistically unsatisfactory average of the "yield of real capital," much distress over the naturalness of the *rate* can be overcome. So much is certain. The expression *natural interest* should not be suppressed entirely in favor of natural rate; and if it is not, certain expressions seem to yield to translation as "natural interest" with a better grace, such as *mit der jeweiligen Rate des natürlichen Kapitalzinses* or *den beiderseitigen Raten des natürlichen Kapitalzinses* (between two countries). Allow that *Rate* is a poor word for rate; Wicksell did not hesitate to use it. And if Wicksell felt free to introduce such a term, then his most frequent expressions, *die Höhe* and *der Stand*, merely express the general "level of natural interest." *Das Wesen des natürlichen Kapitalzinses* does not sound well as "the nature of

the natural rate of interest" but does not jar if translated as "the essence of natural interest."

We do not now wish to draw from these observations any specific conclusions as to the interpretation of Wicksell's whole position. Prof. Ohlin's comment suggests a reinterpretation which is quite promising. Interest rate would then become not only a primary factor in price analysis but also a significant element in income distribution, and especially in maldistribution. For purposes of exposition the role of the interest rate as a factor in income distribution has been for the present excluded; it is nevertheless wholly Wicksellian.²¹

There remain expressions such as "*der natürliche Kapitalzinsfuß*" of which the *prima facie* translation is unquestionably "the natural rate of interest" and which could be given another version only after it had been clearly established that the adjective is properly associated with the noun interest and not with rate. A few bi-focal expressions would still defy precise clarity—for example: "*ein Unterschied zwischen den natürlichen Kapitalzinsen und der Rate des ausbedungenen Zinses.*"²² Although such expressions seem to imply a direct contrast, they might be translated either way.

The purpose of our digression into matters of grammar and idiom, has been to rehabilitate the term "natural interest" as being integral to Wicksell's thought, and likewise to rehabilitate the expression "rate of natural interest" as being absolutely admissible, if not imperative. Certainly on the one occasion when Wicksell undertook to express himself in English, nothing he said would indicate that he set great store by the phrase "natural rate"; "ordinary rate" and "normal rate" sufficed for him, along with "average profits on capital."²³

With "natural interest" established as an authentic Wicksellian term, we return to the main argument and recall that in a credit economy capital goods are now not borrowed but bought and sold. Wicksell is accentuating the importance of the distinction between a net real product to be paid as interest, and money payment; between that same net real product and a rate of money interest which may or may not call forth a volume of circulating media sufficient to keep goods and money in step.²⁴ Natural interest on capital is likewise "the profit which entrepreneurs would obtain if prices did not alter." The last phrase refers to a previous discussion of a theorem of Fisher's. As quoted above, it is "the real yield of capital in production," a surplus value, which cannot exceed that amount by which the total product (or its equivalent in other commodities) exceeds the

sum of the wages, rents, etc., that have to be paid out. More than that sum the entrepreneur cannot afford to pay for borrowed funds.²⁵

"The natural rate is not fixed or invariable in magnitude. . . . In general, we may say, it depends on the efficiency of production, on the amount of fixed and liquid capital, on the supply of labor and land, in short on all the thousand and one things which determine the current economic position of a community; and with them it constantly fluctuates."²⁶

"The natural rate of interest, the real yield of capital in production is like everything else exposed to change, sometimes very strong."²⁷

The definition given in the introduction of *Interest and Prices* is repeated: "the rate which would be determined by supply and demand, if no use were made of money, and all lending were effected in the form of real capital goods. It comes to much the same thing to describe it as the current value of the natural rate of interest." There follows a repetition of the point that the real objects of the borrowing and lending are bought.

Thus far we have dealt with a rate or volume of natural interest not expressed in money, a real yield which entrepreneurs can pay and which would, under most perfect competition, be determined by the supply and demand for real capital if lent *in natura*. We now meet another concept, the "normal" rate. This rate is a *rate of money interest*. It expresses a given rate of natural interest—"that rate which corresponds to the [average] level of natural interest."²⁸ "The rate of interest at which the demand and the supply of saving exactly agree and which more or less corresponds to the expected yield on the newly created capital will then be the normal or natural, real rate. It is essentially *variable*."²⁹

That a rate of money interest is meant is clear from the following: "this [marginal productivity] remaining the same, as indeed by our supposition it is meant to do, would it be at all possible for the banks to keep the rate of interest either higher or lower than its ordinary level prescribed by the simultaneous state of the average profit on capital?"³⁰ The normal rate is thus the direct monetary expression of the natural rate. In various places, especially when approaching formal definition, Wicksell uses the word "normal," but he has no misgivings about using less formal words to describe it: "previous," "current," "going"—*frühere, vormalige, übliche, marktübliche*. In his London lecture, "ordinary" is used interchangeably with "normal" in the very first paragraph, which contains a formal statement of his thesis. This normal rate, "the rate consistent with the then existing marginal productivity of real capital, or prescribed by the simultaneous state of the average profit on capital,"³¹—is here presented as

something of which the banks must take direct cognizance. It is therefore a money rate; the banks can set their "loan rate . . . above or below the normal rate which is in its turn connected with the natural rate."³² The rate of natural interest prescribes the normal rate of (money) interest and dictates how the latter is to be varied, but the rate of natural interest is something "the alterations of which we, of course, cannot control but have only to comply with."³³

Another attribute of the utmost significance is associated with the normal rate of money interest. "It [*i.e.*, the previous, normal rate] merely means that rate which having regard to the situation in the market would be necessary for the maintenance of a constant level of prices."³⁴ Unfortunately, that important quality is in the above passage described in ambiguous terms; it might just as well be translated as the rate "which is in itself, considering the market situation, appropriate for the maintaining of prices." We shall return later to the question of the full and accurate meaning of such passages. It is mentioned here so that the distinction between "normal" and "natural" may be borne in mind as we present Wicksell's examples.

At the end of his chapter on natural interest, Wicksell gives a summary of the fundamental idea of this phase of his work:

"At any moment and in every economic situation there is a certain level of the average rate of interest which is such that the general level of prices has no tendency to move either upwards or downwards. This we call the normal rate of interest. Its magnitude is determined by the current level of the natural capital rate and rises and falls with it.

"If, for any reason, the average rate of interest is set and maintained *below* this normal level, no matter how small the gap, prices will rise and will go on rising, or if they are in the process of falling, they will fall more slowly and eventually begin to rise.

"If, on the other hand, the rate of interest is maintained no matter how little above the current level of the natural rate, prices will fall continuously and without limit."³⁵

He had previously stated, in the very beginning of the chapter: "There is a certain rate of interest on loans which is neutral with respect to commodity prices, and tends neither to raise nor lower them. This is necessarily the same rate which would be determined by supply and demand if no use were made of money and all lending were effected in the form of real capital goods."³⁶ These propositions are repeated in the same or even more sweeping form in the *Lectures*;³⁷ in the British Association Lecture they are phrased as follows: "prices would rise and rise and rise without

any limit whatever . . . prices would fall and fall and fall without any limit except Zero."³⁸

A word should be said here about Wicksell's insistence that in propositions like the above he is talking about the "general level of prices" and not about the relative prices of various goods. The relation between general and relative prices is bound up with that other relation between prices and the normal rate which we have held over for later treatment. Relative prices in his view tend to return to equilibrium after displacement; they are like a ball in the bottom of a bowl. The general price level does not tend so to return; it is like a cylinder on a smooth surface having no tendency to roll but, if moved, will roll indefinitely; and, if stopped, will stay in the new position—"a great and decisive difference."³⁹

Wicksell was not concerned with explaining why commodity "x" costs more than that commodity "y" now, and less then. He was seeking an explanation of price movements that raise the whole index of average prices. If the explanation of a rise or fall in the price of a single commodity was a change in the demand or supply of it, what was the explanation of a rise or fall in the price of all goods?

"Every rise or fall in the price of commodity presupposes a disturbance of the equilibrium between the supply of and demand for that commodity, whether the disturbance has actually taken place or is merely prospective. What is true in this respect of each commodity separately must be true of all commodities collectively. A general rise in prices is therefore only conceivable on the supposition that the general demand has for some reason become, or is expected to become, greater than the supply."⁴⁰

Wicksell tests his own analysis in a series of carefully constructed cases in which the various factors are combined in all the ways that might seem of practical importance and the successive steps are then laboriously spelled out.⁴¹ The conditions for the economy he considered are very definite and restricted; it is stationary in all not expressly stated otherwise in each case. Long-term capital goods in particular are simply maintained without increase or decrease. Liquid real capital, however, has to be renewed each year and is maintained by capitalists at a constant amount and in such an economy as this, the quantity of consumption goods and the quantity of liquid real capital are identical as the latter item includes the consumption goods which capitalists receive each year as real interest and on which they maintain themselves during the successive production cycle. The period of production does not alter and is the same for every business—one year. Production is on an annual basis with an annual market providing



the only occasion on which goods are sold and distributed, debts paid and contracts made for the following year. Entrepreneurs work only on borrowed capital, borrowing the capitalists' money through a bank. The capitalists once a year are also dealers in commodities, momentarily owning the whole capital in the form of goods. On the market day, wages, rents, etc., for the coming year are paid out in advance and, with the money thus borrowed by entrepreneurs and paid out by them to the factors, the latter provide themselves with liquid real capital, *i.e.*, consumption goods, for the entire year ahead.

Eight cases are treated by Wicksell in his "Systematic Exposition of Theory." The first of these is a straightforward agreement of the rate of money interest and the rate of natural interest. A sum of money is borrowed by the entrepreneurs and paid to the factors; with it the factors buy back the product of the previous year as liquid real capital for the coming year. The capitalists spend the money interest to buy their share on which to live. If the sum borrowed were \$1,000,000 and the rate of interest 7 per cent, the value of the annual product is \$1,070,000 at the previous prices and there is no influence present to cause the prices to change. The value of the annual increment is equal to the sum paid as interest; the process repeats itself.

The second case deals with a rate of natural interest greater than the rate of money interest. Such an increase may arise from technical progress or from a relative increase in population causing a fall in the level of wages. The rate of natural interest rises, say, to 8 per cent; that is, the value of the annual product *at last year's prices* is now \$1,080,000. The quantity is increased and prices have not changed. The bank, however, keeps its same rate of 7 per cent. The entrepreneurs may simply keep the liquid real capital, or they may sell it to the capitalists who get the needed additional funds from the bank. In neither case are prices altered in the first instance. But there is a tendency for expansion; entrepreneurs have a motive to bid up factor prices for the next year. But it can be only a tendency, for the fixed amount of durable capital makes expansion impossible. The entrepreneurs bid up factor prices for the coming year. If the process reaches its upper limit at once, \$1,010,000 capital will be demanded from the banks. The banks can readily meet this demand and do not change their lending rate. If workers and landlords raise their demand for consumption goods to the full extent that money wages and rents have gone up, the increased demand is met by the same amount of commodity capital as before and all prices necessarily rise.

Case three is similar to case two except that the banks raise their lending rate to 8 per cent. The workers continue to enjoy the increase in wages; the return to the capitalist is now 8 per cent; the entrepreneur has no motive to expand; prices cease to rise but do not return to the previous level. The fourth case is the same as the second except that the process is traced through several cycles to emphasize the continuity and cumulative character of the process. These four cases are the core of Wicksell's theory. Various other cases are added in which "though the facts are essentially in agreement with the theory, they often present a somewhat different appearance. The reason is that a movement of prices which is being treated as an isolated phenomenon is in practice superimposed on some other and independent movement of wages, etc., dissimilar and possibly opposite in nature."⁴²

In the fifth case the rate of natural interest rises owing to a decrease in real capital caused, for example, by war, and necessarily involving a fall in real wages. If the rate of money interest is adjusted, money wages and real wages fall together; otherwise money prices will rise. The sixth case is in Wicksell's opinion the one which actually prevailed in the nineteenth century; a progressive fall in the rate of natural interest caused by increasing capital accumulation is not met by a fall in the rate of money interest. Prices fall; wages, unaltered in money sum, rise somewhat but entrepreneurs, taking a loss on their commitments, must contract; for as much money as the capitalist can invest, however, he receives an increased real interest. In the seventh case, the fall in the rate of natural interest is met by a fall in the rate of money interest. Prices in this case will not rise, though the entrepreneurs are in a position to pay higher wages and rents. In the eighth case a rise in the rate of natural interest is offset by an equivalent fall in the rate of saving.

Much of modern monetary controversy has arisen from Wickell's cases. Though the fundamental process is a simple one, the issue is often confused by the tedious working out of the examples.

The first, second, and fourth cases in the first group present no difficulty. By any index number standard one would care to set up, and on any reasonable definition of the meaning of the level of prices, prices would have risen in the given circumstances. The sixth case likewise involves an inevitable fall in prices. The first case involves nothing questionable, for it is a simple construction of a perfectly stationary economy with a *de facto* constant money supply. But the challenging cases are the third and the seventh, in which, after a change in the rate of natural in-

terest, the rate of money interest is again adjusted to it and the movement of the price level ceases. The problem can be set forth even more clearly by fabricating a strong case which Wicksell does not discuss, in which the rate of interest on money loans would not be accurately determined at the time of the loan but would be set by the bank during the economic year as it becomes clear *post factum* what the rate of natural interest for the year is going to be. This precludes the possibility of any departure of the rate of money interest from the average rate of natural interest. What will be the behavior of the price level in this case?

The previous rate of interest (year 0) would have been i (%).

The entrepreneurs borrow K (\$1,000,000).

At the end of the economic year, they have a product of $K \cdot 1 + \frac{i + 1}{100}$ (\$1,080,000) at previously prevailing prices.

The rate for year 1 is thus *declared* to be $(i + 1) = 8\%$.

The banks will have created the additional funds necessary to purchase the increased product.

Capitalists and entrepreneurs are assumed not to alter their scale of living.

The remainder (\$1,010,000) is again loaned out in additional dollars, and the corresponding additional goods are made available for purchase by the entrepreneurs, to be used as wages and rents, which, under competitive conditions such as those assumed, will rise in total sum but not in price.

Shall we say that, in this case, prices have risen? This and the third and seventh cases are among the situations possible under the terms of the description given by Wicksell on pages 104 and 105 of *Interest and Prices*, which is "incomprehensible" to Prof. Hayek.⁴³ These are the same pages cited by Prof. Myrdal in his effort to show that Wicksell cannot define the rate of natural interest as, in Myrdal's view, he seeks to do.⁴⁴ They are likewise the pages appealed to by William Fellner in his effort to prove that "there is no such thing as a natural rate of interest."⁴⁵

On one simple index standard (Fisher's No. 1, the unweighted arithmetic average of price relatives) the price level will not have changed. There is no reason to suppose a notable change in the demand for any one commodity; for, under the given conditions, the amounts involved are not great; and, unless the elasticity of demand were very low indeed, the effect would be slight. Moreover, Wicksell is expressly willing to overlook these "continual disturbances in relative values." But there is "no apparent reason for any alteration in the general level of prices." A little give in the elasticity of demand here is offset by a little "give" in the

elasticity of supply there. Moreover, we are dealing with *average* prices which are related to an *average* rate of natural interest, which last is based on data that are not susceptible of satisfactory treatment as a good representative statistical average—the average profit above normal earnings for “enterprises.” “Profit on capital is a far from uniform conception.”⁴⁶ What are a few points this way and that among friends, Wicksell seems to say, so long as we are dealing with changes which are not progressive and cumulative? At least it is true that total wage and rent income buy today practically the same things they bought a year ago.

The matter might rest here with the conclusion that Wicksell had established his case for the severely simplified conditions he had set down but had not chosen an index number that would be very helpful in real life. Thus, we have here no other problem than the usual trouble as to what index numbers actually do measure and what, on some criterion, they ought to measure. But Wicksell in the same work had committed himself quite definitely to an index number by which “the percentage rise or fall in the average price level is obtained without any ambiguity,”⁴⁷ and he had allowed that commitment to stand almost verbatim in the latest editions of the *Lectures*, in which he refers specifically to Fisher’s *Purchasing Power of Money*.⁴⁸ When summarized, Wicksell’s statements on the purchasing power of money, as expressed in the second chapter of *Interest and Prices*, show that he considered the formulas of Laspeyre and Paasche (aggregatives with constant weights) as equally “natural and reliable.”

In Wicksell’s first case, in which the rate of money interest and the rate of natural interest were in perfect conjunction and, as in the second case, for example, where they certainly were not in conjunction, both of these indexes would perform as Wicksell states. In the first case, both p and q remain unaltered from year to year and the index stands firmly at 100. In the second case, q remains fixed from year to year but p progressively rises and the index with it. But what of the intermediate and critical cases where, the rate of natural interest having shifted, for example, through technical progress, the rate of money interest is simultaneously adjusted to it? Would the index remain the same?

In the year O , the pq sold by the capitalist-traders to the entrepreneurs for distribution as wages and rents for the coming year amounted to \$1,000,000. At the end of the year the yield is \$1,080,000, from which the capitalists take out the \$70,000. This increased value figure arises from selling a larger output at the same price. But Wicksell’s index number is likewise unaltered in this case for the same reason: the element which

is stated as changing, q , is taken as of a single year in both terms while the element which is stated as not changing, p , is taken from the years to be compared, so that the result is inevitably 1. The price level, thus described, has not changed.

What has changed, of course, is the ratio of the values of total product for the two years in question. The larger quantity sold at the same price gives a larger total value for year 1 than for year 0. The price index is 100 and the value ratio is 101. But is it necessary, in order to say that the price level is steady, to hold also that the volume of transactions at that level is also unchanged? "For example, when heat is measured by degrees of the thermometer, it does not follow that every rise in the column of mercury means a proportionate rise in the volume of heat itself."⁴⁹

The nature and gravity of this problem would become even more apparent if we were attempting to construct indexes for the whole economy instead of for consumption goods alone; in that case, interest would have to be included in our index—though it never is. In which cases, then, would it be proper to say that interest as a price was unchanged: (a) if an increased product which would sell at \$1,080,000 at previous prices were met in the market with \$1,070,000, *i.e.*, capital of \$1,000,000 plus \$70,000 interest at 7 per cent; (b) or if it is met with \$1,080,000, *i.e.*, \$1,000,000 at 8 per cent declared *post factum*? In the first case, the abstract rate and the volume of money income received as interest would be unchanged, but the volume of real interest would be greater because each dollar of interest income would buy more. In the second case, the rate would be changed and the volume of interest money income would be changed; but each dollar of interest money income would buy the same as before, and this latter fact is one common criterion of unchanged prices.

If we do the first, "the rate of interest" is absolutely unchanged, $7\%/7\% = 100$; what has altered is the volume of interest income, which is determined quite as much by the sum of which we take a certain percentage as by the percentage itself. And it is the volume of interest income which is the significant factor for prices. If we follow the second course, the rate of interest has changed drastically (a 1 per cent change between 7 per cent and 8 per cent is a 14 per cent price change in the rate itself), but the volume of interest income, which is significant for prices, is the same as in the case where the larger sum was lent at the lower rate. Economists do not hesitate to lavish their contempt on badly weighted index numbers; but neither do they hesitate to use interest rates as a price and as a price series, regardless of the volumes "produced and sold" at

these rates, these volumes being the value weights which determine the importance of changes in this as in my index. I do not know of any attempt to compute an index of *the price of money weighted with the various volumes exchanged at the various prices*, and yet it is as a regulator of the *volume* of money that interest plays its chief role in price analysis. The attempt would have revealed some of the peculiarities of the demand for money and the elasticity thereof which are now being featured by some writers under the head of "anticipations." When we say that interest is changed or unchanged, do we mean interest as a pure number, an abstract price, or do we grant some influence to the corresponding value ratios of interest income with which these prices can be weighted? Until a uniform terminology is agreed upon, caution is needed in speaking of the incompatibility of Wicksell's several criteria.

Wicksell accepted Say's Law as an established and useful proposition. "Goods always set up a demand for other goods, as J. B. Say long ago demonstrated."⁵⁰ "We have accustomed ourselves, with J. B. Say, to regard goods as reciprocally constituting and limiting the demand for each other, and indeed ultimately they do so."⁵¹ Relative prices, therefore, constituted no problem in the matter which Wicksell was discussing. After setting forth a case in which he has made natural and money interest precisely coincident he continues:

"There is here nothing calculated either to raise or to lower prices. It is true that as a result of changes in the conditions of production, due for instance, to technical progress, first one and then another group of commodities will be obtainable with a smaller expenditure of labor and other factors of production and that this must cause continual disturbance in *relative* values. But there is no apparent reason for any alteration in the general level of money prices. *An increase in the supply of certain groups of commodities means an increase in the real demand for all other groups of commodities.* Why then should it bring about a fall in the average level of prices, it being assumed that money is obtainable in any desired quantity on terms which correspond to the *real advantages* entailed in the use of credit?"⁵²

That Wicksell regarded his theory of the interest rate as being significant only for quite well-defined price movements is clear from numerous statements. "In the interests of accuracy, we have purposely avoided the statement . . . that money and natural rates should be *equal*. In practice, they are both rather vague conceptions."⁵³ It is a "permanent" discrepancy that interests him. The banks must not only alter their lending rate away from the "ordinary" level but must "keep it so for some years."⁵⁴ "There is the important fact that we are dealing with fairly plastic rela-

tionships" and though "an *exact* coincidence of the two rates is therefore unlikely . . . there is no reason for not expecting a sufficient degree of coincidence to prevent substantial fluctuations of prices."⁵⁵ Clearly, Wicksell did not regard his thesis as a helpful one for judging monthly changes; he considered it applicable for movements that endure because of an interest differential that endures "some years at least."⁵⁶ Perhaps nowhere does he show this more plainly than in his condition for the systematic exposition of theory:

"The length of the period of production is the same in every business Actually the period of production is not only very different in different branches of production, but in any given branch is variable. It is, as we have seen, this very circumstance, combined with the possibility of transferring capital from one business to another, that is responsible for the determination under conditions of free competition of the relative levels of real wages, of rent, and of the rate of interest itself."⁵⁷

More than this, Wicksell seems to be willing to overlook an occasional "substantial" change so long as it is not "progressive and cumulative."

"Even if it were desired to associate this increase in the quantity of goods with a tendency for a fall in prices, the fall that could on such grounds be expected would be a very small one. [Actually the quantity change in question amounted to 1 per cent of annual output.] More important, it would, so far as I can see, occur only *once and for all*, and it would thus be put completely in the shade by the *cumulative* effects on prices that are to be ascribed to a difference between the two rates of interest [in this case making for a rise] We suppose that everything remains as before, or that, at most, as a result, for instance, of longer working hours, there is a certain non-cumulative increase in production of which the influence on prices is not *progressive* and will therefore, be neglected."

"The essential point is . . . that a permanent discrepancy between the actual rate and this rate exerts a progressive and cumulative influence on prices."

"So a fall in interest, even though it is casual and temporary, will bring about a perfectly *definite* rise in prices, which, whether it is big or small, will persist as a permanent feature even after the rate of interest has returned to its former level. If the rate of interest remains at a low level for a considerable period of time, its influence on prices must necessarily be cumulative";⁵⁸ and so on.

Other instances both casual and accented could be cited to show Wicksell's readiness to overlook non-cumulative changes, especially if they were small, but even if they were great.

We are now able to appraise the objections that have been brought against Wicksell's position. This appraisal is necessary lest we find ourselves bringing an exploded doctrine to our proposed comparison. The

objections take two forms: first, that Wicksell's construction is meaningless; and second, that his several criteria are incompatible.

Wicksell, apparently believing that he was setting forth a process so evident as not to be challenged, proposed his position in several alternative formulas. The rate of natural interest, though its characteristics could be described in other ways, has three principal properties. (In what follows, recall the ease with which Wicksell would substitute "previous" for "normal.")

(1) It is the rate "which would be determined by supply and demand if real capital were lent in kind (*in natura*) without the intervention of money."⁵⁹ (2) It expressed the real yield of capital in business. "This natural rate is roughly the same thing as the real interest of actual business."⁶⁰ These two definitions are combined: "The rate of interest at which the demand for loan capital and the supply of savings exactly agree, and which more or less corresponds to the expected yield on the newly created capital, will then be the normal, or natural, real rate."⁶¹ (3) The natural rate "is neutral with respect to commodity prices and tends neither to raise nor lower them,"⁶² "other things being equal"⁶³. . . if it [equilibrium] is not disturbed by other causes."⁶⁴

The reason why there is a difference between the supply and demand for capital *in natura* and the supply and demand for money capital is that "money . . . is elastic in amount."⁶⁵ We may observe immediately that the rate which "is neutral with respect to commodity prices" is not necessarily the same thing as one which will "guarantee a stable price level."⁶⁶ Nor is the rate which "is determined by the supply and demand of real capital" the same thing as the rate which "equates" them.⁶⁷ The use of these expressions interchangeably obscures analysis of the direction of economic causation.

Prof. Myrdal, in his study of monetary equilibrium, seeks to revamp the Wicksellian process in order to enable him to employ his own devices of "expectations" and *ex ante* and *ex post* valuations. To introduce them, he analyzes the three conditions of equilibrium given above; and he has grave misgivings about all of them. But the burden of his criticism falls on the idea of a rate of natural interest itself. He maintains "that the hypothesis of the absence of all monetary transactions is by no means superfluous because irrelevant but rather that it is fundamentally incompatible with this argument . . ."⁶⁸

"Our conclusion, therefore, must be that credit and the money rate of interest have to be included even in the formula by which the natural rate of interest is defined. What could the logical meaning of the difference between monetary and natural rate of interest be if one really stuck to Wicksell's procedure—namely, to define one element of the comparison, the natural rate of interest, *only* for a hypothetical case which excludes *credit* contracts, and therefore, too, the other element of comparison, the money rate of interest The whole problem of money and the value of money which Wicksell wished to avoid in his construction of the natural rate of interest by relating it to physical productivity in a barter economy is, therefore, included in the analysis of the natural rate of interest after all."⁶⁹

Myrdal's argument may be summarized as follows: Wicksell's natural rate is defined as the marginal increment in physical productivity.

[He] "assumes that if there is complete mobility a uniform time *agio* will develop throughout the whole system of price formation The idea of a physical productivity presupposes that there is only a single factor of production besides waiting, and only a single product; and that, moreover, both are of the same physical quality. This idea is therefore of no use in realistic analysis since such assumptions, if made at all, exclude the possibility of progressive adaptation of the analysis to reality If, therefore, one wants to make the Wicksellian construction of the natural rate of interest really useful for monetary analysis, one has, in contradiction to Wicksell, to replace the concept of a physical productivity by that of an exchange value productivity."⁷⁰

The rest is easy for Myrdal: if we must take exchange value relationships as our starting point, then the money rate of interest is in there from the outset. How Myrdal arrived at that point is another question. The unit of account could be abstract, he says, and "this does not mean in itself the introduction of credit contracts."

"But if we assume that the economic subjects replace some of their loan transactions *in natura* by credit contracts which they make in that calculating unit, then, of course, this unit requires the other properties of a monetary unit, too. This by itself does not destroy the argument, for the exchange value of the calculating unit itself being, in principle, irrelevant, the monetary unit as well as any other could be used in a loan contract. There is, however, quite an essential difference as soon as money time contracts are introduced."⁷¹

A great many things may well be observed concerning this argumentation. The first is that the method of "immanent criticism" might do well to be more specific in its references. This whole argument and chapter rest on three citations which amount to nothing more than specifying the chapters in Wicksell's work in which the subjects are discussed. Secondly, the argument itself involves two considerations: First, can a rate of interest emerge in a barter economy? and second, granting that it can,

can a transition be made from this "natural" economy to a money economy without destroying the concept?

In a barter economy, dealing with loans *in natura* and a system of relative prices, however clumsy, there can be no question that a borrower could calculate the value of a net product of a process involving saved-up resources. This net product is interest; and the reason why Wicksell speaks of this in the early part of the eighth chapter as a *sum* or *volume* and not a rate is clear. The rate in a non-monetary economy is difficult to express with precision.⁷² If we introduce an abstract unit of account, the expression is easier and, on Myrdal's own admission, "does not destroy the argument." This is all Wicksell needs—that the superior *value* productivity of saved-up resources can be calculated in a barter economy. Technical productivity and value productivity are not exclusive concepts; the one is the condition of the other.

Granting the possibility of a rate of interest and a net value product in a barter economy calculated in "real" terms which can nevertheless be apprehended in value terms, can the concept be transplanted into a money economy without perishing? Myrdal thinks that it cannot, because such assumptions "exclude the possibility of progressive adaptation to reality"; the introduction of money contracts over time involves a "quite essential difference."

The answer is that Wicksell did not consider, and need not have considered that his natural economy approached his credit economy by progressive steps. The construction of an economy with loans *in natura* was a "purely imaginary" construction; "the intervention of money" alters "the very essence of the matter";⁷³ and certainly Wicksell's examples do not imply that he would exclude entrepreneurs' expectations of price movements from the calculation. "Economists frequently go too far when they assume that the economic laws which they have deduced on barter assumptions may be applied without qualification to actual conditions in which money actually effects practically all exchanges and investment or transfers of capital The use—or the misuse—of money may in fact very actively influence actual exchange and capital transactions."⁷⁴ What Wicksell does do is take one phenomenon, the rate of natural interest, which is a property of the physical characteristics of goods and man's subjective valuations of them, in a perfectly competitive market. The introduction of money to express these relationships may alter them quantitatively in their monetary expression, but there is an underlying phenomenon to be expressed and this fundamental datum is not obliterated. The

underlying process is the originary⁷⁵ one, the one which enables the secondary one to be. If goods did not have the characteristic of producing a greater volume of goods in time, interest as a production factor would not exist. Though conditioned by its monetary expression, there remains an originary relationship to be expressed. After the first adjustment caused by the introduction of money, resulting in the more accurate expression of exchange ratios, the problem of monetary policy is to express these underlying relationships. However much relative prices may shift among themselves, Wicksell, arguing from an initial equilibrium condition, wishes the elasticity of the money supply to be equal to the elasticity of output as a whole.⁷⁶

Accordingly, Wicksell did not define one term of his comparison for a barter economy and one term for a money economy and then proceed as though they were comparable. The *whole* "natural" process is absorbed into the money process, but that does not mean that it ceases to exert an influence. Nor is it illogical to make a comparison between a real term and a hypothetical one, between a case in the indicative mood and a case in the subjunctive mood. The whole theory of economic value and price is a system of choices between alternative courses. And there is no logical inconsistency in comparing one rate of interest and the price level associated with it, which would keep "goods and money in step," as goods and goods are inevitably in step in a barter economy. There are plenty of things which are concretely identified, one of them remaining logically antecedent to the other. The biological and medical sciences are constantly under the necessity of rendering their specimen in some way abnormal in order to examine it at all, and must distinguish in the total result effects which are due to normal processes and those which have been induced, though the experimenter never sees a normal process.

Wicksell's method is fundamentally a legitimate use of an indispensable analytical instrument, of which Myrdal himself makes a questionable use while still wrestling with "technical productivity and relative prices." He has defined $i = y_2$, making the rate of money interest equal to the natural rate of interest; this implies the equation $c_1 = r_1$ —that is, capital value equals the cost of reproduction of existing real capital. But when technical development takes place or a change in relative prices, we have $c_2 = r_2$, new capital values and new production costs. Therefore, r_1 must be altered by a "corrective factor" in order that it may be used in the comparison. The "corrective factor" represents as accurately as possible "the difference in the expected net return on a given sum if invested, on the one hand ac-

ording to the old method of construction, and on the other hand according to the new optimal method." But since i and y are symbols for the whole economy, there is here no question of any monopoly position, and nobody will be building the old assets. The demand for materials for the new combination will affect relative prices for the same materials, and the cost of building an asset by the old method will itself be altered. The "cost of an asset by the old method" is a conjectural one; it is what these assets *would* have cost. Yet this "definition is clear in theory."⁷⁷ By the same inevitable process Wicksell can speak of the rate of interest when goods are lent *in natura* even though they are not so lent. We can compare that rate with a money rate that *would* duplicate these relationships and one that would not. And even though those relations would have been altered once by the introduction of money, we may still employ the "originary" process as a term of a comparison.

The most notable difference that endures in a monetary economy as opposed to a barter economy, once the initial shift to more expeditious exchange at more accurate prices has been achieved, is the facilitation of hoarding in the face of the dubious future. Wicksell discusses this phase of money theory, citing from Macaulay's *History of England* the anecdote of Alexander Pope's father (an anecdote later utilized by John Maynard Keynes)⁷⁸ and makes the excellent point that even when functioning as a "store of value" money never wholly loses its character as a medium of exchange; the "store of value" aspect of the utility of money is merely a deferred exercise of its function as a medium of exchange. A person who hoards money against years when crops may fail may find that, when the time arrives, the cereal he had in mind to buy may, through some blight, have failed utterly. There may simply be none to be bought. His store of value has no value because the object of the exchange in which it was to mediate is non-existent. That warehouses can then be rented for practically nothing is of no help. A monetary store of value is a store of media of exchange as well or it is not a store of value.

Myrdal's dissatisfaction with Wicksell and the rate of natural interest arose from the fact that in the latter's system there is no place for "anticipations" which Myrdal rightly believes can play a decisive role in a modern credit economy. A commentator on these criticisms makes the further point that given certain conditions of "anticipation," a cumulative process in a barter economy is conceivable.⁷⁹ Of course, one so realistic as Wicksell did not wish to deny that wrong guesses would exist in any economy however "natural." A business man does not make his decisions

in a hermit's retreat nor withdraw into seclusion and proceed to formulate "anticipations" out of no pre-existing material. The study of the elasticity of supply and demand in the markets in which he buys and in the markets in which he sells is, though not by that name, one of the pre-occupations of his life. Now in barter terms, if the business man should withhold from the market, for example, his competitor would be able in the first instance theoretically to buy cheaper and sell dearer; his "anticipations" then would have to be correct. In barter terms, where business men would be closer to the objective data of their industry, both the materials for correct forecast and the retribution for incorrect ones are more palpable because the elasticities of supply and demand can be learned by experience and have physical limits. But in money terms, with *elastic money supply*, "anticipations" may verify themselves. Instead of bringing this as a criticism of Wicksell, it would seem to be more accurate to say that one of his chief purposes was to emphasize the fact.⁸⁰

The supply and demand for goods for any purpose, hoarding included, have objective restrictions; but when the demand for money can determine the supply, then any movement of prices is possible. Myrdal and Rosenstein-Rodan try to prove that progressive adaptation to a money economy is impossible. They start with an analysis of a few traders, for each of whom his good is his money; and then proceed to more traders, each of whom uses common money. This is irrelevant; Wicksell did not work with such a construction and did not need to. Myrdal and Rosenstein-Rodan also prove too much by failing to take proper account of that same factor of "anticipations" as altered by the money process. That these practical limits on a cumulative movement in a barter economy are significant is confirmed by the fact that Rosenstein-Rodan, in his otherwise exceptionally penetrating and thoroughgoing paper about the possible effects of "anticipations," never indicates any reasonable basis for such "anticipations" in a barter economy. "If we confine ourselves to saying that it is not actual (current) prices, costs, profits, etc., but expected prices, costs, profits which induce an entrepreneur to produce and invest [and to hoard] we do not say very much unless we give some hint as to how these expectations are determined."⁸¹ Minervan anticipations spring into the world full-panoplied from the head of Jove, except that there is no Jove.⁸²

The second major criticism brought against Wicksell, not unrelated to the previous one, was that his third description of the rate of natural interest was incompatible with the first, and that therefore there was "no such thing as a natural rate of interest." Let us, before examining this ob-

jection, again observe that there is no question here of "guaranteeing" any price level; there was merely a normal rate of interest which was "neutral" with respect to prices. Ultimately, of course, any major shift in economic factors is in some way reflected in the rate of natural interest; and in this sense the rate of money interest must be adjusted to the rate of natural interest. But to assume that Wicksell guaranteed immediately to offset shifts in supply, such as a crop blighted within a short time, is quite unreasonable and unwarranted. The normal rate of interest was simply such as not to be of itself the initiating cause of price changes. If changes in other factors took place so quickly as not to be reflected in the rate of interest within a moderate time, that is another matter.⁸³

This objection has a history as long as the book itself, having been raised by Prof. David Davidson in his review of *Interest and Prices* in the *Ekonomisk Tidskrift* for 1899, the year following publication.⁸⁴ The controversy is referred to by most of the writers on the problem of the natural rate.⁸⁵ Though Brinley Thomas states Davidson's objections in the latter's own words,⁸⁶ the more commodious formulations of Hayek and Haberler are easier to deal with.

"Wicksell goes on to argue that, if the market rate is below the natural rate, prices will rise; if it is above, prices will tend to fall. There is, however, a mistake in this last proposition as was pointed out for the first time by the Swedish economist, Davidson. In a progressive economy, where the volume of production and transactions rises, the flow of money must be increased in order to keep the price level stable. Therefore the rate of interest must be kept at a level low enough to induce a net inflow of money into circulation. The rate which stabilizes the price level is below the rate at which the demand for loan capital just equals the supply of savings."⁸⁷

Prof. Hayek states his objection more aggressively:

"If one were to make a systematic effort to coordinate these ideas into an explanation of the trade cycle (dropping, as is essential, the assumption of the stationary state),⁸⁸ a curious contradiction would arise. On the one hand, we are told that the price level remains unaltered when the money rate of interest is the same as the natural rate; and on the other, that the production of capital goods is, at the same time, kept within the limits imposed by the supply of real savings In this case, stability of the price level presupposes changes in the volume of money; but these changes must always lead to a discrepancy between the amount of real savings and the volume of investment. The rate of interest at which, in an expanding economy, the amount of the new money entering circulation is just sufficient to keep the price level stable is always lower than the rate which would keep the amount of available loan-capital equal to the amount simultaneously saved by the public; and thus, despite the stability of the price level, it makes possible a development leading away from the equilibrium position."⁸⁹

This is a comprehensive but awkward proposition which it may be worthwhile to restate and turn this way and that for a moment. Hayek's meaning seems to be that in an expanding economy, *i.e.*, a technically progressive one, where the volume of production is increasing, if enough new money is injected into the system to keep prices from falling, the result will be a lower rate of interest than that which would have equated the demand for capital and the simultaneous amount of saving. In this version, we can see the possibility that people would be receiving more interest though at a lower rate. Or we may state it thus: in an expanding economy, when prices tend to fall, the rate of interest which will equate the demand for and the supply of loan capital will be higher than the rate which would prevail if enough new money to keep the price level stable had been injected into the system.

The sense of these propositions seems to be that, when technical advance enables some product to be produced at a lower cost and competition therefore causes it to be sold at a lower price when at the same time the volume of money is not changed, then Hayek would expect the rate of interest to rise. The supply of money would be the same but the demand for it would be greater. But if the supply of money is expanded to maintain prices for the increased volume of goods, the rate of interest will not fall; and in Hayek's view, the supply and demand for loan capital will not be equated.

"In order that the supply and demand for loan capital should be equalized, the banks must not lend more or less than has been deposited with them as savings . . . (*i.e.*) they must never allow the effective volume of money in circulation to change. But in order that the price level remain unchanged, the amount of money in circulation must change as the volume of production increases or decreases. The banks could *either* keep the demand for real capital within the limits set by the supply of savings, or keep the price level steady. But they cannot perform both functions at once. Save in a society in which there were no additions to saving, *i.e.*, a stationary society, to keep the money rate of interest at the level of the equilibrium rate would mean that in times of expansion of production the price level would fall. To keep the general price level steady would mean in similar circumstances that the loan rate of interest would have to be lowered below the equilibrium rate."⁹⁰

In an expanding economy, the introduction of superior methods means at first a rise in the rate of natural interest. Employing Wicksell's examples in round numbers, entrepreneurs would have borrowed \$1,000,000 and capitalists would at the end of the year receive their \$70,000 worth of interest at prevailing prices. Actually, the entrepreneurs could still retain

\$10,000 worth of goods, which represents the increment in natural interest. There is \$1,070,000 bidding for what would be, at previous prices, \$1,080,000 worth of goods. Prices must fall. Yet the indexes approved by Wicksell would record no fall; the ratios of the value of total income for the two years would be 100, for \$1,070,000 would be spent on total product both years. But let us suppose, as in the remarks made above about interest as a price and its place in price indexes, that our omniscient bankers had declared the rate of interest to be 8 per cent as they observed the course of production through the year; there would now be \$1,080,000 bidding for \$1,080,000 at last year's prices. But then the price level would not have changed either, for the reasons given above. This indicates the difficulty that policy-makers face in measuring any kind of interest with the tools at our disposal.

However, in the first instance described above, when the entrepreneurs simply impounded the surplus and did not offer it for sale to the capitalists they (the entrepreneurs, of course) would have made a substantial profit—the increment in natural interest—and would be willing to expand. The profit of \$10,000 is used to bid up wages and rents, and entrepreneurs have the incentive and the capacity to borrow more money; if \$1,010,000 is borrowed at 8 per cent entrepreneurs will make no profit or loss but will be content with the new position; if it is borrowed at the lower rate the impulse to expansion is *still present*.⁹¹

On Wicksell's own ground, there seems to be no problem. Actually the problem arises from the ambiguity which has already been discussed in connection with the definitions of prices and interest, and from the difficulty of trying to define price rises without reference to the quantities exchanged at those prices. The rate of interest is not a ratio between two sets of prices but between two value figures, between a capital sum and a volume of interest. In the case given, there has been an increase in productivity. Let us assume a case where an identical commodity is produced at less cost but in increasing quantity. This may be sold at previous prices if the rate of interest has meanwhile been adjusted,⁹² so that the volume of interest income is equal to the value of the increment at previous prices. If the rate has not been adjusted, it cannot be so sold and prices must drop. Now Hayek's point is to keep the volume of available loan capital equal to the amount simultaneously saved by the public. He is disturbed by the fact that the change in natural interest has caused the previous savings to have a different value than was contracted for when it was borrowed. But on theoretical grounds alone, what criterion

is there by which to choose between the rate of interest which enables goods to be sold in the face of total income of \$1,080,000, or a total income of \$1,070,000, if as a matter of fact the net increment would have either value, depending on the monetary policy?

Returning to Wicksell's examples, entrepreneurs would have borrowed \$1,000,000. At the end of the year, goods worth \$1,080,000 at previous prices come into the hands of the entrepreneurs. The capitalists have \$1,070,000 on deposit at the bank, their capital plus interest at 7%; the entrepreneurs owe the same sum. The entrepreneurs can withhold goods worth \$10,000 at previous prices, and still pay all their debts; the capitalists withhold their \$70,000 worth of goods at previous prices; and \$1,000,000 is offered for sale to wage-earners and rent receivers. The entrepreneurs now borrow \$1,010,000 from the banks because they can safely offer workers and rent receivers that much more in view of the increase in natural interest. They sell their extra share along with the rest at previous prices (that is, the entrepreneurs do not alter their level of consumption). In other words, goods worth \$1,010,000 at previous prices are sold at previous prices. If the entrepreneurs borrow at 7%, this process repeats itself; if they borrow at 8%, the process stops. The \$80,000 interest share would then go to the capitalists, and, assuming them not to alter their scale of consumption because of the increase in interest income, there would be no motive force changing the price level, for the rate of natural interest and the rate of money interest are in conjunction.

The reason for these peculiarities is that Wicksell has interest in mind primarily as an economic share, as a volume of goods to be translated at a price into a value figure. Hayek is thinking of interest as an abstract price, disregarding the volume of money which is "sold" at that price. Wicksell says that if \$1,000,000 invested yields 8% of itself in terms of previous prices, then—if the money mechanism is to reflect and not deflect the process—it should be greeted by \$1,080,000 in the market. Hayek says that if \$1,000,000 produces what would have been \$1,080,000 worth at previous prices, meet the product with \$1,070,000 and let prices take the impact.

The rate of interest is not a ratio between prices *in abstracto*; it is a ratio of two value figures. The value of the national income in the examples given has risen; what has happened to the rate of interest? *Between what two value figures is it the ratio?* Is the rate of interest altered because the entrepreneurs can withhold a part of the increased product from the price structure till they have borrowed money enough to finance it?

Is the value of the interest share \$80,000 at last year's prices or \$70,000 at this year's prices? Or is the attempt to measure prices in isolation, and especially the abstract price, interest as a *rate* regardless of the sum lent at that rate, perhaps a "fundamentally irrational" process after all?⁹³

Hayek may, on other grounds, insist that his procedure is socially more desirable, but he has not established that Wicksell's position is inconsistent. When the volume of natural interest varies, why can we say that it must be evaluated at the prices that will result from its sale rather than from the prices that were the basis of its production? The very factor about which there is debate is the one which controls the volume of funds which will buy it. We must have either "a movement of the price structure or a change in the effective quantity of money."⁹⁴ But having chosen one of these two, then, must we say that the choice of the other involves a "curious contradiction"?

In an addendum to the chapter on systematic exposition, Wicksell introduces the concept of *forced saving*.⁹⁵ He constructs a situation which is a departure from his previous condition of a one-year period of production. The banks now lend a portion of their credits for *two years* while the whole of their deposits remain fixed for *one year*. At the end of the first year, a somewhat smaller annual product will come on the market, for the product of the process absorbing the resources for two years will not as yet be completed. The capitalist dealers could use less than their full deposits and buy the product at previous prices. If, however, they use their whole deposit, prices must rise, the excess accruing to the producers of the one-year consumption goods and available to them as capital.

The real saving which is necessary for the period of investment to be increased is in fact "enforced—at exactly the right moment—on consumers as a whole,"⁹⁶ because a smaller amount of consumption goods is available for the consumption of the second year. At the termination of the second year, when the two-year production period comes to an end and the available quantity of consumption goods has increased correspondingly, consumers will receive some reward for their abstinence. "These considerations are of extreme importance in relation to actual economic events, but they are usually overlooked in the customary treatment of the theory of money, being regarded as relevant only to a natural economy."⁹⁷ If the capitalist dealers use all their available money on each occasion, as they are said to do, we have the following relations: The base year price is below year 1 price but equal to year 2 price; year 1,

therefore is above year 2. The base year quantity is above year 1 but year 2 quantity is greater than year 0 or year 1. Barring extraordinary shifts in demand, as Wicksell always did, the ratios of aggregate values for these combinations will always approximate 1, because when price goes up quantity goes down and vice-versa. An index, however, of year 1 on year 0 with constant weights whether base year or given year, will rise and we should say that the rate of natural interest is above the rate of money interest. But an index of year 2 prices over year 1 with constant weights, whether of year 1 or year 2, will go down and we should say the rate of natural interest is below the rate of money interest. But comparing year 2 with year 0 with constant weights, prices have not changed and we should say the rate of natural interest and the rate of money interest are equal; the money rate is normal.

Actually, the movement which took place has, during its course, little relation to a rate of *interest as an instrument of analysis*. To say, as we did, that the rate of natural interest and of money interest go up and down does not seem very reasonable, when between year 1 and year 2 (as opposed to year 0 and year 2) there has been no change in production functions. Yet the income value figures, which alone can furnish a basis for the computation of income, actually do change. What has happened is a displacement of income, the consumers receiving less in year 1 with possible partial compensation in year 2, the entrepreneurs receiving an unexpected gain in year 1 which is not wholly offset in year 2. On balance, the price level has not changed (employing Wicksell's index). Yet there has been an important alteration in the distribution of income which will indeed affect the rate of interest; but this may be only one of its belated effects and not the most important. However much, therefore, we may concede to Wicksell's analysis as isolating phenomena of the utmost consequence, for short-term problems he left work to be done toward a full understanding of these same phenomena.

We have now completed our survey of the objections against Wicksell's doctrine. The concepts, natural interest and stable prices had to be examined; the criticisms of Hayek and Myrdal and the objection of Davidson had to be faced. In closing, we must reiterate that the purpose in considering these points was not to pass final judgment on every analytical problem involved nor to pretend or attempt to answer them all. Since objections have been raised by writers of authority and ability, some notice of them was indispensable to insure that the summary of Wicksell which

we carry forward for the sake of comparison was not a summary of a shattered doctrine, no longer vital, distinctive or significant.

Fortunately, the simplicity of Wicksell's own style makes it possible to present a summary in very brief outline:

(1) "Labor and land, if their fruits are not to be consumed immediately, may assume such forms as to give them a greater (marginal) productivity, a greater yield in consumable commodities than in their present form."⁹⁸

(2) "This difference [in time] is sufficient to justify the establishment of a special category of means of production . . . capital; for in the interval of time thus afforded, the accumulated labor and land have been able to assume forms denied them in their crude state by which they attain a much greater efficiency for a number of productive purposes."⁹⁹

(3) "This increase in efficiency is the necessary condition of interest; it is the source from which it flows (just as the fruitfulness of the earth is the source of rent, and the productivity of labor, the source of wages). . . ."¹⁰⁰

"We are to suppose that . . . the efficiency of production is always increasing (that is essential—for otherwise the natural rate would sink to zero)."¹⁰¹

(4) "Interest is the difference between the marginal productivity of saved-up labor and land and current labor and land."¹⁰²

(5) "The rate of interest, as Adam Smith and Ricardo showed, is governed by the supply and demand for real capital."

The supply of real capital is increased by increased prosperity, increased legal security, increased forethought, a higher level of civilization. The supply is diminished relatively through increasing population, or absolutely through war or natural catastrophe. The demand for real capital is increased by technical advance.

(6) The size of the interest share is determined by its marginal productivity in relation to the other factors.

(7) If saved-up resources were lent *in natura*, this net yield would constitute the sum of interest.

(8) This sum of interest *can* be paid by borrowers without a shift in the relative distribution of normal incomes.

(9) In a money economy, saved-up resources are not lent *in natura*, or interest paid out of net yield. Saved-up resources are bought and sold.

(10) There is a rate of interest which corresponds to that which would be established if goods were lent and borrowed *in natura* and this rate would not of itself be a cause of disturbance of the general price level.

(11) The money rate which corresponds to this rate of natural interest is the normal rate.

(12) The actual market rate in a modern credit economy can diverge from the normal rate because of the expansibility of bank money, and with such expansion, the sum that entrepreneurs *can* pay diverges from what under contract they *must* pay.

(13) If the actual rate is less than the normal rate, the general price level will rise progressively and cumulatively.

Borrowers (entrepreneurs) gain a windfall profit measured by the degree of divergence.

(14) If the actual rate is greater than the normal rate, prices will fall progressively and cumulatively.

Borrowers (entrepreneurs) suffer a windfall loss measured by the degree of divergence.

(15) The extent to which Wicksell wished his analysis to proceed in terms of total incomes and their distribution is not clear; but Wicksell does not by any means exclude the income approach to price level analysis.

(16) Wicksell's analysis is relevant only for enduring changes in the general price level.

Wicksell neither ignored nor denied the significance of changes in relative prices. But they were not the object of his central analysis.

¹John R. Hicks, *Value and Capital*, Oxford, 1939, p. 3.

²Knut Wicksell, *Lectures on Political Economy*, New York, 1934, Vol. II, p. 191. (Hereafter cited as *Lectures*, I or II.)

³Knut Wicksell, *Interest and Prices*, London, 1936, p. 102.

⁴*Ibid.*, p. 135.

⁵*Ibid.*, p. 102.

⁶*Ibid.*, p. xxvi.

⁷*Lectures*, II, p. 190.

⁸*Interest and Prices*, p. xxvi, with note.

⁹*Ibid.*, p. 110; *Economic Journal*, 17:66, p. 215.

¹⁰*Lectures*, II, p. 185. (Italics inserted.)

¹¹*Ibid.*, II, p. 191.

¹²*Ibid.*, I, p. 153.

¹³*Ibid.*, I, pp. 153-154. (Italics in original.)

¹⁴*Ibid.*, I, p. 150. (Italics inserted.)

¹⁵*Interest and Prices*, p. 103.

¹⁶*Lectures*, II, p. 205.

¹⁷A. W. Marget, *Theory of Prices*, New York, 1938, p. 201, note 125.

¹⁸See William Fellner, "Savings Investment and The Problem of Neutral Money," *Review of Economic Statistics*, November, 1938, p. 185.

¹⁹Cf. Howard Ellis, *German Monetary Theory, 1905-1933*, Cambridge, 1934, p. 307.

²⁰*Vorlesungen*, II, S. 234; *Lectures*, II, p. 205.

²¹See Wicksell's treatment of Tooke's thirteenth thesis as a piece of "positive elucidation" (*Interest and Prices*, p. 44) and Prof. Marget's elaboration of the relation of this to the income theory of prices. Marget, *op. cit.*, pp. 313 *et seq.*

²²*Geldzins und Güterpreise*, S. 130.

²³Since the objections which have been brought against the very concept of "natural interest" are bound up with views on the nature of the price level, we will postpone considerations of the objections until we have stated Wicksell's views on the meaning of stable prices.

²⁴*Interest and Prices*, p. 152.

²⁵*Lectures*, II, pp. 215, 191; *Interest and Prices*, p. 103.

²⁶*Interest and Prices*, p. 106.

²⁷*Lectures*, II, p. 205.

²⁸*Interest and Prices*, p. 112.

²⁹*Lectures*, II, p. 193.

³⁰Knut Wicksell, "The Influence of the Rate of Interest on Prices," *Economic Journal*, June, 1907, p. 214.

³¹*Ibid.*, p. 211.

³²*Lectures*, II, p. 208.

³³*Economic Journal*, *loc. cit.*, p. 219.

³⁴*Interest and Prices*, p. 100.

- ³⁵*Ibid.*, p. 120.
³⁶*Ibid.*, p. 102.
³⁷*Lectures*, II, p. 200.
³⁸*Economic Journal*, *loc. cit.*, p. 213.
³⁹*Lectures*, II, p. 196.
⁴⁰*Ibid.*, II, p. 159.
⁴¹*Interest and Prices*, pp. 136 *et seq.*
⁴²*Interest and Prices*, p. 150.
⁴³Friedrich A. von Hayek, *Monetary Theory and the Trade Cycle* (German edition, 1929), New York, 1932, p. 114, note.
⁴⁴Gunnar Myrdal, *Monetary Equilibrium*, London, 1939, p. 52, n.
⁴⁵*Loc. cit.*, p. 185.
⁴⁶*Lectures*, II, p. 191.
⁴⁷*Interest and Prices*, p. 9.
⁴⁸*Lectures*, II, pp. 136-137.
⁴⁹*Ibid.*, p. 128.
⁵⁰*Interest and Prices*, p. 213.
⁵¹*Lectures*, II, p. 159. See further comments below in this connection.
⁵²*Interest and Prices*, p. 105. (The italics in the second to the last sentence have been inserted.)
⁵³*Ibid.*, p. 120.
⁵⁴*Economic Journal*, *loc. cit.*, p. 213.
⁵⁵*Interest and Prices*, pp. 106-107, 131.
⁵⁶*Lectures*, II, p. 190.
⁵⁷*Interest and Prices*, pp. 132, 136; cf. also pp. 106, 112.
⁵⁸*Ibid.*, pp. 94-95, 120-121, 142-143.
⁵⁹*Ibid.*, p. xxv.
⁶⁰*Ibid.*
⁶¹*Lectures*, II, p. 193.
⁶²*Interest and Prices*, p. 102.
⁶³*Ibid.*, p. 120.
⁶⁴*Lectures*, II, p. 193.
⁶⁵*Interest and Prices*, p. 135.
⁶⁶Myrdal, *op. cit.*, p. 38.
⁶⁷*Ibid.*, p. 37.
⁶⁸. . . *sondern vielmehr falsch* in the original.
⁶⁹Myrdal, *op. cit.*, pp. 52-53.
⁷⁰*Ibid.*, p. 50-51.
⁷¹*Ibid.*, p. 52.
⁷²See A. E. Monroe, "The Standard of Value," *Quarterly Journal of Economics*, February 1932, pp. 251 *et seq.*, especially pp. 254, pp. 259-267.
⁷³*Interest and Prices*, pp. 121, 135.
⁷⁴*Lectures*, II, p. 6.
⁷⁵"*Originär*" in the German text means "originary—causing to exist" (Webster's Dictionary); it does not mean "original" as translated in *Interest and Prices*, p. 134.
⁷⁶*Interest and Prices*, p. 135.
⁷⁷Myrdal, *op. cit.*, p. 72.
⁷⁸John Maynard Keynes, *The General Theory of Employment, Interest and Money*, New York, 1936, p. 221; Wicksell, *Lectures*, II, p. 9.
⁷⁹P. N. Rosenstein-Rodan, "The Coordination of the General Theories of Money and Price," *Economica*, August 1936, p. 272.
⁸⁰*Interest and Prices*, pp. 110, 135, xxvi.
⁸¹Gottfried von Haberler, *Prosperity and Depression*, new and revised edition, Geneva, 1939, p. 252.
⁸²Since it is not germane to this study, we neglect Myrdal's more general discussion of equilibrium as well as the accuracy of many views he imputes to Wicksell.

⁸³We may remark here that much of Wicksell's theory could be recast in terms of a theory of real or natural wages, or a theory of real or natural rents which might serve to show the kinship between his theories and those of Irving Fisher. But it would be a useless exercise because, *de facto*, changes in the money supply are not bound up in the first instance with wages or rents. If the only credit were consumer credit, the analysis might become worthwhile.

⁸⁴*Loc. cit.*, pp. 233-240.

⁸⁵For example, Bertil Ohlin in his *Introduction to Interest and Prices*, p. x; Myrdal, *Monetary Equilibrium*, p. 129.

⁸⁶Brinley Thomas, "The Monetary Doctrines of Professor Davidson," *Economic Journal*, 45:177, pp. 36-50.

⁸⁷Haberler, *op. cit.*, p. 33.

⁸⁸This, incidentally, is precisely what Wicksell refused to do, never regarding his theory of interest as an adequate theory of trade cycles.

⁸⁹Frederick A. von Hayek, *Monetary Theory and the Price Level*, pp. 113-114. Cf. also his *Prices and Production*, second revised edition, London, 1935, pp. 22-31.

⁹⁰*Prices and Production*, p. 27.

⁹¹We may as well observe from the start that much of the ambiguity arises from the different concepts of neutrality in the minds of the two writers. A money system (or a peaceable nation between two belligerents) may be neutral in either of two ways. An initial position may be taken which is then adhered to regardless of the shifts between the other two parties and their consequent relative shifts regarding the neutral. The absolute position is unchanged; the relative position is not. This may be called *negative* neutrality and is Prof. Hayek's choice. Or an initial position may be taken by the neutral which is then progressively altered to keep the neutral factor in the same relative position to the two other factors (here, money between the supply and demand for goods). In this case, the absolute position shifts but the relative position is maintained. This may be called *positive* neutrality and is Wicksell's choice. To him, money is neutral when it is altered to "keep step with goods." To Hayek, money is neutral when constant. An increase in money greater than the increase in goods would be regarded by both as a violation of neutrality.

⁹²Wicksell admitted this possibility and considered it useful for policy-making, namely, that the gap between investment commitments and the appearance of the product on the market allows an opportunity for adjustment by the banks.

⁹³Wassily Leontief, "Implicit Theorizing," *Quarterly Journal of Economics*, February 1936, p. 348.

⁹⁴Fellner, *op. cit.*, p. 191.

⁹⁵*Interest and Prices*, p. 154; cf. also *Lectures*, II, p. 6.

⁹⁶*Interest and Prices*, p. 155.

⁹⁷*Ibid.*, p. 156.

⁹⁸*Lectures*, II, p. 185

⁹⁹*Ibid.*, I, p. 150.

¹⁰⁰*Ibid.*, I, p. 150.

¹⁰¹*Interest and Prices* p. 151.

¹⁰²*Lectures*, I, p. 154.

CHAPTER III

THE DISPLACEMENT OF INCOME

There are several circumstances which would seem to suggest that Ludwig von Mises might well be omitted from our survey of modern interest theorists. First of all, he himself is not content with his own exposition, stating in a footnote to the second German edition of 1924 (which the special preface to the English edition of 1934 does not modify) that he employs the analysis of Böhm-Bawerk, though admittedly it fails to be completely satisfactory. However, he combines this condemnation with very laudatory remarks about the value of Böhm-Bawerk's study in preliminary terms. Secondly, such treatment as he does accord the subject in his *Theory of Money and Credit* and in *Geldwertstabilisierung und Konjunkturpolitik* is incidental.

On the other hand, even in his brief discussions Mises does not develop important germinal ideas, ideas which have been taken up by later writers. Furthermore he expressly bases what he has to say on Wicksell and it is from Mises and Wicksell that Hayek proceeds. And though Keynes' present position was once characterized by Mises as one of "unsurpassable naivete,"¹ Mises was one of the select company mentioned in the *Treatise on Money* as having glimpsed what Keynes had grasped. Despite the limitations mentioned, therefore, a discussion of Mises is useful in presenting a summary of the essential elements of modern interest theory and its relation to prices.

Up to that point in his treatise where Mises turns explicitly to the phenomenon of interest, he has been discussing changes in the value of money. For purposes of exposition, he has limited himself to an analysis of the changes in the purchasing power of money and their effects upon the prices of consumption goods. We now turn to the further question close to the core of the interest problem—do changes in the purchasing power of money affect consumption goods and production goods in the same way?

Interest is defined as "the margin by which the value of capital goods falls short of that of their expected product; its source lies in the natural difference of value between present goods and future goods."² If price variations of monetary origin affect production goods differently than they affect consumption goods, other things remaining the same, then they can lead to a change in the rate of interest; and if this be true, then banks that issue fiduciary media can through their credit policy affect the rate of interest.

"After the example of Wicksell, we designate that rate of interest which would be established through supply and demand if real capital goods were loaned *in natura* without the mediation of money, the natural rate of interest, and that rate which is demanded for a loan that consists of money or money substitutes, the rate of money interest. The banks can through progressive expansion of the issue of circulating media force down the rate of money interest to the level set by the cost of the banking business and thus, practically speaking, to nothing."³

Mises agrees with Wicksell that forces will be at work which will ultimately induce a coincidence of the two rates, and agrees, moreover, that their divergences will cause progressive and cumulative price fluctuations. But when Wicksell says that this "progressive and ultimately enormous rise of prices," as Mises paraphrases it, must force the banks sooner or later to raise their rates of interest, Mises does not follow.

The reason why Mises does not assent to the whole of Wicksell's analysis is that Wicksell gives no final reason why *in pure theory* the rate of money interest and the rate of natural interest must ultimately converge. He maintains, as is true, that Wicksell is dealing with a theoretical pure credit economy and that the reasons he assigns are not valid under such conditions. While it may be true that the problem of why the rates would under such conditions again converge is not settled by Wicksell, it is not true that Wicksell in the passages cited stated specifically that the reasons he gave would apply under purely theoretical conditions. The two cases cited by Mises as violations by Wicksell of his own assumptions are clearly labelled as departures from those assumptions. The first passage, on page xxvi of the Wicksell's preface, states frankly that the rates would again agree in "the monetary system of actual fact"; and in the second case he speaks expressly not of his own abstract construction but of the concrete world, and regrets that the matter "requires a far more intimate insight into the secrets of banking technique than is at my disposal."⁴ With these practical limits on credit expansion, gold and legal reserves, and the like, Mises quite agrees. We shall set forth Mises' general position and then take up

his analysis of the reasons of intrinsic theoretical necessity which ultimately force conjunction of the actual and normal rates of money interest.

Like Wicksell, Mises appeals to the authority of Aristotle, who, he is sure, was already asserting a commonplace on the "physical unfruitfulness of money,"⁵ and to the authority of Adam Smith who regarded commodities employed as hard money as "dead stock which produces nothing."⁶ He mentions also, though with less emphasis, that goods transactions *in natura* have long since ceased to be "usual." "An entrepreneur who wishes to acquire command over capital goods in order to begin a process of production must first of all have money with which to purchase them."⁷

Mises does, however, place the fullest possible weight upon another set of observations which involve very similar ideas.

"Credit transactions fall into two groups, the separation of which must form the starting point for every theory of credit and especially for every investigation into the connection between money and credit and into the influence of credit on the money prices of goods. On the one hand are those credit transactions which are characterized by the fact that they impose a sacrifice on that party who performs his part of the bargain before the other does—the foregoing of immediate power of disposal over the exchanged good, or, if this version is preferred, the foregoing of disposal over the surrendered good until the receipt of that for which it is exchanged. This sacrifice is balanced by a corresponding gain on the part of the other party to the contract—the advantage of obtaining earlier disposal over the good acquired in exchange, or what is the same thing, of not having to fulfill his part of the bargain immediately. . . . The second group of credit transactions is characterized by the fact that in them the gain of the party who receives before he pays is balanced by no sacrifice on the part of the other party. Thus the difference in time between fulfillment and counter-fulfillment which is just as much the essence of this kind of transaction as of the other, has an influence merely in the valuations of the one party while the other is able to treat it as insignificant For the first group, the name Commodity Credit (*Sachkredit*) is suggested, for the second, the name Circulation Credit (*Zirkulationskredit*)."⁸

To this is joined a long explanation of the fact that money substitutes are complete and perfect deputies for money since no one wishes money as an object of ultimate consumption. One possessing a thousand loaves of bread could not dare issue more than one thousand tickets of claim on the bread, for when one claim is exercised the stock of bread is irrevocably reduced. Not so with money; the exercise of a claim against a stock of money does not result in any absolute diminution of the stock against which the claim is asserted. Mises adds the following penetrating observation to Wicksell's simple but effective thesis on the expansibility of bank credit.

"The fact that is peculiar to money alone is not that mature and secure claims to money are as highly valued as the sums of money to which they refer, but rather that such claims to money are complete substitutes for money and as such are able to fulfill all the functions of money in those markets in which their essential characteristics of maturity and security are recognized. It is this circumstance that makes it possible to issue more of this sort of substitute than the issuer is always in a position to convert, and so the fiduciary medium comes into being in addition to the money certificate."⁹

Wicksell's analysis proceeded from a given change in the actual rate of interest not consonant with the normal rate, to cumulative changes in prices resultant thereupon. Mises elaborates the intermediate step which, as we have seen, Wicksell did not ignore. "There is no direct connection between the rate of interest and the amount of money held by individuals who participate in the transactions of the market; there is only an indirect connection operating in a roundabout way through the displacement in the social distribution of income and wealth which occur as a consequence of variations in the objective exchange value [purchasing power] of money."¹⁰ If it should come about that the new money were so distributed as in no way to alter the existing proportion between expenditures on consumption goods and production goods, no effect on the rate of interest would follow. But this is an extremely unlikely case in practice and difficult to describe with certainty in theory.

"Displacements of the social distribution of income and property constitute an essential consequence of fluctuations in the exchange value of money. But every variation in the distribution of income and property entails variations in the rate of interest." A total income distributed in large fractions to a small group and small fractions to a large group will produce a different rate of interest than the same income distributed evenly, for "generally speaking, individuals with large incomes make better provision for the future than individuals with small incomes. The smaller an individual's income is, the greater is the premium which he sets on present goods in comparison with future goods. Conversely, increased prosperity means increased provision for the future and higher valuation of future goods."¹¹

When these displacements arise exclusively from monetary contingencies, they have added significant effects.

"Changes in the purchasing power of money do not operate directly upon the heights of the interest rate. An influence upon the rate of interest can enter indirectly in consequence of the fact that, as a consequence of changes in the value of money, the emerging displacements of income and wealth distribution affect savings

and thereby the formation of capital. If a depreciation of money favors the richer classes at the expense of the poorer, then its action presumably involves an increased formation of capital, since the prosperous classes give foremost consideration to saving and the more their income and wealth increase, the more they have left over. If a depreciation of money is induced by an expansion of circulating media, then if wages do not promptly follow the rising prices, the decrease in purchasing power would doubtless loose these forces in especially vigorous fashion. This is the *forced saving* which the most recent literature has rightly been pointing out so emphatically. . . . It is always conditional upon the data of the special case whether the displacements of wealth and income which induce increased savings actually are set in operation."¹²

"One of the elements that help to determine the rate of interest, the level of the national subsistence fund, is necessarily altered by the increase of savings. The greater the fund of means of subsistence in a community the lower the rate of interest. It cannot be asserted that an increase in the stock of money causes the rate of interest to fall and a diminution of the stock of money causes it to rise. Whether the one or other consequence occurs always depends on whether the new distribution of property is more or less favorable to the accumulation of capital."¹³

We shall meet these homely observations again, set forth as a fundamental psychological law and garlanded with the name of marginal propensity to consume.

Such results, however, are evidently long-range effects, as Mises states. The critical displacements of income are brought about by the differential gains and losses of entrepreneurs. The order of events is somewhat as follows: (1) loans at abnormal rates, (2) issue or contraction of money substitutes attendant thereupon, (3) positive or negative differential profits, (4) displacement of income. These movements endure as long as the purchasing power of money is being changed. "Thus variations in the rate of interest do not occur as immediate consequences of variations in the ratio between the demand for money and the stock of it,"¹⁴ but as a consequence of the induced shifts in income. There can be no question of what Mises regards as the critical concept: the relation between falling purchasing power of money and income displacement affecting the rate of saving is reiterated over and over again.

We are now in a position to return to Mises' basic theoretical reasons why the actual rate must ultimately coincide with the normal rate in an economic situation where the banks are freed from the practical limitations on expansion—reserves, redemption funds, foreign flows, alternative industrial uses of the money metal, etc. The problem of whether the amount of fiduciary media could actually be indefinitely augmented is dismissed as "otiose," for the question under investigation is not whether the purchasing power of money and the rate of interest could be reduced to zero

but to investigate "the consequences that arise from the divergence (which we have shown to be possible) between the money rate and the natural rate of interest."¹⁵ Previously he has disposed of the question as to whether or not income-displacements arising from an increase in circulation of fiduciary media might not as a matter of fact increase the size of the national subsistence fund. Mises feels safe in asserting without proof that the increase in the size of the national subsistence fund thus produced "can in no circumstances be very great."¹⁶

Banks, therefore, *can* grant credit on easier terms, *i.e.*, set the actual rate below the normal rate, and so augment the volume of fiduciary media through the stimulated demand for loans, thus causing the purchasing power of money to fall. But "the level of the natural rate of interest is limited by the productivity of that lengthening of the period of production which is just justifiable economically and of that additional lengthening of the period of production which is just not justifiable."¹⁷ The rate of interest to be paid on the unit of capital requisite for a longer period must be equated with the marginal product of the longest period under consideration for adoption. A period of production so defined would utilize resources in such wise that the whole available subsistence fund would be necessary and sufficient for paying the wages of the laborers throughout the duration of the productive process.

But let the actual rate be below the normal rate thus defined and entrepreneurs can, and under competition must, enter upon the longer processes. This is true "despite the fact that there has been no increase in intermediate products and no possibility of lengthening of the average period of production." But an actual rate prevails which corresponds to a longer period so that a time *must* come when "the means of subsistence available for consumption are all used although the capital goods employed in production have not yet been transformed into consumption goods." Insofar as the fall in the rate of interest weakens the motive for savings the process is accelerated. And the day "must come when the means of subsistence will prove insufficient to maintain the laborers during the whole process of production that has been entered upon"; the inadequacy does not manifest itself suddenly in a complete and calamitous lack of consumption goods, imperilling human existence.¹⁸ The quantity of consumption goods coming continuously on the market decreases, their prices rise and those of production goods which had previously risen, now fall or cease to rise.

Such a sequence is the fulfillment of Wicksell's axiom "the connecting

link is supplied by the level of *commodity prices*. The only possible explanation lies in the influence which is exerted on *prices* by the difference between the two rates of interest."¹⁹

Mises' version is this: "There is no direct connection between the rate of interest and the amount of money held by individuals who participate in the transactions of the market; there is only an indirect connection operating in a roundabout way through the displacements in the social distribution of income and wealth and so to prices."²⁰

The sequence of events, then, is as follows: Activity in production induced by the less than normal rates on loans causes a rise in the price of production goods. The concomitant increase in wages causes also a lesser rise in the prices of consumption goods. But soon a counter-movement sets in; the prices of consumption goods rise. Against this movement the banks are powerless to prevent the two rates from moving into conjunction. They may accept the inevitable and move their lending rate to the appropriate level. If they do not, the value of money will continue to fall, and the steeply rising price level will cause still higher prices to be exchanged for a perceptibly depreciating currency, thus offsetting the supposed lower rate of interest. This is the process picturesquely but accurately described by Wicksell as the upward movement "creating its own draught."²¹ The supply of money bidding for production goods is definitely disproportionate to the available supply of capital goods, in view of the actual economic choices of the community.

"Money is part of the private capital of an individual only if and so far as it constitutes a means whereby the individual in question can obtain other capital goods. . . . In reviewing the determinants of the rate of interest writers emphasize over and over again that it is not the greater or smaller quantity of money that is of importance but the greater or smaller quantity of other economic goods. To reconcile this assertion, which is undoubtedly a correct summary, with the other assertion that money is a productive good is simply impossible."²²

The mere increase in money, though presumably falling into the hands of entrepreneurs, does not make possible a period of production other than that dictated by the supply of investible goods. A crisis-like phenomenon ensues, involving a capital loss on the resources invested in the excessively long processes; such resources cannot be transferred to their best allocations and they remain condemned to less economic uses.

The ratio between prices of production and consumption goods determined by the state of the capital market will be re-established. This will not be the same ratio as formerly prevailed because the action of the banks

has produced a different income distribution and, as noted above, some capital has been irrevocably committed to uneconomic uses. This is the course of economic events when banking policy allows circulating credit (that which at the time of the loan imposes no sacrifice on the lender) to run a course notably different from what would have been the conduct of commodity credit in which the gain of the borrower is balanced by a simultaneous sacrifice on the part of the lender.

Thus we have here not so much a criticism or correction of Wicksell as an extension of the theoretical completeness of his doctrine. Wicksell had been satisfied to prove that the proper course for the banks is to bring the two rates back into their equilibrium relationship, having in view current pragmatic limitations on the extent of credit expansion. Mises goes further and shows that, even if the banks do not bring the rates into conjunction, an inevitable reaction does so through the effect upon the rate of saving occasioned by the income displacement involved in forced saving. As was remarked, the following-through of these income disturbances is a type of analysis to which Wicksell is wholly sympathetic. And Mises' additions are logically complementary to the original and enabled him to apply the analysis more closely to the problem of business cycles.

Three things emerge when the actual rate is below the normal money rate and these three things we may regard as a summary of Mises' teaching insofar as it is pertinent to our limited purpose.

"A new issue of fiduciary media . . . indirectly gives rise to a variation in the rate of interest by causing displacements in the social distribution of income and property."²³

"The level of the natural rate is limited by the productivity of that lengthening of the period of production which is just justifiable economically and of that which is just not justifiable economically."²⁴

"The moment they [the banks] start to force down the money rate below the level of the rate of natural interest by the expansion of circulating credit, they divert the course of events off the way of equable development and produce situations which lead inevitably (*zwangsläufig*) to boom and crisis."²⁵

In short, Wicksell emphasized that divergences of the actual and normal rates of interest produce cumulative and progressive movements in prices. Mises emphasized the income displacements and distortions of the price structure which the price shifts imply. The interest theory of Mises can be summarized as follows:

(1) Interest rests upon the technical superiority of saved resources over present goods. In general, Mises employs Böhm-Bawerk's construction with unspecified reservations. "Then only the difference in value between present goods and future goods

is taken into account, and this alone has an influence on the determination of the exchange ratio, i.e., on the determination of the rate of interest."²⁶

(2) Interest is the difference between the value of the prospective products of a capital good and the value of the capital good.²⁷ The "origin [of interest] lies in the natural difference of value between present and future goods." If prices of producers' goods rise farther and faster than the prices of consumers' goods, interest is zero.

(3) Variations in the ratio $\frac{\text{stock of money}}{\text{demand for money}}$ affect the rate of interest *permanently*

through the displacements in the distribution of property and income which they evoke. If the new distribution alters the capacity to save, then the ratio between the value of present goods and future goods must be altered in favor of the latter and the rate of interest declines.

(4) These variations produce less remote effects by creating differential profits. These are the source of the ultimate income displacement. These differential gains enable and prompt entrepreneurs to pay higher rates of interest. The movements are in part due to the fact that variations in the value of money appear at different times in different parts of the economy.

(5) A falling value of money goes hand in hand with a rising rate of interest and a rising value of money with a falling rate of interest.

(6) These facts make possible and necessary a division of credit transactions into two classes, those which impose an *antecedent* sacrifice on the lender and those which do not impose such a sacrifice.²⁸

(7) When loans are of the second class, the sacrifice is *consequent* and "the cost of creating capital for borrowers of loans granted in fiduciary media is borne by those who are injured by the *consequent* variation in the objective exchange value of money."²⁹

(8) This Wicksellian process can be stopped at any time by having the banking system restore the equality between their lending rate and the rate of natural interest, this latter as now constituted by the new income distribution after displacement.

(9) Even if the initiative is not taken by the banking system equilibrium must ultimately be restored. The unwarranted loans induce adoption of an untenably long production period with rising prices for production goods. But the income generated is also being spent; "a time must come when the means of subsistence available for consumption are all used up, although the capital goods employed in production have not yet been transformed into production goods."

Friedrich A. von Hayek is the professed exponent of the Austrian tradition as expounded by Mises and Wicksell. His principal writings base themselves on the work of these two. Unfortunately, Hayek has not as yet given the world a thoroughgoing treatise to which we can turn for a developed and complete exposition of his views. Twice, however, he has published brief summaries of lecture courses which, while they may suffer from a lack at once of scientific exactness and of useful elaboration, have the merit of throwing into strong relief the broader principles on which

the analysis proceeds. While it is probably correct to say that the price complex rather than the rate of interest is his primary concern, the latter holds a place of sufficient prominence and has been sufficiently amplified to justify an examination of Hayek's views on the nature and sources of interest.

Perhaps the most characteristic note of Hayek's thought can be perceived in the first sections of his *Monetary Theory and the Trade Cycle*. The first hundred pages of that work are devoted to a survey of those theories of the cycle which have commanded some following among economists. Hayek has little positive fault to find with any of them, but all seem to suffer from the same privative defect. The various economic facts and sequences called into notice all doubtless have a role to play in a cyclical development; many are of obvious significance. But consciously or unconsciously, covertly or openly, all introduce into their theory "primary monetary changes,"³⁰ without which any explanation, however "real," is inadequate. "The automatic adjustment of supply and demand can only be disturbed when money is introduced into the economic system Every explanation of the Trade Cycle which uses the methods of economic theory . . . must therefore start by considering the influences which emanate from the use of money."³¹

As a loyal and convinced follower of the Austrian tradition, Hayek is willing to employ in his study that ungainly and paradoxical instrument known as the period of production. Wicksell and Mises shared this willingness but did not so employ it that the tenability of their position was obviously bound up with the proper functioning of this piece of apparatus. The period of production as defined by Böhm-Bawerk was a weighted average: labor-days, weighted by the duration of their products before ultimate utilization, divided by the total number of labor-days employed in the process.

(labor-days) \times (days duration of products)

= average production period.

(labor days)

Since labor days appear in both numerator and denominator, the resulting average figure will be of the dimension of time as measuring the duration of the effects of labor expended before their utilization.³² Such an average would appear to be a measure of the density of capitalization, of the degree to which the community in question, through choice or duress, has in the past put its resources into commodities which can be produced immediately, or into commodities which can be produced only

mediately. In general, the degree of immediacy is the same whether measured in time, or described in terms of "roundaboutness." But as techniques improve, especially in a field employing the fruits of scientific research, such as the chemical industry, the two meanings of "immediate" no longer move together; the more mediate processes in terms of stages may be the more immediate in time. Then the weighted average, with the big weights combined with the less enduring products, decreases as people devote more of their resources to mediate production. The period of production has been shortened even though increased, and by a judicious application of weights may be made to show a variety of vagaries.

Yet there can be no question that some such concept is indispensable to the analysis of capital and interest, for it is the problem of determining, not precisely the total principal sum upon which interest is to be paid, but of a further element which strongly influences this principal as an economic reality rather than as a mere number in a ledger. J. Marschak has stated: "The definition of the period of production given by Mr. Gifford seems to be all the more valuable as it proves if duly modified, to be identical with another interesting economic magnitude, *viz.*, the ratio of the total value of the existing commodities ('stocks') to the value of the current income (or consumption) ('flow')."³³ And Hayek employs the ratio of the volume of current production to the size of the productive apparatus. Some accurate description at least, if not precise measurement, of the dimensions of productive plants or production and utilization is indispensable to an economics which is interested in the relative proportions of currently available resources devoted respectively to production and consumption. The average period of production attempts to meet that need.

An involved and far-reaching controversy has smoldered for five years over this matter of computing the density of non-liquid capital. The bibliography of the discussion now includes dozens of titles. Though it can well be argued³⁴ that there has been no clear-cut joining of the issue on the central point, many useful additions have been made to common thought on the subject. Prof. Knight's contention that "there is no production process of determinate length, other than zero or all history,"³⁵ is not an easy one to answer; it is not very helpful either in attacking problems in which some ratios akin to those mentioned must be employed.

This meagre notice of the difficulties in the concept of period of production was indispensable for the reason that the three topics to which we turn next all involve this concept as an element; these topics are the mean-

ing of equilibrium, the way of money and credit with prices, and the sources of interest, according to Hayék.

"In a state of equilibrium"³⁶ there are three ratios which are equal: (a) the ratio of money spent for consumer's goods to money spent for producers' goods; (b) the ratio of the total demand for consumers' goods to the total demand for intermediate products necessary for their continuous production; and (c) the ratio of output of consumers' goods during a period of time to the output of intermediate products of all earlier stages during the same period. In other words, the demand for goods, the money expressing this demand, and the supply meeting this demand must all be proportionate. There seems to be no reason for not adding the fourth element—the monetary expression of the supply. The condition of equilibrium could then be described as equality of real *and* money demand *and* of real *and* money supply, which is indeed a complete equilibrium.

When Hayek attempts to define equilibrium from another viewpoint, the result is less happy. When all the above ratios are equal, we would presumably enjoy full employment of resources; else there would be obvious reasons for non-cumulative departures from the current position until there was reached "that final identity of total supply and total demand on which every conception of economic equilibrium is based."³⁷ Whatever may be the meaning of "full" in this connection, if these ratios are not equal we would have less than "*the full activity of elementary economic interconnections as shown by equilibrium theory.*"³⁸ "We have to start where general economic theory stops: that is to say at a condition of equilibrium where no unused resources exist." But when Hayek turns to conditions of disequilibrium, of a disproportion between the demand for consumers' goods and producers' goods so that there is introduced a period of production which is untenable, he invokes as one of the factors in the situation the fact that there will be new products; "some natural resources which formerly it was not profitable to use."³⁹ If we are starting from a condition of *real* equilibrium, all resources which can be used under existing technical conditions are taken as employed. The circumstance in which a rise in the price of capital instruments without as yet any rise in consumers' goods would make profitable the use of definitely inferior materials may not be inconceivable, but this is hard to visualize as a likely case of sufficient importance to merit consideration. Unused resources hitherto unprofitable became profitable and pertinent through changed production functions, which represent technical advance and a movement toward a new equilibrium.

In equilibrium, therefore, we have an average period of production and a corresponding price complex such that the flow of finished goods moving on to market is continuously equal to the demand for consumption goods; and the total of money income directed to the purchase of consumption goods is in due proportion to the amount of resources supplied by saving to maintain the existing productive capacity in such condition as to maintain the flow of consumption goods. As raw materials proceed from one stage to another, becoming more and more specified as they come closer to the ultimate form, there are margins in prices as between one stage and another *greater* than the mere value added by labor and subsidiary materials. "In a state of equilibrium, these margins are entirely absorbed by interest."⁴⁰ Capital goods have different values at different stages of production, and "the difference between these prices is *the only source of interest*."⁴¹

In equilibrium, these differences exactly equal the sum of interest that is to be paid. This is summarized as follows:

"Every given structure of production, *i.e.*, every given allocation of goods as between different branches of production, requires a certain definite relationship between the prices of the finished products and those of the means of production. *In a state of equilibrium, the difference necessarily existing between these two sets of prices must correspond to the rate of interest*, and at this rate, just as much must be saved from current consumption and made available for investment as is necessary for the maintenance of that structure of production. The latter condition necessarily follows from the fulfillment of the former since the prices paid for the means of production plus interest can only correspond to the prices of the resulting products when, at the given prices and rate of interest, the supply of producers' goods is exactly adequate to maintain production on the existing scale. The price margins between means of production and products, therefore, can only remain constant and in correspondence with the rate of interest as long as the proportion of current income which at the given rate of interest is not consumed but re-invested in production, remains exactly equal to the necessary capital to carry on production. Every change in this proportion must begin by impairing the correspondence of price margins and the interest rate: for it influences both in opposite directions and so leads to further shifts in the whole structure of production, representing an adjustment to altered price relationships."⁴²

But Hayek does not wish interest in this construction to be a passive residual. "One basic proposition" must be accepted if the analysis is going to get anywhere—"in a barter economy, interest forms a sufficient regulator for the proportional development of the production of capital goods and consumption goods, respectively In the absence of money, interest would effectively prevent any excessive extension of the production

of production goods by keeping it within the limits of the available supply of savings" so that "an extension of the stock of capital goods which is based on a voluntary postponement of consumers' demands into the future can never lead to disproportionate extensions." Such relationships yield "pure interest," for by "pure interest theory . . . we understand the explanation of that rate of interest which is not modified by monetary influences although paid, of course, on capital reckoned in money terms."⁴³

In that condition of equilibrium in which the price margins between the various stages sum up for the process as a whole to the total interest paid (and payable *as interest*), we have that "natural" rate of interest at which "the demand for loan capital just equals the supply of savings" as Wicksell "correctly defined it once."⁴⁴ That rate is then the natural rate, which Hayek is far from repudiating; "on the contrary, an adequate explanation of 'natural rate' is the indispensable starting point for any realization of the conditions necessary to the achievement of equilibrium."⁴⁵

Hayek certainly could not have been misled by the difficulties of rendering Wicksell into English, and he certainly does not confuse the rate which would prevail if goods were lent *in natura* with the classical equilibrium rate (for it is this to which he expressly objects). Nevertheless, his adoption of the term, while he refuses to apply it to Wicksell's chief definition and at the same time counts himself a Wicksellian disciple, is no aid to clarity. Especially is this true when the term "equilibrium rate" is also used in uncertainty as to whether the term applies to Wicksell's rate of natural interest or to his normal rate of money interest.⁴⁶

We must return shortly to another intimately cognate problem, the relation of Hayek's doctrine to Wicksell's in the matter of price-levels. But some things may profitably be said here on a more basic point. If we can conceive of a barter economy in which all exchange and all loans were made in specific goods, the rate which would prevail would equate supply and demand and would also be an equilibrium rate. The equilibrating character would arise not from the fact that the lending of goods *in natura* by and in itself produces an equilibrium position, but because where loans were made thus directly without the mediation of money, the reciprocal gains and sacrifices of saving and spending, borrowing, and lending are concretely juxtaposed, and deviations from an equilibrium position more obviously and more directly carry their penalties with them. The rate of interest which would prevail if goods were lent *in natura* may in this sense be called an equilibrium rate, equating supply and demand.

In a money economy, we can conceive of a rate of money interest which

equates the supply and demand of real savings, and is an equilibrium rate in the sense that by and of itself it does not create any tendency to deviations nor raise any difficulties in the way of a return to the previous position, or of arrival at a new one, should changes in the data warrant it.

Now, would these two rates be the same? It seems that they would not, because, whatever other effect the "introduction of money" may involve, it must be conceded the role of expediting exchange and therefore facilitating lending, and both these more accurately and precisely computed. The rate of money interest, therefore, would differ from the rate of natural interest, but a uniform proportion would exist between them. They would, as it were, always differ roughly by a constant representing the net increase in economic efficiency caused by the introduction of money. I say *roughly* because the introduction of money would doubtless involve other secondary variations beyond the primary increase in efficiency.

In the discussion of Wicksell we have had occasion to anticipate one of Hayek's points. It seemed simpler to deal with the objection when the positive doctrine had just been set forth. The matter discussed was Hayek's denial that the rate of interest which would equate the supply and demand of real capital would be a causal influence making for change in the price level. The conclusion was that the incompleteness of the definition of "the" rate of interest as a price made the objection invalid against Wicksell.

There remains to be discussed an objection brought in turn against Hayek which involves the same conceptions. In a lengthy and somewhat impatient review of Hayek's *Prices and Production*, the able Piero Sraffa attacks the work over a wide front. Not all the exceptions he takes are pertinent to our limited purpose; we shall discuss only two.⁴⁷ Sraffa first reproaches Hayek for his insistence that "forced saving" must ultimately eventuate in the destruction or dissipation of some of the capital accumulated by this process, Sraffa insists that the beneficiaries might indulge in actual saving sufficient to make good the difference. "One class has for a time robbed another class of a part of their incomes; and has saved the plunder. When the robbery comes to an end, it is clear that the victims cannot possibly consume the capital which is now well out of their reach. If they are wage earners, who have all the time consumed every penny of their income, they have no wherewithal to expand consumption. And if they are capitalists, who have not shared in the plunder, they may indeed be induced to consume now a part of their capital by the fall in the rate of interest; but not more so than if the rate had been lowered by the "vol-

untary" savings of other people."⁴⁸ This sounds bad, especially when it is clear that by a judicious mixing of consumer and producer credit the process could have gone on indefinitely anyhow. The reaction is not necessary after all. Indeed, it would sound practically fatal if Hayek did not show in his response that the second part of the objection is an astonishingly good paraphrase of a statement made by himself in the German edition of the work being dissected.⁴⁹ But the direct answer to the objection is that "the essential point to note here is that the additional money is, in the normal course of things, lent to somebody who, at that lower rate of interest is willing to invest more money than before—and to borrow for this purpose."⁵⁰ If the new money is in the hands of such borrowers, then a time will come when the product of the capital goods thus accumulated will not reach a market yielding a price to cover the value of the capital goods when they were assembled; somewhere along the line instruments lose their value and, though physically intact, have been economically destroyed. We will carry over for a moment this objection and its defense; Hayek, with much good reason, assumes that new money goes into the hands of people who are not borrowing in order to hoard.

Sraffa's second objection concerns the use made of Wicksell's idea of natural interest. Sraffa sees an essential confusion in the "belief that the divergence of rates is a characteristic of a money economy; and the confusion is implied in the very terminology adopted, which identifies the 'actual' rate with the 'money' rate, and the 'equilibrium' rate with the 'natural' rate."⁵¹ To substantiate this contention, Sraffa maintains:

[There are] "as many natural rates as there are commodities . . . When a cotton spinner borrows a sum of money for three months and uses the proceeds to purchase spot, a quantity of raw cotton which he simultaneously sells three months forward, he is actually 'borrowing cotton' for that period. The rate of interest which he pays per hundred bales of cotton is the number of bales that can be purchased with the following sum of money: the interest on the money required to buy spot 100 bales, plus the excess (or minus the deficiency) of the spot over the forward price of the hundred bales."⁵²

Several questions leap to mind. Where did the cotton spinner get the money? Will some wool manufacturer borrow less because this sum was lent to the cotton manufacturer so that some woollen worker will buy fewer cotton socks, or was it a net addition to previous effective money so that if banks are known to be expanding credit, the forward price of cotton is already a function of the present price and the rate of interest? The formula given amounts to Irving Fisher's formula for deriving "real" interest

from "money" interest in averages which as here applied tells us that, given a *rate of money* interest, the value of interest income may be expressed in terms of any commodity or group of commodities and may be expressed as a ratio of the previous value of that commodity. Sraffa continues:

"In equilibrium, the spot and forward prices coincide for cotton as for any other commodity; and all the (natural) or commodity rates are equal to one another and to the money rate. But if for any reason, the supply and the demand for a commodity are not in equilibrium (*i.e.*, its market price exceeds or falls short of its cost of production), its spot and forward prices diverge and the natural rate of interest on that commodity diverges from the natural rates on other commodities. Suppose there is a change in the distribution of demand between various commodities: immediately some will rise in price and others will fall; the market will expect that, after a certain time, the supply of the former will increase and the supply of the latter fall, and accordingly the forward price, for the date on which equilibrium is expected to be restored, will be below the spot price in the case of the former and above it in the case of the latter. In other words, the rate of interest on the former will be higher than on the latter. It is only one step to pass from this to the case of a non-money economy and to see that when equilibrium is disturbed and during the time of transition, the natural rates of interest on loans in terms of the commodities the output of which is increasing must be higher to various extents than the "natural" rates on the commodities the output of which is falling, and that there may be as many 'natural' rates as there are commodities."⁵³

This is all very ingenious and amounts to saying that a price change can always be expressed as a percentage of itself or that, given a rate of interest, the interest income can always be expressed as so much worth of such a commodity. But to this Hayek has a direct and complete answer, on two scores. First of all, Hayek is talking of the precise case where a change in demand is *initiated* without any change in the conditions of cost of production or market price. Secondly, Hayek, with perfect justice, has "been assuming that the body of existing pure economic theory demonstrates that as long as we neglect monetary factors, there is an inherent tendency toward an equilibrium of the economic system."⁵⁴ In discussing Wicksellian economics, Sraffa blithely ignores Wicksell's "great and decisive difference" between the disturbance of a ball in the bottom of a bowl and the disturbance of a cylinder on a smooth surface. Sraffa is right in saying that "the essential consequence of a divergence between the demand and supply of consumption goods is common to monetary and non-monetary economies,"⁵⁵ that is, a change in price; but he is wrong in assuming that there is no difference in the subsequent course of events.

Thus, though Sraffa cannot prevail against Hayek directly, he is right in concluding that neither does Hayek prevail against Wicksell. "For there

is a 'natural' rate of interest which if adopted as bank-rate will stabilize a price level (*i.e.*, the price of a composite commodity): it is an average of the 'natural' rates of the commodities entering the price level, weighted in the same way as they are in the price level itself."⁵⁶ Now, if we allow this for any group of commodities, why not allow it for *all commodities*, as Wicksell did, unembarrassed by the statistical difficulties of such an average, of which he was fully aware? Thus vanishes Hayek's objection against Wicksell: "Whilst Wicksell might fall back for the criterion of his 'money' rate upon an average of the 'natural' rates weighted in the same way as the index number of prices which he chose to stabilize, this way of escape was not open to Dr. Hayek for he had emphatically repudiated the use of averages."⁵⁷

Sraffa, it is true, limits his theory of "natural" interest to differences in the time utility of an unchanged commodity—surely not the best case to exemplify the nature of interest in a machine economy. But that limitation does not prevent us from legitimately employing his refutation of Hayek on this particular point.

Some consideration of the object pursued by Wicksell, Mises and Hayek may enable us to see the source of these misunderstandings, even if it does not enable us to reconcile them all. First of all, Wicksell was building a theory of long-term price movements; he did not have a theory of cycles and crises, regarding these as due to discontinuities in the rate of technological improvement, apparently whether financed by credit or not. Wicksell had in mind a period of sufficient length to permit averages to be fairly representative even though analytically rather unsatisfactory. Mises next did two distinct things. He elaborated a theoretical case that could be even more long-term than Wicksell's, and he also put his finger on the fact that once we depart from the theoretical sequence of annual markets, the income displacement occasioned by credit expansion moves across the economy from one group to the next irregularly, at the same time that the price level for the economy as a whole starts moving up. Hayek seized upon this last point and seeks to detail the process of income displacement in the short run. The logical economic sequence of the three writers is approximately the opposite of the order of their historical appearance. Hayek's processes come first, then Mises', then Wicksell's, except for Mises' long-term argument about the ultimate readjustment of the rate of money interest and the rate of natural interest even in the absence of restrictions on the power of a banking system to extend credit.

The essentials of Hayek's theory of interest can well be set forth in

terms of a sweeping objection brought against it by Keynes who considers that the whole thing "is exactly the wrong way around."⁵⁸ Hayek's discussion proceeds on some very severe conditions: If there is no unemployment of available resources, if there are no monetary disturbances and no forced saving, and if we can further assume that "goods moving towards consumption do change hands against money in equal intervals which correspond to our unit production periods," and that shifts in the structure of production are due not to advances in technique but only to changes in the organization of industry for the satisfaction of needs more distant in the future than those formerly served, then the margins between the various stages (apart from payments for wages and rents proper to that stage) represent interest and are indeed its only source. If we could conceive of time-using processes involving no payments for wages and rents after the first stage, then the entire price margin would be interest. The rate of interest is simply the rate that would equate the present value of the good in such and such a stage with the value of the good completed after such and such a lapse of time. Under these circumstances, changes in the relative prices of producers' and consumers' goods would be the same thing as changes in the rate of interest.

Keynes, it should be observed, introduces into the next propositions his own "highly psychological" definitions of marginal productivity and supply prices. (His psychological marginal productivity of capital is called the marginal efficiency of capital.) He continues: "The fact is then called to notice that a fall in the rate of interest is favorable to investment. Ergo, a fall in the ratio of the price of consumers' goods to the price of producers' goods is favorable to investment But of course, a lowering of the marginal efficiency of particular capital assets and hence a lowering of the schedule of the marginal efficiency of capital in general has exactly the opposite effect to what the above argument assumes. For investment is stimulated either by a *raising* of the schedule of the marginal efficiency of capital or by a *lowering* of the rate of interest."⁵⁹

Now, an increase in saving does two things: It tends to lower the rate of interest by increasing the supply of saved-up resources and, by the same token, it tends to lower the *marginal* efficiency of capital. An increase of saving also tends to lower the price of consumption goods, inasmuch as less income is expended on the purchase of them. Now the fact that an entrepreneur can borrow at lower rates of interest may not be an inducement to invest if the drop in his costs, owing to the increased investment at the lower rates, will be more than offset by the drop in the price of the

ultimate consumption goods produced owing to the increased saving which lowered the rate of interest and owing also to the increased product resulting from the increased investment at the lower rates. Nevertheless, Keynes admits, as he should, that in long-term equilibrium special assumptions could be devised on which these conclusions would be justified; but, if the analysis starts with "prices . . . in slump conditions," to suppose that the "entrepreneur will in forming his expectations assume these prices to be permanent is certain to be misleading."⁶⁰

But it is one thing to say that an extremely abstract argument from equilibrium conditions does not mean much when transported bodily to a concrete set of disequilibrium conditions; and it is quite another thing to say without reservation that Hayek has his conclusions exactly the wrong way around. And this is true especially when the disequilibrating variable is "expectations," which is coming, like money, to answer all things. "There is one point, however, which we cannot take for granted. The fact that in a state of equilibrium those price margins and the amounts paid as interest coincide does not *prove* that the same will be true in a period of transition from one state of equilibrium to another."⁶¹

The analytical system set forth by Hayek in the two sets of lectures referred to allows little place for the factor of "anticipations" that has just been mentioned; yet he is far from denying its usefulness.

The principal difficulty of the traditional analysis evidently consists in its absolute abstraction from the element of time. An equilibrium concept which finds its essential application only in an economy which abstracts from time cannot be of great value. Happily, it is precisely in that order of ideas that there have been great changes in recent times. The premises . . . requisite for an equilibrium analysis consist essentially in the fact that all the persons involved foresee accurately future events of any importance, and that the foresight must not only include change in the objective data but also in the attitude of all other persons."⁶²

This subject, insofar as it concerns us, will turn up elsewhere, at a place where it can be dealt with more easily. The passage is included here for the sake of the completeness of Professor Hayek's thought and for the statement which he gives of the scope of that foresight concerning which some assumption is to be made.

Before leaving Hayek, we should mention that his concern over the sharp dilemma of stable prices or the rate of natural interest, which alone divided his thought from Wicksell's, does not come to much in real life. "This does not exclude stabilization of some price level as a criterion for a policy which is a practical compromise between various conflicting pur-

poses. It seems to me quite likely that the stabilization of some average of prices of original means of production may be relatively the most practical maxim for the deliberate regulation of the quantity of money."⁶³

¹Ludwig von Mises, *The Theory of Money and Credit* (first German edition, 1912), tr. by H. Batson, London, 1934, p. 353. (Hereafter cited as *Theory*.)

²*Theory*, p. 339.

³Ludwig von Mises, *Geldwertstabilisierung und Konjunkturpolitik*, Jena, 1928, p. 49. (Hereafter cited as *Geldwert*.)

⁴*Interest and Prices*, p. 117. The passage cited by Mises (*Theory*, pp. 335-336) follows on p. 119.

⁵*Theory*, p. 88.

⁶*Ibid.*, p. 81.

⁷*Ibid.*, p. 340.

⁸*Ibid.*, pp. 264-265.

⁹*Ibid.*, pp. 267-268.

¹⁰*Ibid.*, p. 346.

¹¹*Ibid.*, p. 347.

¹²*Geldwert*, S. 45.

¹³*Theory*, pp. 347-348.

¹⁴*Ibid.*, p. 349.

¹⁵*Ibid.*, p. 359.

¹⁶*Ibid.*, p. 351.

¹⁷*Ibid.*, p. 360.

¹⁸*Ibid.*, p. 362.

¹⁹*Interest and Prices*, p. 109.

²⁰*Theory*, p. 346.

²¹*Interest and Prices*, p. 96.

²²*Theory*, p. 90.

²³*Ibid.*, p. 352.

²⁴*Ibid.*, p. 360.

²⁵*Geldwert*, s. 57.

²⁶*Theory*, p. 307.

²⁷*Ibid.*, p. 339.

²⁸*Ibid.*, p. 264.

²⁹*Ibid.*, p. 314. (Italics inserted.)

³⁰Frederick A. von Hayek, *Monetary Theory and the Trade Cycle*, p. 95. (Hereafter cited as *Monetary Theory*.)

³¹*Ibid.*, pp. 101-102.

³²Eugen von Böhm-Bawerk, *The Positive Theory of Capital*, translated with a preface and analysis by W. Smart, New York, 1930, p. 89.

³³Jacob Marschak, "A Note on the Period of Production," *Economic Journal*, 44:173, March 1934, p. 146.

³⁴Raymond J. Saulnier, *Contemporary Monetary Theory*, New York, 1938, pp. 261 *et seq.*

³⁵F. H. Knight, "Professor Hayek and the Theory of Investment," *Economic Journal*, March 1935, p. 78.

³⁶*Prices and Production*, p. 46.

³⁷*Monetary Theory*, p. 93; cf. also p. 87.

³⁸*Ibid.*, p. 90. (Italics in original.)

³⁹*Prices and Production*, second revised and enlarged edition, London, 1935, p. 78.

⁴⁰*Prices and Production*, p. 73.

⁴¹F. A. Hayek, "Reflections on the Pure Theory of Money of Mr. Keynes," *Economica*, August 1931, p. 278. (Italics inserted.)

⁴²*Monetary Theory*, pp. 212-214.

- ⁴³*Ibid.*, p. 203.
⁴⁴*Ibid.*, p. 210.
⁴⁵*Ibid.*, p. 201.
⁴⁶For example, *Prices and Production*, pp. 23, 26.
⁴⁷Piero Sraffa, "Dr. Hayek on Money and Capital," *Economic Journal*, 42:165, March 1932, pp. 42 *et seq.*
⁴⁸*Ibid.*, p. 48.
⁴⁹Frederick A. von Hayek, "Money and Capital: A Reply," *Economic Journal*, 42:166, June 1932, pp. 244-245.
⁵⁰*Ibid.*, p. 241.
⁵¹Sraffa, *loc. cit.*, p. 49.
⁵²*Ibid.*
⁵³*Ibid.*, pp. 49-50.
⁵⁴Hayek, *Reply*, p. 238.
⁵⁵Sraffa, *loc. cit.*, p. 52.
⁵⁶*Ibid.*, p. 51.
⁵⁷Sraffa, *Rejoinder*, p. 251.
⁵⁸Keynes, *The General Theory of Money, Employment and Interest*, p. 192.
⁵⁹*Ibid.*
⁶⁰*Ibid.*, footnote.
⁶¹Hayek, *Prices and Production*, p. 74.
⁶²Frederick A. von Hayek, "Prevision de Prix, Perturbations Monetaires et Faux Investissements," *Revue des Sciences Economiques* (Liege), October 1935. Since reprinted as *Price Expectations, Monetary Disturbances, and Malinvestments in Profits, Interest and Investment*, F. A. Hayek, London, 1939. The above passage is on p. 139.
⁶³Frederick A. von Hayek, "Über 'neutrales Geld,'" *Zeitschrift für Nationalökonomie*, IV: 5, 1933, p. 66.

CHAPTER IV

ALTERNATIVE OPPORTUNITIES

As we turn from the direct line of immediate Wicksellian influence, problems of logical order arise which involve arbitrary decision. For purposes of exposition it seems well to start the second group with the theory of Prof. Joseph A. Schumpeter—partly because his theory of interest was early in the field, but principally because his theory is logically antecedent to the others in the sense that it begins from a most rigidly static state and moves forward to highly dynamic situations. Fisher and Keynes, moreover, have a strong affinity to Schumpeter, though Keynes is evidently much in debt to Wicksell. Important as Schumpeter's theory is, our treatment of it need not be lengthy, for his method of treatment allows the skeletal structure to be set forth briefly. This of course involves neglecting the many attractive prospects which his doctrine holds out in many departments of economic theory. The reasons for including Fisher and Schumpeter in one chapter will appear at the end of the discussion.

The economic process is conceived by Schumpeter as unfolding in an isolated community where private property prevails and a system of economic organization has been developed, with a division of labor and free competition. In this economy everyone lives in each period on goods produced in the preceding period. The market possibilities of the community are known by experience to all producers and annual production moves in a well-defined customary round. We may even imagine not only that the whole income-output-income of the community makes this round during each year, but also that with each resuming round the fruit of the employment of permanent sources of productive power seeks to reach the same consumer. We then have a complete circular flow. "The sellers of all commodities appear again as buyers in sufficient measure to acquire those goods which will maintain their consumption and their productive equipment in the next economic period at the level so far attained and vice versa."¹

In such a circular flow of economic activity based on experience, there

is no impulse to spontaneous change on purely economic grounds. Change in the sense of adjustment to changes in objective data there would be, and quantitative change due to increase or decrease in population. But these would represent only more or less of the same things. The economy of itself calls forth nothing new.

In such an economy, Schumpeter further contends, net profit cannot exist for the reason that alternative lines of investment being absent, the available knowledge of the customary methods of production being common to all producers, "in general, no surplus value above the value of producers' goods can be attained. Or if one looks upon costs not as alternative employments forfeited but as the sum total of expenses, then the price totals for all true expenses (the personal services of the business man, and rents on property he owns included) must always equal the receipts obtained for the products. The economy in its perfect form operates without profit, not, that is, without result but without any income not imputable and imputed to the primary factors of production. In an economy whose normal course flowed year in and year out through familiar well-worn channels, what grounds can there be for systematic undervaluation of means of production as compared with products? Competition on the one hand and imputation on the other must annihilate any surplus of receipts over outlays, any excess of the value of the product over the value of the services of the land and labor involved in it."²

Money in hand in these circumstances carries with it no premium, for when a system is in an equilibrium defined as the application of all resources to their optimum use, there is no advantage in the ability to control present resources.

"Within the circular flow and in a market which is in equilibrium, it is impossible with a given sum to obtain a greater money sum. However, I employ a hundred monetary units' worth of resources (including management) within the generally known and customary possibilities, I can obtain no greater receipts from them than exactly one hundred units. To whichever of the existing possibilities of production I may apply any hundred monetary units, I shall always receive for the product not more—possibly less, however—than a hundred monetary units. For that is precisely the characteristic of the equilibrium position that it represents the 'best' combination—under the given conditions in the widest sense—of the productive forces. . . . If I buy the services of land and labor with the hundred monetary units and with these carry out the most lucrative production, I shall find that I can market the product for exactly a hundred monetary units."³

Into the placid round of customary activities, development may enter. By development is meant here such economic change as may not be ap-

proached by infinitesimal steps from the previous situation. Development may mean the production of an entirely new good; the production of a new grade or quality of a familiar good; the production of a familiar good by a new process, by a new organization of the industry or of its commercial aspect; the opening of a new market, or of a new source of supply. In the circular flow, the person or persons in a position to initiate this development are under the necessity of diverting resources from their previous employments. In the theoretical construction, this is done exclusively (and in real life to no small degree) by means of credit. The essential function of credit is to implement a new demand without simultaneously creating a new supply of goods. "In our case, a different employment of the system's productive powers cannot be achieved otherwise than by a disturbance in the relative purchasing power of individuals. . . . For in the circular flow, there would be no idle stocks for the needs of the entrepreneur."⁴

In these circumstances the essential function of credit, when there are no saved resources unemployed, is made to stand out in hard outline. After a brief exposition of the mechanics of deposit creation, there is introduced a fundamental distinction between normal and abnormal credit in order to make perfectly clear the role it plays in the circular flow.

"From this it follows that in real life total credit must be greater than it could be if there were only fully covered credit. The credit structure projects not only beyond the existing gold basis but beyond the existing commodity basis. Again this fact as such cannot very well be denied. Only its theoretical significance can be in doubt. The distinction between normal and abnormal credit is, however, important to us. Normal credit creates claims to the social dividend, which represent and may be thought of as certifying services rendered and previous delivery of existing goods. That kind of credit, which is designated by traditional opinion as abnormal also creates claims to the social product, which, however, in the absence of past productive services could only be described as certificates of future services or of goods yet to be produced. *Thus there is a fundamental difference between the two categories in their nature as well as in their effects.* . . . One embraces means of payment to which there is a corresponding contribution to the social product, the other means of payment to which so far nothing corresponds."⁵

The function of credit in the hands of entrepreneurs who are about to disrupt the prevailing optimum disposition but who possess no claim on the goods moving in the circular flow is paraphrased in many different ways. "Access to the social stream of goods before they have acquired a normal claim to it" appears again as a characteristic of the process. In so far as credit is created *ad hoc* for the entrepreneur and is not drawn for

the results from past productive services, it can be backed by neither money nor goods. "Credit is essentially the creation of purchasing power for the purpose of transferring it to the entrepreneur, but not simply the transfer of existing purchasing power." Even the fact that a credit creation may be "covered" by some property owned by the entrepreneur does not "alter the nature of the process, *which consists in creating a new demand for, without simultaneously creating a new supply of goods.*"⁶

It follows from the views here sketched that in an economy without development there is no "capital" in the sense here used, "a sum of means of payment which is available at any moment for transfer to entrepreneurs" to enable them to gain control over concrete goods. And there being no capital, there is no interest in the sense of a permanent income, constantly present in the economy, obtainable for the use of loan funds. Consumption loans there may be or monopoly gains, but there can be no loan which will positively and permanently enrich both borrower and lender, and consumption loans, government included, "do not constitute the great social phenomenon that needs explaining . . . interest on productive loans."⁷

Into the economic tranquillity of the established circular flow, with development enters the entrepreneur. To Schumpeter, the entrepreneur is a person of highly specialized function; he is the innovator, the spearhead of progress—only this and nothing more. He is not, as entrepreneur, possessed of resources, or money capital; but he possesses the *big idea*—the new economic combination which will enable his enterprise, once launched, to break into the closed circular flow by offering more for less and still be able to show a margin of profit because of the superiority of the innovation. It need not, of course, be explained that an innovation is not necessarily an invention in the mechanical sense. Joined with the big idea must be the temperament and personality of the pioneer, the willingness to try the untried in the face of difficulties, to convince the custodians of credit of his worth, to marshal and command his corps. If the entrepreneur's innovation be economically sound, that is, if it be a combination of resources really superior to the previous "best," then he can obtain a higher return for his product than the sum of credit which he borrowed to launch it.

"For the prices of the means of production were not determined with regard to this employment, but only with regard to the previous uses. Here, then, the possession of a sum of money is the means of obtaining a bigger sum. On this account and to this extent, a present sum will be normally valued more highly than a future sum.

Therefore, present sums of money—so to speak as potentially bigger sums—will have a value premium which will also lead to a price premium. *And in this lies the explanation of interest.*"⁸

The entrepreneur as entrepreneur has no means of initiating his new departure. Resources must be drawn from industry in general; and thus to divert them, the entrepreneur must have recourse to credit. If three conditions are fulfilled, the new enterprise will show a net surplus over costs and will find a place for itself in a new equilibrium position. The three conditions are: (1) the price of the product must not fall in the face of the new supply, or at least not fall so far as to offset the net product gained per worker; (2) the costs of the new combination must be less than the cost of the resources dispensed with, or less than total revenue after deduction for the possible drop in price; (3) the advance in price induced by the added demand for raw materials must not, with the passage of time, come to offset the margin left by the first and second conditions. Under these circumstances, a surplus is *ipso facto* realized.

The opening of the new method by one entrepreneur makes possible new combinations by others. The innovation may be taken over bodily by other plants in the same industry; it may be adapted to other grades of the same product, or to other processes. The reorganization that becomes imperative throughout the whole industry may make expedient other adjustments long foreseen but not easily achieved in the normal round. The prospect of profit pervades a goodly section of industry and may occasion (though this is not the primary phenomenon) commitment in other fields which will prove untenable. Be that as it may, the same forces which produced the previous equilibrium of the circular flow are still active and the outcome must sooner or later be a new equilibrium. The true entrepreneur who has effectively introduced a genuinely economic new combination employing existing goods to greater effect, gains a temporary true profit; but attrition of this profit is inevitable. At first there is no liability to which this net surplus corresponds; but competition and imputation in the face of the increasing value of the resources concerned will bid up their prices until this surplus is no more, leaving the entrepreneur a return on his own efforts and on such natural resources as his profits may have enabled him to acquire, a return, that is, which is ultimately due to labor and land. Interest and profits have departed from the picture. "The ruling principles are always that the economic process, if unobstructed, first, does not tolerate value surpluses in the case of individual products, and secondly, always forces the values of the means of

production up to those of the products."⁹ The ruling principles again rule.

"The static economy knows no productive interest";¹⁰ this is not the same thing as denying the existence of interest in a modern economy. Interest is the child of development, and only with developments can it appear and endure. Under conditions of development, the economist can find for true interest a *source* from which it may flow, a *basis* on which it may be imputed to some type of contribution to production, and an *assurance* of its continued existence as a distinct source of income. Schumpeter then imposes these three requirements on various interest theories, notably the simpler natural productivity theories (seed corn and wine examples). If interest is a permanent net income flowing to a definite class or category of persons within the economy, any theory that sets out to explain this income must be able to answer satisfactorily three questions. (1) What is the *source* of this flow of goods? If it flows, there must exist some value from which it is drawn. (2) What is the *basis* of this disposition? If the interest income is not only there to flow, but does so, why does it flow to this particular category of individuals? (3) What is the cause of the *endurance* of this flow? This last is the critical question and at once the most difficult and the most striking. How does it happen that "interest is a net income which one can consume without impairing one's economic position"?¹¹ These questions are then placed before the well-known forms of the theory of interest, which, in Schumpeter's judgment, offer no satisfactory answer to the last question.

From this we turn to formulate six propositions which follow from "the first elementary conclusion that interest is a value phenomenon and an element in price."¹²

(1) "Interest flows essentially from the surplus values just considered;" that is, from the profits of development, the rewards of innovation. "This is only true of productive interest in the narrowest sense which does not include 'consumptive-productive' interest . . . a parasite on the body of wages and rent."

(2) Surplus values in development fall, as we have seen, into two groups; entrepreneurial profits, and those values which represent the repercussions, the secondary reactions of development. Lack of permanence prevents the latter from being an enduring source of interest. "Development then—in some way—sweeps a part of the profit to the capitalists. Interest acts as a tax on profits."

(3) The profit is evidently not interest either in whole or in part since it is by nature temporary. By the same token, interest does not adhere

to any class of concrete goods since surpluses adhering to concrete goods are by nature temporary. "Although it flows from a definite class of surplus values, no surplus value is *per se* interest."¹³

(4) In a communistic society interest in Schumpeter's sense would not exist, for the reason that the agent for which interest is paid simply would not exist in a communistic community. Though wages and rents as such would not be paid in a communistic economy, the services of land and labor would still be present; but not so with interest.

(5) "If entrepreneurs were in a position to commandeer the producers' goods which they need to carry their new plans into effect, there would still be entrepreneur's profit but no part of it would have to be paid out by them as interest. Nor would there be any motive for them to consider part of it as interest on the capital they expend."¹⁴ Interest *must* be paid because the entrepreneur must call in the capitalist to help him remove the obstacle which private property in means of production, or the right to dispose freely of one's services, puts in their way. Interest *can* be paid because in the hands of the entrepreneur, possessed of the big idea, goods do yield a "surplus value of products over their costs."¹⁵

(6) "The surplus value which forms the basis of interest, being a value surplus, can only emerge in a value expression. . . . Interest is an element in the price of purchasing power regarded as a means of control over goods."¹⁶

"They [surpluses of the value of products above the values of the quantities of production goods embodied in them] owe their existence to some special circumstance which raises the value of products above the equilibrium value that the commodities in question would have in the circular flow. The character of such surpluses as a net return, and as a source of a flow of goods, is thereby *ipso facto* established just as much as it would be in the case of systematic under-valuation of future goods."

There is a happy and explicit emphasis in Schumpeter's treatment, upon the necessity of being very clear about the source of interest. A government loan for example may cause very attractive bonds to be sold to eager buyers; the money thus raised may be spent on some non-economic purpose. What is the source of interest to be paid on this debt? Plainly there is none: the money is taxed out of wages and rents and, though coming to the bond-holders in the form of an interest payment, does not represent a new *source* though it may represent a new *form* of

income. In the chapter on "Entrepreneurial Profit" repeated examples are given to show that the true source of profits is the employment of existing goods to greater effect.¹⁷ Upon this basis of profit the phenomenon of interest rests. The sale of glass beads to aborigines at incalculable profit is an entrepreneurial act but "the source dries up sooner or later." In another place, monopoly profits, which *prima facie* might be confused with true entrepreneurial profits, are discussed and segregated from those profits which may form a basis for interest income. In this case, there is "a surplus over costs."¹⁸ which endures because of the monopolistic character of the enterprise. In the case of true interest this same surplus over costs, arising from the successful introduction of a new combination of factors embodying a more effective combination of existing resources, forms the source of interest. Nevertheless, by and of itself it cannot endure; it will dissolve under the influence of competition and imputation.

The phrase "forced saving" does not appear in Schumpeter's text, but the process is described in full detail and is shown to be inherent in the financing of new enterprises by the creation of credit. In a footnote, von Mises is credited with having coined "the extremely happy expression 'forced saving' for this process."¹⁹

"The process amounts to compressing the existing purchasing power. In one sense, no goods and certainly no new goods correspond to the newly created purchasing power. But room for it is squeezed out at the cost of previously existing purchasing power." The concept of forced saving, very close to the axis of Schumpeter's analysis, is notable for several reasons. First of all, the extremely simplified conditions of equilibrium in his skeletal circular flow—in which not only are the same goods produced in the same way in each annual round but flow to the same buyers to be paid for with currency in unchanging amount—causes the outlines of the process of forced saving to be set forth in sharp relief. Secondly, the distinction between the movements due to true development and those due to secondary repercussion are more easily separated. Finally, Schumpeter's analysis is further notable in that he seems to regard forced saving as practically unavoidable and, on balance, probably beneficial. The burden Schumpeter is willing to lay upon the shoulders of forced saving has not diminished with years, though he wishes to emphasize that its primary impact falls rather on the purchasing power of "other firms" than on the purchasing power of "other households." He has epitomized his theoretical construction in its dy-

namic aspect in three conditions which may sound odd but are "tautologically true" for the kind of world from which he begins his analysis: (a) "Entrepreneurs borrow all the 'funds' they need both for creating and operating their plants, *i. e.*, for acquiring both their fixed and their working capital. (b) Nobody else borrows. (c) Those 'funds' consist in means of payment created *ad hoc*."²⁰

In such a setting, these propositions are a mere "analytic scaffolding" later to be removed, but the relation which they set forth between "credit creation" and innovation will remain when the scaffolding is torn down. "This relation, which is fundamental to the understanding of the capitalist engine, is *at the bottom of all the problems of money and credit*, at least as far as they are not simply problems of public finance."²¹ A comparison with the same process at work in a socialist state without entrepreneurs reveals how the additional order for goods, sent by the new firm to the factors of production, comes as a net addition to previous orders which, for the moment, stand unchanged; but the two together act to produce a "real levy" on previously existing purchasing power.

Quite aware that this construct is a rather stark skeleton, Schumpeter's latest work essays a summary which seeks to do two things: to present his abstract model in closer approximation to practical business life, and to set forth the points in which that theory coincides with propositions upon which there is rather general agreement. However superficial and uninforming the statement may be, all would assent to the statement that "interest is a premium on present over future means of payment, or as we will say *a potiori*, balances"—the latter being the preferred term to "deposits" in circumstances where nothing may have been deposited. In his own terminology, "interest—more correctly, the capital sum plus interest—is, to use our turn of phrase, the price paid by borrowers for a social permit to acquire commodities and services without having previously fulfilled the condition which in the institutional pattern of capitalism is normally set on the issue of such a social permit, *i. e.*, without having previously contributed other commodities and services to the social stream."²² Perhaps it should be mentioned here that this definition, though complete in itself, actually prescind from the further practical and important condition—whether the claims so acquired by the entrepreneur are acquired from some person who possesses a normal claim or whether they represent a net addition to total claims. If the proposition is to remain on non-controversial

ground, the possibility would have to be admitted that a true entrepreneur might come by claims originated in a "normal" way.

Prescinding from, without in any way denying the importance of, consumer credit (government included), it is clear that in the sphere of business, innovation furnishes the profit which is the typical reason for the entrepreneur's willingness to borrow at interest, regarding "present dollars as a means of getting more dollars in the future . . . for business will pay a positive interest if a present sum can be so used in commerce and industry as to yield a greater sum in future, zero interest if the most lucrative operation within the horizon of business men is expected to yield, all costs counted, no more than the sum required to carry it out and negative interest, if, as is sometimes the case, nothing they can do will cover costs." And borrowing is, moreover, "in the situation of an entrepreneur the typical means of getting those present dollars."²³ These propositions, so vital to his own position, seem to Schumpeter to be in themselves common sense to any realistic observer of the capitalistic process.

The ready agreement on the gross facts makes controversy center on the conclusion drawn from these facts: namely, that, consumer borrowing apart, "the only source of interest payments and the only 'cause' of the fact that positive interest rates rule in the markets of capitalist society" are the gains arising from the impact of innovation. The grounds for this opinion, sketched above, he does not care to review; but instead he sets down three propositions which he regards as inescapable and which again he thinks will not readily be denied. They also provide handles for situations not otherwise easily dealt with.

(1) "The thesis that the capitalist class lives on a return which, except for the financing of consumption derives from innovation or processes directly induced by innovation, and would hence disappear, if economic evolution ceased, is of some importance for what may be termed the economic sociology of capitalism."

(2) "Although it is possible to deny that innovation is the only 'cause' of interest within the realm of production and commerce, it is not possible to deny that this cause is sufficient to produce it in the absence of any other Whoever dissents from the writer's view would have still to admit that cause into his picture of reality." (Critics who concede to this theory "that entrepreneurs' 'demand for capital' is normally the most important single factor in the behavior of interest" are thus making a greater concession to Schumpeter's theory than they realize.)

(3) "Though some superficial influences may obscure the picture, the author is confident that his analysis of the facts will demonstrate that this theory has, at a minimum, the pragmatic value of dealing with the facts as no other theory can do and without invoking the aid of any other theory."²⁴

On another point Schumpeter is less willing to make concessions. The first definition of interest specified it as a purely monetary process; upon this thought he insists, "Interest actually is, not only on the surface but essentially, a monetary phenomenon and . . . we lose it if we try to pierce that surface . . . It is a payment for balances with which to acquire commodities and services, not for the commodities and services that may be bought with those balances."²⁵ That theorem, Schumpeter contends, is not to be denied, for two weighty reasons: first, because it answers the facts, and secondly, because with it is bound up another proposition essential to the theory. Profits are a temporary manifestation constantly being drawn off into the rewards of the basic factors, into wages and rents. They do not as such inhere permanently in any physical collection of goods called a firm or plant, but tend constantly to be broken down and imputed directly to the factor from which they take their rise. Nevertheless, because it is money that is lent and not goods, the money, on being repaid, can be lent elsewhere. Because profits are not permanently embodied in "real capital," the lender, receiving back his principal, is under no obligation to leave it with the industry in which innovation is being absorbed. Being a lender of *money* he is always able to transfer to a new train just being made up as the one he is on slows down. "The lender may still secure a permanent income by shifting his money from opportunity to opportunity as each of them arises,"²⁶ and interest as a net income that can be consumed without being destroyed is explained. From these considerations emerges an idea of interest, or rather of its departures from equilibrium value of zero, as a "*kind of coefficient of tension in the system*, which more nearly than any other single figure expresses the degree of disequilibrium present."²⁷ We should recall here that equilibrium was maintained when every factor was being applied to its "best" use.

This monetary phenomenon of interest is determined in the "money market" by borrowers (governments, commercial borrowers, etc.) and lenders, mainly banks—the money market, incidentally, being one with well-defined properties of imperfection and monopolistic competition. Now a theory of interest which runs in "real" terms must shift gears to run in "money" terms.

"The necessity of reconciling a non-monetary theory with obvious facts of the sphere of money and credit is, in particular, responsible for the idea that there are two kinds of interest rates, a 'natural' or 'real' one which would exist in a barter economy and which represents the essence of the phenomenon, a permanent net return from physical means of production and a monetary one, which fundamentally is

but the former's reflex in the monetary sphere Its role in the thought of our own time is due to the teaching of Knut Wicksell For us, however, there is no such thing as a real rate of interest, except in the same sense in which we speak of real wages."²⁸

The question, however, may fairly be asked whether the difference between these two views is as decisive as appears on first statement. We may recall the observation made above that Wicksell's theories could be recast in terms of a rate of real wages and rate of real rents; but it would not be worth the effort of recasting, since it is not variations in the rates of wages or rents but variations in the rate of interest which in the first instance are associated with changes in the volume of "funds." This is true both as a matter of fact and, in the analysis of Wicksell and Schumpeter alike, as a matter of principle. Schumpeter emphasizes that "no realistic meaning attaches to the statement that, in the latter [*i.e.*, the capital market as opposed to the money market], 'capital (= some kind or other of producers' goods) is being lent in the form of money.'"²⁹ To Wicksell this same statement, if not positively meaningless, was a "metaphorical and inexact way of speaking which can easily lead to error."³⁰ There were few things Wicksell liked to emphasize more than that goods were bought and sold; *money* was lent and borrowed. Wicksell, too, put the motive force of his economy in the hands of entrepreneurs as such, persons from whom all other economic function had been abstracted. And the motive force of their borrowing was the quest of profits, in the absence of which the rate of natural interest fell to zero. The rate of natural interest was an average of profits, the combining of goods in some more desired fashion, the effecting of which required that the entrepreneur, as such penniless, acquire control of the needed resources.

This brief account is not meant to hint a synthesis of the work of these two original economists. It is intended merely to show that, in formulating a common body of modern doctrine for purposes of comparison with an earlier doctrine, we are quite justified in including the doctrines of both in the same survey and are justified in seeing in them a broad field of overlapping agreement.

Irving Fisher's place in a discussion of interest theories needs neither explanation nor defense. Probably no one else since Böhm-Bawerk has treated the *whole* problem with more marked success or with wider acceptance of his findings. As the theory of interest is interpreted in a stricter sense, Fisher's theory has much in common with the other principal writers discussed, as will be seen shortly. For this central core of doctrine he claims

no originality, but seeks to base his work squarely and explicitly on Böhm-Bawerk. The distinctive characteristics of his work lie in two particulars. First, his concept of interest as income is extremely broad, and, with the cognate concept of capital, can be extended to cover the whole field of economics, furnishing an explanation of all types of receipts save capital gains and losses. Secondly, Fisher very early under the title *Appreciation and Interest*,⁸¹ faced the problem of the difference between real and money interest and treated it with great analytical and statistical thoroughness. That our discussion of Fisher will be the briefest of all the writers reviewed does not in any way imply that his teaching may be lightly taken. Quite the contrary. The condensed statement is entirely due to Fisher's own repeated summaries and his insistence in all his writings that his meaning be unmistakably clear.

Many economic problems may be cast in various forms of objective and subjective factors, utility or cost being the generic categories under which the sundry special problems can usually be subsumed. Fisher takes a quite definite position in this matter as far as interest is concerned, and puts *income*—that is, ultimate personal satisfaction—in the position of final importance as the ruling concept. "Income is the alpha and omega of economics." There are, of course, excellent grounds for this viewpoint. All the arguments against the "subjective" and therefore "unscientific" character of utility, which attack its defiance of measurement, do not argue out of existence the simple fact that it is the prospect of income, and the prospect of maximizing income that motivates all economic reality; "real income" is that series of "final physical events in the outer world which give us our inner enjoyments."⁸² "Cost of living," the outgo of goods and funds of economic value, is a very objective reality as well as a satisfactory money measure of the real income obtained for the outgo.

Savings and debts, however, may cause real income and money income to diverge; and with the presence of saving and debt emerges the problem of capital and interest. Saved resources as capital goods are the *source* of real interest income, the flow of services. But in money terms the process must be reversed; the real income has a specific money value in the market; it is this money value capitalized at the given rate of interest which determines the money value of the capital and is, so to speak, the *source* of capital money values. "The bridge or link between income and capital is the rate of interest as the percent of premium paid on money at one date in terms of money to be in hand one year later. Theoretically, of course, we may substitute for money in this statement wheat or any other

sort of goods."³³ Fisher sees no distinction between the problem of explaining why there is interest at all, and explaining the rate of interest; for him this resolves itself into the problem of explaining a rate of interest of positive and negative values, and of value zero. His program is merely to explain what that rate of interest is at which current income from capital goods is discounted, and why. Hence we cannot seek to isolate the "source" of interest in the same sense as we have sought to do with others.³⁴

Therefore, individuals who are in receipt of income economize in the use of it, and by saving and borrowing are able within limits to alter the size of the successive amounts available for consumption uses at various times. The resultant price which is paid for *income now*, rather than *income then*, is the rate of interest. The determination of this rate depends upon three sets of factors: the first, subjective; the second, objective; the third, the interaction of the two.

The subjective principle Fisher calls the "impatience principle" by which he wishes to signify exactly what Böhm-Bawerk meant by *agio* and time-preference. The term is, admittedly, nor particularly happy and could be replaced just as well by its opposite, "patience." The elements included under this head are those usually found in discussions of the determinants of the rate of saving, or of the supply of capital, real or otherwise. Men in their economic life are "impatient" only in the sense that the deferring of the enjoying of income does not take place except for a sufficient reason. And circumstances are easily envisioned where "impatience" is negative. But since economic prudence in the ordinary course of human affairs calls for some provision for the future, and in many cases allows that the future income may be greater than the present, human patience and impatience cause men, as opportunity offers, to rearrange the configuration of their incomes so as to yield a maximum total income. An individual's actual and prospective income, its size, time period, and its certainty or uncertainty, together with the market rate, are for each individual the factors in determining the decisions which the economically prudent individual will make.³⁵

These subjective factors are summarized by Fisher in a very concise manner, under three different sets of conditions: a) that in which the income disposable is certain and rigid; b) that in which income is certain and adjustable over time (that is, the individual is able to borrow and lend); c) that in which the income stream is neither certain nor rigid in amount. Going directly to the third case, c, as being the practical one, "each person's rate of time preference depends upon his uncertain and

optional income stream as chosen by him as per opportunity principle B and then modified by loans as per impatience principle B." That is, having made the best "guestimate" he can of the probable shape of his income in future, he then chooses the income stream which at the market rate of interest yields the greatest present value. This "empirical" principle is to be taken with "the principle of maximum desirability." Having found the shape of income stream which will yield him the greatest present value but which may not be in the time sequence in which he wishes to enjoy his income, "each person modifies by loans his chosen and uncertain, anticipated income stream converting it into the form most wanted." Thus with income certain (whether fixed or variable in amount), his rate of time preference would equal the rate of interest; but with uncertainty entering, "his rate of time preference tends towards the particular rate of interest pertaining to the particular set of risks involved."³⁶

Over against these subjective considerations of the individual economizer stand the opportunities to invest, the objective factor in the possible choices of savings and debt. They include those elements usually discussed under the head of marginal productivity of capital, or technical superiority of present goods, saved-up resources, roundabout methods, and the like. The "rate of investment opportunity" is also called the "rate of return over cost" and, as such, is the "most distinctive factor" in "all that is most typical in the theory of the rate of interest,"³⁷ and 'plays the central role on the investment opportunity side of interest theory."³⁸

Several alternative definitions of this decisive magnitude are given; it is "the hypothetical rate of interest which if used in calculating the present worth of two options compared would equalize their differences (cost and return)."³⁹ By cost is meant the comparative loss from one's income stream at first; by return is meant the comparative gain which accrues later by reason of the same substitution; and the significant rate is that which, "employed in computing the present worth of the whole series of differences between two income streams (some differences being positive, some negative), will make the total zero."⁴⁰ "An investment opportunity is not all the same thing as a loan, nor is the rate of return over cost the same thing as the rate of interest. They are rather the objective considerations in the state of industry and commerce which make it possible for "an individual to modify his prospective income other than by merely lending or borrowing."⁴¹

The criterion of whether or not a given transaction and the consequent commitment of funds is an investment opportunity or a loan is the resultant

effect on the rate of interest. If the rate of interest is unaffected by the investor's act (as when a person buys government bonds or other widely held securities), there is question of a loan; if a person can vary the rate of return by increasing the scale of his own operations there is question of a true investment opportunity.

"The rate of return over cost, under the law of diminishing returns is thus far more elementary and primeval than the rate of interest, and however encrusted that rate of return may become with other elements which grow out of modern market conditions, it is still the basic objective condition underlying our problem. Thus the rate of return over cost is distinguished from the rate of interest (1) by varying with the extent of an individual's investment, (2) by being consciously recognized as thus variable and controllable by the individual, (3) by being therefore a personal and individual matter and not altogether a public market matter, (4) by being directly related to producing as contrasted with trading."⁴²

The conditions which govern the rate of return over cost "concern production and technique rather than trade . . . and deal not with the market place but with nature, environment, and the refractory conditions which surround and hamper us in our efforts to secure income."⁴³ They underlie the rate of interest: they are the facts of which lenders and borrowers must take account.

As will be evident at once, the factors so described are close relatives of the factors determining Wicksell's rate of natural interest and not-too-distant cousins of those "superior combinations of existing resources" which Schumpeter's entrepreneurs introduce into the tranquil routine of the circular flow. So long as there exists more than one readily available use for our resources, and the opportunity of substituting one such use for another, "not simply by borrowing and lending but by changing the use of one's capital,"⁴⁴ we are not yet in the circular flow; investment opportunity exists; there is variety in the rates of return over cost which are present to income receivers as available options according to which they can vary the time shape of their income streams. "The essential point . . . is that the possibility of more than one use of our resources affords opportunity to invest by substituting one such use for another. When there is such a choice of alternatives . . . there is a differential sacrifice or investment of income during the earlier years for the sake of a differential return later. The fact that such alternative uses of labor, land and capital exist, introduces on the scene the whole subject of "productivity."⁴⁵

The operation of investment opportunity in isolation can best be

understood by considering society as a whole. Society or a complete community cannot alter its income stream by merely lending or borrowing, for there is no source to which to turn. When we view the whole of society as one person or, let us say, as an isolated self-supporting ranch, we see the principle of investment opportunity at work without any admixture of trading, lending and borrowing, buying or selling. Though society cannot, by merely lending and borrowing, draw on resources other than its own to increase the total utility of its income, it can however rearrange what it has and modify indefinitely the proportions of its present production devoted to income now rather than to income then.

"But beyond a certain point, every addition at one period must be at the cost of a subtraction at some other period. If future income is added, the increment so added is a return on and at the cost of a decrement in less remote income. The rate of return over cost is thus a social phenomenon of great social significance. There are two and only two ways in which society may affect the present cost and the future return. It may affect the present cost by exerting more present labor or by abstaining more from consumption; and it may realize the future return over that cost either in the form of more future consumption or less future toil. Both the present and the future adjustments are effected by changing the use made of capital instruments including land and human beings."⁴⁶

These objective factors in the determination of the rate of interest are very briefly summarized by Fisher under the head of "Two Investment Opportunity Principles"; and likewise under three sets of assumptions: a) that no range of choice is possible when the rate of interest from this viewpoint is zero; b) that each person has a limited range of options according to how he uses his labor and other resources and that the income from these optional courses is certain; and c) that each person has a limited range of optional income streams according to how he uses his labor and other resources and that the incomes from these optional sources are not certain. This empirical principle is met by a "principle of maximum net worth" such that, in the first case, one must simply accept the income available and alter its shape only by loans. In the second case, where the optional uses of labor and other resources make possible a choice, each person will select the income stream of greatest net worth as reckoned by the market rate of interest. Then if the options offered differ by only small gradations, in the case of certain returns from optional employments the anticipated and realized marginal rate of return over cost (found by comparing the best and next best options) must equal the rate of interest. But when the income streams arising from the exercise

of alternatives are uncertain, then the anticipated marginal rate of return over cost computed in the same way may not be realized and but tends toward the particular rate of interest pertaining to the particular set of risks involved.⁴⁷

All persons possessing income come into the loan market with their given income streams and with their own views as to its desired shape. Present and future income are thus exchanged until each person's degree of "impatience" is brought into equality (or in the face of uncertainty, tends to equality) with the market rate. In making these arrangements, they are confronted with a given range of options, yielding income streams of varying characteristics grounded ultimately on the rate of return over cost; and the selection of the options of greatest present worth will bring the anticipated (but under uncertainty, not necessarily realized) rate of return over cost into equality (or tendency to equality) with the rate of interest. These sentences summarize the first two principles of opportunity and impatience. The rate which will ultimately prevail is that which will clear the market by equalizing supply and demand; "that is, for every time interval, the additions to some individual" incomes caused by borrowing or selling must balance the deductions from others caused by lending or buying. Secondly, according to the "Principle of Repayment," the loans must be equivalent in present worth to repayments; or, more generally, "the additions to any individual's income brought about by borrowing or selling in some time intervals must be equivalent in present worth to the deductions from his income in other time intervals brought about by lending or buying." These two sentences embody the two "Market Principles" necessary to complete the process of the determination of the rate of interest.⁴⁸

These factors ("principles"), though adequate to determine the rate of interest, are so interdependent as to seem to involve the real reasoning in a circle. Fisher anticipates the difficulty and states it concisely. The rate of interest depends on individual rates of impatience; the rates of impatience depend on the time shapes of individual income streams; the choice of these time shapes of income streams depends on the rate of interest. In short, therefore, the rate of interest depends on the rate of interest and we are nowhere. Stated differently, the rate of interest is determined by the supply and demand for loans (given an investment opportunity situation): but the supply and demand for loanable funds depend on the rate of interest.⁴⁹

Fisher first approaches the problems by giving extremely simple ex-

amples of simultaneous equations, some of which can yield no answer because, one being derivable from the other, they are actually the same equation; others do yield solutions because, though stated in kindred terms they are actually independent and not derivable from each other. But there is no direct answer here to the problem posed, for the reason that it has not been made clear that the above propositions are not derivable from one another. The process of determining the rate of interest in a market is then traced out, starting with 5 per cent, which calls forth more money than will be borrowed, *then* to 4 per cent, which calls forth more borrowers than lenders and finally to $4\frac{1}{2}$, at which rate a *double condition* is fulfilled. "*Not only* will each individual choose the best use of his capital—that having the highest present worth—but *also* at the same time, the demand and supply of loan engendered by all such chances will exactly clear the market, *i.e.*, the bids and offers at the given rate will be equal."⁵⁰

The solution is correct and involves no circularity, the rate of interest with which we begin and that with which we end are not the same rate of interest—one, so to speak, is yesterday's and one is today's. Thus we are dealing not with a circle but with an historical sequence. The necessary data for the equations are specified only through a process. *Some* rate does exist which will yield equations, but *which* rate it is becomes apparent only in the course of time. Though the time interval is shorter, the logic is the same as if we should say that a community is as good as its schools and the schools as good as the community, and imply by this that it would be impossible for one generation to build a different school system for the *next* generation. If, further, there is thought to be indeterminacy because more will be offered at, say 5 per cent, than will be taken, and less at 4 per cent than is wanted, we must remember that we are not here dealing with perfectly random and divergent forces but with the actions of economizing individuals, both borrowers and lenders, seeking to maximize their ultimate incomes; that is, there is actually a force at work outside the terms stated which draws the two together.

The double condition just stated employs the first of the two market principles. The second market principle, the principle of repayment, stated above, would bear more scrutiny than Fisher gives it and could bear a larger burden than Fisher lays upon it. Taking the two principles together, let us suppose that through credit expansion, or market imperfection, "the additions to some individuals' incomes caused by borrowing or selling *do not* (instead of *must*) balance the *deductions* from others caused by lending or buying; let us suppose "that accordingly the loans

are *not* 'equivalent' in present worth to repayments or . . . that the additions to any individual's income brought about by borrowing and selling in some time intervals 'are not' equivalent in present worth to the deductions from his income in other time intervals brought about by lending or buying." Or let us suppose that this equality is restored only after catastrophic adjustments in prices when the evidences of indebtedness may have long since passed into hands other than those of the original borrowers. Fisher is, of course, not unaware of such a situation's potentialities; few people have been more conscious of it or more vocal about it. But a more extended analysis of it right within his theoretical structure would have raised the question as to when, if ever, an equilibrium rate of interest does prevail in a modern credit economy.

This manner of stating the problem of appreciation and interest would have made Fisher's doctrine appear to be much closer to that of Wicksell than the actual structure of the treatise would allow. Of course, the problem is not neglected or minimized; but, as the treatment proceeds in *The Theory of Interest*, it is brought in later, as a subsequent adjustment that can independently and logically be made by hindsight. The underlying ideas which found his conviction that such adjustment is necessary run in terms almost identical with Wicksell's. "If the money standard were always stable with reference to goods, the rate of interest reckoned in terms of money would be the same as if reckoned in terms of goods."⁵¹ In other words, the rate of money interest would be equal to the rate of natural interest.⁵² Fisher, however, does not state his case thus as a divergence of natural and money interest or even as a distinction between nominal (money) interest and real interest, but generalizes his case most broadly on a different footing.

"The theoretical relation existing between interest and appreciation implies that the rate of interest is always relative to the standard in which it is expressed. . . . We need then to distinguish between interest in terms of money and interest in terms of goods";⁵³ but since we are theoretically free to select any commodity or group of commodities as our monetary standard, and since we are certainly free to keep our books in any sort of goods-units we wish—butter, beer, barley, or even bonds—it follows that "there are theoretically just as many rates of interest in goods as there are forms of goods diverging in value."⁵⁴

Thus we meet in one of Fisher's older books the idea which Straffa invoked against Hayek: "If money did not exist and loans were made in terms of all sorts of commodities, there would be a single rate which satisfies the conditions of equilibrium, but there might be at any one moment

as many natural rates of interest as there are commodities, though they would not be equilibrium rates."⁵⁵

Working with a concept such as this, what becomes of the real rate of interest?

"Is there then no absolute standard of value in terms of which real interest should be expressed? Real income, a composite of consumption goods and services, in other words a cost-of-living index . . . affords a practical objective standard. By means of such an index number, we may translate the nominal or money rate of interest into a goods rate or real rate of interest, just as we translate money wages into real wages [except] that we must translate from money into goods not only in the present when the money is borrowed but also in the future when it is repaid."⁵⁶

In this case the problem of divergence of money interest and natural interest resolves itself into the index-number problem of measuring the value of interest income at different price levels.⁵⁷ We almost lapse back into Wicksell's terminology: "The money rate and the real rate are normally identical; that is, they will, as has been said, be the same when the purchasing power of the dollar in terms of the cost of living is constant or stable."⁵⁸ If Fisher's Ideal Index for consumption goods registers 100 year after year, that "normal" identity of real and money interest has not been violated.

However, the appearance of similarity between the innumerable goods-rates and the rate of natural interest is greater than the reality. The two concepts are not by any means identical, nor are they such as to be easily separated entirely. First of all, "this translation of the rate of interest from one standard into another does not determine *the rate of interest in any standard whatever*; for it assumes that the rate in *some one* standard is already known, and merely enables us on the basis of this known rate to calculate the rates in other standards."⁵⁹ The rate of natural interest, however, has reference to that *difference* between cost and return which can accrue to the one who, by combining various resources, exploits successfully some investment opportunity in the face of a given set of prices. His net gain may then be translated into any "standard" that he wishes; but the interest thus expressed has no simple or necessary relation to the prices of any particular commodities, though some commodities' rates may be, of course, affected by his action. However intimately intertwined, interest on or in goods or money, and appreciation of goods or money are not the same phenomenon.

Radically, the problem here involved is one of changes in the value of money—that is, of rising or falling prices—during the terms of the loan,

so that the sums paid as interest and principal in the course and at the conclusion of the loan represent purchasing power over goods different from the original principal or the interest payment contracted for at the time of contracting. Since the relative value of goods and money is constantly changing—in credit inflation notably and importantly, in hyperinflation vastly and dramatically—there is always present in loan transactions an element of appreciation or depreciation. In any given case, it makes no difference whether we say that money has appreciated or goods depreciated; the operation is strictly correlative. The fact that we usually speak of such matters from the standpoint of money arises from an especial characteristic of money. “It is important to emphasize the fact that the limits imposed on the rates of interest and appreciation come from the possibility of hoarding money without loss. If money were a perishable commodity, like fruit, the limit would be pushed into the region of negative quantities.” The emphasis upon this quality of money and its associated property of liquidity is attributed by Fisher to Karl Menger.⁶⁰

“The exact theoretical relationship between the rate of interest measured in any two diverging standards of value, and the rate of foreseen appreciation or depreciation of one or other of these standards” has been worked out by Fisher in all his leading works on the subject, but the details need not concern us here. Likewise, he has attempted statistical measurement of the actual course of depreciation, a procedure which has found less favor among his colleagues because of the methodological difficulty of “spreading the lag” of an inflationary or deflationary operation over a period of time. That the effect is not instantaneous is evident; but the duration of the effect is not susceptible of accurate measurement for lack of a satisfactory basis from which to measure the trend, if any.⁶¹

Wicksell’s method on this point was to emphasize, *within his theoretical structure*, the source and course of monetary appreciation and depreciation. Fisher, greatly emphasizing the importance of the fact, still grounds his interest theory on two “market principles” which are tantamount to an identity of real and natural interest. Corrections for the actual divergence are then introduced *post factum*, save to the extent that depreciation is foreseen and allowed for in contracts, which is admittedly not very often. But these elements are never made *intrinsic* to the theory of interest as they are with Schumpeter and Wicksell.⁶²

A great merit of Fisher’s method must be emphasized. Fisher in no way minimizes the “objective” element in interest theory; indeed, he feels that if he has contributed anything of worth, it is in strengthening Böhm-

Bawerk on the technical or productivity side. Yet, because he gave such proper importance to the concept of final, personal income, his analysis in *The Rate of Interest* was regarded as being unduly subjective. He sought to meet that unwarranted criticism in his second book, *The Theory of Interest*. This misunderstanding brings to the fore one of the strongest points of Fisher's position. Without in any way understating the "productive" factor, he has formulated a theory in which consumption loans can be treated symmetrically with industrial and commercial loans. A man may be in such position that an altered time shape of his income will yield a greater total utility to him, though actually yielding a smaller money income at both points of time under regard. The transaction is "profitable" to the consumption borrower even though in money terms there is a net outgo. We can thus have interest by altering only the time shape of income or we can have interest by altering the time shape through loans *and* altering the manner of employing the resources loaned.

With this in mind, we may close with an explanation of why Schumpeter and Fisher were included in the same chapter. Together with Wick- sell, they were earlier described as the three persons who since Böhm- Bawerk have impressed their own modes of thought on contemporary theory. We must begin by lopping off the points on which there is no contact. Schumpeter prescinded entirely from the question of consumption loans as not presenting the challenging problem. Fisher, though treating them, showed that they could in theory be dealt with simply. With this factor eliminated, Fisher's theory centers around the shape of his investment opportunity curve. Schumpeter begins his theory in circumstances which make that curve a point; "where there is no alternative income stream, there can be no comparative cost or return, and therefore no rate of return over cost."⁶³ Fisher, on the other hand, without pushing the process to its final theoretical limits as does Schumpeter, holds strikingly similar views on the role of invention and innovation in increasing investment opportunity, on the initial profit and the ultimate tendency for it to be absorbed and to lower the rate of interest, though Fisher does not develop this case to its logical extinction.⁶⁴ This similarity in two writers whose method seems to be so vastly different is singled out as an especial example of the propriety of trying to find a fund of common doctrine as a basis for comparison.

¹Joseph A. Schumpeter, *Theory of Economic Development* (first German edition, 1911), Cambridge, 1936, p. 8.

²*Ibid.*, p. 160.

³*Ibid.*, p. 190.

⁴*Ibid.*, p. 96.

⁵*Ibid.*, pp. 101-102.

⁶*Ibid.*, pp. 106 *et seq.* Notice should be taken of the fact that the point here designated by Schumpeter as the essential note of credit creation is the same as that designated by Wicksell as the cause of cumulative price rises entailed in departures from the rate of natural interest. "Every rise or fall in the price of a particular commodity presupposes a disturbance of the equilibrium between the supply of and the demand for that commodity. What is true in this respect of each commodity separately must doubtless be true of all commodities collectively. A general rise in prices is therefore only conceivable on the supposition that the general demand has for some reason become, or is expected to become greater than the supply." *Lectures*, II, p. 159.

⁷*Ibid.*, p. 157.

⁸*Ibid.*, p. 190. (*Italics in original.*)

⁹*Ibid.*, p. 150.

¹⁰*Ibid.*, p. 158.

¹¹*Ibid.*, p. 159.

¹²*Ibid.*, pp. 173-177.

¹³*Ibid.*, p. 175.

¹⁴*Ibid.*, p. 177.

¹⁵*Ibid.*, p. 181.

¹⁶*Ibid.*, pp. 183, 184.

¹⁷*Ibid.*, p. 133.

¹⁸*Ibid.*, p. 169.

¹⁹*Ibid.*, p. 109.

²⁰Joseph A. Schumpeter, *Business Cycles, A Theoretical, Historical and Statistical Analysis of the Capitalist Process*, New York, 1939, Vol. I, p. 110.

²¹*Ibid.*, p. 111. (*Italics inserted.*)

²²*Ibid.*, p. 123. Cf. also: "by credit, entrepreneurs are given access to the social stream of goods before they have acquired a normal claim to it." (*Theory of Economic Development*, p. 107.) "The entrepreneur is also a debtor in a deeper sense as may be emphasized here; he receives goods from the social stream—again in principle—before he has contributed anything to it. In this sense he is, so to speak, a debtor of society. Goods are transferred to him to which he has not that claim which alone gives access to the national dividend in other cases." *Op. cit.*, p. 102.

²³*Ibid.*, p. 124.

²⁴*Ibid.*, pp. 124-125.

²⁵*Ibid.* It is interesting to notice the diverse emphasis placed on the interpretation of a set of facts about which there is no disagreement: "He who borrows money at interest does not, as a rule, intend to keep it but to exchange it at the first suitable opportunity for goods and services." (Wicksell, *Lectures*, II, p. 191.) At an identical stage of the process Schumpeter accents the fact that the interest is paid on the money, not the goods; while Wicksell stresses the fact that it is the goods that are wanted, not the money.

²⁶The fact that innovation is transitory does not mean that it must be momentary. A really sweeping and radical innovation may take generations to absorb; also, the same enterprises may, and very many do, find the means of paying interest in an almost unbroken series of minor innovations somewhere (not necessarily in the physics or chemistry of production) in their organization.

²⁷*Ibid.*, p. 126.

²⁸*Ibid.*, p. 127.

²⁹*Ibid.*, p. 129.

³⁰*Interest and Prices*, p. 102; cf. also pp. 135, xxvi.

³¹Publication of the American Economic Association, 1896.

³²Irving Fisher, *The Theory of Interest, as Determined by Impatience to Spend Income and Opportunity to Invest It*, New York, 1930, p. 6; cf. also p. 280.

³³*Ibid.*, p. 13.

³⁴Cf. *ibid.*, p. 67.

³⁵*Ibid.*, p. 71.

³⁶*Ibid.*, p. 226.

³⁷*Ibid.*, p. 497.

³⁸*Ibid.*, p. 155.

³⁹*Ibid.*

⁴⁰*Ibid.*, p. 168.

⁴¹*Ibid.*, p. 498.

⁴²*Ibid.*, p. 499.

⁴³*Ibid.*, p. 499.

⁴⁴*Ibid.*, p. 143.

⁴⁵*Ibid.*, p. 150.

⁴⁶*Ibid.*, pp. 500-501.

⁴⁷*Ibid.*, p. 226.

⁴⁸*Ibid.*, p. 226; cf. also pp. 119, 122, 495.

⁴⁹*Ibid.*, p. 144.

⁵⁰*Ibid.*, p. 147. (Italics inserted.)

⁵¹*Ibid.*, p. 36.

⁵²Perhaps it is worth noting that one of the writers quoted by Fisher on the history of the doctrine of appreciation, William Douglass, a physician, in a pamphlet published in Boston in 1740, put the difference thus: "In autumn A. 1733, silver was 22/s. per oz.; by large emissions of paper money, it became 27/s. in the autumn of A. 1734; i.e., 22 per cent loss of principal; and the lender to save his principal requires 28 per cent *natural interest* for that year. Thus *the larger the emissions, natural interest becomes the higher.*" Irving Fisher, *The Rate of Interest*, New York, 1907, p. 84.

⁵³*Theory of Interest*, p. 42, and *Rate of Interest*, p. 84.

⁵⁴*Theory of Interest*, p. 42, and *Rate of Interest*, p. 84.

⁵⁵Piero Sraffa, "Dr. Hayek on Money and Capital," *Economic Journal*, 42:165, March 1932, p. 49.

⁵⁶*Theory of Interest*, p. 42.

⁵⁷"What one really wants to know is whether 'living'—ordinary consumption—has become dearer or cheaper . . . It seems to me therefore that the ideally correct procedure for observing and measuring the general price level is to confine the calculation to objects of direct consumption but over this range to make it as complete as possible, including not only commodities but rents of houses, certain services, and the like. If the same money income serves at two different points of time to provide equally for the needs of nourishment, clothing, house-room, amusement, travel, and the like, it is in accordance with ordinary usage to say that the purchasing power of money has remained constant." Wicksell, *Interest and Prices*, p. 16.

⁵⁸*Theory of Interest*, p. 42.

⁵⁹*Ibid.*, p. 45.

⁶⁰*Ibid.*, p. 216.

⁶¹See, for example, Frederick C. Macaulay, *Some Theoretical Problems Suggested by the Movements of Interest Rates, Bond Yields, and Stock Prices in the United States Since 1856*, New York, 1933, pp. 163 *et seq.*, especially p. 170, note, and Appendix B, pp. A311 *et seq.*

⁶²We may note here that the chief difference between Schumpeter and Wicksell lies in their expository constructions and the resulting emphasis rather than in any radical divergence in principle. Wicksell, in his theoretical apparatus, though admitting the possibility of the entrepreneurs' holding interest gains in the form of goods, normally operates his construction so that interest goes to the lender even when the entrepreneur is continually led on in the hope of profits. Schumpeter, under the more severe conditions of the circular flow, operates his construction so that the "profits" go to the entrepreneur, with interest acting as a tax on those profits.

⁶³*Theory of Interest*, p. 184.

⁶⁴*Ibid.*, pp. 341 *et seq.*

CHAPTER V

THE PRICE OF MONEY

John Maynard Keynes may well be the most influential economist of this generation. His ideas are better known and more widely discussed than those of any other living economist. But this popularity is not due to the lucidity of his style; his writing does not lend itself to clear and simple summary. Key words,—for example, profits, savings, investments—appear in his works in esoteric senses. According to Noah Webster efficiency means capacity to do something well. To Keynes the marginal efficiency of capital is not a matter of productive capacity but of expectations. On examination, the expectations reduce to a sort of average state of mind. An average state of mind without perceptible objective basis determining it is a fairly elusive concept not readily associated with efficiency.

The sweep of Keynes' ideas is by no means conducive to accurate analysis; his reach far exceeds his grasp. In one of his small books, there is overhauled not only the theory of wages and interest, but the whole theory of prices, in equilibrium and transition, with lengthy asides on depreciation and costs, the trade cycle, mercantilism, and stamped money, social philosophy, and fiscal policy. Much "psychology" of doubtful pertinence is included. It is not amiss to point out that his concern over the propensity of Americans to think the same thing at the same time was not borne out by the reaction here to the cryptograms of his latest book. Keynes doesn't hesitate to ask his fellow economists to abjure much of what they have learned: the "classic" theory is a "nonsense theory"; Marshall was right in his judgment of the "uselessness" of Böhm-Bawerk's analysis; Mises, Hayek, and Robbins have "their conclusions exactly the wrong way around"; the more sophisticated studies of the theory of prices are a "haze where nothing is clear and everything is possible."¹

Wicksell's rate of natural interest, which to Wicksell was "essentially variable," and which in the absence of innovation would be zero, is to Keynes "merely the rate of interest which will preserve the status quo."²

Keynes employs the concept of "period of production" in terms of "time units of notice of change in the demand for it (the product) that have to be given if it is to offer it maximum elasticity of employment."³ This, he concedes, is not identical with the usual definition but it "seems" to him "to embody what is significant in the idea." All these singularities are complicated by the fact that the book was obviously written in haste and represents not a carefully integrated study but a loose-jointed series of observations of varying quality, the summary of which is a hazardous task.

Keynes' theory thus presents two distinct questions. What is his own position? What relation does his position bear to some previous not accurately defined classical position with which he believes himself at variance? Neither of these questions allows succinct answers. The second point, though it seems to mean much to Keynes, is really of small account for our purpose and need not detain us long. Keynes has two faults to find with the classical position.

"Classical theory premises that wage-rates tend to adjust themselves to demand and supply conditions in such wise that *involuntary* unemployment, other than such as is due to industrial fluctuations, cannot exist. . . . There is no possibility of calling to the aid of production, capital and labor which would otherwise have been unemployed. Until recent times there can be little doubt, at all events so far as this country is concerned, that this premise of the classical theory was realized in fact. Since the war, however, there is reason to believe that wage-earners have succeeded in maintaining average rates of real wages higher than are in existing conditions, compatible with *full employment*. . . . The mere possibility makes it necessary to examine the matter . . . from a more *general* standpoint than has hitherto been common, distinguishing (1) cases in which the classical premise is satisfied and (2) cases in which it is not satisfied."⁴

This is a good statement of Keynes' principal objection to the "classicalists," of whom he regards Arthur Cecil Pigou as the outstanding contemporary exponent and most typical delinquent. As an objection against the "classical" position and Pigou, the above quotation would be much more impressive if it were found in Keynes' own writings rather than in a work, by no means recent, of Pigou.

On one other important particular does classical theory become "non-sense theory."

"For the assumption that income is constant is inconsistent with the assumption that these two curves [demand curve for capital and supply curve of savings] can shift independently of one another. If either of them shift, then, in general, income will change."⁵

"The amount of income of the interest-receiving classes depends on the quantity of the advances made by them and on the rate of discount—that is on the rate of

interest. . . . Just as interest figures more largely in the present value of a five-year note than in that of a one-year note, so interest figures more largely in a community where the period of production is long and the capital per laborer is large. The inequalities of income tend in this sense to become greater as total incomes become larger."⁶

"From this it is perhaps not an unjustifiable inference that there is a large volume of saving at the margin. The steadiness of the rate of interest through so long a period of striking changes both in the uses and the accumulation of capital would seem to point to a steadying cause—a marginal supply price to which the rate of return on the whole has adjusted itself. That supply price to be sure, is likely to be affected in the future by the very fact of large accumulation, or at least by those general industrial and social conditions which accompany large accumulation. The increase in the number of persons belonging to the well-to-do classes, and in their incomes, causes saving and investment to be greater in volume and to entail less sacrifice. The marginal supply price may sink in the course of the next twenty of fifty years to some such rate as two per cent. . . . Accumulation proceeds fast and promises to continue to proceed fast. . . . So ingrained is the habit of accumulation among the prosperous classes of modern society that it seems to proceed irrespective of the rate or interest."⁷

These passages are not taken from an advanced polemical work but from a very old and seasoned standard textbook. Though their author, Frank W. Taussig, by no means draws the same conclusions from observations of this sort as Keynes does, such quotations make it extremely unlikely that all the older authors completely overlooked the possibility that interest was a function at least in part of the level of income, and especially of the distribution of income at any particular level of total output. Such passages make one question the statement that "the classical theory not merely neglects the influence of changes in the level of incomes but involves formal error."⁸ We may therefore properly proceed to a direct exposition of Keynes' own theory without concerning ourselves with its possible relations to some putative classical theory, except insofar as Keynes' method of exposition involves such reference. We will then accept his presentation without comment as to its historicity.

Keynes' position on the relation of interest and money is set forth in two substantial works. *A Treatise on Money*, written in 1930, and *The General Theory of Employment, Interest and Money*, written in 1935. Both works have occasioned widespread disputation, in part because of the ideas contained in them, but more because of the invitations to economists to "change their trousers," and to abandon a nebulous congeries of unfortunate things on which Keynes was "brought up."

The first of these two works was a noteworthy study but not a startling one. In the parts with which our present examination is concerned, the

book contained nothing essential that was not familiar to readers of Knut Wicksell and Dennis H. Robertson.⁹ Savings and investment were set forth as capable of divergence. The rate of interest prevailing when they were in equality was the "natural rate of interest," which tended to re-establish itself. Expansion of the means of payment (practically, bank deposits) could induce "forced saving" and produce "windfall" profits; such windfall profits were excluded from the definition of income, and as long as the volume of money was increasing, prices and profits would rise indefinitely *à la* Wicksell. "According to my own definition, 'sound credit conditions' would of course be those in which the market-rate of interest was equal to the natural rate, and both the value and the cost of new investment were equal to the volume of current savings."¹⁰ To the maintenance of these "sound credit conditions," Keynes' practical proposals were directed. The discount rate, open market operations, and variation of reserve requirements were so to be marshalled as to keep the flow of money such that "the price level of output as a whole exactly corresponds to the money rate of efficiency earnings of the Factors of Production."¹¹ Keynes had already stated that he meant "identically the same thing by the three expressions: (1) the community's money income; (2) the earnings of the factors of production; and (3) the cost of production,"¹² excluding profits from cost, income, and earnings alike. This leaves us a *Treatise* fundamentally simple and intelligible in structure, the outlines of which were not obscured by Keynes' great practical knowledge of financial matters or his flair for graphic and caustic prose.

Between 1930 and 1935, however, a great deal happened in the monetary world by which Keynes too was impressed. His reconsideration of his position produced *The General Theory of Employment, Interest and Money*. In that work windfall profits have been restored to a place in income, cost, and earnings, with the somewhat paradoxical conclusion that therefore savings and investment must be equal; for they are but different aspects of the same thing, or rather they are different names for the same thing. This result is achieved by altering, without notice, the time dimension of the process, while notice was served only that terminology was being altered. The *Treatise* is a straightforward Wicksellian analysis of antecedent inequality of savings and investment due to a net addition to the means of payment. The *General Theory* views the process both *principiative* and *terminative* simultaneously—which is somewhat disconcerting. The effects of changes in the supply of money are narrated consecutively, while taking for granted the equality of savings and investment which is actually but a

future *consequent* equality. Barring extreme cases where a currency breaks down never to recover, it is always true that the ultimate *consequent* value of investment will equal the sum of the antecedent voluntary saving and the *consequent* forced saving.¹³ This terminal equality must result; the materials used in production evidently were not consumed. The non-consumption is the sum of forced saving and free.

Keynes' way of describing this is to say that it is the level of incomes which equates savings and investment.

"Savings and Investment are the determinates of the system, not the determinants. . . . When investment changes, income must necessarily change in just that degree which is necessary to make the change in saving equal to the change in investment. . . . The level of income must be the factor which brings the amount saved to equality with the amount invested."¹⁴

The very grammar of such sentences reveals the *consequent* character of the equality. The apparatus which produces this equality between two things which are inevitably and by definition equal, and which "cannot differ"¹⁵ from each other, is called the multiplier. It is the ratio between the income *consequent* upon new investment and the *antecedent* value of

new investment, ($\frac{dY}{dI} = k$), and on Keynes' definitions, ignoring time

sequence, can be shown to be equal to the inverse of the rate of saving; that is, if a community saves 1/10 of its income, the multiplier is ten. This is the familiar principle of acceleration set forth in such analytical circumstance that it can be given a fairly precise mathematical quantitative value. Keynes' point of view, which enables him to seize in one grasp both the beginning and the end of a sequential process as of one point in time, also enables him to include both voluntary and forced saving in the "saving" which the multiplier equates to investment. Keynes allows that if this process started from equilibrium and full utilization of resources, the multiplier would be a measure of forced savings. That he does not elaborate the same ratios as a decelerator in periods of contraction is significant and instructive in what purports to be a general theory.

The years between the *Treatise* and the *General Theory* were years of universal price collapse, not only in countries with fiscal difficulties but also, perhaps especially, in the United States, of whose ultimate solvency there was then no reasonable doubt. In conditions of falling prices, the possession of money is preferable to the possession of commodities for the cogent reason that money appreciates as goods depreciate. Hoarding on

the down phase of a business cycle is a familiar phenomenon. This circumstance, the object of one of Irving Fisher's earliest studies, Keynes erects into a special parameter of the rate of interest along with the two familiar ones, the rate of saving (appearing through its complement, the propensity to consume) and the productivity of capital (appearing under the name of "efficiency" which, however, is not an attribute of goods but a psychological state of business men, their "expectation" of proceeds). If general prices are expected to rise, liquidity preference is low; if general prices are expected to fall, liquidity preference is high; and if people don't know what on earth to expect next, it will probably be high anyway. If we could set it down *a priori* that changes in the value of money would be ruled out of the discussion, then liquidity preference as an independent variable would not exist and Keynes' analysis would coincide with Fisher's.¹⁶

The "psychological" definition of marginal efficiency of capital as "expectation of proceeds" causes the line between liquidity preference and productivity to be obscured. If the marginal efficiency of capital is low and going lower, that in itself can explain any degree of reluctance to make new commitments if one is free to hold cash. But this expectation of proceeds may have to do with factors affecting the supply prices of certain individual goods or it may have to do with factors which affect individual goods only secondarily as part of a general movement. These two cases are quite distinct and it is only with reference to the latter that liquidity preference is significant. From this we may see that Keynes' marginal efficiency of capital differs from Fisher's rate of return over cost in that Fisher regards it as true but regrettable that, *in the cumulative upward phase of a cycle*, prospective changes in the value of money do not sufficiently condition the inclination to invest, and, methodologically, Fisher corrects for these variations after the fact. Keynes, on the other hand, accords liquidity preference a dominant place in the beginning of the analysis and also believes, probably correctly, that *on the cumulative downward phase of a cycle* prospective changes in the value of money, through liquidity preference, do strongly affect the volume of investment.

Keynes has at various times given definitions of the rate of interest, as well as compendious descriptions, which are helpful in coming to an understanding of his analysis; perhaps the most illuminating sidelight on the theory as a whole is the statement that the rate of interest is a "highly psychological phenomenon";¹⁷ "its actual value is largely governed by the prevailing view as to what its value is expected to be."¹⁸ Inasmuch as no

other economic variable has been handled by the methods of impersonal and objective mathematics as has the economic theory and business practice of interest, it is distinctly unsettling to learn that there is nothing high or low but our thinking makes it so.

Two definitions may be set down as being of a more formal and deliberate character than the others. "The rate of interest is the reward for parting with liquidity for a specified period . . . the price which equilibrates the desires to hold wealth in the form of cash with the available quantity of cash."¹⁹ Such statements exemplify Keynes' contention that his theory is but an elaboration of the common sense of the matter, the price of money in hand, the premium that must be paid the lender by the borrower to make the lender part with generic wealth for a specific debt, "the inverse proportion between a sum of money and what can be obtained for parting with control over the money in exchange for a debt for a stated period of time."²⁰ Employing a favorite analytical construction, Keynes restates the same proposition thus: "The money rate of interest is nothing more than the percentage excess of a sum of money contracted for forward delivery . . . over what we may call the spot or cash price of the sum thus contracted for forward delivery."²¹

The rate of interest thus defined as "the price of hoards,"²² "the premium which has to be offered to induce people to hold their wealth in some form other than hoarded money,"²³ is conceived as operating as follows: "The function of the rate of interest is to modify the money prices of other capital assets in such a way as to equalize the attraction of holding them and holding cash. . . . The rate of interest on a loan of given quality and maturity has to be established at the level which in the opinion of those who have the opportunity of choice—*i.e.*, of wealth holders—equalizes the attractions of holding idle cash and of holding a loan."²⁴ In other words, the price of capital goods new and old must be low enough so that, in view of the prospective return, some one is willing to buy them. And since the value of the asset depends on its prospective return, which is dependent upon the ability present in the community to buy the ultimate product, if previously earned income is being withheld from the market and hoarded, the prospect of attractive earnings is not great and the price of the asset must be scaled down. But if additional money is made available, the rate of interest will be lower, the capitalized value of assets higher, new assets will be produced, and income and consumption will rise. "It is not the rate of interest but the level of incomes . . . which insures this equality . . . of saving and investment."²⁵

The most striking characteristic of this theory of interest is that the rate of interest can change in the most drastic fashion while the production functions of the goods desired in the community remain unaltered. Ultimately, a sufficiently broad and enduring change in the community's income may change demand enough to affect the relative supply of commodities and thus change the production functions themselves, but in the first instance this need not be true at all. Secondly, the question arises as to what determines these mercurial shifts in the desire to hold money rather than goods. In a community where any economic progress was being made, there would always be a positive premium on investment; beyond pocket-money and till-money, and a moderate sum "just in case," there would be no reasonable motive for not taking the premium available on funds one did not care to spend on consumption.

Given the rate of consumption, Keynes' rate of interest is determined by four principal factors. On the demand side, there is the demand for money for investment purposes, and the demand for money for hoarding purposes; that is, given the demand for money for consumption-spending purposes, there is the demand for money for investment-spending purposes and the demand for non-spending purposes. The demand confronts a supply composed of two elements, the supply of voluntary savings from previous income, and the supply of new funds which have never been income or cost and which *will be* the income to equate saving and investment. Of these the volume of consumption is not subject to violent shifts, having an astonishing stability even in the most acute depression. The investment demand on a purely technical basis is tolerably calculable. This leaves hoards and abrupt changes in the money supply as the significant variables to explain large short-term changes in the rate of interest.

"What has attracted attention has been the *quantity* of money which has been hoarded; and importance has been attached to this because it has been supposed to have a direct proportionate effect on the price level through affecting the velocity of circulation. But the quantity of hoards can only be altered if the total quantity of money is changed or if the quantity of current money income (I speak broadly) is changed; whereas fluctuations in the degree of confidence are capable of having quite a different effect, namely, in modifying, not the amount that is actually hoarded but the amount of the premium which has to be offered to induce people not to hoard. And changes in the propensity to hoard, or in the state of liquidity preference as I have called it, primarily affect not prices but the rate of interest; any effect on prices being produced by repercussion as an ultimate consequence of a change in the rate of interest."²⁸

Exception might be taken to the first sentence of this statement, especially to the phrase "direct proportionate effect." Though they might not

be so emphatic about the *exclusive* effect on prices through effect on the rate of interest, few economists would care to deny either the fact or its importance. But they would be slow to regard it as a theory of interest; it is rather an abnormal case of a discontinuous supply curve of available funds. Any theory of interest must be able to explain the sequence of adjustment to such a change, but to regard this special case as the whole theory is scarcely warranted. Since the volume of available hoards is largely under the control of the monetary authority, the decision to hoard or not to hoard reduces largely to gambling on which way the Federal Reserve Board worm will turn. On this view, the obvious solution would seem to be to eliminate this eccentric factor and to do in real life what textbook writers have usually done in formulating their theory of interest—set the supply curve of funds either as given, or changing at a calculable rate according to objective criteria. Keynes marches stalwartly up to this conclusion but dismisses it with the statement that “at this point we are in deep water,” to which is added an irrelevant quotation about a duck.²⁷ The logic seems to be that an abruptly fluctuating variable that makes accurate pricing practically impossible becomes less obnoxious if you make it the center of your system and use it to make other less volatile variables fluctuate to your liking.

The foregoing notes have been a necessary introduction to a summary of Keynes' theory of interest, which summary he has fortunately supplied²⁸ with great brevity and conciseness and with the focus of attention more directly on the phenomenon of interest itself than on the concomitant variations in income and employment. With the introductory notes and this compendious statement, we can set forth Keynes' theory of interest in its relevance to the object of the present study.

In his essay on “The Theory of the Rate of Interest,” Keynes has set down four propositions which he believes are acceptable to classicists and are not “in any way open to doubt.” The language may not always be the same as that of the earlier classical writers but the difference in form is not intended to imply difference of content.

(1) “Interest on money *means* precisely what the books on arithmetic say that it means; that is to say, it is simply the premium obtainable on current cash over deferred cash, so that it measures the marginal preference (for the community as a whole) for holding cash in hand over cash for deferred delivery. No one would pay for this premium unless the possession of cash served some purpose, *i.e.*, had some efficiency. Thus we can conveniently say that interest on money measures the marginal efficiency of money measured in terms of itself as a unit.”

A note calls attention to the fact that this description of marginal efficiency of capital differs slightly from a previous definition: "The relation between the prospective yield of a capital asset and its supply price or replacement cost, *i.e.*, the relation between the prospective yield of one more unit of that type of capital and the cost of producing that unit."²⁹ The difference lies in the fact that the new definition implies that "market value" may be substituted for replacement cost without significant change in meaning.

There is the further observation that the content of the idea of "marginal efficiency of capital" means the same thing as Irving Fisher's "rate of return over cost." Fisher had defined the rate of return over cost as a "hypothetical rate of interest which if used in calculating the present worth of the two options compared would equalize them or their differences (cost and return). . . . The cost is literally the difference it makes today and the return is the difference it makes in the future."³⁰ This idea of marginal efficiency Keynes defines "more precisely . . . as being equal to that rate of discount which would make the present value of the series of annuities given by the returns expected from the capital assets during its life just equal to its supply price."³¹ Though Fisher would be the last person on earth to belittle the effect on the rate of interest of monetary appreciation and depreciation, it should be noted that at this point, while Keynes is speaking of an "expectation of proceeds," Fisher's examples at the same stage of the analysis were of increments due to natural physical growth—*e.g.*, of cutting a forest, "assuming an unchanging price of \$1 a cord."

(2) "Money is not peculiar in having a marginal efficiency measured in terms of itself. Surplus stocks of commodities in excess of requirements, and other capital assets representing surplus capacity may indeed have a negative marginal efficiency in terms of themselves but normally capital assets of all kinds have a positive marginal efficiency measured in terms of themselves."

As Fisher had put it: "There are therefore, theoretically, just as many rates of interest expressed in terms of goods as there are kinds of goods diverging from one another in value."³² This marginal efficiency of an asset in terms of itself can be reduced to marginal efficiency in terms of money. Let q be the physical productivity of the asset in goods or services; let c be the carrying cost of the asset in terms of itself and l be the potential convenience or security afforded by the power of disposal over an asset for a given period. Then $q - c$ plus l is the own rate of interest of any commodity "in terms of itself as a standard." If a' and a'' be the

expected appreciation or depreciation of houses and wheat respectively, then a' plus q' is the house rate of money interest (c and l being regarded as negligible) and $a''-c'$ is the wheat rate of interest (q and l being regarded as negligible) and the money rate of money interest is l'' (q'' and c'' being regarded as negligible). In equilibrium, a' plus q' , $a''-c''$, and l'' will be equal; apart from equilibrium, demand for houses, wheat, or money will be greatest as q' , $a''-c''$ or l'' is greatest.³³

One is tempted to restate this and say that investment will expand in houses, wheat, or money according to which of these three factors a , c , and l , is largest; and if we can call hoarding "investment in money" or loaning to oneself, *then* saving and investing would always be *antecedently* equal and the action of the multiplier would produce a *consequent* equality but between two different magnitudes.

(3) "The effort to obtain the best advantage from the possession of wealth will set up a tendency for capital assets to exchange in equilibrium at values proportionate to their marginal efficiencies in terms of a common unit."

Let r be the money rate of interest, that is, the marginal efficiency of money in terms of itself, the premium which someone is willing to pay to entice money from its actual holder, and y , the marginal efficiency of a capital asset A in terms of money. "Then A will exchange in terms of money at a price such as to make $y = r$." This is a very interesting proposition. In a state of complete and rigid equilibrium, where optimum disposal of assets has been reached and nobody is inclined to sell an asset or to buy one, $r = 0$ for the possession of money yields no advantage; nobody is willing to pay a premium to entice money; yet physical assets seem to yield some net return; so that $y = 0$, unless Keynes wishes to recast his theory in Schumpeter's terms. When cost-reducing innovations are being introduced, with constant money supply, *holding* money offers no advantage or is definitely uneconomic, yet the value of y is at first increasing and then decreasing. Money has a negative marginal efficiency in terms of itself and a positive marginal efficiency in terms of other things. If a price fall has been initiated and may be calculated to continue, for the duration of the decline, y is negative but r , the marginal efficiency of money in terms of itself, *if subsequently* spent on consumption or production near the trough, may be very great.

(4) "If the demand price of our capital asset A thus determined is not less than its replacement cost, new investment in A will take place, the scale of such investment depending on the capacity available for the output of A , *i.e.*, on its elasticity of supply, and on the rate of which y , its marginal efficiency, declines as the amount

of investment in A increases. At a scale of new investment at which the marginal cost of producing A is equal to its demand price as above we have a position of equilibrium. Thus the price system resulting from the relationships between the marginal efficiencies of different capital assets including money, measured in terms of a common unit, determines the aggregate rate of investment."

Up to this point we are, in Keynes' opinion, covering common ground not open to objection; the data thus far presented establish "that relative prices (and under the influence of prices, the scale of output) move until the marginal efficiency of all kinds of assets are equal when measured in a common unit; and consequently that the marginal efficiency of capital is equal to the rate of interest." But the four propositions thus far elaborated "tell us nothing as to the forces which determine what this common level of marginal efficiency will tend to be." The "orthodox" position requires two further propositions which are implicit in its doctrine that "the forces which determine the common value of the marginal efficiency of various assets are independent of money which has so to speak no autonomous influence, and that prices move until the marginal efficiency of money, *i.e.*, the rate of interest falls into line with the common value of the marginal efficiency of other assets as determined by other forces." The implications of this need only to be stated to appear inadequate.

(5) "The marginal efficiency of money in terms of itself has the peculiarity that it is independent of its quantity. In this respect it differs from all other capital assets. This is a consequence of the quantity theory of money strictly stated. . . . Thus unless we import considerations from outside, the money rate of interest is indeterminable, for the demand schedule for money is a function solely of its supply." "Nevertheless, a determinate value for r (the marginal efficiency of money in terms of itself) can be derived from the condition that the value of an asset, A, of which the marginal efficiency in terms of money is y , must be such that $y = r$. For, provided we know the scale of investment, we know y and the value of A, and hence we can deduce r In other words, the rate of interest depends on the marginal efficiency of capital assets other than money"

Proposition 5 assumes the scale of investment known; this requires a further proposition. "The scale of investment will not reach its equilibrium level until the point is reached at which the elasticity of output as a whole has fallen to zero." The "orthodox" system may then be summarized thus: (a) The rate of interest determines the rate of saving. (b) The rate of saving determines *the equilibrium rate of aggregate investment*, corresponding to that level of output for a further increase in which the elasticity of supply is zero. (c) The scale of investment determines the marginal efficiency of capital to which the rate of interest must be equal.

"The marginal efficiency of money in terms of itself is independent of its quantity." Here is a very intriguing proposition. It would almost seem to deny any meaning to *marginal* efficiency. In general, the marginal concept is a differential one measuring the relative gain or loss from additions of one small unit to a previous stock. If the marginal efficiency of money does not vary as additional units are added, it would seem that the marginal efficiency is not only independent of the supply but is also zero. After a certain point is reached, the curve of total efficiency flattens out and the marginal efficiency of additional units is zero. The efficiency of each additional unit is the same as that of all previous units and the efficiency of the whole is not increased. "This is a consequence of the Quantity Theory of Money strictly stated." This means, as Keynes explains, that a point can be reached such as that in the equation $PT = MV$, where increases in M will result only in changes in P , since T will have reached a maximum fixed by technical consideration, *i.e.*, full and maximum employment in the existing state of the practical arts. That is to say, any amount of money can be absorbed in higher prices, if no further possible adjustment of assets will yield a greater product. If a ten percent increase in the volume of money causes promptly and directly a ten percent increase in prices, then the marginal efficiency—the expectation of proceeds—from holding the same proportion of the larger as of the smaller is in no way altered. The marginal efficiency of money is independent of its supply and is zero. This may be true; whether this is exactly what one would call a "strict interpretation" of the quantity theory is another question.

To remedy this defect of the "orthodox theory," Keynes feels the need of supplementing propositions 5 and 6 with the following:

5K The marginal efficiency of money in terms of itself is in general a function of its quantity (though not of its quantity alone), just as in the case of other capital assets.

6K Aggregate investment may reach its equilibrium rate under proposition 4 above before the elasticity of supply of output as a whole has fallen to zero.

The import of 5K seems to be that we are not always in a situation where an increase in the quantity of money will express itself, not only in prices, but also in causing the quantities of goods offered (and therefore employment and income) to vary. We shall return to propositions 6K presently.

Not to violate our program of prescinding from the historicity of

Keynes' views of the "classics" but to point out the relation on this point between his methods and Wicksell's, two very characteristic quotations from the latter may here be fitly repeated. "The supply of real capital is limited by purely physical conditions, while the supply of money is in theory unlimited and even in practice is held only within fairly elastic boundaries."³⁴

"In the foregoing, I have merely wished to point out the folly of supposing that circumstances in which, as in the case of concrete commodity prices, there is an essential relation between two things—goods and money—can never be satisfactorily explained from the point of view of the changes undergone by only one of them, in this case goods without reference to the other money. It is moreover evident that it would be useless to dwell on the question at all if this view were not in fact so widespread not only in business jargon but also in scientific literature, especially German. In one respect however, this view is justified and serves a purpose in more detailed investigations into the causes of price changes. Every rise or fall in the price of a particular commodity presupposes a disturbance of the equilibrium between the supply and demand for that commodity, whether the disturbance has actually taken place or is merely prospective. What is true in this respect of each commodity separately must doubtless be true of all commodities collectively. A general rise in prices is therefore only conceivable on the supposition that the general demand has for some reason become, or is expected to become, greater than the supply. This may sound paradoxical because we have accustomed ourselves, with J. B. Say, to regard goods themselves as reciprocally constituting and limiting the demand for each other. And indeed *ultimately* they do so; here, however, we are concerned with precisely what occurs *in the first place*, with the middle link in the final exchange of one good against another which is formed by the demand of money for goods and the supply of goods against money."³⁵

This passage in the sixth chapter of volume two of the *Lectures*, section 6, "The Defects of the Quantity Theory"; section 9 of the same chapter contains the "Positive Solution," the theory of natural and money interest and their divergences.

A "zero elasticity of supply for output as a whole" is a difficult concept in an economy like our own where numerous forms of economic advance have not yet been fully applied and absorbed, and where there always exists, at least in some corners of the economy, real possibilities of different, more effective, and more desirable combinations of resources. Practically, "zero elasticity of supply for output as a whole" means to Keynes a situation in which "an increase in demand in terms of money will lead to no change in output, that is to say, prices will rise in the same proportion as the money demand rises." "Zero elasticity of supply for output as a whole," is simply the condition described as "full employment," a situation in which, if $MV = \Sigma pq$, and M is increased, q cannot be increased and the equation

is balanced only through changes in p —"The Quantity Theory of Money strictly stated."

Actually, many sub-equilibrium situations can be encountered in which an increase of credit at the disposal of entrepreneurs will lead to an expansion in which the equation will be made to balance by changes in p and q and conceivably in q alone, a situation in which the "Quantity Theory," as understood by Keynes, would be inoperative, and where, under proposition 6K, the marginal efficiency of money will not be independent of its supply. Moreover, a situation can readily be visualized in which price would be declining, and both p 's and q 's would reflect the diminishing money supply. In such cases, money acquires a special value of its own, an advantage over all other forms of wealth; in the first instance, because it enables the holder to stand ready to cut into the economic circle whenever he chooses to exchange his cash for those assets which he judges will be likely to appreciate as equilibrium is approached; and in the latter case, because to hold the money itself is to hold the only asset which is approaching in a declining price situation. In acute inflation, when people get rid of money in the quickest possible way, this quality of money is seen in sharpest outline. In various economic conjunctures, the preference for holding money as opposed to goods, or vice versa, may be seen to be reasonable, but it is not always independent of the quantity of money.

But how can there arise these disequilibrium situations whose existence and importance no one can question or has questioned? "Great unemployment," says Schumpeter, "is only the consequence of non-economic events—as, for example, the World War—or precisely of the development which we are investigating," *i.e.*, of innovation financed by credit expansion.³⁶ We may add a third, which is usually a concomitant of one or both of the others; Marshall once characterized it as "the risk of civil tumult,"³⁷ and in another place stated Schumpeter's principle the other way around "For indeed, the only effective remedy for unemployment is a continuous adjustment of means to ends, in such way that credit can be based on the solid foundation of fairly accurate forecasts: and that reckless inflations of credit—the chief cause of all economic malaise—may be kept within narrower limits."³⁸ Non-economic events such as a World War can distort a price complex beyond recognition for two reasons, first, the actual distortion of the direction of productive effort—overnight, the relative importance of various endeavors is completely upset; secondly, the shift is financed by credit expansion, or the issue of irredeemable bills on a wholesale scale. Both procedures produce two important effects—price move-

ments large in extent and erratic in character, and income displacements of great volume. In the case of important innovations (not necessarily mechanical inventions or geographical discoveries, but fresh starts in any department or level of economic activity), these same two forces are at work in the same way, though less abruptly, and they are commonly less extensive. When, however, all these are combined in one generation—war, widespread innovation, and monetary and fiscal expansions and contractions—the existence of unemployment is not a difficult matter to explain.

In the course of such a movement, money commands two premiums, one because it enables the innovating or expanding entrepreneur to preempt actually saved resources which he is able so to employ as to pay all costs and interest and still show a profit, another because the innovation, *in so far as it is financed by credit*, induces a price rise; so that for a time anyone can buy resources and employ them at a profit. The first of these cases offers no insoluble problems either of interest or unemployment; the second, though a money problem, is not primarily a problem of interest, but of prices.

Quite conceivably, an oft-repeated process of financing wars and innovations by created bank credit, with industry cooperating fairly closely with banks, might sweep the profits of the financing of wars and of successful introduction of innovations, as well as continuing interest on credit funds, into the hands of a relatively small section of the population; the remaining large section of the population, though strongly affected by rises and falls in wages, income, and the cost of living, would have little voice in the direction of economic events, the rate of interest having little direct effect upon their savings, and their savings having little direct effect upon the rate of interest. The relatively small group possessed of large resources, being hereditary custodians of loanable funds, would occupy the enviable position (now even in the short run) of being able to hold off from a market that was not to their liking, and in many cases of making their own market.³⁹

With such a cleavage in the economy, with the supply and demand for bank funds largely in the same hands, and with the supply of labor being in no position to adjust itself to a real demand, the under-employment equilibrium envisaged by Keynes is a real possibility. But it cannot be a permanent equilibrium; the authority of the state will be invoked to intervene on social grounds, just as the authority of the state was employed in the first instance to foster a loan system which swept the benefits

from the control of saved resources to those who had not saved. When the prevailing legal usage allows a practice which tends strongly to redistribute wealth by displacing income and (on Keynes' own showing) inevitably entails an appeal to public authority for relief, is it possible to "take as given . . . the social structure including the forces other than the variables set forth below which determine the distribution of the national income"?⁴⁰

In view of these rather obvious facts, Keynes' attitude toward forced saving seems a little anomalous. In the *Treatise*, he conceded that this phrase had "some affinity to the difference between investment and 'saving' in the sense in which I there used the latter term."⁴¹ Of this affinity, Keynes now has his doubts.

"It is clear that 'forced saving' in their sense is a phenomenon which results directly from, and is measured by, changes in the quantity of money or bank credit. . . . But an attempt to extend this perfectly clear notion to conditions of less than full employment involves difficulties. . . . At any rate, I am not aware of any attempt having been made by modern writers who are interested in 'forced saving' to extend the idea to conditions where employment is increasing."⁴²

The burden of these observations plainly bears upon important truths. Is it any less obvious or less true that no modern writer, Keynes included, has explained the under-equilibrium stalemate he describes without reference to *previous* forced saving? The post-war economic impasse follows upon a century and a half of income displacement arising from saving forced by private and public agencies for the emission of money substitutes, culminating in a period of war financed by forced saving on a gigantic scale. This is hardly the stage at which to abandon forced saving as a fruitful concept. Keynes' "multiplier" is an application of the same variables that figure in forced saving, to a situation in which the value figure Σpq is altered principally through changes in q . It is not a *substitute* for "forced saving" as an analytical procedure, but its analogue, to which forced saving is logically and historically antecedent. Would "under-employment equilibrium" be conceivable in a community where an initial fairly even distribution of income prevailed, and all loans were made by a mutual system so that all rewards of curtailed consumption accrued to the persons curtailing their consumption? If not, then forced saving on the way up from a position of full employment, the multiplier on the way up from a position of less than full employment, and the decelerator on the way down from a full-employment-forced-saving situation, all remain relevant to our present situation, which is so

different from the one in which the benefits of saving go to the savers.

Therefore, Keynes' views on employment, interest, and money, however important they may be as a practical matter, add little to our knowledge of general theory of interest. The highly special (though socially important) case of post-war dislocation is presented as composing an essential part of the general case, as though all possible causes of fever must be included in an explanation of normal temperature. Keynes' program of making investment largely a function of the state is not a proposition which is to be accepted or rejected on economic grounds alone, or even primarily, and comes perilously close to acceptance of an abnormal condition as normal.⁴³ One can accept much of Keynes' economic analysis, and share much of his exasperation with current social conditions, and still believe that politicians will not be guides, philosophers, and friends superior to "sound" and "liberal" bankers.

Perhaps no section of Keynes' analysis has called forth more favorable comment than his emphasis on "expectations." The Swedish economists since Wicksell have been exploiting this factor with some success and Keynes has taken it unto himself, but we have thus far neglected it. Upon his chapter "Long Term Expectation," Keynes has not only expended the considerable analytical powers of the man who wrote the *Treatise on Probability* but also all the mordant rhetorical chemistry of the man who wrote the *End of Laissez Faire*; all the acid bottles were at his elbow. The chapter proceeds on a "different level of abstraction from most of the books."⁴⁴ That level of abstraction is at times extremely lofty, as when we are asked to distinguish between the probability which we predicate of a certain forecast, and the confidence with which we make the predication. There is some "psychological" factor at work here, above and beyond one's reaction to objective data, which enables one to make an objective analysis of the elements involved, and then when the analysis is over, from some source independent of the data to endow it with a further property.

No one with a memory of the last twenty-five years can doubt that the public mood is an important factor in economic and business policy. Even Marshall had allowed a place for "anticipations" and "confidence" in relation to changes in the purchasing power of money;⁴⁵ no one cares to deny that promoters' plans interact one upon the other; forward buying of raw materials by one industry for objective considerations peculiar to itself will alter the conditions of supply in some other industry to which these considerations are not relevant. But the direction and scale of activity in the second industry are affected withal. Nevertheless, apart from

such obvious business facts, the matter as expounded by Keynes is fundamentally an epistemological question. In the illustration he uses—of the competition for selecting the six prettiest faces from a hundred photographs—the competitor will win if he picks not the six whom he thinks prettiest but the six that he thinks others are likely to think prettiest. In this case, an example is selected in which there *may* be no final criterion, but the girl with no nose would be a poor bet. Can we shift the procedure to economics and agree that economic decisions likewise have *no* final economic basis, that the careful investigator has *no* means of judging whether a certain railroad will make money or not? Are there *no* economic situations in which objective economic evidence will compel the same decision from all observers? If there are none, then classical economics has indeed been a fraud and a sham, and Marxist, Gesellian, and Keynesian as well.

Now there can be no question that in a world in which economic decisions are dominated by non-economic considerations, the objective evidence to guide decisions may be lacking. In a world where the status of one metal, important in a monetary way to several large countries, depends on politics in a few American states, and the price of another metal, more important to more countries, may depend on the political exigencies of one man, or the ability of a group of men to filibuster till midnight—in such a world the business man may lack an objective basis for a decision. Likewise, when the world market for various commodities may depend on the opinion of one man concerning the prospects for the world revolution, or racial purity, then the “state of expectation” may be a very volatile affair because of the almost complete lack of a basis for a decision. Or the volume of money available to finance business or support the government bond market may depend on the proximity of the next election, to the consternation of “economic” men.

Granting all this to be true, that important economic variables are subject to arbitrary reversal according to no calculable formula, what concern is it of the economist *as economist*? If in a given situation objective economic evidence on which to base decisions is simply lacking, does this mean that the economist must change his theorems, or simply admit that with many weighty factors in an unsettled state he simply does not know *a priori* which propositions will apply? Keynes long ago complained that the “orthodox” economists set themselves too easy a task when they were satisfied to announce that after the storm the sea would be calm again. The simile is a good one. A man may be a very good

sailor, able to make the most of any wind that blows, big or little, but in the midst of a squall with a dozen non-economic cross currents blowing God knows where, he may be wise to pull in his sail and devote his attention merely to keeping off the rocks in sight.

Returning then to Keynes' analytical construction, what is the "role of anticipations"? There is first the question of non-economic events which, nevertheless, involve economic repercussions. The importance of these factors does not force on the economist the role of prophet or "social psychologist." He must be prepared to analyze the probable course of the event after the fact; and to analyze the manner in which this course will be altered when different proportions of the community make commitments based (a) on the supposition that the event, *e.g.*, a profits tax program, will take place, (b) on the supposition that the event will not take place. If one cares to go at it with sufficient care, such hypothetical propositions can be elaborated, but they will always await the specification of the non-economic factor to determine which formula becomes significant by having its hypothesis fulfilled. Forecasting which hypothesis will be fulfilled is the work of the columnist, not the economist.

When the problem is limited to the properly economic, the difficulty is not so complicated. The peculiar proposition that "the marginal efficiency of money is independent of its supply" harks back to Wicksell's proposition, quoted from Emil Struck, and repeatedly used: "Money is continually becoming more fluid and the supply of money is more and more inclined to accommodate itself to the level of demand. . . . The 'supply of money' is thus furnished by the demand itself."⁴⁶ "The supply of real capital is limited by purely physical conditions while the supply of money is, in theory, unlimited and even in practice is held [only] within fairly elastic boundaries. . . . A lender cannot provide more goods than he actually possesses but he can provide any amount of money—in fact, he provides exactly the sum the borrower promises to pay for the goods."⁴⁷ In other words, as we saw in Chapter II, there is one element in the price system where "p" has no relation to "q"; when persons desire money with which to control present resources, the increasing marginal utility of money in hand is not reflected in any increase in the price of the "product." The quantity may be expanded greatly so as to "sell" at the same rate of interest, "p"; or the quantity may be altered but slightly, and the rate of interest, "p," rise sharply. And any intermediate position between the two is possible. Interest then is a price in a wholly different sense than any other price, a fact which will be revealed by an attempt

to define the rate of interest *at a single point or stretch of time* in terms of Σpq , as we can with other prices. Keynes is far from being ignorant of this, as is evident from those passages where he says that "money has both in the long and in the short period a zero, or at any rate a very small elasticity of production."⁴⁸ The marvel of Keynes' position is that, after dramatizing the effects of erratic money supply and the resultant difficulty or impossibility of accurate pricing, his practical recommendations involve putting the government into the production of money (and so, of income) on a large scale. Nowhere are any convincing reasons given for ignoring the opposite policy of reducing the number of variables and changing the supply of money and the rate of interest, its price, only in terms of objective criteria which would be calculable in the same way as other economic variables. This would not eliminate "errors," or do away with "anticipations." But it would maximize that "element of real knowledge,"⁴⁹ the existence of which Keynes does not deny. The "truth" from which "errors" represent a departure would become much more definite and the relevant "anticipations" would be based on cost and market-analysis more, and less on the Senators from the silver states or the probable effect of W.P.A. funds on elections in closely contested precincts.

Since Keynes' *Treatise* moved wholly in a Wicksellian world, we should expect that one of the simplest ways of setting forth his present position would be to note the points of agreement and difference with Wicksell's doctrine of the rate of natural interest. Strangely enough, this is not an easy thing to do. Wicksell employed three intelligible ideas: (a) the rate of natural interest; (b) the rate of money interest; and (c) the normal rate of money interest, which was that rate of money interest which expressed the prevailing rate of natural interest and was not an initiating cause of cumulative changes in general prices. The price level concerned was the "cost of living"; "what one really wants to know is whether 'living'—ordinary consumption—has become cheaper or dearer."⁵⁰ The reasons why this apparently helpful approach to Keynes' mind is disappointing is made clear by considering a few phrases in the following quotation.

"In my *Treatise on Money* I defined what purported to be a unique rate of interest which I called the *natural rate* of interest—namely, the rate of interest which, in the terminology of my *Treatise*, preserved equality between the rate of saving (as there defined) and the rate of investment. I believed this to be a development and clarification of Wicksell's 'natural rate of interest' which was according to him the rate which would preserve the stability of some, not quite clearly specified price level."⁵¹

Keynes believed his doctrine of a rate which would preserve equality to be a development of Wicksell's doctrine of the rate at which the supply and demand of real capital were equated and at which, by the same token, there would be no cause for a cumulative rise or fall in an index of the cost of living. This is clearly not the same thing as to "preserve the stability of some, not quite clearly specified, price level."

These relations are further perplexed by the introduction of a variety of new rates of interest. Keynes conceives of a whole family of *natural* rates, which eventuate from any given volume of employment but which do not clear the market either of factors or funds. Their "naturalness" (bearing in mind Prof. Marget's observation) seems to arise wholly from their "equilibrium" character, which here means a quasi-stable sub-equilibrium situation. Next we meet a *neutral* rate of interest (neutral, presumably, with reference to prices) which is the *natural* rate prevailing under conditions of full employment and which receives the further name of "optimum" rate. "The neutral [and apparently optimum neutral] rate of interest can be more strictly defined as the rate of interest which prevails in equilibrium when output and employment are such that the elasticity of employment as a whole is zero."⁵² This definition reveals the fateful circumstance in which the "classical" theory was remiss. "This theory assumes either that the actual rate of interest is always equal to the neutral rate of interest in the sense in which we have just defined the latter, or alternatively that the actual rate of interest is always equal to the rate of interest which will maintain employment as some specified constant level."⁵³

Now what can be made of this? Without taking on the whole classical world, we may say that Wicksell assumes that the actions of economizing individuals bring relative prices into equilibrium; and further, that in the absence of autonomous changes in the money supply, a general level of prices is reached from which there is no tendency to depart. The premium people are willing to pay for the volume of money on which this price level is based is the normal rate of interest. But if autonomous changes in the money supply intervene (and it is by changes in the rate of interest that their intervention is occasioned), then the general price level, though operating perforce through individual relative prices, can be said to have a movement of its own. Upon this basis arose the criticism of Wicksell that his theory came to nothing—if prices were rising the rate of money interest was too low, if they were falling it was too high. If the rate of interest is such that the volume of money does not "keep step with the volume of goods,"—that is, for example, if it increased faster—then money

is depreciating, liquidity preference is below normal, the rate of money interest is below the rate of natural interest, and prices are rising. If the rate of interest is such that the volume of money emanating from the banking system is less than the correlative volume of goods, then money is appreciating, liquidity preference is above normal, prices are falling, and the rate of money interest is above the rate of natural interest.⁵⁴ In a period of price collapse, when no investment is being made, the rate of natural interest may be said to be less than zero; but a simpler and more realistic statement would be that, for the time being (and usually for non-economic reasons), it is non-existent; the market is closed, just as we cannot quote a customer rate for the period of the 1933 bank holiday.

This is not saying much about the relation of Keynes' reconsideration to Wicksell's thought, but it brings out again the methodological importance of Keynes' simultaneous grasp of the antecedent and consequent. Wicksell viewed the effect of a given rate of interest as arising from a given volume of antecedent voluntary saving. He then considered the effect on incomes and through incomes on the price level, first of additions to the volume of money which corresponded to no net increase in the volume of goods being brought to market, and second of subtractions corresponding to no deduction from the volume of goods being brought to market. Such changes produced certain effects on prices and thus on income total and income distribution; from this new income and distribution and rate of interest and corresponding volume of money, a new calculation could be made. In these circumstances, liquidity preference and the volume of funds, concerning which that preference is to be exercised, are a calculable function of the rate of interest and of the income at the stated dates. But when the income is viewed *uno actu* in both roles and the *consequent* equality of saving and investment, "the determinates of the system," is regarded as a significant analytical factor in determining the volume of hoarding which will equate them, then we are indeed in deep water and the relation between the two sets of ideas cannot be neatly set forth; for the distinction between investment from income and investment not from income has been entirely blurred.

From 1896 to 1914, the nations of the Western World were in a rough trading equilibrium. The economy was by no means static, either intensively or extensively, but the change was of an intelligible order both in kind and degree. From 1914 to 1921, that rough equilibrium was utterly shattered, not only economically but politically and socially as well. Since 1921 we have been groping toward a new equilibrium and we bear the

additional burden of the lop-sided income distribution which is so prevalent, especially in Keynes' own country. Without in any way minimizing the human hardship entailed, twenty years is not a long time to repair the devastation of a World War. Especially is this true when the forced saving of wartime and all its other maladjustments are superimposed on many decades of the forced saving which Marshall so characteristically and cautiously described as "quiet loans from the public to the banks."⁵⁵ Keynes' under-employment equilibrium is a plateau on the road back, temporary unless the same causes recur.

Economically speaking, this may be put as follows. The conditions of equilibrium include some set of arrangements for the maintenance of life and property; economic equilibrium, however abstract, is not suspended in a vacuum. If a large number of people are excluded from access to resources because of the maldistribution of income, public authority intervenes and by taxes of some sort maintains the unemployed, immediately introducing a strong new element making for realignment. And this, as said above, is not an exogenous factor but one inherent in the situation from the start.

Keynes has produced a theory of interest in which the rate of interest may change while all production functions are unaltered. Such changes can arise only from non-economic sources. When they arise, hoarding on the one hand and forward buying on the other are endowed with special advantages. The advantages, however, are not unlimited; unless we wish to deny all objectivity to economic relations, a point is soon reached where the money comes out of hoards, because on any conceivable *durable* arrangement the assets are really worth more than the price to which they will have fallen. This is true on economic grounds but "because of this fundamental dependence of the economic aspect of things on everything else, it is not possible to explain economic change by previous economic conditions alone. For the economic state of a people does not emerge simply from the preceding economic conditions but only from the preceding total situation."⁵⁶

¹John Maynard Keynes, *The General Theory of Employment, Interest and Money*, pp. 179, 176, 192, 292.

²*Ibid.*, p. 243.

³*Ibid.*, p. 287.

⁴Arthur Cecil Pigou, *A Study in Public Finance*, London, 1928, pp. 218-220. (Italics inserted.)

⁵*General Theory*, p. 179.

⁶Frank W. Taussig, *Principles of Economics*, New York, 1916, Vol. II, p. 204.

⁷*Ibid.*, pp. 26-27. Keynes' references to Taussig are from pages 20 and 29; *General Theory*, p. 176.

⁸*General Theory*, p. 179.

⁹This place is as appropriate as any to express regret that Robertson's own position, though partially known from a long series of influential papers and a few very brief monographs, has never been presented in a systematic study of the rate of interest. That Keynes is in his debt is clear; but a full exposition of the views of a writer with Robertson's many merits is desirable for its own sake.

¹⁰John Maynard Keynes, *Treatise on Money*, London, 1930, Vol. II, p. 350.

¹¹*Ibid.*, Vol. I, p. 155.

¹²*Ibid.*, Vol. I, p. 123.

¹³"Consequent" upon the processes *initiated* by the changes in the money supply. In the preceding sentence we introduced the Scholastic Latin adverbs *principiative* and *terminative*. These furnish the neatest expression of the ways in which a consecutive process may legitimately be regarded from different time points of view—but not both ways at the same time.

¹⁴*General Theory*, pp. 184, 179.

¹⁵*Ibid.*, p. 64.

¹⁶That the common ground and the agreement on central principles is great, Keynes readily admits. See below.

¹⁷*General Theory*, p. 202.

¹⁸*Ibid.*, p. 203.

¹⁹*General Theory*, p. 167.

²⁰*Ibid.* Since Mises was one of the few tentatively admitted to the company of the elect in the *Treatise* (Vol. I, p. 171), the following sentence is interesting: "Their doctrine . . . regards interest as compensation for the temporary relinquishing of money in the broader sense—a view indeed of insurpassable naivete. Scientific critics have been perfectly justified in treating it with contempt; it is scarcely worth even cursory mention." Mises, *Theory of Money and Credit*, p. 353.

²¹*General Theory*, p. 222.

²²John Maynard Keynes, "Alternative Theories of the Rate of Interest," *Economic Journal*, June, 1937, p. 250.

²³John Maynard Keynes, "The General Theory of Employment," *Quarterly Journal of Economics*, February, 1937, p. 216.

²⁴"Alternative Theories," *loc. cit.*, p. 250.

²⁵*Ibid.*

²⁶"The General Theory of Employment," *loc. cit.*

²⁷*General Theory*, p. 183.

²⁸John Maynard Keynes, "The Theory of the Rate of Interest," in A. D. Gayer, ed., *Lessons of Monetary Experience*, New York, pp. 145-153.

²⁹*General Theory*, p. 135.

³⁰Fisher, *Theory of Interest*, pp. 155, 157; cf. also p. 168.

³¹*General Theory*, p. 135.

³²Fisher, *Theory of Interest*, p. 42.

³³Summarized from *General Theory*, pp. 225-229.

³⁴Wicksell, *Interest and Prices*, p. xxvi, with note.

³⁵Wicksell, *Lectures*, II, p. 159.

³⁶*Theory of Economic Development*, p. 67.

³⁷Alfred Marshall, *Principles of Economics*, eighth edition, London, 1930, p. 365.

³⁸*Ibid.*, p. 710.

³⁹John R. Hicks closes *Value and Capital* (Oxford, 1939, p. 302) on the following dubious note: "One cannot repress the thought that perhaps the whole Industrial Revolution of the last two hundred years has been nothing but a vast secular boom, largely induced by the unparalleled rise in population. If this is so, it would help to explain why, as the wisest hold, it has been such a disappointing episode in human history." Is not the cumulative income displacement a much simpler explanation of the same facts and the same disappointment?

⁴⁰*General Theory*, p. 245.

⁴¹*Ibid.*, p. 79.

⁴²*Ibid.*, p. 81.

⁴³"I expect to see the State which is in a position to calculate the marginal efficiency of capital goods on long views and on the basis of the general social advantage taking an ever greater responsibility for directly organizing investment." *General Theory*, p. 164.

⁴⁴*Ibid.*, p. 149.

⁴⁵Marshall, *Principles*, pp. 594, 710.

⁴⁶Wicksell, *Interest and Prices*, p. 110.

⁴⁷*Ibid.*, p. xxvi with footnote.

⁴⁸*General Theory*, p. 230.

⁴⁹*Ibid.*, p. 153.

⁵⁰Wicksell, *Interest and Prices*, p. 15.

⁵¹*General Theory*, p. 242.

⁵²*Ibid.*, p. 243.

⁵³*Ibid.*

⁵⁴Normal liquidity preference would be that determined by the motives for holding cash other than changes in the average price level.

⁵⁵Alfred Marshall, *Money, Credit and Commerce*, London, 1929, p. 72.

⁵⁶Schumpeter, *Theory of Economic Development*, p. 58.

CHAPTER VI

LATE MEDIEVAL USURY ANALYSTS

The purpose of this study is to compare two sets of interest theories. Having completed a survey of the pertinent writings of influential modern economists, we now turn to medieval writers on the same subject. Our problem is to find a presentation of usury analysis that will be sound and fair and yet not draw us hopelessly far afield. This is not an easy task; the area to be covered abounds with formidable difficulties.

In historical extent, the field is vast. Medieval writers freely employ Aristotle as a source of both principles and information; to start with Aristotle and review the development of usury analysis up to any point that might appropriately be called the end of the Middle Ages would cover a span of about seventeen hundred years. These years embrace the work of the great writers of classic pagan antiquity, of the Church Fathers and their study of the various Scripture texts where usury is mentioned. The same centuries saw the beginning of canon law in the early Church Councils, the appearance of the early compilations of civil and canon law by Gaius, Ulpian, Paulus, and Papinian in the second and third centuries, the revival of the Roman law in the twelfth century by Irnerius at Bologna and the concomitant work of Gratian in the canon law, the appearance of authentic collections of decrees such as that of Pope Innocent II in 1210. The same centuries saw the rise of the great Scholastic leaders—Albertus Magnus, Thomas Aquinas, Bonaventure, John Duns Scotus. The period is so long and so rich that no one can hope to summarize it adequately.

The "Middle Ages" is a very equivocal term. Does St. Augustine (d. 430) belong to the Middle Ages? In a sense he must, for medieval writers knew him well and took his lead on important questions. When, for purposes of this discussion, did the Middle Ages end? Usury remained rigidly forbidden in France until the Revolution (October, 1789); the guilds were legally flourishing institutions until the same time. The idea of John Calvin, Charles du Moulin, and Claude de Saumaise that

usury was not evil in itself but only in its excess, was not new, having been a standard textbook objection since the days when the Albigensian heretics had been answered by Antoninus; and the same view had been held by the Greek schismatics. The question of the rate in this connection was considered beside the point by the straight line of Scholastic tradition; if usury was wholly wrong, then a little usury was no more right than a little murder. The introduction of Calvin's ideas in the late sixteenth century wrought no change in medieval thought. The Roman law had allowed moderate interest from time immemorial, but this was not considered relevant by the usury analyst. On the other hand, if we look for a break in external conditions, the fall of Constantinople (1453), the discovery of the New World, and the rise of the national states seem equally acceptable as a point at which to end the Middle Ages.

Nevertheless, it can scarcely be doubted that there did exist a characteristic analysis and attitude that can be summarized as being typical of medieval thinking. There came a time when that view was no longer practically effective and when indeed it was no longer actively cultivated by scholars. If we can find a school which flourished before usury analysis ceased to be a practical consideration for business men and yet flourished late enough to have the benefit of the work of the giant figures of moral science like Aquinas and Antoninus; and if moreover, we find a school which considered itself at one with this tradition, which revered and received it, not seeking a new set of principles with which to attack its problems, we will have found a means of setting forth a manageable brief of usury analysis.

Our labor may safely be shortened in one other respect. Theoretically, usury analysis rested upon four sources of principles: (1) natural reason and natural law,¹ (2) civil law, (3) canon law, (4) Scripture and authentic church teaching. Each of these sources added problems to the discussion of the canonist or moralist, as to the nature, for example, of the punishment due to a person unquestionably convicted of usury, or as to which tribunal had primary jurisdiction, or as to what sort of law ultimately determined the illegality. But, contrary to what might easily have been true, these sources added nothing fundamental to the discussion; they did not bring in quite new elements to cause the whole discussion to take a different turn. As far as the radical problem was concerned—is usury wrong, and if so why? and under what conditions is a loan otherwise usurious, legitimate?—the answer given was no different than if the canon and civil law and the councils were silent. Not that the

medieval writer would not have listened to them respectfully had these sources said something new on this basic subject; but they had not. On a specific contract Lugo chides Scotus for giving as a reason for its unlawfulness that it is forbidden by divine law—"which is not to the point since the whole wickedness of usury proceeds from the natural law."² By this limitation, our unwieldy material can be trimmed to tractable dimensions and, though certain interesting points will thus be lost, we shall be enabled to gain in clarity and precision; despite some loss of completeness, substantial accuracy can be perfectly maintained. In this way, moreover, our comparison with contemporary writers is facilitated in that there is no irreconcilable conflict of basic principle: both parties proceed from truths known from natural reason alone. No significant evidence adduced by Scholastic writers from sources other than the analysis by reason of observed facts will be employed.

Later than 1700, a representative group of characteristic usury analysts will not be found, for obvious reasons. By this time the forces which would ultimately establish the ascendancy of secularism in the intellectual world were well advanced and the ecclesiastically founded university was well on the way to losing both its wealth and its independence to the bourgeois-ruled national states. By 1750, this would be practically achieved. But if we move back one hundred years to 1600, we can find an atmosphere which for the purpose of our investigation is satisfactory. By that year, the universities were under state control only in England. In the Germanies there was division, but many well-established schools remained as they had been. Their basic concepts and principal instruments were the same Scholastic and positive method in philosophy and theology which was traditional. There was progress and change, but it was by way of accretion and amendment, not of overthrow and substitution. The skeleton of the corpus of knowledge was considered sound.

For an economic investigation, the period just before 1600 is most inviting. The writers whom we shall discuss considered themselves absolutely at one with the medieval way of thinking. All three wrote, if not strictly in form, at least very definitely in practical content, a commentary on Thomas Aquinas. In connection with each subject they asked themselves what the Church, the Fathers, and the classics had to say on it. Yet they steadily adhered to Thomas' axiom that evidence on authority is, in principle, the weakest of valid arguments; and one of these writers scornfully quotes column after column of opinions for the benefit of those more impressed by the "number of authors than the weight of their argu-

ments."³ Yet, and for our purposes this is invaluable, the distinctly medieval apparatus was brought to bear upon problems that were becoming modern in their connotation. By 1600 the New World was a century old, and in that year the East India Company was born. But usury continued to be a practical matter of controversy in all countries. The markets of the world broadened beyond the hopes or dreams of the wildest speculation; yet Europe still did business in its wonted way. The market and the fair were still the prevailing method of distribution; agriculture and handicraft remained the prevailing method of production; sailing ships on waterways and caravans on highways continued to be the chief means of transportation. Financial methods in notes and exchange were well developed, but they represented no radical departure over the methods of two hundred years before.

As characteristic of this period which faced the beginnings of modern problems with traditional analytical devices, we have selected three men. The oldest was born in 1535 and the youngest died at the age of 77 in 1660. Each wrote a treatise *De Justitia et Jure*, "On Justice and Right," of which the principal part is devoted to a discussion of the justice of those contracts of exchange which seemed of sufficient practical significance to merit treatment in a work which was meant to be helpful in the workaday world. In these discussions there is no hint that the authors suspected any waning in the influence of usury doctrine, or saw in current practice any higher ratio of violations than they judged had always existed. The problem is treated thoroughly and completely as a matter of the utmost importance, one of the authors remarking on a certain point that while the doctrine propounded seems sound, it is a novelty, and novelties should be admitted with caution in a matter where the practical consequences are so great. Yet their standards of novelty may seem to us rather lax. A practice was novel which had no place in the discussion of the Roman law, though in 1590 it might be several hundred years old.⁴

In short, these men manifest two qualities which make them useful to our purpose; first, to them usury was a living thing about which right ideas were essential, and for the correct understanding of which they were willing to spend their very best intellectual efforts; secondly, they did not consider that they brought to this work anything strikingly new. Their work was of a piece with that of Aquinas and Antoninus of Florence. The external conditions might change; the problem might be presented in a new form; the extrinsic titles (of which more anon) might occur more often; monetary methods might apply to more transactions than formerly;

or the same transactions might take place over a wider area; but absolutely the same principles ruled. Their assignment was to apply those principles truly and honestly.

Luis Molina was born in the year 1535 in the province and city of Cuenca in Castile, of excellent family; though not of great wealth or of the higher nobility he was, nevertheless, *very calificado*.⁵ Of his youth little is known. At an early age he studied at the University of Alcalá, where he distinguished himself as a scholar; but he left the university to enter the Society of Jesus in 1553, at the age of eighteen.⁶ His studies were continued in Portugal, at Lisbon, Coimbra, and Evora. He emerged a doctor of theology and taught first at Coimbra, but later (1570) at Evora "at the instance of the Cardinal Infante Don Henry of Portugal who founded that university and wished, by the person and learning of Father Molina, to bestow prestige upon it."⁷ Here Molina taught theology for twenty years and was not, during this whole period, engaged in any other activity. Yet this "little man of frail appearance"⁸ came to exert an influence so great that Count Don Juan Borgia, Major-domo of the Empress Maria of Austria, wrote in 1601 to Pope Clement the Eighth that Molina was regarded "as the oracle of this kingdom."⁹

In 1588 Molina published his "Concord of Grace and Free-Will" (*Concordia Liberi Arbitrii cum Gratiae Donis*, etc., Lisbon, 1588). The work became promptly known throughout Europe, the Lisbon edition being quickly followed by others—Cuenca, 1592; Lyons, 1593; Venice, 1594; Antwerp, 1595; and many others thereafter. Molina's teaching in that work touched off one of the classic controversies in the history of theological studies. As early as 1594, the intellectual strife had become so sharp that Pope Clement VIII imposed an armistice. Between 1598 and 1607, a series of "Conferences on Grace" (*Congregationes de Auxiliis*) were held at Rome, in which the points were argued before special commissions appointed by the Pope. In 1607, Pope Paul V terminated the conferences, and the controversy was re-opened with the limitation that no one was to call an adversary in this dispute a heretic or in any other way impugn the orthodoxy of the contending parties. This was tantamount to approval for Molina, who had been attacked as a dangerous innovator.

In 1590, Father Molina left his professorial chair at Evora and returned to his native city of Cuenca to devote himself to writing. The first published work of this period was a commentary on the first part of the *Summa Theologica* of Thomas Aquinas. But from the start he had planned the work we are to study, *De Justitia et Jure*. Its first volume, and the

shortest one, appeared at Cuenca in 1593; the second volume, and the one upon which we principally rely, was published in that city in 1597. In 1600, Molina was summoned to Madrid to take over a chair of moral science founded by the Princess Doña Juana; but after six months there, he died on October 12, 1600, at the age of sixty-five. The first half of his third volume was published in that year but the publication of the rest of the six volumes was completed only after his death, by the College of Madrid.

The treatise *On Justice and Right* is divided into three major parts: (a) "Justice in General," (b) "Commutative Justice," and (c) "Jurisdiction." These, however, are of very unequal length, the second being far larger than the other two combined. The first consists of only 13 disputations while the second has 760 disputations on external goods (in which occurs the discussion of ownership and contracts, especially the contracts of exchange), 106 disputations on personal goods, and 51 disputations on one's reputation and good name. The last contains 73 disputations. The four volumes of the Cologne edition contain 3031 pages which, for a total number of 1003 disputations, yield an average length of three folio pages for each disputation. Our present concern is mostly with the 760 disputations of the second treatise, on commutative justice relating to external goods and the contracts of exchange.

Our purpose here is to supply the background of the works we are to study. We will consider the witnesses as to the authority enjoyed by Molina—for, regardless of our own opinion of the value of his work, the critical question is whether he may be regarded as the representative of the usury tradition. Was his work in the *De Justitia et Jure* widely and well received by persons who adhered to that tradition? Can we rely upon his testimony as giving a normal example? Andrades reports that "the president, counsellors, and the judges of many courts, even those of the *Corte*, all consulted him as an oracle on most serious affairs and esteemed his opinion as of old the opinions of Plato were esteemed by his followers who, when they heard *ipse dixit*, that he had said it, were silent, neither contradicting nor responding any opinion of their own. The esteem of Father Molina at the court was the same and he was followed and respected by all the judges."¹⁰ The preface to the Cologne edition echoes the same praise: "So great was his authority, and so highly was he valued in the courts and among the lawyers, that, without the assistance or access to other authors, his authority brought light upon the truth, settlement to the cases and an end to contention."¹¹ One authoritative

moralist, Juan Cardenas (1613-1684), was bold enough to declare him *major omni exceptione*, which means that on disputed points one was always safe in following Molina's opinion, no matter what reasons or authorities could be quoted against him. August M. Knoll, a scholar who has devoted much time to a study of interest theory in this and other periods, places him "in the first line" of the thinkers of this period, along with Lessius and Lugo among others.¹²

Quotations of this kind testifying to Molina's great reputation not only as a dogmatic theologian but as a moralist as well could be multiplied indefinitely by consulting a sufficient number of writers on the history of Scholastic theology and philosophy. Yet consideration must be given to the fact that he is not cited in the studies, such as they are, of the explicitly economic thought in Spain at the time. The silence with which writers like Molina have been treated by students professedly investigating the period (barring a few specialists like Knoll and Endemann) is too striking to be ignored. A few such studies should be considered. One recent writer states:

"Economic science, under the influence of moralists, theologians, and jurists guided by a care for the public weal, faltered once more at the formulation of principles. Cristobal de Villalon, Luis de Alcala, Saravia de la Calle, Tomas de Mercado supply abundant indications of the grandeur of Seville, of the markets of Spain, France, Italy, and Flanders, and of commercial usages. Dominic Soto, Juan de Medina, Miguel de Giganta, a physician, Cristobal Perez de Herrera bring to the scrutiny of the problem of poverty and the supervision of beggary the treasures of their faith and erudition. Covarrubias y Leiva, the prince of Spanish jurists, studied the monetary system and discussed the authority of the king in money matters, the lawfulness of interest, the exchanges . . . yet the writings of these various writers display more of ethics than of economics."¹³

With the exception of Covarrubias y Leiva, from whose writing no quotation is given, all the authors cited are referred to in Spanish works; whereas most of them, and conspicuously Dominic Soto, have more substantial Latin treatises covering the same matter. There are, no doubt, sound methodological considerations dictating this circumscription of the field as to authors, works, and the distribution of emphasis within the works. But the student who seeks to make use of another's study would feel more at ease if the canons of the method specifying the terms of scientific eligibility had been detailed in greater fullness.

Luis Molina is favorably, though rather oddly, mentioned by Frederico Rahola, who expressly studied the Spanish economists of this period: "We may mention at the same time [as Dominic Soto's *De Jure et Justitia*]

Father Mercado and Fr. Luis Molina who published his *Grace and Free Will* in 1588 in Lisbon, a book which fought against slavery and the manner of acquiring the slaves."¹⁴ This statement makes the reader pause for several reasons. Tomas Mercado wrote a little handbook on contracts covering, in part, the same ground as the larger works we are to analyze and presenting many instructive details of financial and mercantile practice. Berindoague speaks of this quality of Mercado's work in the passage just cited, as does E. J. Hamilton.¹⁵ That Mercado's status as an economist should be made to stand chiefly on his views of the slave trade is curious. Even more puzzling is Rahola's reference to Molina. The *Concordia* which he cites is an abstruse study of one of the most vexatious and complex points in speculative theology; it is addressed exclusively to the theological scholar. References to slavery would not be inconsistent with the tone of the book, which advocates the maintenance of human freedom on all levels. But the subject of slavery as such receives no attention in the book.

If one were interested in Molina's views on slavery as an economic problem, there are, in the first volume of the Cologne edition of the second treatise of the *De Jure et Justitia*, nine disputations devoted to slavery under the topic of ownership. Two of these are distinctly factual—Disputaion 24, "The places from which slaves are brought to Portugal," and Disputaion 25, "Slaves in Portuguese commerce." These indicate that Molina's position as an economist (and the same applies in measure to the other to writers) may not, in the past, have been based on a proper study of those works on which that reputation, if it amounts to anything at all, must rest. Persons thoroughly familiar with Molina's writings place the stress quite differently and find material for it in works other than his work on *Grace and Free Will*. Vansteenberge points this out: "As a legal theorist . . . he was able to throw light on the question of the relation of Church and State and on the economic questions which arose in the acute conditions of his time. The multitude of applications which he makes of his principles is such that with the sole aid of his books a picture, broad but still accurate, of the social conditions of his time could be drawn."¹⁶

Endemann had said as much years before, that Molina's writing had "an unquestionably realistic coloring" which imparted to it a "definite convincing quality."¹⁷ No other conclusion could possibly be drawn by anyone who had read his disputation on the slave trade, the wool trade, the coinage of Spain and Portugal, taxation, and the practice of bankers,

both deposit and exchange. These are long essays embodied in the text where he regards it as useful for the correct statement of the moral problem. Many people wondered that a man of such cloistered life could have so much knowledge of the business world, but the great personages mentioned by name in the text as having raised this or that problem and the many more not named indicate that the knowledge was recognized. The learned doctor did not draw his information only from those who consulted him, but sought it out from those who could give it, like the master of the mint at Cuenca. He tells of others whom he tracked down; for example, discussing the effect of credit on prices, he says, "Among the various people I consulted I found one who, though not an educated man, possessed great experience and good judgment; he gave as his considered opinion that such business was usurious and unjust."¹⁸ Molina, however, very modestly deprecated his great knowledge of economic affairs; he pointed out that in cases where injustice was not apparent and a custom or trade practice was accepted by upright men, there probably was a valid title somewhere, for "the merchants understand these things better than the doctors."¹⁹

One substantial authority says of Molina, "He loved to mark out new roads and to seek for new by-paths in the old writers."²⁰ This was the basis of the objection against his *Concordia* (Grace and Free Will) which objection, it will be recalled, was not sustained. Of his *Right and Justice* it does not seem to have been true at all. But an accurate judgment on this must await careful examination of his immediate predecessors; we shall speak briefly of this later.

By the side of Luis Molina, we place Leonard Lessius (Latinized from de Leys), a Fleming, born in the small town of Brecht in Belgium on October 1, 1554. He was the son of a devout and well-established middle-class family, who, early perceiving the boy's ability, planned a career for him as a merchant.²¹ At the age of 14, he entered the University of Louvain where he received the doctorate in philosophy three years later in 1571. The following year he entered the Society of Jesus, and after three years' further study taught philosophy at the University of Douai, an unusual assignment for one not yet ordained or finished with his ecclesiastical studies. Douai was largely populated with refugees from England, and Lessius here acquired a knowledge and interest in things English which he retained throughout his life.

After six years at Douai, he was sent to Rome for his theological studies, which were taken under the direction of Francisco Suarez, the

Doctor Eximius whose monumental treatise on "Law" is in the course of publication by the Carnegie Foundation. Upon the completion of his studies he returned to Louvain, where he taught theology continuously for fifteen years, 1585-1600. Still a young man, though plagued with innumerable ailments, he devoted the remaining twenty-three years of his life to study and writing. His work on *Efficacious Grace* in 1610 established his reputation as a dogmatic scholar. He also produced a series of doctrinal and ascetical works usually quite short and notable for clarity and economy of expression. Among these works is one against the theory of the divine right of kings of James I of England which was his contribution to the controversy between Cardinal Bellarmine and the ponderous royal pedant. Some of these works, such as the one on Providence, were translated even into Chinese, and have been re-edited as late as 1869. Justus Lipsius, most influential classicist of the Low Countries, held Lessius in unbounded admiration. His fellow-countrymen concurred in Lipsius' judgment and a research institute in Louvain today bears the name, *Museum Lessianum*, posterity agreeing with his contemporaries that "Lessius stands by good right as one of the most eminent theologians of the 17th century. Suarez, Molina and Vasquez were happy to have recourse to his brilliance in the solution of the great problems of grace."²²

Unlike Molina, however, Lessius' claim to fame is not primarily in the field of dogmatic theology but rather in the realm of moral science. His great work is his treatise on *Right and Justice* published first at Antwerp in 1605, with editions quickly following at Louvain, Lyons, Paris, and in 1617 at Venice, which is the edition at hand. There were twenty editions during the author's life. Though by no means trying to cover as many topics as Molina (to whom he constantly refers as "that most learned man"), Lessius' book contains but 609 pages which also include brief discussions on the other cardinal virtues, Prudence, Temperance, and Fortitude, subjects Molina did not touch. Lessius bears out the promise given in his preface:

"I have not followed the order of questions in St. Thomas entirely, especially in what pertains to justice, because there are so very many things which he either does not treat at all, or but briefly and in passing. . . . I have sought brevity, so pleasing to many, looking for those things which seem more choice or illuminating either for use or theory. . . . I have passed over the opinions of obsolete authors, or have touched upon them briefly. In matters that are clear I have thought it superfluous and annoying to the reader to cite many authors; in doubtful questions, I have not passed them over as far as it seemed worth the effort; but after quoting expressly a

few of the more celebrated authors, I have quoted the rest in brief, indicating the name and the place which in particular is being cited. . . . Always I have endeavored to obtain perfect clarity."

Though never diffuse as Molina, Lessius does give good passing examples of the matter he is discussing from the practice of the merchants of Antwerp and Brussels. His information on the markets of Northern and Western Europe is perhaps superior to that of Molina for his country. Lessius acquired this knowledge at first hand. As de Ghellinck says: "This work [*De Jure et Justitia*], composed with great accuracy, shows best the soundness of judgment, the common sense, and clearness of mind which distinguishes Lessius. The chapters on interest and other commercial subjects are epoch-making in the treatment of these difficult subjects. Lessius was especially consulted by the merchants of Antwerp on matters of justice."²³

This judgment of a modern Belgian authority on the history of thought in Europe is characteristic of the opinion of Lessius' work by all who have known it at first hand. His successor in the chair of moral science at Louvain, after three hundred years, selects the phrase "most outstanding" as the one to characterize his predecessor among the moral theologians at the time. This reputation was not gained slowly or posthumously, as is evident from the following comment, published at Paris twenty years after Lessius' death:

"First of all, his *Book on Justice and Right and the Other Cardinal Virtues* caused universal amazement by its combination of insight and brevity. When this book was first seen in Spain, it was regarded almost with contempt because of the brevity it manifested. But when it was carefully studied it was so satisfactory that for its sake other more prolix though otherwise praiseworthy works . . . were almost despised. Lessius himself confessed the great labor involved in this slender publication, greater indeed than if he had produced three huge volumes on the same matter. The Christian world witnesses how well it liked this terse insight by the fact that besides French, German and Italian editions, the publishing house of Plantin [in Antwerp] had to toil to get out six editions in a very short time. The law courts were not silent where the praise of this book was concerned; they wanted to take rules of law from it. Albert the Pious, surely the wisest among the sovereigns of Belgium of his time, along with his sword, always kept Lessius' book on justice on the table before him as his most trusted counsellor when he held hearings, to show that his decisions were buttressed by the arms of Austria and the wisdom of Lessius."²⁴

Our third source of authoritative information of the Scholastic analysis of usury is a quite different sort of person. John de Lugo was born in Madrid in the year 1593, of a noble family originally from the town in Galicia which bears the family name. The year following the child's birth,

the family moved to Seville and spent more time there than anywhere else. For this reason Lugo sometimes refers to himself as *Hispalensis* though Seville was not the town of his family or the site of his principal labors. In 1597, he took the bachelor's degree at the University of Seville, and spent the following year in Madrid with his father who represented the municipality of Seville on matters of importance at court. In 1599, he and his brother went to the University of Salamanca for a course in law.

Up to this time there had been nothing exceptional about his life, save that he was regarded as a student of some ability and promise, but not notable enough to indicate a brilliant career. In 1603, he entered the Society of Jesus and, after completing his theological studies at Salamanca, went on to his teaching, first in philosophy at Medina del Campo, and then in theology at Valladolid in 1616. These five years at Valladolid established his reputation as a scholar. "His fame and good report went through all Spain, and from Spain to the Indies, and to all of Europe, until, when it reached Rome, that city wished to have so great a teacher for itself."²⁵

Lugo was summoned to Rome in 1621, where he taught theology continuously for twenty years and became known as one of the leading thinkers of his day; indeed, he came to be known as "one of the most eminent theologians of modern times,"²⁶ "an original and independent genius, one of the masters of modern theology"; copies of his lectures "were sought as a rare favor by theological scholars from afar."²⁷

Urged on all sides to write, he began to do so in 1633; and the final products of his pen cover almost the whole range of theology, both dogmatic and moral. His fourth work, *Right and Justice (De Justitia et Jure)*, came to the notice of Pope Urban VIII, who created him a Cardinal. From then on much of his time was devoted to administrative duties. As a Cardinal he was notable especially for his care of the poor, among whom he dispensed quinine (then newly discovered) at his own expense. He was an active member of various congregations and commissions of Cardinals. He died in Rome in 1660.

Lugo's value for our present investigation lies in two things. Though his historical and descriptive material is not as abundant as that of Lessius, to say nothing of Molina, it is well selected and especially useful in that his examples are taken from the markets and exchanges of Italy. De Ghellinck states that the knowledge of civil law Lugo had gained as a young man at Salamanca greatly aided the practical value of his work on *Right and Justice*. But he is worthy of a place beyond this because of his supreme authority as a moralist. Many writers regard him, in disputed questions of moral science, as *major omni exceptione*. St. Alphonsus

Liguori (1696-1787), who by universal consent stands alongside Thomas Aquinas as the great figure in the history of moral theology, says of Lugo "that after Thomas Aquinas himself, he is easily the most eminent."²⁸ It would be hard to conceive of higher praise than this for a student of moral philosophy and theology.

For our purpose, it is useful to have a man who has unquestionably constructed one of the cornerstones of the Scholastic tradition, so that we can be certain that Lessius and Molina in their desire to be close to the market place did not depart in any matter of principle. As a matter of fact, the differences between them are negligible and occur on points of refinement that are of no consequence. His work differs in structure from the others only in that he omitted matter that is obviously common ground; or, at most, he is content with brief summaries on such points. He says on a particular topic what might be said of his whole work: "Molina treats of this at great length; we point out briefly only what is more necessary";²⁹ and he often interposes the remark, "Molina writes on this diffusely." He limited himself to discussing at length only those points on which he felt that he had something definite to add, but this was invariably in extension of the common doctrine and not in opposition to it.

It would be easy to find substitutes for individual members of the trio we have selected. The most obvious candidate would be the Dominican genius, Dominic Soto (1494-1560), already twice referred to, imperial theologian of Charles V at the Council of Trent and the intellectual light of Salamanca when that university was the axis of the learned world. He would be a desirable addition or substitute for the further reason that his work is just a bit earlier; his treatise on *Right and Justice* was published at Salamanca in 1556. The only reason for the omission is his inaccessibility. I have seen but one copy of Soto in the United States, after inquiry at many likely places, and that copy could not readily be obtained for long study. Molina, Lessius, and Lugo refer to Soto constantly. Another author whose writings have their value is Tomas de Mercado, O.P., *Suma de Tratos Y Contratos* (Seville, 1571), also referred to above; but the book has never been regarded as outstanding and is very brief. Such a list of perfectly satisfactory alternatives might easily be extended; Martin Azpilcueta (called Navarrus), Ferdinand Castrapalao, Luis de Alcala, Diego Covarrubias, Paul Laymann, and Luis Lopez—each could be included with the utmost propriety.

On the other hand, it would be difficult altogether to omit the three we have chosen from any selection of a large group to represent traditional usury analysis at the point of its highest development. Their place, their

authority, and their typicalness of the sixteenth and seventeenth centuries are too great. The selection brings with it other obvious advantages. These three express the viewpoints of Spain, the Low Countries, and Italy. Moreover, they are writers of different characteristics—Molina, wishing to cover every phase of a subject historically and descriptively, as well as analytically; Lessius likewise inclined to the graphic and concrete but constantly pruning his material so as to emphasize the essential points; Lugo, pre-eminently the theorist but limiting his discussion to practical points of special difficulty. Finally, the authors come in sequence, each writing with his predecessors' work before him, frequently quoting their opinions; and all of them use St. Thomas Aquinas as a central core, thus making both comparison and synthesis much easier.

The testimony of later writers may well conclude our reasons for choosing Molina, Lessius, and Lugo. The following quotations are from more recent writers, either historians or moral theologians:

"Lessius' judgment on most serious scientific matters was sought by the most learned men of his age, Suarez, Vasquez, Molina, and others. Paul V, Sixtus V . . . St. Francis de Sales . . . St. Charles Borromeo . . . held him in highest regard. St. Alphonsus counted him as one of the classic doctors. Lugo [was] outstanding for his vast knowledge and esteemed by all; Molina [was] the most celebrated."³⁰

"Monographs of greater moment on moral topics were . . . on Right and Justice [by] . . . Soto, Lessius, Lugo."³¹

"The principal theologians who were active at this period were, heading the rest . . . Molina . . . Lessius . . . Cardinal de Lugo."³²

"A number of famous names follow at this period. Luis Molina is . . . even more famous as a moralist than as a dogmatic theologian. . . . The greater leading theologians, like Frances Vittoria, Dominic Soto, Bartholomew Medina, Dominic Bannez, Francis Suarez, John de Lugo, Leonard Lessius were both dogmatic and moral theologians."³³

"Thus it was that after Lessius and Lugo had achieved an extraordinarily high level, moral theology on questions of economic ethics sadly declined at the end of the 18th and in the 19th centuries."³⁴

"Just a word on the authority of the principal moralists. . . . St. Thomas holds the first place . . . then his distinguished followers and expositors are held in great regard, especially Suarez, and that great genius of moral science, De Lugo, and others of highest merit in moral matters, Soto, Molina, Sanchez, Lessius, Castrapalao, the School of Salamanca."³⁵

A detailed analysis of the relation of these writers to their proximate and remote intellectual forbears would be instructive and very interesting

reading. The period just before the one we have selected should be investigated. John Major, John Nider, Sylvester Mazelino, John Medina, Cardinal Cajetan, St. Antoninus of Florence all need to be studied together and in relation to their followers and predecessors. In one sense there seems to have been no progress since Thomas Aquinas in any matter of radical import. Apparent innovations by writers of high authority like Antoninus of Florence and Thomas de Vio (Cajetan) are rejected as inadmissible by later writers. Changes in terminology or the order of the treatises cause apparent differences. But, in reading the later writers, "one must recognize that in their discussions of interest the question is put in exactly the same way by the older Schoolmen even though they do not always explicitly state it."⁸ Yet there must have been points at which the shift of circumstances caused a change in the attitude toward some form of contract, or at which some analyst added something definite to the analysis of price and value. Unfortunately, we are not in a position to make any very definite statements on this. Surely there must have been progress; we find the subjective and objective factors in price well outlined, as early as the thirteenth century, by Albertus Magnus and Scotus. This section of the history of economic doctrine remains to be written. Meanwhile, let Molina, Lessius and Lugo suffice as representative samples.

¹Natural reason and natural law in the Scholastic sense, not to be confused with any chimerical "law" in a supposititious "state of nature."

²Lugo, 26:72. The treatises *On Right and Justice* are variously divided in the various authors. Molina has many disputations but none of great length; these are subdivided into numbered paragraphs. A reference to Molina will be cited as follows: 333:3, that is, disputation 333, paragraph 3. Lessius employs books, chapters, *dubitaciones*, and numbered paragraphs. The books may be ignored since we shall be almost exclusively in the second book and will indicate when this is not the case. Each chapter has one set of paragraph numbers regardless of the intervening *dubitaciones*. Thus a reference to Lessius will be given: 22:22, that is, chapter 22, paragraph 22 of book 2. Lugo employs very long disputations subdivided into sections. The sections, however, may be safely ignored for there is one sequence of paragraph numbers for each disputation regardless of the intervening sections. Thus the reference above means disputation 26, paragraph 72.

³Lessius, 25:23.

⁴Molina, 308:10; Lessius, 20:119 *et seq.*

⁵*Varones Ilustres*, Alonso de Andrades, Madrid, 1666, *Vida del muy religioso y sabio Doctor el Padre Luis de Molina*, pp. 784 *et seq.*

⁶*The Enciclopedia Universal Ilustrada Europeo-Americana* (Barcelona Hijos de J. Espasa, no date) states that Molina also studied civil law after his college work. (Tom. XXXV, pp. 1464-1465.)

⁷Andrades, *op. cit.*, p. 789.

⁸E. Vansteenberge (University of Strasbourg), in *Dictionnaire de Théologie Catholique*, Paris, 1926, Vol. 10, Part 2, Col. 2091, s. v. "Molina."

⁹Andrades, *op. cit.*, p. 796.

¹⁰Andrades, *op. cit.*, p. 808.

¹¹*De Justitia et Jure*, R. P. Ludovici Molina, *Coloniae Allobrogum*, 1759. The conventional title of these treatises, *De Jure et Justitia*, is literally, *On Right and Justice*, or equally well, *On Law and Justice*. The authors themselves are not consistent in the order of words, putting either noun first. We will hereafter drop the preposition.

¹²August M. Knoll, *Der Zins in der Scholastik*, Vienna, 1933, p. 71.

¹³Henry Berindoague, *Le Mercantilisme en Espagne*, Paris, 1929, pp. 57-59.

¹⁴Frederico Rahola, *Economistas Espanoles de los Siglos XVI y XVII*, Barcelona, 1885, p. 44.

¹⁵E. J. Hamilton, *American Treasure and the Price Revolution in Spain*, Cambridge, 1934, p. 295, note.

¹⁶Vansteenberge, *loc. cit.*

¹⁷W. Endemann, *Studien in der Romanisch-Kanonistischen Wirtschafts- und Rechtslehre*, Berlin, 1874, p. 50.

¹⁸Molina, 360:7.

¹⁹Molina, 407:7.

²⁰Sommervogel-De Backer, *Bibliothèque des Ecrivains*, Liege, 1872, Cols. 1331-1332.

²¹J. E. Nieremberg, *Vidas Exemplares*, Madrid, 1647, p. 452.

²²P. Bernard in *Dictionnaire de Théologie Catholique*, Paris, 1926, Vol. IX, Part 2, Cols. 453-454; *s.v.* "Lessius."

²³J. de Ghellinck, *Catholic Encyclopaedia*, New York, 1926, Vol. IX, p. 193; *s.v.* "Lessius."

²⁴(Leonard Schoofs) *De vita et moribus R. P. Leonardi Lessii*, Paris, 1644, pp. 38-39, No. 23.

²⁵Andrades, *op. cit.*, p. 663.

²⁶De Ghellinck, *loc. cit.*, Vol. IX, p. 418, *s.v.* "Lugo."

²⁷Bernard, *loc. cit.*, Cols. 1071-1072.

²⁸*Theologiae Moralis Sancti Alphonsi Mariae de Ligorio*, Editio Nova (Gaudé), Rome, 1907. Tomus 2us, Bk. III, Treatise V, Ch. II, Dubitatio I, Par. 522, p. 56.

²⁹Lugo, 31.

³⁰J. B. Ferreres, *Compendium Theologiae Moralis*, fifteenth edition, Barcelona, 1932, Vol. I, pp. xxviii, xxix.

³¹B. H. Merkelback, *Summa Theologiae Moralis*, Paris, 1935, Vol. I, Introduction.

³²Aertnys-Damen, *Theologiae Moralis*, Turin, 1932, Introduction.

³³M. Grabmann, *Die Geschichte der Katholischen Theologie seit dem Ausgang der Vaterzeit*, Freiburg, 1933, pp. 170, 180.

³⁴Oswald von Nell-Breuning, "Fortschritte in der Lehre von der Preisgerechtigkeit," in *Miscellanea Vermeersch*, Vol. I, p. 95.

³⁵J. Ubagh, *Theologia Moralis*, Sarmiento, 1935, p. 3.

³⁶Oswald von Nell-Breuning, *Börsenmoral*, Freiburg, 1928, p. 55.

CHAPTER VII

EQUIVALENCE AND THE CONTRACTS

A later chapter will attempt a systematic exposition of the late medieval moralist's concept of usury. That concept was not an isolated one, not something known necessarily and instinctively from proximate data, but an integral part of a well-developed body of thought. Accordingly, certain leading principles of the Schoolmen's social doctrine need to be summarized in their bearing on the question of usury. The subjects treated in the present chapter have this in common—that they are necessary preliminaries to the understanding of usury analysis, or that they at least shed useful light on the scope, methods, or fundamental principles of that analysis.

The nucleus of the economic study of the medieval moralist was the contract of exchange. Exchange was taken in a somewhat wider sense than good usage would approve today. "By the word, exchange, is signified in general any burdensome contract, for in all of these there is a certain exchange, as is clear in the contracts of purchase, loan, hire, and the like."¹

However great or penetrating the insight into economic processes, this remained but a by-product of the moralist's primary concern—namely, to determine, under a given set of conditions, which exchanges were equitable and therefore permissible and which were not. The basic procedure involved not only a theory of law, of equity and of justice, but also a theory of economic value. Moreover, there was presupposed a theory of just and equitable ownership. The Schoolmen's task was to explore those qualities of things justly owned which determine their value in exchange.

Since contracts of exchange are not conceived as taking place in a vacuum but in a market, community, or province—each with its realistic adjuncts of custom, tacit understanding, and, most of all, with accepted ideas on ownership, fair trading, and the place of trade in a philosophy of life—we cannot dispense with some prefatory remarks on these matters.

The institution of private property was regarded by every scholastic moralist as incontestably of natural right. True ownership and the right of disposal over both movable and immovable goods were within the moral capacity of every man by the fact of his status as a human person. That the earth and its productive capacities are for man's use needed no proof.

"Men are the masters by natural right at least of all things under the heavens and of the light and the forces of the heavens; for by the very fact that the author of creation in the first constitution of things set up all things under the heavens for man's sake, for his sustenance, and use and other service (as the nature itself and order of these things clearly shows), by that very fact, I say, he constituted man the master of them all. The very nature and order of things and the natural light of reason witness that it is of natural right for man to be master of all those things we mention."²

A passage such as this establishes the first and rather broad conclusion that the earth and its capacities are for men in general. Though the final conclusion of the argument will leave a well-defined right of private property for the individual, that right will never be wholly independent of this elementary consideration that the whole earth is for all men. The Schoolmen saw no contradiction between a strict right of ownership and the accepted axiom that "in the beginning all things were common." Quite the contrary, it was because things were for all men that private property was introduced.

"In what sense is it true, as it is common custom to say, that by natural law all things were common goods and that it is by the law of nations (*jus gentium*) that the division of goods was made? The sense is this: Regarding the first constitution of things when God founded and gave things to human kind in common with nothing to be appropriated by anyone, and regarding further the law as it then was before anything whatever was introduced by the positive law of nations, all things were then common in the sense that it would have been against the natural law to keep anyone from the use of anything whatsoever. This would have been an injustice to such a one for all things would have been common to him and to all other men. God gave things to human kind in such a way that He neither bade them to hold those goods in common nor forbade the division of them among men. Especially, if the passage of time and the condition of mankind demand it; then surely, when after the fall into sin when right reason demanded it, men had the power to make a division and actually did make one. This division of goods made for the better administration of goods and also for the maintenance of peace, for if all things were universally common, the peace could by no means have been maintained."³

This insistence upon the communal quality of property may seem to involve a difficulty, since modern Scholastic writers commonly state simply that the right of private property is a natural right, that the division of fundamentally common goods took place by natural law. Molina reviews

the difficulty at some length, citing all the ancient philosophers, the Scripture, the Fathers, the Roman Law. The apparent difficulty is but one of the points of departure. Absolutely speaking, and regarding a world in which life might or might not have been raised to a supernatural level, and in which there might or might not have been a subsequent descent from that level, all things in the beginning would be common. Narrowing the field to the kind of world we live in, though the basic thought of the primary destination of all things for the human community remains the radical one and an active condition permeating the whole doctrine of private property, yet, given the world we have, private property is of natural law. This is not to be taken in a positive and preceptive sense that there *must* be private property, for some exceptional communities witness the contrary; it is to be taken in the permissive sense that there *may* be private property, that it is in itself perfectly just and lawful and for the most part an imperative practical necessity. Lessius disposes of the difficulty succinctly. To the proposition that private property is of natural law, he replies as follows:

“Thirdly, it may be objected: [The division of goods founded in common] is of natural law, for right reason dictates whatever is absolutely necessary for the peace of humankind. Therefore it is of natural law. *Response*: In this sense, it can be granted that it is of natural law even though in the other sense, it be denied. For natural reason does not dictate the absolute necessity of it. In a single community, a policy can be instituted in which practically everything remains common, as among the Anabaptists in Moravia.”⁴

These passages put a critical emphasis upon the nature of the institution of private property as a means of achieving the obvious first purpose of the productive capacities of the earth—to wit, the sustenance of all members of the human family. This universal quality of goods owned must be kept in mind when we approach the subject of just price of particular goods based on common evaluation. The two-fold disposition of the basic economic factors, men and goods, in the division of labor and the division of property are both social phenomena, each arising from the interdependence of men and each promoting that interdependence. From these passages, too, emerges the sense of a famous article of Thomas Aquinas (2a 2ae Q. 66, art. 7) quoted and commented upon by all three of our authors and strikingly emphasizing the social bearings of private ownership.

“Whether one in extreme, or even in serious, need may lawfully take the goods of another surreptitiously. It must be noted: He who is involved in this necessity may not make use of another’s property before he has asked for help and explained his

distress, and is quite convinced that he will get nothing. If there is a probable hope that by a request in a becoming way the article will become yours, then you do not seem to be reduced to such need that you are forced to take another's goods surreptitiously. But a man of reputable position is not bound to beg from door to door. This is allowed by the law of nations (*ius gentium*) when no other way of meeting the need offers itself. . . . I say then, in the first place, anyone placed in utmost need may take the goods of another for which he has the utmost need for the preservation of his own life. This is the common opinion of the doctors.

"*Proof:* In the utmost need, 'all things are common,' as the accepted axiom has it. Not that ownership is immediately transferred thereby (as Navarrus rightly proves), but they are common as far as the right of use is concerned; so that anyone under the stress of such straits may take and appropriate anything whatsoever which is necessary to him in that degree and aid himself and those close to him by its use. The reason for this is that the purpose of inferior things is to be of service to man in his necessities, that through them man can preserve and safeguard his life. Therefore, this right belongs to all men by nature. Nor can the division of goods, introduced by the law of nations, take away that right. For the law of nations does not overturn the law of nature but presupposes it, especially in what is so very necessary for the maintenance of life. That division must be regarded as having been made in such a way as to reserve to each one the natural right to whatever is necessary to safeguard life. Otherwise the division would not have been made in a rational manner. . . . Such taking is not theft or robbery, since the owner is not rightly unwilling that it be taken; he is bound to assent since you are making use of your right. . . . Thus in the division and assignment of things by which it was brought about that no one has a right against the things of another, this tacit condition must always be understood, 'unless extreme or certainly very great necessity makes demands.' Otherwise, the division would have been made contrary to reason and equity. The case is different with common necessities, not very grave, which are very frequent, and thus do not compel that the division and assignment made by the law of nations must be violated. Otherwise, everything would be full of thieving, and peace among men could not be maintained."⁵

When goods are exchanged, the value which they have in exchange is, like the right of property, private and personal, but not only or exclusively private and personal. Justice and equity, virtues of social human persons, rule the acquisition and possession of goods and any subsequent trading of goods so acquired and possessed. This must always be borne in mind if we are to grasp exchange as the Scholastics saw it, with any genuine insight into their meaning. "Desbuquois is certainly right when he sees in the common valuation an illustration of the general medieval principle (already set forth in the discussion on property) that goods have imposed on them a social condition and no free and unrestrained right of disposition over them exists."⁶

As for the forms of justice, the second of the pillars in the structure of scholastic social thought, justice is essentially social, being always *ad*

alterum, involving someone else. Three capital forms are considered; these are *commutative justice*, governing the relation of man to man, *distributive justice*, governing the relation of the community to the individual person, and legal or *general justice*, governing the relation of the individual person to the community. This last form has in the past thirty years been rehabilitated under the name of social justice. We do not attempt here to elaborate the obligations of general justice. After a few examples distinguishing distributive from commutative justice, we will consider the latter, which is justice in the strict and formal meaning of the word and which is the form of justice having competent jurisdiction over the field of exchange and thus over questions of usury.

Distributive justice is of wide economic application, and may not be lost sight of in regulation of the public economy. The example of a forced loan is used by all three of our authors to exemplify a critical point on the meaning of cessant gain,⁷ a term of which we will make much use; and the case exemplifies also the domain of distributive justice, and the way in which the commonwealth may be bound in justice in its dealings with the member persons. A sovereign may lay a forced loan on the merchants of the community in a time of public emergency; but the whole burden may not remain on the merchants simply because they could be reached more easily than the other groups within the community.

"The merchants could contract with the king about the emergent loss and the cessant gain, and the king himself, though no contract intervened, would be bound to restore it to them over and above their money. And if the king could not pay, he would be bound to force all the other elements of the commonwealth to contribute to payments, for all parts of the commonwealth are equally bound according to some proportion to contribute to the good of the commonwealth. That money was taken from the merchants because the compelling necessity of the state gave no opportunity that it be demanded and collected from all elements of the community. Though necessity may occasion this, surely it would be an injustice to burden some elements in the commonwealth more than others by taking all the money from them despite the fact that it was taken with the intention of restoring."⁸

The wisdom and utility as well as the justice of fixing the price of grain was a practical and urgent problem in Spain around the year 1600. Here it serves to furnish us with another example of distributive justice. The poor indeed are to be cared for in time of shortage, but by the commonwealth as a whole and not exclusively at the expense of the owners of grain. Distributive justice does not allow the burden to fall unevenly.

"Equity does not allow, for the relief of some members of the commonwealth for the common good, that some be burdened more than others but all should contribute,

burdening each in a certain proportion according to their wealth and position. Therefore, it is wrong to burden only the owners of the grain, forcing them to sell their grain below the lowest just price which in the very nature of the case equity demands."⁹

"To serve the common good, it is not equitable that one element of the commonwealth be burdened more than others which can in their own degree and proportion contribute."¹⁰

Thus distributive justice must be a primary consideration in determining economic policy insofar as that falls to public authority in the promotion of the common good. Violations of it may involve the public official in grave sin, and the studious pursuit of it will be no small aid in furthering the common prosperity.

But the contracts of exchange, those of our present study, are not the sphere of distributive justice. The attainment of equality in exchange is the work of commutative justice (*commutare*—to exchange). Commutative justice rules over the relation of man to man, one individual to another, and is justice *par excellence*; it requires perfect equality between the things exchanged and is relentless, moreover, in its demand; for a violation of commutative justice forever binds till restitution has been made to repair the inequality. Commutative justice is, of course, a virtue, an abiding attitude prompting acts by which one seeks always to yield to another his due; it is the quality of a person, and only in a secondary sense is it applied to a price, a rate, a wage, or contract.

"To establish due proportion and equality through those actions by which men communicate among themselves is *per se* honest and in accord with right reason and therefore a virtue. . . . This virtue rightly disposes man to man in their mutual functions and exchanges, for it prompts one to will and to do what one owes to another."¹¹

This virtue is classically defined as the constant and abiding will to render to each that which is his, according to an equality. Much of the treatises on justice and right is concerned with determining what things are equal, and this obviously involves a theory of value, price, and money. Molina once summarily states in passing, "Commutative justice consists in equality as to value between price and object."¹²

The scroll on the title page and on the first page of volume two, the volume which is devoted to the contracts of exchange, bears the maxim *Quod tibi fieri non vis, alteri non feceris*, which means "Do not do to another what you do not want done to you."¹³ This negative form of the golden rule is the essence of commutative justice. Loans and exchanges arise from that necessity which human nature imposes of living in community. The obvious advantages of division of labor, as well as division

of property, prompt specialization; and with it arises not merely the casual exchange of occasional surpluses but the permanent mutual dependence which is at once the cause and the effect of man's social-economic life.

"Purchase and sale were not used of old, but direct exchange. Those who needed grain gave wine for it or oil, of which they had plenty, and so of other things. But since that was troublesome and difficult, money was brought into use that it might be the common payment in contracts and other things began to be sold by means of money."¹⁴

"We read that in the beginning there existed among men only the usage of exchange by which they traded for grain, oil for honey, a cow for a horse, shoes for a house and so of other things, each one exchanging something which he did not need so much for something which he did need. In such an exchange, one article was not more of the nature of money nor more of the nature of goods than the other and the parties to the contract were not specified by different names. Later, however, because of the inequality of things, as shoes and houses, or a cow and a horse, etc., and because often many did not need the things of which others had plenty, money was invented and introduced to make easier the exchange necessary for the maintenance of life and human society, inasmuch as no one is sufficient unto himself but needs the things and work of others."¹⁵

Exchange in this view is not merely a convenience nor a happy evolution from a lower state to a more efficient mode of life allowing of increased production. Exchange is fundamental to human society; it is natural in the sense that it so obviously meets human needs that intelligence will seek it out and use it. Exchange is a natural necessity to human nature in order that society move on that level which is consonant with man's obvious aptitude and exigency. As man freely but inevitably builds a society around him ("inasmuch as no man is sufficient unto himself") so within that society man will inevitably exchange, not from any internal or external compulsion but from a direct rational grasp of his own human nature in relation to a concrete practical situation. In such transactions in which men communicate in social life, it is "in accord with right reason," and therefore "natural" and "just," that the exchange be at an equality. Both parties need the social framework within which they operate. Each needs the goods of the other. Each wishes and intends to get the full value of what goods he has to offer. Neither has the right to subordinate the other to his purposes. Commutative justice will see that this full value is received, all of it, but not more.

Exchange thus arises from man's personal needs, but a personal need that is not distinct from his need for society. The principle of Thomas Aquinas is accepted by all.

"Purchase and sale are seen to have been introduced for the common utility of both parties, since one needs the goods of the other. . . . But what was introduced for the common good ought not to be more of a burden on the one than on the other; and so the contract between them ought to be established according to an equality."¹⁶

The completeness of the agreement on basic approach is well demonstrated in the following passage from Molina, against Durandus and, what is a little surprising, against St. Antoninus of Florence, on the question of how great a departure from the just price had to be before it became a sinful matter:

"The common opinion of theologians and jurists . . . rightly states the contrary, namely, that anyone who goes outside the limits of the just price or the value of an article, in buying, selling, hiring, or in making any other contract whatsoever, sins, and is bound to restore up to the limit of the just price or the value of the article, even though the departure was not above or below one half of the just price. . . . Thus St. Thomas, 2a 2ae Q. 77, art. 1, Cajetan, Conrad, John Medina, Navarrus, Covarrubias, and very many others whom Covarrubias and Navarrus cite. This can be proven first of all by the reason of St. Thomas. Purchase and sale and other like contracts, as Aristotle writes in the first book of the Politics, were introduced for the common utility inasmuch as each has need of the goods of the other and vice versa. But what was introduced for the common utility ought not to be a burden to one rather than the other, for the natural law demands what it prescribes—that you do not do to another that which you rationally do not want done to you. But it would be a burden on one rather than on the other if equality were not maintained between the article and the price or between whatever things are exchanged, and it would be against commutative justice, the function of which it is to set up equality in exchange."¹⁷

This is not a paradox—that an institution which serves my private individual advantage should have been introduced for the common good. The double aspect of exchange is the inevitable sequel of the double aspect of the division of goods and the division of labor. Much is made of economic interdependence, which is the expression in one sphere of the natural exigency of human personality for society.

"No province has plenty of everything; but from one province many things must be transported to another; and indeed it is often necessary to carry many things from one part to another of the same province. The individual is unable to do this because of poverty, because not all are capable of it, and finally because if everyone transported necessities for himself alone far greater expense would be incurred to obtain them than is incurred when necessities are brought by various persons."¹⁸

The need of social exchange is as great for one party as for the other; therefore if the purpose of this institution is to be achieved, one party is not to be burdened more than the other. Justice in exchange is preserved when each party receives as much as he gives and gives as much as he

receives, *i.e.*, the exchange must be according to an equality, and an equality not of weight and number but of value.

"Justice is not served if each workman in exchange for another's product, which he needs, yields the product of his own trade which someone else likewise needs, as if a builder of houses might yield the shoemaker a house for a shoe. But rather in each single thing it is the value which is to be considered, of which (as Aristotle says in the place cited) money has been constituted the measure and guarantor. As long as this value is rendered to an equality, other workmen in turn will render their own products to those who need them. The exchanges must be made to an equality in order that they be just. If one unit of one good is exchanged directly for one unit of another, and one good exceeds the other in value, the difference is made up in money. Likewise if several units of one good are given for a single unit of another, the difference is made up in money. And when goods are exchanged for money, as happens in the contract of purchase and sale, the values must be equated. . . . If these reciprocal values are equated . . . then commutative justice is the same thing as reciprocity."¹⁹

An apparently serious difficulty would seem to stand in the way of any practical usefulness of this principle of equivalence in exchange. Admittedly no one comes to market for the purpose of giving away his goods. He seeks to obtain something which is more useful to him than what he has, in other words, something which possesses greater value for him. Yet this apparently is precisely what the principle of equivalence in commutative justice would forbid. Though the marginal principle was not perceived, of course, the simple but important truth was grasped, that the producer of a single commodity values his large stock of shoes, or wine, or oil less than the things he needs for himself or family; "things are valued with reference to their various uses" and "abundance makes the value decline."²⁰ Two important ideas emerge from this. Whatever may be the value of a commodity to an individual for his personal use, the values which are to be equated in exchange are those set up by common evaluation. This, and not the special valuation of the individual, is the ruling one in exchange. Accordingly, the dictum that "exchange was introduced for the common good" may be seen in its two-fold meaning: (1) for the mutual and reciprocal advantage of both parties (preserved by maintaining equality of values in the exchange); (2) for the advantage of the whole community (if goods of various useful values are exchanged in the community until their use values and exchange values balance all around, the fullest advantage has been obtained from the division of property and the division of labor, both of which had the purpose of reducing the face of the earth to man's greater service).

One corollary of the doctrine of exchange justice which is invariably

insisted upon must be noted here. In any contract of exchange, the thing for which a consideration is given must, without exception, be the property or quality of the seller. The title by which one receives a price for something from another must be resident in the seller; the necessity of the buyer confers no title on the seller to receive more than the common price. This is of the utmost importance in the matter of usury, but it applies as well to all contracts of exchange. The buyer's need does not confer a title on the seller; neither does the buyer's ability to use the thing bought. Any special advantage of the buyer does not of itself and in the first instance affect the common price of the good or service in question; and therefore it confers no right on the seller to hold up the buyer for a higher price. If the advantage be not special but general, then of course it would affect the common price, and the higher valuation would be legitimate.

Quite logically, however, this rule does not work the other way. If I have something which I prize above its exchange value, and which someone wishes to buy (Lugo gives the example of an ancestral home of great sentimental value), that fact is a quality of me, the seller, and if someone wishes to buy the thing, I may charge for the greater deprivation to me. All three authors state this principle.

"That one may not accept a higher price by reason of the advantage or gain of the buyer is proved from the fact that the advantage is not something of the seller's but the buyer's; therefore the seller may not accept payment of it; otherwise he would sell what is not his. Thus St. Thomas and with him the doctors commonly."²¹ "Notice however that one may not sell a thing for more because of some special utility or necessity of the buyer (as many conscienceless people do). Thus St. Thomas in this article and the doctors commonly. The reason is that no one can sell that which belongs to another to that other. But that utility is the buyer's, not the seller's, and arises from a circumstance of which the seller is not the cause."²²

"The regard of the buyer for the object or his special need cannot be sold. . . . The reason is that all these things belong to the buyer, not to the seller, and he cannot sell what is not his."²³

Having set forth the general background of social economics with which the moralists approached their problem, it remains to describe the contracts which were their more direct concern. Much that these writers regarded as of critical significance we pass over entirely—such matters as the kinds of persons legally able to enter a contract; the formalities necessary for a valid contract; the point at which a contract is completed and terminated; the conditions under which a contract may be rescinded; the legal status of various contracts in the countries in which each writer is interested; the status of minors, wards, incompetents, the communal prop-

erty of husband and wife, etc.; the competent authority to interpret and enforce a contract, or to specify a generic one. Data for all these are drawn from reason, Roman law, the current civil and canon law, Scripture, and ecclesiastical and general history.

A contract is defined by Lessius as: "*A practical, external manifestation of one to another generating an obligation from the consent of the parties agreeing.*" A broader definition, useful in some contexts, reads: "*A contract is a mutual agreement generating an obligation in at least one of those agreeing.*" The principal division of contracts is into "named" and "unnamed" contracts.

"A named contract is one which has a special and proper name by which it is distinguished from others, as purchase, sale, loan (*mutuum*), hire, association (partnership), loan of accommodation (*commodatum*), pledge or mortgage, deposit, and the like. An unnamed contract has no special name but only the generic one. There are four kinds of such contracts: 'I give that you may give'; 'I give that you may do'; 'I do that you may give'; 'I do that you may do.' If you give Peter bread for wine it will be an unnamed contract, 'I give that you may give.' It is not purchase or sale because there is not given a price for the goods; nor is it a *mutuum*, because an article of the same kind is not received after a certain time; nor is it a contract of rent or hire, because a price is not given for use or labor. But one thing is given for another, neither of which is the price of the other. If one should say 'it is an exchange,' I reply that this is true; but exchange is a generic name, not a specific one; it fits both purchase and loan and thus does not constitute a contract as a named contract.

"Contracts are also divided into lucrative and onerous or burdensome. A lucrative contract is one in which nothing is to be paid in return, as a promise, gift, loan of accommodation (*commodatum*), etc. . . . Will and legacy which will someday be a sort of gift may be included in this. . . . An onerous contract is one in which something must be returned or performed in place of the thing given. Such a contract may transfer the complete ownership as in the case of a loan (*mutuum*), purchase, etc.; or the ownership as to use only, as in the case of a fief or emphyteusis; or the usufruct or use, as in the case of rent and hire; or it may bestow security, as in a pawn, mortgage, or surety-bond. The rest of the contracts may be reduced to these as a contract of *census* to a purchase, a deposit to one of hire, etc."²⁴

The definitions of the commonest named contracts are here set forth for the sake of reference and in order to avoid numerous footnotes later on. One special relationship determining the precise difference between two common contracts needs to be made clear. The definitions are all from Lessius in the chapters bearing the name of the contract, but were compared in each case with the other two authors. Since all three writers base their definitions on the Roman law, differences between them are verbal. The formal designation of a contract may, it should be noted, be applied

loosely but not incorrectly to (1) the thing which is the material object of the contract, (2) the contract itself, and (3) the obligation arising from the contract. But when the term is used with scientific accuracy it applies strictly to the contract itself.

The contracts by which ownership is transferred may be listed as follows:

Promise (*promissio*)—a deliberate and spontaneous obligation of fidelity made to another concerning some good object within the bounds of possibility.

Gift (*donatio*)—the act of a donor which is in itself sufficient to transfer ownership.

Exchange (*permutatio*)—any onerous contract.

Loan (*mutuum*)—the delivery of an article (the qualities of which are fixed in number, weight, or measure) with the intent that it immediately become the property of the one receiving it with the obligation to restore an article of like kind and quality.

Purchase (*emptio*)—an agreement concerning price in return for merchandise.

Sale (*venditio*)—an agreement concerning merchandise in return for price.

Annuity rent (*census*)—the right to receive an annual payment from some property or person.

Monetary exchange (*cambium*)—the exchange of money for money. (*Cambium* is verbally the same as *permutatio* but is limited by usage to monetary exchange.)

Hire or rent (*locatio*)—a contract by which a person or object is granted at a price for its use or product; (*conductio*)—contract by which a person or thing is obtained for its use or product at a price. Just as one and the same contract is called on the one side purchase and, on the other, sale, so one and the same contract, on the one hand, is *locatio*, which is similar to sale and, on the other, *conductio*, which is similar to purchase, for one buys the work or product of the thing or person.

Emphyteusis—the granting of the ownership of an immovable thing regarding its use only, while the direct ownership is retained, under the obligation of some payment to the direct proprietor, either perpetually or during the lifetime of one or more persons, or for a specified time, which may not be less than ten years.

Fief—differs from *emphyteusis* only in that there is no payment but the obligation of manifesting loyalty and personal service.

Association (*societas*, roughly, partnership)—an agreement of two or more entered into for the purpose of contributing something for the common use or profit.

The contracts thus far enumerated transfer the ownership of the object of the contract, at least the ownership as to use (*dominium utile*). The following contracts do not transfer ownership:

Deposit (*depositum*)—a contract by which something is handed over for safe-keeping.

Loan of accommodation (*commodatum*)—the free grant of something regarding its use alone for a definite time. It differs from *mutuum* in that ownership is not transferred, that the identical article is to be returned, that it may apply to immovable as well as movable goods, for one can loan his house on a loan of accommodation.

Praecarium is a loan of accommodation for an indefinite time, that is, at the will of the lender.

Surety (*fidejussio*)—the assumption of another's obligation by which one obliges one's self to fulfill that obligation if the principal debtor does not do so.

Insurance (*assecuratio*)—a contract by which one takes upon himself the risk of some one else's property, binding himself, either gratis or for a definite payment, to compensate for the property if it be lost.

Pledge or pawn (*pignus*)—something granted to a creditor as surety.

Hypotheca—a pledge to a creditor, not by actual delivery but by an agreement concerning it.

While these categories are in themselves rigid, even a slight variation of the conditions may cause a transaction involving the same material object to pass readily from one classification to another. For example, the contract of deposit by which one undertakes the safekeeping of another's property may easily become a loan of accommodation if the depositor grants the use of it to the one in whose safekeeping it is. A contract of a loan of accommodation—for example, of a horse or a house—may readily become a contract of hire or rent if, instead of being freely granted, a consideration is demanded. Similar changes may easily be devised.

In the case of *mutuum*, this question of classification and accurate definition is a cardinal one. Understanding of the Schoolmen's analysis of usury largely depends upon an understanding and an easy, ready application of the distinction between a loan of *mutuum* and a loan of accommodation. Upon this distinction depends the question of ownership at a stated moment of the good being loaned, and upon the ownership depends the right to the product of that good. Thus, granting that one may not accept anything for a loan of *mutuum*, it may be argued that the acceptance of a compensation merely changes the type of contract. What would have been a *mutuum* has now become a contract of hire and the question of usury has been sidestepped; for, as we shall see, usury, by common acceptance, is nothing more nor less than "gain from a loan of *mutuum*." Navarrus apparently sought to avoid the difficulty by introducing into his definition the words *usu consumptibilis*.

"I do not say *usu consumptibilis* (i.e., a thing which is consumed by use) for if I lend you a pound of brass or silver, it is a true *mutuum*; yet the use of such a thing is not consumption or alienation. . . . Thus what Navarrus says, Ch. 17, No. 206, is not true, namely that a *mutuum* is found only in those things which are consumed by use; although it is true that for the most part it is found in these. Those things are said to be consumed by use, when the use of them is consumption (as oil or wine) or alienation (as money). These things are said by jurists 'to take on the function' (*accipere functionem*) because one can fill the place of another (*fungi vice alterius*) as grain for grain, or money for money."²⁵

Certain writers have said, in attempted extenuation of usury theorists, that the Schoolmen sought to prohibit interest on consumption loans. But Molina, Lessius, and Lugo are far from willing to make that a central factor. The important characteristics of a *mutuum* are two: (1) that the ownership of the thing loaned passes with the loan, and (2) that payment is to be made not by returning the identical article but one of the same kind. When the important qualities of things are "fixed in number, weight, or measure," there is no purpose in insisting upon the identical object loaned being returned, since such standardized objects readily work, one in place of another. This is obviously true of consumption goods but not exclusively. Two schools, for example, might supplement each other's supply of folding chairs by making gratuitous loans as occasional need for each arose. If the folding chairs in both schools were of the same standard model, there would be no purpose in exercising care to return the same chairs. The loan would be of a standard fungible good but not of a consumption good, and the loan would be a *mutuum*. And, during the loan, the lending school would own no chairs but would have claim on the borrowing school for the number of chairs of the same condition as were borrowed. Our authors also use the example of a goldsmith or silversmith who needs a certain amount of metal to finish a particular piece on which he is working. A neighboring workman with a little excess supply might let him take a few ounces for a few days at no charge, provided the same weight and fineness were returned. The loan would unquestionably be a loan of *mutuum*, though the object of the loan could not be called a consumption good.

Molina does not include the notion of consumption good in his definition of *mutuum*, in which the crucial point is the transfer of ownership, which is practicable because we are dealing with a fungible good. He stresses the note that in a *mutuum* the element of time is essential; otherwise a simple exchange would result. In the discussion he adds:

(The Roman law) wishes the matter of a *mutuum* to be things the qualities of which are fixed by weight, number, or measure, and which are used up in consumption, as are money, grain, wine, oils, and other things of the sort. The word *consumption* includes also the use of a thing by alienation; for which reason, when something is paid for with it, or it is exchanged for something else, or given away, or lent, it is said, with reference to the one giving it, to be consumed, inasmuch as by such use the ownership of it passes to another. Notice here in passing that in a loan of money the value which it has as money is the thing principally taken account of; surely the same kind, or quality, or goodness is to be regarded as returned if money of the same value is repaid, though it be not of the same material."²⁶

It would seem that though Molina, with the Roman law, regarded a *mutuum* as practically concerned with consumption goods, nevertheless this is not the point which is, in principle, determining. The critical factor is the transfer of ownership, which is bound up with the fungibility. This should be clear from the following:

"Let me warn, first of all, that if one argues as follows that usury is by nature unlawful, the reasoning is inadequate proof. 'To receive something beyond one's capital is against the principle of a loan (*mutuum*). Therefore, usury is unlawful.' It is inadequate because, while it is contrary to a loan of *commodatum* to receive something for the use of the thing loaned, yet it does not follow that it is always illicit to receive something for the use of an article. It merely follows that the principle of a loan of *commodatum* has been destroyed and, so long as what is received is a moderate price, the contract becomes a just contract of hire. . . . And so (it is argued) to receive something beyond the capital destroys the principle of a loan of *mutuum*. The reason [for this inadequacy] is that a *mutuum* is based upon this point, that something is given for use which immediately becomes the property of the one receiving it, who later restores merely in kind or quality. The fact that it may be agreed that something further be paid does not destroy that other fact in which the nature of a *mutuum* consists."²⁷

Lugo notices the observations of both writers and raises difficulties about defining what qualities can be said to be fixed in number, weight, and measure. Ultimately he dismisses the matter apparently as not being worth investigating and returns to the fundamental position that it is the transfer of ownership which is decisive. But surely the examples which he gives, that sometimes even building materials might be sufficiently constant in form to become the object of a *mutuum*, amply indicate that, in his opinion, the norm of "consumption goods" does not go to the heart of the matter, which for him rests entirely in the transfer of ownership.

The Schoolmen were under the same necessity as any other group of economic analysts of laying down some sort of condition for the scope of the economic conduct of the subjects whose actions they were discussing. In order to make conclusions on price and exchange contracts significant and valid, the non-economic must be ruled out; there must be no question of a gift in the matter of price; or, in other contracts, no question of indifference on one side as to whether there is actual equality or not, which might be the equivalent of making a gift. The condition which is laid down and which is constantly reiterated is that their economic subjects are "prudent." Molina repeatedly appeals to the actions of a "prudent merchant."²⁸

Lessius speaks of the just price as "constituted by natural prudence" and, like Molina, assumes the conduct of prudent merchants. On one occasion Lugo uses the expression "economic prudence" in a context where it

can scarcely be limited to its ancient classical meaning of purely domestic administration. The case is one in which the superior knowledge that public officials may have is of economic value, the case of how they may use it and how they may not use it. Of one such case where the use of the knowledge is permissible he says, "it is an act of economic prudence which is ordained toward private advantage, and therefore it is no abuse that the act be directed to such advantage." Molina also uses the phrase "prudent economic reason."²⁹ The condition of prudent economic action is regarded as being constantly operative; a merchant is anxious to make the most profitable use of his resources that he lawfully can. Lugo assumes in his economic subjects "that virtual intention which a diligent business man seems to have, for if he were asked he would say that this is his mind and intention in every contract"—namely, "that general intention in such a business of gaining by every just title which he can."³⁰

Prudence is a virtue of the intellect by which we know in any current business what is proper and what is not. Prudence demands such care and diligence as the condition of person and the importance of the business require; for it is the part of prudence to consider all the circumstances and all the things necessary to the intended end, and to apply them in a suitable manner, place, and time. All this concerns natural prudence (as opposed to supernatural) and depends upon the knowledge, from the light of natural reason, of practical principles. Natural economic prudence regards the administration of one's own goods and household. Prudence comprises in its scope foresight, reasoning power, willingness to learn, shrewdness, circumspection, and caution.³¹ These were the qualities of the late medieval or early modern economic man, or at least were those which the moralist presumed him to possess. Natural prudence is a practical virtue and a non-committal one, not involving too many philosophical presuppositions. It has its points as a substitute for that widely accepted bit of economic metaphysics of elusive content—economic "rationalism."

At the outset of this chapter, we said that the Schoolmen's economics always remained a by-product, however important, of his first concern, exchange justice. A joint product would perhaps be the better expression. They would have been little interested in economics that achieves autonomy at the expense of vitality; but they were willing to devote much thought and investigation to an economics that was practically co-extensive with the field of right and justice. If one sets out to discuss the whole range of human rights, including rights and duties within civil organization, there is little of economics that does not enter the problem somewhere. But their economics could never become a geometry exercise; it would always re-

main a series of case studies in which general, accepted convictions are applied to situations never far removed from particular markets. In this sense the Schoolmen were institutional economists. They applied their analysis to the accepted ways of doing things and scrutinized human exchange agreements in the light of their historical origin and their meaning and content for the men who used them. The problems they discussed in the second part of their treatises on *Right and Justice* largely reduce to questions of fair return and reasonable value in a set of concrete circumstances. To them there was no methodological dilemma between value and price on the one hand and group behavior on the other; these were things which in their view of justice were always associated.

The institutionalism of John R. Commons rather than that of Thorstein Veblen or Walton Hamilton approaches the Schoolmen's technique. Indeed, the question may be fairly asked whether Commons, if he had pursued further his historical investigations according to the principle of continuity, would not have found much that he was looking for in the period just preceding his starting point. Despite certain aberrations, the writings of John Locke, with whom Commons begins, contain a very high percentage of Scholastic commonplaces. The question may also fairly be asked whether much of what Commons found that was useful to his investigation was not Scholastic residue. The principle of continuity as Commons uses it is characteristic of the Schoolmen's method. Controversy may be sharp, as when Molina says that an exchange differential may arise in money even when there is no difference in "material, form, or the public seal impressed thereon, no matter what John Medina may say to the contrary."³² Such differences, though numerous and acute, all took place within a common area which all admitted was solid ground. Almost every disputation—except those purely factual, historical, or descriptive—after retailing the opinions of opponents, will continue with the phrase "the contrary opinion, however, is common and correct." The Schoolmen were historians, traditionalists; past and present institutions were analyzed sympathetically, if critically. They did not make their subjects fit their presuppositions. The Roman law, Old Testament history, the pagan classics (especially the works of Aristotle and Cicero), the views of the Church Fathers, contemporary civil law—all were grist for the analytical mill. In such sources, they were convinced, there was some good, something to be learned.

Participation in an inherited fund of communal knowledge can scarcely be overstressed as a trait of Scholastic thought. The mice and horses and the slave-girl and rare book of Augustine's discussion of just price are quoted by everyone; the wine and oil and grain, the examples of *mutuum*

in the Roman codes, are used by every commentator. Joseph in Egypt is the stock example of the rights and wrongs of forward buying. Aristotle's enumeration of the advantages of money, Cicero's words on the meaning of natural law—all these have been worked together into a view of social exchange which is regarded as sound in principle and beyond controversy. With tools and materials derived from such varied sources, tested by many generations of scrutiny and debate, the Schoolmen derived their institutional economics of private property, common value, just price, obligation of contracts, commutative and distributive justice, monopoly, taxation, and usury.

¹Lessius, 23: 1.

²Molina, 18: 8. See also Lessius, 4: 52, 53.

³Molina, Treatise I, Disputation 4: 8. Unless otherwise noted, all citations in Molina are from Treatise II.

⁴Lessius, 5: 10.

⁵Lessius, 12: 66-72. On this matter see the title in the bibliography under the name Clare Q. Riedl.

⁶J. B. Kraus, *Scholastik, Puritanismus und Kapitalismus*, Munich and Leipzig, 1930, pp. 55-56, quoting Abbe G. Desbuquois, *Semaine Social de France*, Paris, 1911, pp. 168 *et seq.*

⁷"Cessant (*obs., rare*), that ceases to act," *Oxford Dictionary*. To avoid cumbersome circumlocutions and to have a phrase symmetrical with the often-recurring "emergent loss," the use of the word "cessant" seems justified. Compare "incessant."

⁸Molina, 315: 4.

⁹Molina, 364: 3.

¹⁰Molina, 365: 9.

¹¹Lessius, 1: 2.

¹²Molina, 365: 10.

¹³Cf. Gospel according to St. Matthew, Chapter 7, verse 12.

¹⁴Lugo, 26: 1.

¹⁵Molina, 336: 1. The Aristotelean echo in this and similar passages is strong and obvious.

¹⁶*Summa Theologica*, 2a 2ae Q. 77, Art. 1, Corpus.

¹⁷Molina, 350: 5.

¹⁸Molina, 339: 5.

¹⁹Molina, Treatise I, 13: 3.

²⁰Molina, 347: 3; 348: 4.

²¹Molina, 348: 6.

²²Lessius, 21: 31.

²³Lugo, 26: 43.

²⁴Lessius, 17: 1-4, 16 sq.

²⁵Lessius, 20: 4. Brass and silver are mentioned in the Roman law as examples of things constant in weight and measure.

²⁶Molina, 299: 3.

²⁷Molina, 304: 3.

²⁸For example, Molina, 315: 11, *et passim*.

²⁹Lugo, 26: 144; Molina, 342: 11.

³⁰Lugo, 25: 181. The same thought is in Lessius, 20: 103.

³¹Lessius, *De Prudentia, passim*. This brief treatise of eleven pages immediately precedes the treatise on justice in Lessius' volume.

³²Molina, 398: 1; cf. also the refutation of Scotus' cost theory in the next section: also 325: 5, 350: 5.

CHAPTER VIII

VALUE AND USURY

The positive presentation of the Schoolmen's analysis of usury presents several tactical problems. The basic internal logic involved is very simple, but the mere statement of it reveals the difficulty of adequate exposition. Commutative justice requires that exchange be between equal things. In a loan of *mutuum*, in which ownership is transferred from the start, to return more than the principal, *in the absence of special circumstances and considering the bare essence of the transaction*, is to render the two terms unequal and the contract unjust. However, in real life, bare essences do not go about unadorned; they have important accidental habiliments and they have acquired important relations to other things. In the case of a *mutuum*, when the object of the loan is money, the foremost consideration is not of the object but of its value. A setting forth of usury analysis, therefore, must be preceded by some Scholastic ideas on value and price. This is contrary to the order in our authors, who discuss *mutuum* first and then purchase and sale. They did this for two reasons; first, because the most difficult points concerning contracts of exchange occur in the discussion of the *mutuum* and they could thus use for all later discussions the principles set down; and, secondly, because they could presume in their readers a fair knowledge of their theory of value and just price. For the same reason we must reverse the process and set forth first their doctrine on value, price, and money. We are aided in this by the fact that Thomas Aquinas, on whom all three have their eyes as they write, proceeded in this order, and also by the fact that the two problems are so intimately intertwined. Many, we might say most, cases which were condemned as unjust purchase and sale, or other exchange, were so condemned because of an implicit *mutuum*.

For the sake of clarity and the avoidance of misunderstanding, let us insist from the start that there is no question here of a preoccupation on the part of the Schoolmen with a rigid, objective, just price based on the

immutable essence of things. Though statements of this sort were common years ago, there was never any historical ground for them.¹ Happily, they are met more rarely today. Not only was this a view to which they conceded nothing—"The value of things is not considered as resident in their entity but in their utilities and advantages";² it was a view which they considered almost unheard-of. Conrad and John Medina found one, a certain Henry Oita, a Scholastic of microscopic influence, who taught it, or at least who implied in a case of sale with repurchase agreement that the price could in no way be altered because the nature and substance of the article were unchanged. "This singular opinion," says Lugo, "is deservedly rejected by everybody, because the value of things is not derived from their nature alone considered in itself but with reference to human uses; and this utility decreases when a buyer receives an article without full power to dispose of it as he wills."³

The basis of value is utility (*utilitas*) or convenience for human use (*commoditas in usus humanos*) and price is regarded as varying directly with value. This utility, as might be expected from the preceding chapter, is not at all the personal utility of a single buyer. The division of property and the division of labor still bear upon them the mark of their destination for the service of all.

"First of all, it must be observed, the just price of things is not judged from the nature of things in themselves with reference to their nobility and perfection, but inasmuch as they serve human use and are thereby valued by men and have their price in the commerce and exchange among men. Indeed, precisely for this were they granted to men by God and for these uses did men divide the ownership of them among themselves, when in the beginning all things were common."⁴

Value, in an exchange which in commutative justice must be at an equality, is the result of the valuation of the whole community. The phrase "according to the common valuation" (*secundum communem aestimationem*) is without doubt the most frequently occurring expression in the treatises; and this appraisal must be genuinely common, "for value, as we have said, rises and falls not with the valuation of this one or that one but with the common valuation."⁵ Lugo frequently adds a word to this standard phrase speaking of the *communis aestimatio fori*, that is, the common valuation of the market, implying that fair price is only arrived at in open market. Once he expands the idea: "The just price must not be taken from a private valuation but from the common and popular valuation at which the article sells for so much in the common market when it is openly set forth for sale."⁶ When a just price has been arrived at, the value of the goods will be the same as that "at which they would be valued at a public

valuation if they were openly displayed in the market place with the whole town coming together at the voice of the town crier.”⁷

A common market is one from which monopoly is absent; from which is excluded, as we shall see, “every machination and effort of merchants by which they bring it about that they alone either have the sale of something or sell at a certain price,” and in which price is based “on the common valuation, made in good faith, entered upon without conspiracy or trickery, in view of the supply or scarcity of goods, buyers, and sellers, and other circumstances.”⁸ A just price and one which arises when “monopoly has been excluded” are closely related ideas.⁹

The common evaluation of the market, merely because it does not depend upon the opinion of any single individual, does not by any means always work hardship on the buyer. In general, no one is forced to sell (apart from circumstances in public emergencies), so that in those cases in which the owner’s valuation is above the common one there would be no sale. The case is quite different when the higher valuation is in favor of the buyer; the standard example of such a situation is the purchase of a horse, generally regarded as unmanageable but which I know how to handle. In this case, I can in justice buy for a small price a horse which to me may be very valuable. The common valuation is the correct one and I obtain the advantage of my special skill. The same principle applies in cases where the seller, because of accidental private information or some particular ability in judging the market, knows that the price will soon fall. He may sell at the present common price, provided he does not lie about the facts or in any other way directly deceive, and provided also that he does not have this knowledge *ex officio* so that, though actually private, it *ought* to be public. “The knowledge of some individuals does not do away with the common valuation.”¹⁰ “The private knowledge of the seller does not change the common opinion and valuation; it is sufficient for prudence that the valuation be based on circumstances commonly known.”¹¹ Lugo, of course, accepts this position but is even more emphatic, insisting that, provided it has not been produced by falsehood or by silence on the part of those bound to speak, the common valuation yields a just price even though some could with reason call the valuation not only “imprudent” but “foolish.”¹²

However useful such points may be in indicating the place of subjective factors in the Schoolmen’s analysis, they are not the common determinants of value in the market. In other words, the subjective valuations are considered generally to be prudent and based on accurate knowledge.

[Lessius summarizes the factors affecting price as] "the circumstances with which the common evaluation of things rises and falls. Some concern the goods themselves as abundance, scarcity, or their necessity and utility; some concern the sellers, as their labor, expenses, risks, and losses in obtaining, assembling, and storing the goods, and also, the manner of selling, namely, whether they are willingly offered or sold on request; some concern the buyers, whether they be few or many, and whether there be an abundance or shortage of money."¹³

Molina adds other factors or puts the same ones from a different viewpoint:

"The transfer of goods from a place where the supply is greater to a place where there is a shortage is reason why the just price should rise. Likewise the improvement of an article whether by human industry, or by nature as when an animal in the hands of a seller, grows and comes to a right age makes the price of it increase. Likewise to sell something bit-by-bit and piece-meal in the way that those whom we call retailers are wont to sell makes its price go up. Things are as a rule sold cheaper than when they are sold piece-meal."¹⁴

The Schoolmen's view as to the real determinants of price is well illustrated by their reaction to the rule laid down by one of their foremost predecessors, the light of the Franciscan Order, John Duns Scotus (1265-1308), who had formulated a rather severe doctrine of costs ruling price. Molina continues in the passage cited above:

"From what has been said thus far, it is perfectly evident that that rule of Scotus is false, which Major followed.¹⁵ They say that the above is not the just price of goods in the hands of a merchant. One must compute (they say) all the expenses which they incur in buying, transporting, or preserving such goods, and then the just compensation for the industry and labor expended and the risks to which they have exposed themselves, just as if having been hired for a wage, they served the commonwealth in this affair.¹⁶ If the article is sold at the price corresponding to this, more or less, this will be the just price for all; and if it notably exceeds it, it will be unjust to the extent of the excess. From this they infer that if a merchant's boat is sunk by some accident or the goods are taken by thieves¹⁷ or the building is burned in which the goods are stored, he may compensate himself by selling dearer in the commonwealth the rest of the goods. That this rule and its corollary is false is perfectly clear from what has been said thus far and thus it is commonly rejected by the doctors, among whom are Soto . . . John Medina . . . Covarrubias, and Conrad. The price of goods is not to be gauged by the gains of merchants or their losses but from the common appraisal of them in the place where they are sold, in view of all the current circumstances. And this is true whether through ill-luck or lack of skillful dealing they gain little or even suffer loss, or with good luck and energetic trading they make a great gain."¹⁸

It is beyond doubt that Molina recognized costs as an important factor in price formation. In his discussion of the legitimacy of trade he lists

the service to the commonwealth in supplying some commodity and the costs incurred therein as a legitimate title to recompense. The fact that there are men who specialize in merchandising brings about a reduction in costs and therefore in price. In fixing the price for a public monopoly which has been granted because otherwise the commodity would not be supplied, the actual outlays of the monopolist are one factor to be considered in settling the legal price. In the question of whether selling on credit is grounds for a change in price, the fact that it may lower costs by making storage charges unnecessary and may make possible quantity sales which involve less "labor and expense" is taken into account.¹⁹ In speaking of the price-fixing on grain, of which in general he held no high opinion, he says:

"Very many of those who own grain are farmers to whom it sometimes happens in a year of bad crops, that when account is taken of all the outlays they have made and the labor and industry they have applied, a measure of grain stands at a far greater price than that at which it is directed to be sold. Equity in no way allows this. Further, there is injustice to the farmers in the fact that other goods in time of scarcity of goods and plenty of buyers, go up in price according to the scarcity of the goods and the great number of buyers; but grain, which they prepare with so great labor and so great cost, and with so great utility to the commonwealth, they are not allowed to sell at a price which, from the nature of case, its scarcity and the great number of buyers demands."²⁰

Lugo is somewhat more reserved than Molina in his condemnation of Scotus.

"Scotus . . . and Major say [the same cost rule as above]. This rule falls short first of all because if some merchant shall have suffered a great loss by shipwreck or by theft in transporting goods he might lawfully demand a higher price for them than that at which they are sold by others. This is wrong since the goods are not commonly so valued but can be had at a lower price. Secondly, those who are not merchants neither must nor can observe that rule but must measure the just price otherwise. . . . Thirdly, it often happens that without great risk or expense someone will chance to bring goods to a place where there is a shortage and the need of these goods is great and in this case because of the crowd of buyers and the shortage of goods, they may justly be sold at a high price."²¹

Yet Lugo, too, in discussing price regulation, finds recourse to Scotus' rule convenient. To Lugo there is "a powerful argument" in the following principle, credited to Molina from the passage above:

"First of all, in order that the rate be just, account must be taken of the costs and expenses and a moderate profit (*sumptuum et expensarum et lucri moderati*) which is a sort of wage of one who serves the commonwealth. Therefore, when in a whole province, the costs incurred by a seller are greater than the price set, the price is unjust."²²

The writers commonly say that merchants whose business it is to earn their living by selling may lawfully ask a higher price than someone who makes a sale only occasionally, or of something upon which he came by chance as, says Lessius, "a mechanic or soldier" might sell. Some writers say that this is grounds for selling above the just price, but such reasoning does not please Lugo:

"The first case is mentioned by everybody. When a person sells as a regular business (*ex officio*), as merchants commonly do, he may for this reason sell at a higher price to make money for his own maintenance because the fact that they attend to the assembling, storing, and distributing the goods and the fact that they give up other occupations and sources of gain can be appraised at a price. . . . But strictly speaking this is not selling above the true value, for in evaluating the common price of goods, attention is paid to these costs and profits of merchants and the common and natural price arises for all of these. . . . Recall what was said above, that a merchant cannot compensate himself for expenses he has incurred when other merchants who have incurred smaller expenses commonly sell the same goods at a lower price. He must reckon it his bad luck that he has brought goods at a great outlay to a place where their common price was less."²³

This recourse to the principle of cost implies that Scotus' rule needed careful restatement rather than rejection. It is hard to see how one can thus appeal to the cost principle as an element in the estimation of the common price and still deny it some place in the theory of value.

Lessius comes closest to an integrated statement on the matter:

"One may charge a higher price by reason of labor and expense which one has undergone in getting, transporting, and storing goods; that is, if goods have not a price set for them. If they have, then the merchant can take account of extraordinary expenses in the setting of the price at the time when it is first fixed, as we see in the case of goods brought through dangerous places where there is need of military escort against freebooters. But this is not to be understood of expenses incurred by reason of misfortune or imprudence. The case is different if goods already have their own price at which they are generally sold; then the merchant is bound to sell at that price or to keep the goods. . . . But in arriving at a price of this kind account has already been taken of the expenses which are ordinarily and usually incurred. But if the merchant's expenses have been greater, that is his hard luck, and the common price may not be increased for that reason, just as it need not be decreased even if he had no expenses at all. This is the merchant's situation: just as he can make a profit if he has small expenses, so he can lose if his expenses are very large or extraordinary."²⁴

Thus amended, one might almost say that Scotus' rule had been re-admitted to full standing; but actually it has not been thoroughly interwoven with the subjective factors which the authors wish to emphasize. This indeed is a calamity, for Scotus' idea certainly has a great deal in it; and only the too rigid statement enabled the later writers to include ex-

treme cases under the rule and make it look foolish. If Molina had been a little less severe with Scotus, the latter's cost theory, plus the ideas on income of Albertus Magnus with which Scotus was perfectly familiar, could have been composed into a rounded system. Had these ideas been refined by employing the superior knowledge of the later writers on the actual price-forming factors in the market, a complete system of social equilibrium could have been developed. However, the chance was lost. "It makes little difference to the commonwealth that money be in this one's hands rather than that one's."²⁵ We must be content to say of the late medieval moralist that his theory of economic value allows weight to all the principal objective and subjective factors of cost and utility and that price formation on the subjective-objective market analysis was well understood but had not yet been fully fused into a system.

Two standard points remain to be commented upon. All conceded that the just price was not a fixed unique figure but had a range of lenient, moderate, and rigorous degrees, also called lowest, mediate, and highest. The civil law gave grounds for action only if the just price had been departed from by 50%, but the theologians insisted that any violation whatever was on the conscience of the offender. The amount of play allowed by the three degrees of the just price was obscure, but between 10% and 15% of the average price in a market seemed to be an acceptable figure, although, strangely, the higher the amount involved the smaller the percentage range. If the price is 10, then the lowest just price will be 9 or 8½ and the highest 11 or 11½; but if the price is 100, then the lowest will be about 95 and the highest 105. Actually, the theologians did not expect controversies about the justice of prices to be a daily matter. In a well-conducted market one could accept the going price. But it was also considered a real and vital doctrine which could and should be applied to prevent extortion or exploitation, especially in cases where a seller sought to profit by the needs of others.

Legally fixed prices, especially on grain, are discussed at length by all, but the underlying ideas are simple and clear. "The law cannot make something which is actually worth 20, worth only 10."²⁶ The price set by public authority may, like the price of monopolists, be "irrational"²⁷—just as it is "irrational . . . to set up equal prices for things of unequal value."²⁸ The proper field for public price-fixing is much more limited. Given the natural price, it may be useful, in order to avoid disputes and to simplify business, for public authority to specify one price within the range of the natural price, as the legal just price. Or in cases where natural price is

arrived at accurately only with great difficulty, not because of basic conditions of demand and supply, but because of peculiar market conditions, such as a product that is hard to identify or easily simulated, or because the terms of sale are complicated, as in the case of annuities, then a public legal price based on the natural and clarifying it is useful and economic. More generally, of course, the greater the number of prices fixed by some sort of public decree, the easier it would be to judge by comparison the justice of prices not so fixed.

Specific cases of special factors affecting the just price are introduced and serve to illustrate the general principles. For example, is it permissible to sell at a higher price on credit? On the one hand, selling on credit is equivalent to an increased supply of money and may cause "a sort of increase of the just price by reason of the deferred payment which is the cause of an increase of the number of buyers; so that the just price rises, or rather, because of that method of sale, does not go down."²⁹ On the other hand, if the employment of credit enables the seller to sell in greater volume, it results in a saving to him of storage costs, but may also involve new risks of collection. This and the opposite case of lower price for early payment and many other selling arrangements are discussed; but since the solution turns on the implicit *mutuum* to the buyer in case of deferred payment and to the seller in case of early payment, we postpone the discussion until we have treated of usury.

Our three authors have a great deal to say on the nature and functions of money; strangely, however, they do not expressly define it.³⁰ The introduction of money to serve as a standard of value is accepted as it is stated by Aristotle; and it is by the introduction of money that purchase and sale become a special contract since before money, there could be only simple direct exchange. In the same definition of Aristotle is contained the idea of money as a store of value and as a standard of deferred payments, but the insistence is upon the fact that these functions all facilitated exchange.

Money narrowly and strictly considered as money cannot be sold and therefore has no price;³¹ if there is a price for money it must arise from some circumstance bound up with the transaction and not from the money considered as such. A price for money may also arise from a discrepancy between any pair of the various kinds of the value of money; and since there are many different kinds of value of money, there can be many prices.

The value of money is distinguished on two different sets of qualities. First, when speaking less accurately and merely in passing, a distinction is made between the intrinsic and extrinsic value of money. The intrinsic

value depends upon the metal content of the coin, its weight and fineness, and also upon the public seal by which the metal becomes a coin. Opposed to this is extrinsic value, which depends upon many circumstances. This distinction is not developed, however, and is used in passing when the meaning is clear from the context.

The essential characteristics of money are elaborated on another basis by distinguishing the formal and material value of money. The material value of money is the value of the raw money metal, or a value based on some physical characteristic such as the shape or the seal which gives it value as a curio or as an historical document. But "the principal distinguishing characteristic of money is not derived from the material but from the value by which it is formally constituted in the nature of money."³² This formal value which makes money to be such is of two kinds: legal or pragmatic, and natural. The legal or pragmatic value, which may also be established by custom, has regard to two matters principally: (1) the relation of the various coins among themselves, especially of the major coins to the minor coins of small material value, and (2) the legal status of coins in the settlement of debt—in modern terminology, its legal tender quality. Of far greater importance is the other type of formal value, the natural value of money. This natural and formal value of money is of two kinds, intrinsic which is dependent upon the material value, and extrinsic which depends upon the circumstances in which the money is used. The legal value supposes the natural value in coins of any material worth, and will never be above the formal natural value though it may on occasion be below it.³³

"When money is coined and a price determined for it, the material is never worth more, in view of all the advantages that could be obtained from it, than the price imposed on it. It is less, for from the material whence the money is coined is taken the expenses incurred in coinage, and the tax is paid, if there be one to be paid the sovereign. Foolish indeed would be the sovereign who would impose a smaller price upon money he ordered to be coined than the current value of the material from which it was made."³⁴

These kinds of value of money may be shown in their relationships thus: (A) Material; (B) Formal, 1. Legal (or Pragmatic), 2. Natural (intrinsic and extrinsic).

The value of money based on all the factors involved is greatly affected by the supply. Precisely as in the case of the just price of goods, "other things being equal, the greater the supply of money is in any place, the less it is worth there for buying things and for obtaining other things which are not money. Just as an abundance of goods makes them go

down in price when the amount of money and the number of merchants remains the same, so too an abundance of money makes goods go up in price while the number of goods and merchants remains the same, and causes the very money in itself to become cheap."³⁵ This difference in value of money can arise when no factor other than the quantity of money varies, and refers not to change in the relative desirability or purchasing power of one coin rather than another, but to the money supply as a whole.

"Not this or that sort of money . . . but all the money taken together is worth more in one place than all the money of another place taken together is worth in this second place, when a comparison is made of an equal quantity of money of one place with an equal quantity of the other place, notwithstanding that the money in both places is of the same material in quality and quantity, or weight and of the same seal, and that the same value has been imposed on each in comparison with other coins of the same place. This value, we say, does not arise from the money itself but from circumstances; it is very inconstant and variable according to changing circumstances; it is not unique and indivisible but has a just latitude, no different than the value of goods."³⁶

The change in the value of money owing to its quantity is discernible not only in comparisons between the money supply in two places at the same time but also in the same place at two different points of time, as Molina's comments on Spanish prices indicate and as Lessius remarks. "The whole of the money at one time is worth more or less both with respect to things for sale in the same place, and with respect to money which is in other places."³⁷ In this sense, money may be said to have a price, just like other goods, for "price is not money only but also loss or risk, or privation of gain upon all of which a price can be set."³⁸

The third factor affecting the value of money is the demand for it—"a greater need of money in one place than another, whether to buy goods there or to transport them there, or because of war expenses, or the presence of the Royal Court or anything else." The nature of this need and the reason why merchants are willing to pay a price for its fulfillment we shall investigate presently.

An exposition of the Schoolmen's views on value and money insofar as they are pertinent to a discussion of usury must, of course, treat the question of the sterility or productivity of money. Though Aristotle is a respected authority, I find no reference to that "dictum" of his that money was a sterile thing, which is sometimes cited as being the basis of the Schoolmen's doctrine; two classic passages from the Fathers (St. Ambrose on Tobias, chapters 12 and 13, and St. Basil's *Second Homily on Psalm 14*, paragraph 5) are paraphrased by Lessius as stating that "though money is

by nature perfectly sterile, yet by the industry of the greedy, it surpasses in fecundity all living things."³⁹ These considerations, however, are not employed in the argument. Lessius and Lugo both speak of the withdrawal of money from business as a reduction of it "from a productive condition to a sterile condition."⁴⁰ Lugo allows that money may be sold "when it is not considered formally as money."⁴¹

There can be no question that money in itself was considered unfruitful, but the phrase "in itself" must be interpreted very narrowly. A loan of money may confer obvious advantages but "that advantage does not arise from the money except insofar as it is subject to the borrower's industry and the borrower's risk."⁴² A person who has wrongly acquired a good which is non-productive in itself, chiefly money, may still be entitled to any gain made by the possession, though bound to return the article itself or its equivalent value. "The reason is that things of this sort are not productive (*fructifera*) in themselves but only insofar as they are subject to the industry of the business man (*negotiantis*)."⁴³ Money thus subject to the business man's activity and diligence undergoes a change in value relatively to money not so placed. "Such money . . . insofar as it is subject to your industry in order to gain by it, is worth more to you than it is considered in itself; for it is, as it were, the fruitful seed of gain by industry, in which the gain itself is contained virtually as in a seed; and therefore, more may be asked for it than it is worth by and in itself (*ipsa per se*)."⁴⁴ We can therefore say that money in itself is not a productive good; but, as far as this principle is concerned, the circumstances in which money can be considered *by and in itself* may be very rare or very frequent.

Merchants (*mercatores, negotiantes*) seem to have little knowledge of money considered in itself. They say "they always hold their money ready for business (*paratam negotiationi*)."⁴⁵ "They say, we are merchants who make our gain with our money and have it always set out in business"; it is the "tool of our trade subject to our industry."⁴⁶ Even a "frightened merchant" who consulted Molina was confident of that. "You understand," said he, "that the tool with which we merchants do business and make our gain is money, and the more money we have the more business we can do and the greater gains we can make."⁴⁷ Molina did not object to the principle, but wished that the individual be carefully questioned to find out if the case was actually such that the principle applied. Lessius frankly concedes that "theoretically . . . money is the tool of the merchant's trade," but advises caution in applying the principle in practice.⁴⁸ In Lugo, an important adjective has been added: "this is common enough among mer-

chants whose chief tool of trade is money."⁴⁹ If, as quoted above, "price is not money alone but also loss or risk or privation of gain," then the privation of one's tools is certainly something upon which a price can be set; and this money-in-the-concrete commands a price which money-in-the-abstract does not, just as the sale of a tool by a storekeeper is one thing and the sale of a tool which a workman is using is another thing. This is the analogy on which an argument for cessant gain is based in the passages cited.

Returning, then, to the question whether money is a productive good, what would be the Schoolman's answer? He would not like to have to reply yes or no flatly, because he is willing to say that in some cases it is and in some cases it is not. One can scarcely regard money as being the "seed of gain"⁵⁰ in any circumstances and still declare flatly that it is not a productive good. Regarding a papal document concerning annuities (*cen-sus*), Lugo states: "It is not enough that it be *per accidens* productive as is money which has been set out in business."⁵¹ Money is fruitful, *per accidens*, in certain concrete situations, but not in itself; the best single statement on this point is Lugo's remark that "we must all allow that money is different from other productive goods,"⁵² where he places money among productive goods but still in a class by itself.

In order to confer a special value on money in addition to its strict value as money in itself, *actual* commitment to business was not held necessary. It was possible that mere opportunity might cause money to have this special value to a single individual, or that in some market widespread and generally known opportunity might cause money to have that quality in the common appraisal. Then a new price would arise, which can be described as a price for money-in-the-concrete, or as payment for the privation of money. Lugo discusses the case of one who had withdrawn money from business some time back and whose money had lost its special value "because the opportunity of trading and gaining has passed." To the person's own loss, he has "brought back the money from a fruitful condition to a sterile one." The special value of the money arose from the presence of the opportunity. Many further examples are given "in which the money is of greater value because of the opportunity of trading and gaining."⁵³ The presence or absence of these opportunities for trade and gain is very important in the matter of exchanges, because this is one of the reasons for the greater value of money in one place rather than in another. "This difference in the unequal value money has in different places does not arise only from the intrinsic value . . . or the legal value . . . but from the ex-

trinsic value . . . because in the place to which it is sent there are more opportunities for trade and gain."⁵⁴

The merchants of Antwerp set great store by their "tools" and made much of being deprived of them.

[This explains] "the practice of the Bourse (*Bursa*) or Peristyle of Antwerp, where the merchants gather every day and take account of the abundance or shortage of money, of the number of exchanges, of the amount of merchandise and all other sources of gain in which there is need of present money. Then either by themselves or their agents they establish the price for the privation of money. Merchants who lend may demand this price for the reason that they are deprived of their money for such and such a time and may not call it back before the time agreed. This price is sometimes 6% per year and sometimes 7%, 8%, 9%, 10%, 11%, or 12%; more than 12% they are forbidden to demand by the Constitutions of Charles V, given at Brussels on the 4th of October, page 767. . . . Moreover, any merchant seems to be able to demand this price in that same place even though there is no gain of his that stops because of his loan. This is the just price for the privation of money among merchants; for the just price of an article or obligation in any community is that which is put upon it by that community in good faith for the sake of the common good in view of all the circumstances. This price is put in that way; therefore it is a just price. When a price is put upon some article or obligation for just causes which are commonly present, I may demand that price for the reason that the object is commonly so evaluated, even though for me such an obligation is no burden, even though it is actually an advantage. Therefore, even if through the privation of money for a year there is no gain of mine that stops and no risk of capital, because such a price for just causes has been put upon this privation, I may demand it just as the rest do."⁵⁵

The special value of money arising from opportunity available may become so widespread in some places and circumstances that in that market a true, common, just price for the privation of money can be established. Then, so long as the price is fair, the individual may make use of it even though the general circumstances which justify the price be absent in his personal situation.

In the beginning of the present chapter, and in the preceding one as well, attention was called to the difficulty of the structure and sequence of this material. Our concern is with the contract of *mutuum*, the justice of which depends upon the equality between the thing given and the thing received. This is a value problem, and the value problem finds its fullest treatment in the discussion of purchase and sale and the just price of goods. As pointed out, however, as soon as we depart from simple direct sale for cash, the difficulties are identical with those of the usury problem, for the anticipated or postponed payment is an implicit or virtual loan.⁵⁶ There is no logical necessity in the sequence of treating these different transactions, since the underlying principles are always the same. A useful prin-

ciple which applies to several contracts may be elaborated by one author under one head and by another author under a different head. Unquestionably a principle developed and applied first in one connection is illuminated by its application to some new transaction. For this reason, it is very useful, and a practical necessity, to discuss briefly two contracts besides those of *mutuum* and purchase and sale. They both involve matters which are of the greatest utility in understanding the Schoolman's attitude toward the two contracts in which the same principles, economic value and money value in particular, are applied. The contracts are those of *census* and *cambium*. The contract of *census* or "annual revenues" (Lessius) was a contract of purchase of the right to receive an annual payment from some property or person. The contract of *cambium* was the contract of monetary exchange, both foreign and domestic such as existed in the United States prior to the Federal Reserve Act.

Both of these contracts raise many interesting questions but we will investigate them only as they bear more directly on our problem, and especially on the matter of the value of present money. In general, the contract of annual revenues was justified on the grounds that, as one could buy a whole field, or orchard, or olive grove for a specific price, though its future fruits might be indefinitely great and would ultimately amount to more than the given price, so too one could buy a right to a part of the produce of that field for a definite price. Sometimes the annual revenue was in natural produce, but frequently it was in money; so that one would invest in a property in this way and receive an annual payment. The rates on these annuities were frequently fixed by law, though they were considered to have a natural just price, which was estimated at about 3%-5% on an irredeemable annuity and 7%-20% on a redeemable one.

"But a *census* is not justified by the fact that present money is exchanged for future money which is of less value, for this would justify usury for the same reason."⁵⁷ As is evident from the fact that the *census* was a common practice, the sale of future goods was accepted as permissible and practical; and especially in the case of inheritance was it clear that a price could be set on future goods which, because of uncertainty and risk, were valued less than present goods. But the same idea could not be transferred directly to an annuity to be paid in money. Conrad is quoted and answered; he had argued that a purely personal annuity, not secured by any specific property, was "in Scholastic rigor" permissible, but for practical considerations should be forbidden by civil law. "Conrad argues thus As far as advantage and man's use of the money is concerned, a

hundred gold pieces, present and in hand, is of greater value than a hundred gold pieces to be paid in installments (*per partes*) through ten or thirty years. Therefore, a hundred gold pieces, to be paid in annual payments, may justly be bought for a price to be paid at once smaller than the sum of a hundred gold pieces." Molina replies: "To the second argument it must be said that, although one hundred present gold pieces are worth more to one using them for business purposes than the same number of future gold pieces, in themselves they are not worth more nor in themselves are they productive."⁵⁸ Lessius, too, frequently speaks of the "advantage of present money,"⁵⁹ which carries "many . . . opportunities . . . which a future good has not." Nevertheless, the argument in this form was not admitted for the reason that this greater value of money "present and in hand" was extrinsic to the money itself.

Closely related to this problem was the theory of the just price of foreign exchange and—what was, in substance, practically the same type of transaction—the sale of notes (*chirographa seu libranciae, ut vocant*) at a discount. The intimate relation of the three transactions, annuity and foreign exchange and the sale of notes at a discount, is apparent from the fact that they were all exchanges of present money "present" both temporally and locally for the right to receive money "absent," either temporally or locally. Foreign exchange was widely practiced; and Lessius gives the whole list of actual quotations on the Antwerp market for December 7, 1600. Foreign exchange was justified readily, first, on the grounds of service charges and, secondly, on the grounds of the real difference in the value of the money. The sale of all three of these "rights to receive money" was justified by the greater *extrinsic* value of present money. The principles involved in all three cases may be set forth in Lessius' discussion of the sale of notes, or as Lugo prefers to call them, "liquid debts" (*debita liquida*). Says Lessius:

"I take it for granted that such rights can be bought at a price lower [than their face value], if the payment is difficult to obtain, or doubtful, or obtained only with trouble. But the whole difficulty is, if none of these things is present, and if such rights are considered only in themselves, can they be bought for less? . . . One opinion says they can, that of Panormitanus . . . Innocent . . . Cajetan . . . Navarrus . . . Bellarmine. . . *Proof*: Such rights, when they are offered for sale like merchandise, in the common judgment of men are appraised at a lower value than present money; as is evident from experience, because present money furnishes control over many things which these rights do not supply. Therefore they may be bought at a lower price. The conclusion is evident because that is to be regarded as the just price of anything offered for sale which the common evaluation of men puts upon it. And if in other things the common evaluation establishes a just price, why not in these notes?"

"You may object: The fact that men commonly value these notes less, is due to the necessity of those who must have cash. But this is not the valuation of a prudent man and therefore may not be used; otherwise, if someone were ready to pay double because of his necessity, it would be permitted to take double. But it may be answered, denying the conclusion, that practically every valuation depends on some necessity to which men are subject and would have no value if that necessity did not exist; as is clear in the case of medicines, foods, buildings, and their materials. The need which determines the particular value of a thing does not need to be universal; the need of a large number or of nearly all is sufficient. Just so are those rights prudently valued at a lower estimate, since they are less necessary than present money and do not furnish a capacity for gain and other advantages. It makes no difference that you in particular do not care whether you have present money or a note; that is merely *per accidens*. The price of a thing does not depend upon your valuation but upon the common valuation; just as, though you have no need of medicine, you may nevertheless sell it at a common price.

"Secondly, if such rights are not worth less than present money, then the sales of personal annuities, which are accepted in many places, are unjust. . . . To condemn as evil the practice of many provinces would be hard indeed."⁶⁰

Nevertheless, Lessius will not allow the sale of these notes at a discount for the simple reason that all the real causes of the lower valuation of the notes (or the *census*, or bills of foreign exchange) are reducible to the conditions—various difficulties or uncertainties of collection—which in the first sentence of the discussion were assumed to be absent. In this conclusion, Lugo strongly concurs:

"A liquid debt of 100 gold pieces, which involves no difficulty or vexation in collection and no risk, is worth indeed the full 100 gold pieces. If, therefore, only 90 are given for it now, a just price is not given but an unequal one. . . . But in my opinion this controversy is theoretical rather than practical. In practice, debts of this sort are hardly ever bought but there intervene, at least in the common opinion, risk of non-payment, fear of trouble and expense, emergent loss and cessant gain, and the like, which justify the purchase at a price lower than the debt itself. Where can there be found today a debt so safe that in security it equals present money?"⁶¹

The quotations in the last few paragraphs on the sale of rights to receive money have been taken from the authors' chapters on just price, exchange, and *census*. Yet, obviously, these all involve the problem of what modern economics calls interest. This preliminary view was necessary before turning directly to the subject of usury; for we, like the authors themselves, must be able to use highly relevant matter which appears under distinct but related heads. They did not view usury as an isolated problem. *Mutuum* was just one of the many contracts of exchange, but one that was especially likely to become intertwined with the others, perhaps

involving usury. For this reason, some view of the place of money in other contracts was necessary.

Mutuum was defined in the preceding chapter as "the delivery of an article the qualities of which are fixed in number, weight, and measure with the intent that it immediately become the property of the one receiving it with the obligation to restore an article of like kind and quality." This definition was elaborated for the purpose of bringing out the difference between a *mutuum* and other similar contracts. It was brought out that, though in practice the object of a loan of *mutuum* would commonly be a fungible or a consumption good, neither of these points was essential to a transaction of *mutuum*. Very durable materials could be lent and be the material of a *mutuum*, especially if they were fungible; and non-fungible goods could become the object of a *mutuum* by agreement—for example, a friend could lend me a horse and not care if the same animal were returned so long as he received one about as good. But when anything is loaned in such a way that the title of ownership passes to the borrower, so that the article becomes his and he is bound only to return the equivalent, then the contract is a *mutuum*.

This essential point is obviously of paramount significance where money is concerned. First of all, with money as with many other consumable and fungible goods, the first use is the last; and with the use the ownership must go. There is no purpose in a loan of money if the borrower does not have complete dominion over it. Secondly, in the case of money, "observe that in a loan of money it is the value which it has as money that is chiefly taken account of; since the same kind, quality, and goodness is considered returned if money of the same value is returned."⁶² Money is the object *par excellence* of a loan of *mutuum*, for with unimportant exceptions money cannot be loaned except on *mutuum* and it enjoys the highest fungibility.

The contract of *mutuum* is, as Lugo says, very simple in itself, as is clear from the definition and the examples. It is the most ordinary loan transaction, in which for whatever reason, the lender either cannot or does not retain the ownership of the thing lent but must be, or is, content to receive back not the thing lent but its equivalent. The entire difficulty concerning the *mutuum* hinges on the question of usury. "The whole justice or injustice of a *mutuum* consist in this, that usury does or does not intervene."⁶³

The fullest definition of usury is that of Lugo. Usury is "gain immediately arising as an obligation from a loan of *mutuum*. . . . If the gain does not arise from a *mutuum* but from purchase and sale, however unjust, it is

not usury; and likewise if it is not paid as an obligation due but from good will, gratitude, or friendship, it is not usury."⁶⁴ The discussion of the definition is brief, for there seems to be no disagreement whatever on the point. Everyone agrees as to what usury is. However, they do discuss, first, by what sort of law it is forbidden—natural law, divine positive law, civil law, or canonical law; and second, for what reason it is forbidden by the natural law. The second practically reduces to the first because, at the time of which we write, the position was almost universal—"the common opinion of theologians and canonists"—that usury was forbidden by the natural law, and by this alone. Positive ecclesiastical legislation especially enjoining clerics from the practice of usury, and declaring it to be sinful for anyone, cleric or lay, to practice it, rested fundamentally on the natural law rather than on divine positive legislation. Lugo emphasizes that it is well to be clear on this, not only because of the practical importance of the matter but because a point that was missed by the "most learned Roman jurists," who had a good understanding and high respect for natural law, may involve a certain amount of difficulty.

The central proof that usury is contrary to the natural law and the evidence upon which all reliance rests is easily presented. Three standard objections are then answered. Lugo's syllogism is the shortest.

"In the exchange of one thing for another, it is contrary to justice to receive more than the article is worth, unless some other title intervene by reason of which that additional something may be justly received. But he who receives usury beyond the principal receives more than that which he gave is worth. Therefore he sins against justice. The major premise and the conclusion are manifest. The minor premise is proved: If you gave ten and receive back ten, you have already received as much as what you gave was worth. If therefore you receive 12 you are receiving more than the value of the thing given."

He then very briefly indicates how the commonly admitted titles, to which we will shortly turn, can actually intervene, and adds, "It is usury, therefore, only if it is received for the mere loan."⁶⁵

There were three standard objections to this position, urged by various writers in the past but rejected by general consent as to their insufficiency. They are, first, that the lender may charge for the advantage accruing to the borrower; secondly, that a charge may be made for the use of the money; thirdly, allowing that no charge may be made for the use of the money, a charge may be made for the obligation of not demanding the return of the money for a given period, say a year. The first of these difficulties is readily disposed of; it is an example of the principle insisted

upon in the matter of just price. The advantage or benefit to the buyer or borrower is no title of the seller or lender. Title to possession must be a quality of the one who wishes to vindicate his right to possession, not of the buyer or borrower of that object. Otherwise one for example could charge a high price to the rich man because of his capacity to pay. The whole concept of community evaluation and common price would be dissolved.

The second standard objection to the usury thesis states that, though nothing may be taken for the money itself, still something may be taken for the use of the money loaned. Lugo says:

"But this is contrary to justice. When something passes into the full ownership of another, by that very fact there passes to him the full right of using it; nor does this right increase the price of the thing itself. When the just price of something is computed, the whole thing with the right to use it is appraised. Thus, when you sell a horse at a just price you cannot demand something additional for the right to use the horse; for all this is considered when the value of the horse is judged. If, therefore, you transfer the full ownership of money to the borrower and so bind him to pay the full value of the money, you can not later demand something further for the use. The reason is two-fold. The money itself with the full right of use is not worth anything more than, for example, 100; therefore, if you demand 110, you demand more than the money together with its use is worth. Furthermore, no one owes anything for the use of his own property since that use belongs to the owners. If, therefore, the transfer of the ownership of 100 gold pieces is not worth anything else than 100 gold pieces, and from that transfer there arises necessarily the right of using such money, then, in consequence, if you demand something further for the use itself, you are demanding it over and above the full value; for, to be sure, you are selling to that person the use of his own property, which is not equitable."⁶⁶

The third objection to the argument of the intrinsic unlawfulness of usury is somewhat more formidable. Molina regards it as new, unheard-of, and dangerous.⁶⁷ Its proponents claim for it the authority of Thomas Aquinas. This is hard to believe. The list of its advocates is short but of high authority, consisting really of three names. Lugo quotes Lessius as seeing some probability in it; but it should be remembered that in the case cited above he was discussing not a general proposition but the very limited and special market of the "community of merchants" of the Antwerp Bourse. The theologians, however, commonly repudiated it. The objection runs as follows:

[One who makes a loan, according to Lugo] "by that very fact, deprives himself of something that can be appraised at a price, namely, the capacity of using his own money throughout the year for business or lawful gain. Just as, by reason of cessant gain, something beyond the capital may be asked, so also can something be asked by reason of the obligation to be without the capacity for making gain. Not only is the

cessant gain assessable at a price but also the very capacity to make gain is assessable, even though one was not as a matter of fact going to use that capacity and was not going to make any gain. If you have a field which you do not cultivate or intend to cultivate or lease, and if someone is willing to obligate you not to cultivate that field for two or three years because this works to his advantage, you may lawfully accept a payment for undertaking this obligation, not indeed by reason of the cessant gain, of which there was none, but because the obligation not to gain is assessable in itself."⁶⁸

The effect of this objection, if it were valid, would be sweeping indeed, for it would mean that no one would ever be guilty of usury unless he were so stupid as not to know the lawful titles and the merely verbal differences which would save him from usury in any loan he cared to make. But forebodings of evil are, as Lugo remarks, no answer to the argument which demands that its claims be faced.

The first answer given, and one which is sufficient for those who concede that usury is contrary to natural law, is that such a privation of capacity to gain, or, what is the same thing, the postponement of the recall of the money is inherent in a loan of *mutuum*. A *mutuum* must be for some period of time; otherwise it would be a meaningless exchange of money for money under conditions in which the exchange could serve no purpose. The privation of the indeterminate faculty of gaining is inherent in the *mutuum*; in the absence of any other title it founds no new right, but is merely another way of saying that a loan has been made. And, indeed, by the bare loan, assuming out of existence all true extrinsic titles, all risk, or cost, or loss, or alternative opportunity for investment, or intention to invest in any way, the lender is in no worse position by the fact of the loan and has no grounds for compensation. In Lessius' case, all the men concerned were on the same market, where the privation of money might be conceived as having a common price (though Lessius did not concede it); but the present discussion does not proceed on that circumscribed plane. Its scope is more general.

Lugo feels the need of a more direct attack and makes it as follows: "If a lender by giving over 100 units deprives himself of the capacity of trading and gaining with that money and later there is returned to him an equal sum of money with the capacity of trading and gaining with that, then the capacity which he recovers is equal to that of which he previously deprived himself for a time just as the money returned is equal to the money originally given."⁶⁹ One may argue further that if the loan had not been made, and the lender had not bound himself not to ask it back, he would have had the capacity to gain this year and he would also have had it the following year. But having made the loan, though he has that capac-

ity for the following year, he is deprived of it for this year. Therefore he remains uncompensated for this year. Lugo replies:

"The money returned in the following year with the power of using it for all time thereafter is not of less value than the money given this year with like power. Both capacities are regarded by men as of identical worth and price. This is perfectly evident in all other matters. If you sell your estate or field today, you deliver it with the power to cultivate it and to gather the product. But if you do not sell your field this year but next, with the power of cultivating it thereafter, you do not have to take something off the price; but you may sell your field this year for what you would have sold it last year. Therefore, the power of making use of the field for all time thereafter is not of less value than the same power was a year ago, even though it be not given now with that capacity of making use of it for the year past."⁷⁰

The reasonableness of that argument is shown by the fact that if this position were not correct, the price of all immovable goods would have to be lowered every year, because they are always being sold with a smaller capacity for use than they had possessed previously. When immovable goods are sold without restriction as to their future use, the fact that their past use is not included in the sale is, in the common evaluation of men, regarded as of no consequence. The case is different with goods which deteriorate with time, as a vineyard grows old or an annuity for life becomes each year less valuable; but this is not the usual and certainly not the universal and necessary status of money itself. The argument of the adversaries would be valid only if it were somehow possible, having borrowed 100 pieces of money with the capacity to trade and gain with it, to return the 100 pieces stripped of that capacity. This would apparently involve rather complicated conditions, which there is no reason to suppose are commonly verified. The analogy of the owner of the field which he agrees not to cultivate is not complete; for when the right to cultivate is sold, that is the end of the transaction and the owner has no further obligation to restore to the buyer. In a loan, the money and the right to use it are given up, and the money and the right to use it must be restored—and that under such conditions of unlimited future use that the money retains as much value as it had before. "If today you sell a jewel to Peter and next year wish to buy it back, Peter may ask the same price from you because, though he does not give back to you the power to use it for the year just passed which you delivered to him, nevertheless, the jewel with the power to use it for all time thereafter is worth just as much as it was before."⁷¹

This apparent difference of opinion between Lessius and Lugo is worth a little probing for the light it throws on their approach to the problem of

interest. Each has reached consistent conclusions for the case he is discussing; but the cases differ in important respects. In Lessius' discussions (Chapter 20: 119 *et seq.*, *On Usury*; Chapter 21: 65 *et seq.*, *On Purchase and Sale*; Chapter 22: 15 *et seq.*, *On Annual Revenues*), he is examining a narrow but active and highly organized market, in which, though for a particular merchant there might be no business opportunity in immediate sight, yet in the market as a whole such opportunities were constantly arising; so that a true common price for "the privation of money" on the part of the lender and for the money itself on the part of the borrower might emerge. In other words, opportunities for lawful and gainful transactions in such a market would be so frequent that the merchant who bound himself not to recall his money for a certain period might easily be binding himself to forego a first-class opportunity. And in lesser degree this could apply to one not a merchant, as we shall see, provided a true common price had legitimately been established.

Lugo, on the other hand, is discussing the case in very general terms, from which all alternative opportunities for lawful gain by the use of money have been sharply excluded; a case where there is no question of an organized market and a true common price, where the bare loan stripped of all conditioning factors is considered between two isolated individuals. In these circumstances the return of the money loaned and the right to use it equates with the loan of the money and the right to use it. Lugo establishes that, as a universal proposition, the privation of one's money for a certain time is not a valid title for payment. Lessius concedes that, under certain elaborate conditions, it may be, or at least that such a view has an element of true probability in it. Each view on its own level is consistent with the general Scholastic principles of both.

That usury is contrary to the natural law demanding equality in exchange is the core of the traditional Scholastic argument and is the answer to the standard objections brought against the doctrine. The cases we have just reviewed contain little that is new, and that little concerns form principally. Molina does refer to the idea of a title founded in the "privation of money itself" as being "new, unheard-of, and dangerous enough." Nevertheless Lessius, on the intimately related question of the sale of notes at a common rate of interest, can cite approving authorities all the way back to "Panormitanus" (that is, Nicholas de Tudeschi, O.S.B., 1386-1445, Archbishop of Palermo), and "Innocent" (that is, Sinibaldo de Fieschi, a scholar of note who became Pope Innocent IV, d. 1254), as well as to the less remote Cardinal Cajetan (Thomas de Vio, O.P., 1469-1534). Cajetan's

opinion on this matter is perhaps the reason for Juan Medina's saying that the followers of Aquinas held this opinion. This matter of the "privation of money" is nevertheless handled and settled by the accustomed methods; and by these methods and principles, in the opinion of the authors, the matter stands or falls.

Though this closes the formal and analytical treatment of the intrinsic evil of usury, the authors in passing, and while treating of other matters, set down brief summary statements that show how they look at the matter practically. Molina, for example, says, "Look and see if in that contract a *mutuum* enters, either formally or virtually; and if it does, whether a gain is sought from that *mutuum*. If it is, then that contract is usurious and such gain is usury; if not, then it is not usury, however just or unjust otherwise."⁷² Speaking of the obligation to restore on the part of one who has received usury, he observes that ownership of a thing paid as usury is not transferred because "it is given as a price for something which is not worth a price."⁷³ Lugo employs several succinct phrases in which the kernel of the matter is summarized. "The whole evil in usury arises from injustice, inasmuch as the goods of another are taken without a title."⁷⁴ The treatment of the question of the sale of "liquid debts" evokes this:

"Only from the passage of time, excluding every other risk or loss, the value of the debt cannot decrease. Usury otherwise would be licit, for if 100 to be paid after a year is not worth as much as 100 received today on loan, the borrower could be obliged to return 110 after the year in order to maintain the equality between what is given and what is received. To this can be reduced all the reasons by which the malice of usury is proved, for they are all based on the fact that the value of money due is not lessened solely by the interval of time. Either the antecedent proposition must be admitted or it must be denied that usury is, by the natural law, illicit. . . . If a debt were liquid (*debitum esset liquidum*) and to be recovered without any difficulty and risk, that right (to money) would in no way be of less value than the money itself, nor could it lawfully be bought for less."⁷⁵

The method of the Schoolmen in treating the question of price in all the contracts of exchange is well exemplified by this passage in the treatise on purchase and sale, where an excellent summary on usury occurs and is followed by an example from foreign exchange. We have already quoted Lugo on the contract of annual revenues, to the effect that the contract of *census* is not justified "by the fact that present money is exchanged for future money which is of less value, for this would justify usury for the same reason." He later gives the same thought greater emphasis and importance: "The evil of usury consists in the fact that present money is sold

for a larger amount of future money (*vendatur pecunia praesens pro majori pecunia futura*) and, in consequence, at a price above the proper value."⁷⁶

Thus the central axiom from which usury analysis sets forth is that in a loan of *mutuum* the object borrowed must be returned "to an equality"—to an equation of values. The passage of time considered absolutely by itself does not alter the value of money; and, therefore, when the only difference between money loaned and money returned is a difference merely in time and nothing else whatsoever, then present money and future money do not differ in value. Accordingly, there is no title by which the lender may receive anything beyond the principal lent. However, any circumstance which does alter the value of money *to the lender* or because of which he incurs a cost on the occasion of the loan may found a title to compensation. These titles were called "extrinsic" as being something apart from the money itself but yet involved in the loan transaction when viewed concretely and as a whole. They were not extrinsic to the particular loan; but since a loan may be made in which these titles are absent, they are extrinsic to the essential idea of a loan.⁷⁷ These titles are the notorious "subterfuges" by which the medieval canonist sought to "evade" the "prohibition of usury."

The basic titles are two, emergent loss and cessant gain (*damnum emergens, lucrum cessans*)—that is, a loss arising *to the lender* because of the loan or a gain which *the lender* has been making which stops or does not materialize because of the loan. All other titles, risk of the capital, penalty by agreement, delay in payment are directly reducible to these. Moreover, the two basic titles are but different aspects of the same thing; and in this sense cessant gain is reducible to emergent loss. "Notice here that cessant gain may also be called emergent loss, if the word, loss, is taken in a wide sense, for not to obtain a gain which one lawfully could have obtained but which one foregoes can with perfect right be called a loss in goods which one otherwise would have had."⁷⁸

"There are three chief titles, which can cleanse a *mutuum* from the stain of usury: emergent loss, risk, and cessant gain; and these three can be comprehended under one, emergent loss. Risk and stoppage of gain are losses of a sort, which, however, are usually distinguished for the sake of clearness. . . . Emergent loss, taken in a strict sense, is distinguished from cessant gain by the fact that emergent loss causes detriment to goods possessed; but cessant gain causes a loss of goods which you expect to possess but do not."⁷⁹

It is a loss in that "the stoppage of gain is a quasi-expense or quasi-cost incurred in favor of the one seeking the loan."⁸⁰

Gain *immediately* arising as an obligation from a bare loan of *mutuum* may not be taken; if taken, it is usury. This rigid position, in itself, says nothing whatever about the existence of other circumstances, not essential to the loan yet concretely identified with it, which may furnish a sound basis for a title to compensation. Such circumstances are called titles for the same reason that today we speak of a title to property; they are facts upon which is based a moral claim to ownership or compensation. In the case of a *mutuum* they found a title because, whatever charity may dictate in some circumstances, justice alone does not require that my status be rendered worse for someone else's benefit. "Legitimate interest"⁸¹ is not taken as compensation for the loan of *mutuum* itself but must be justified "by a far different title on the occasion of the loan."⁸² We may say of legitimate interest in general what Lugo says of a particular case:

"The whole question is seen to reduce to one of fact: do these heads (cessant gain, emergent loss, and risk) intervene or not? We do not deny that when these circumstances do actually intervene, the contract can be justified on these heads. . . . We only say that when these circumstances are excluded . . . the contract, from the nature of the case, is not lawful."⁸³

We may add that "it should be observed that emergent loss and cessant gain are commonly called interest."⁸⁴

In order that the extrinsic facts may furnish a basis for a title to compensation, it must be clear that the *mutuum* is actually the cause of the loss or cost to the lender. Not only must the *mutuum* be the genuine occasion of this loss or cost, but there must be no other circumstance in the loan offsetting that cost. The amount of the compensation is limited to the *net* loss or cost. Suppose I have 100 units of money. I can use them in my own business in trade so as to make a gross profit of 20 units which, after expenses of 5 units involved in the business are deducted, will yield a net profit of 15. If, however, I forego trade and put my 100 units of money out upon loan, my cessant gain can still be only 15. If a merchant makes a virtual loan to his customers by carrying them on credit, he may raise the price of his goods if he has an actual need of present money for current expenses.⁸⁵ But if selling on credit prevents an otherwise inevitable fall in the just price, or cuts his selling cost by increasing the number of buyers or the size of the individual sale, he may not profit by both titles but must set the one against the other.⁸⁶ The loss or cost or cessant gain "must regard the transaction as a whole."⁸⁷

That cessant gain may be said to be present in the case of money loans, the money must, first of all, have been more or less definitely set aside for

business purposes, or for the purchase of a productive good and the owner must have no other idle money.⁸⁸ The cessant gain must also be properly evaluated inasmuch as it was not a certainty but an expectation, and its value will depend on the degree of that probability. Finally, both the emergent loss and the cessant gain must be of such character that they can be assessed at a price.⁸⁹

The simplest case of emergent loss is a direct cost incurred in order to make the loan. I am willing to lend money to you, but to do so I must travel to another city where the money is and bring it back. I may charge for my time, labor, and expense in doing this, which are a loss to me emergent from the loan. Otherwise, one would not "maintain himself without loss" (*servare se indemnem*), as commutative justice permits him to do. Similarly, all the expenses connected with making a loan, which would be a loss to the lender if not indemnified, are lawful interest, such as any labor and expense in counting or proving the money when given or returned, expense of keeping accounts, or, in some loans, of legal formalities or difficulty in recovering the principal. The value of things which I own and retain may decrease because I have made a loan: my house or place of business may deteriorate because money set aside for repairs has been lent; or provisions for my family or materials for my trade may have to be bought in an adverse market because I have lent my free funds. The difference is a loss to me occasioned by a loan. Or, lacking ready money for current expenses, I may be forced to sell some of my property. A merchant forced to borrow at interest because he is carrying customers on credit may recoup the difference from the customers. If my money is actually dedicated to trade or industry, and I actually withdraw it, this may be not only a cessant gain founding a title on that score but may even involve me in a positive loss; if so, I am entitled to interest on that account also. Even money which had definitely been set aside, not for business, but hoarded for precautionary purposes, may command interest, if the loss of this reserve can be regarded as a true disadvantage. The loss finally must be of economic significance so that by some means or other it at least *could* be assessable at a common price.⁹⁰

Cases of cessant gain that could not be restated to make them sound like emergent loss are not many. All titles to legitimate interest are reducible to these two; and these are the positive and negative aspects of the same thing, namely, the lender's economic status as affected by positive expenditure of what he has, or negatively by failure to receive what he would otherwise have got. If a man is engaged in business or trade, and

money is withdrawn from his operations which are thus definitely curtailed in order to make a loan, he may claim a cessant gain for which he may justly be indemnified. If one is not personally engaged in business but has money in annuity rents, or property which is rented, or owns productive property—farms, pasture, forest, mines—and these must be sold in order to make a loan, there is cessant gain. Or one may not himself be active in business but may have money in trade by means of partnership (*societas*) in which he supplies the capital and another the industry; if money must be withdrawn from this enterprise in order to make a loan, then there is cessant gain which would base a title to legitimate interest. If a workman, or more especially one engaged in direct primary production such as a fisherman or a hunter, were asked for a loan of his tools or other instruments of his trade, he might lawfully set the price at the value of his reasonably expected catch or product; so, too, a man who has no fixed place for his money but puts it here and there as profitable occasion arises, may set a reasonable price, legitimate interest, on money, the tools or instruments of his trade, if because of a loan he is deprived of these opportunities of gain. In all of these cases, the same matter can be explained by saying that, in such circumstances, the money in question is worth more to the lender than money which is considered strictly in itself; and just as the lender may not take advantage of the borrower's need or opportunity, neither need he yield up his own advantage and opportunity without compensation. But the Schoolmen did not take the step of saying that money in itself had these qualities, no matter how prevalent these circumstances might become.

Two titles which are particular cases of emergent loss are singled out for special mention in the same way that cessant gain and emergent loss are distinguished for the sake of exposition. They are, first, risk of one's capital, and, second, delay (*mora*) and penalty by agreement (*poena conventionalis*). Risk on capital was accepted as a title for the reason that when one embarks on a highly uncertain undertaking, it is evidently lawful for either the lender or the borrower or owner using his own goods or money to insure himself against loss with some person outside the transaction at a rate varying with the hazard. If an outsider can thus appraise the risk at a price, then a lender may ask compensation directly for assuming it. The circumstance that the money may ultimately be returned intact does not alter the fact that for the duration of the loan his economic position has been rendered to this extent less secure, and for forfeiting this security he may lawfully ask a price. Delay founded a title when failure

to pay promptly caused the lender inconvenience and by that delay there arose a loss; so that after the passage of time, emergent loss became operative, even though the loan was at first *gratis*.

For this reason Lessius does not discuss delay (*mora*) separately but subsumes it directly under emergent loss. There is some indication in the authors that it was in this way that emergent loss first came to notice, and that having one's money kept indefinitely, even when one had no other intention than to spend it, might be a genuine inconvenience which one was not in justice bound to bear. Penalty by agreement concerns much the same circumstances, except that the lender's wish to have his money by a certain date is foreseen and provided for contractually from the start. In this case there is no need that any alternative investment be at hand, but simply that the owner of the money have a real desire to use it. All authors warn their readers that while these titles are perfectly valid in themselves, and in some cases the simplest and most direct examples of an inconvenience to a lender, they must be scrutinized to make sure that the case is not fictitious. The inconvenience to the lender must be actual, or a probable expectation which one might reasonably wish to forgo. The delay must be real (that is, not negligible in time, as a mere half-day) and culpable; the penalty must be "moderate and reasonable," else there is reason to suspect that this legitimate title is being counterfeited to disguise a usurious transaction.⁹¹

The vigor of the Schoolmen's exclusion of time as a determining factor may call for a little explanation. First of all, the attention centered on it by modern writers causes us to wish to know the reason for the apparent omission; and, secondly, the Scholastic writers in their discussions seem to include and allow many of the influences which modern writers assign under the caption, time. The lesser value of future goods generally, though not universally, was readily admitted, as well as the lesser value of a series of annuity payments arithmetically equal to the original purchase price. The lesser value of a debt, even of a liquid debt, readily converted into cash is admitted. The lesser value of goods requiring time in which to mature is readily conceded, and the just price or present value of an immature good in relation to its ultimate value is discussed. Cajetan's application of this simile to debts, by which he justified a lower price for a "green" debt than for a "ripe" or "mature" one, is analyzed at great length. Time is a factor in the price of goods sold on credit, in the price of annuities, in the rates charged by the "pious funds" (*montes pietatis*).

If all these factors were allowed individually, why was the Scholastic

at such great pains to rule out time? He realized quite well the influence of time on all material things. The reason seems to be, not the crudity of the Schoolman's concept of time, but the perfection of it. From the earliest days of Scholastic philosophy and theology, and even in positive theology, the problem of God's eternity and timelessness had forced attention on the problem of the nature of time. With such a refined concept in mind, and facing the problem of the exchange of values to an equality, they laid their emphasis on the fact that time in and by itself alters no values. With time may come changing circumstances, especially increasing risk, by which values are altered. These circumstances may found new titles or invalidate old ones. But the Schoolman consistently and characteristically insisted that this was the question of fact that required investigation and was to be probed in each case. As indeterminate appeal to the passage of time alone was of no avail.

The volume of legitimate interest that could be taken in the communities with which the Schoolmen were familiar, and which they had in mind as the practical object of their writing, depended entirely on the degree to which the extrinsic titles were verified. There is nothing in usury analysis to prevent a great deal of legitimate interest from being taken if the facts upon which titles may be founded are, in reality, of frequent occurrence. Though the general tenor of Molina's treatise implies that the circumstances upon which titles to lawful interest may be based must be quite general (otherwise there would be little point in some of the topics discussed), yet he rarely singles out this fact for comment, as the other two authors do. Passages like the following, however, would not be hard to duplicate:

"To the extent that the Genoese buy wool with payments made before delivery, they take care to lower the price paid, saying that they always have their money on exchange, or in some other business and that, for this reason, the earlier they pay it out the more cessant gain there is; and to that extent they lower the price of the wool they buy because of the earlier payment. An indication that this is actually the case is the fact that the Genoese themselves willingly raise the price one or two *reals* in each unit weight, provided they pay the whole price at the time of the receipt of the wool; and especially if, for at least half the price, there is a further interval of three months."⁹²

Lessius, likewise, and perhaps even more than Molina indicating that some titles are of very common occurrence, does not make any observation on the matter. In speaking of the reasons which may have led Molinaeus (*du Moulin*) to his opinion that very low rates were not usurious, Lessius gives as his own opinion, first of all, that the lawyers may regard the prob-

lem in the same way as the regulation of other problems of vice is regarded, namely, that greater evils will be avoided by toleration and regulation than by downright prohibition. He adds: "As far as the lawyers are concerned, I think that they readily understand that usury considered formally is not lawful; but they allow some moderate usury both because of the public good and because some title is often involved; though their opinion is not to be admitted in this that they allow such usury as generally just and licit."⁹³

Lugo, on the other hand, furnishes many parenthetical remarks by which he indicates that he believes that the presence of facts upon which admissible titles are based is very general indeed. Though he certainly nowhere lays it down as a universal proposition that the existence of such titles may be taken for granted, except in certain markets which are very well developed, his statements would almost add up to that. In these circumstances, it is significant that he would not take the step. In speaking of certain re-purchase agreements, the essential characteristics of which might well extend to other contracts, he says: "Some say that contract is not lawful unless there intervene the title of cessant gain. . . . I believe that the title of cessant gain commonly intervenes and that for this reason the practice of those who make such contracts is justified."⁹⁴

The controversy about the sale of notes at a discount was dismissed as more "theoretical than practical" because "hardly ever" are such notes sold without the intervention of some title. Later the usual titles are enumerated and stated to be reasons "which commonly intervene and justify such purchase," and "are practically always found."⁹⁵ When merchants have to wait for payment on their goods, they "commonly suffer cessant gain or risk and trouble in recovering their money." So true is this that, despite the implicit *mutuum* in the postponed payment, the general prevalence of these titles may cause goods thus sold on credit to have a common just price different from goods sold on other terms.⁹⁶ An argument that a specific transaction was lawful in itself without regard to the titles is answered by the retort that "in this case, recourse has already been had to those heads mentioned above, cessant gain, emergent loss, and risk . . . which frequently are found."⁹⁷ In relation to foreign exchange the observation occurs that cessant gain and emergent loss are "commonly present" among merchants, or at least "common enough."⁹⁸

From statements such as these it is safe to conclude that in the authors' view the volume of legitimate interest was very great indeed. But there never came a time when it was not necessary to scrutinize the titles, how-

ever commonplace or widespread they might seem to be. Their fundamental concepts—that it was not the borrower's but the lender's need and use of the money that justified taking compensation; that money absolutely by and in itself had only one value and that value was not altered by the mere passage of time—these concepts continued to rule. The emphasis was kept on the examination of the factors, extrinsic to money, which might cause it to have a special value upon which a lawful title to interest might be based.

Except in the relatively simple cases of risk bearing and of a direct or indirect cost incurred by the lender on the occasion of the loan, titles to receive interest usually involve the "quasi-cost" of cessant gain.⁹⁹ That cessant gain was like a cost to a man who actually withdrew capital from his business may be clear enough; but what of a case involving free funds which were not as yet applied to any business project? Would it be possible to lend these with a legitimate interest charge? In this case, the title rests upon the presence within the lender's range of gainful uses for money—that is, of alternative opportunities. Lugo introduces the idea into the definition of cessant gain: the loss of the opportunity of gaining by means of your money.¹⁰⁰

Throughout the treatises on *Right and Justice*, alternatives are repeatedly mentioned which would probably be open to fairly large numbers of the persons concerned, alternatives by which they could reasonably claim cessant gain. There follows a brief catalogue of those avenues of licit profit which are possible alternative investments to commitments actually made.

I. *Trade in general*. This is almost invariably mentioned when the discussion concerns merchants directly. (e.g., Molina, 315: 9.)

II. *Purchase of a productive good*. "Fields, houses, rivers, woodlands, mountains, harbors, streams, veins of metal, and the like from which return may be expected." (Lessius, 20: 84, 21: 77; Lugo, 25: 83, 27: 84.)

III. *Partnership*. By this means any person could put his money in business and make a gain upon it. The critical difference between this and the *mutuum* is that, in the contract of association or partnership (*societas*), the money remains in the ownership of the trader. This has its own section in each of the authors. (As an alternative investment, e.g., Lugo, 25: 186.)

IV. *Foreign and domestic exchange*. (Molina, 259: 15, 417: 1; Lessius, 20: 123; Lugo, 26: 110.)

V. *Annual rents*. (Molina, 315: 9; Lessius, 22: 102; Lugo, 27: 44.)

VI. "*Loca montium*" (which can perhaps best be translated as "shares in a fund"). The funds were of three kinds:

(a) *Montes pietatis*, pious funds designed directly for the subvention of the very poor.

(b) *Montes mixti*, which were likewise for the relief of the poor, but which also accepted money on long-term deposit for loan at low rates to small business borrowers.

(c) The third type is in theory reducible to a *census*, and occurs when "some community, or sovereign, or some one of the barons needs a large sum of money all at once which they could not readily collect except from various persons; and they erect a fund to which they assign revenues in taxes, or some other immovable, productive property. . . . They then sell, for example, a thousand shares in the fund which are taken by the purchasers for 100 gold pieces each . . . ; and each share yields the buyers 4 or 5 or more a year."¹⁰¹

These *montes* require in the first instance a title to receive interest in the person who contributes to the fund (if he is actually to receive interest, which in the strict "pious fund" he did not). However, once established, such shares could lawfully be sold, and, in consequence, would have to be bid against by a prospective borrower since, so long as any title was available, the security of the shares (*loca*) might be more attractive as an investment alternative. And if the fund (*mons*) were established on a productive property it could be bought outright without alternative title to interest, since no *mutuum* would be involved.¹⁰² Taken all together, these circumstances by which extrinsic titles may come into being make it seem very plausible that in any European center of even moderate size, the number of persons who could reasonably claim cessant gain would be a sizable fraction of the population, and the volume of legitimate interest would be large.

Analysis of the forces by which "the rate of interest" comes into being is not undertaken by the authors, though many specific rates are mentioned. The rate of interest on *census* or annual rents is most often mentioned as being 7% on a redeemable *census*, and 3% on an irredeemable *census*. The personal *census*, not attached to any specific real property, was not lawful in Spain but was legal in the Low Countries, France, and Germany; it sold "commonly" at rates from 5% to 6¼%, according to the terms on which it could be taken up. Spanish deposit bankers are reported as paying 6% and 7% on deposits. Merchants who had sold goods on credit granted as high as 8% or 9% discount for payment before the

date agreed upon, according to the number of months by which the payment was anticipated. A note of face value of 100 sold at 97 or 98 if payable within two years, but could sell as low as 50 without injustice if the security was bad. Six-month loans in Antwerp were made at rates from 7% to 12% per annum but were used only by merchants, because by keeping money busy on the exchanges one could easily make 12%-14% and sometimes as much as 20% or 30% if one had that combination of "skill, luck, and work" required in that business. The "pious funds," strictly so called, loaned money at 6% to 10%, and "even much less than this"—in some cases, 1% and 2%. This was a notable service of social charity, for the loan sharks, to whom such borrowers would otherwise have turned, charged 33%, 44%, and 45%. Open usurers in Rome were held by law to 18%. Lessius speaks of 5% insurance rates but Lugo regards 3% as high. In the "mixed funds" and those founded by communities, sovereigns, and barons, the holders of the *loca* or shares received 4% and 5% on their money. A merchant using his own money expected to make from 12% to 20% a year on it, and therefore was quite willing to take in silent partners under the three-fold contract by which they were guaranteed a fixed return and the merchant could keep the rest. In such cases the fixed return to the silent partner was from 4% to 6¼%. The frequency with which Lessius singles out 6¼% as the highest rate on loans from which risk has largely been eliminated seems to imply that that rate appeared to him for some reason as about what money or rather "the privation of money" was worth.¹⁰⁸

As already pointed out, we find no formal treatise on the factors that determine "the rate of interest"; this was beyond the scope of the Schoolman's treatise on contracts. More than that, it did not enter into his view of things; there was no such thing as "the rate of interest." There existed profitable alternative employments for money; these he was interested in evaluating in order to determine the justice of certain contracts. Even when these alternative opportunities had become very abundant, so that a common price for money had actually emerged, he still did not look at it as a rate of interest. He might readily allow that cessant gain in one field may depend on alternatives open in another, but he did not regard these various factors as combining to produce a single price. His attention was fixed on "true interest" (*verum interesse*) on emergent loss and cessant gain, the source of legitimate interest.

From two discussions, we can gather some useful hints as to how the Schoolmen might have approached the problem had it been posed in that

way. The contract of *census* or annuity rents commanded a just price just as anything else did. This just price, a minimum price, of a *census* could be fixed by law, and often was; or it could be left to find its own natural, common, just price. The legal just price, of course, was not to be out of line with the natural one. "According to difference in place, the greater or less supply of money, and the opportunity of trading or buying other productive things, not only does the natural price of a *census* vary but the legal as well. Thus the price of a perpetual but redeemable *census* used to be 10 for 1 annually (that is, it yielded 10%); later the price went up generally to 13, 14, 15 for one. Finally, as the number of buyers increased and the supply of money became greater, the price was increased to 20 to 1 annually. Every day we see even this price increased when the *census* is established on good and sound security."¹⁰⁴ Lessius and Lugo are in almost verbatim agreement that the just price of a *census* is derived "from the relation to the price of productive goods, fields, houses, woodland. At the price at which one can buy a productive good, which yields 100 gold pieces after expenses have been deducted, one may also justly buy (even a little below that) the real irredeemable *census* that depends upon that good."¹⁰⁵ The price may be a little less because the right to share in the product of a property is, in general, less valuable than outright ownership; though Lugo remarks that in some cases the security may deteriorate with time, in which event the right, which binds the owner as well as the property, may be more desirable than full direct ownership.

The price of a *census* reacted to the state of trade when the price was not fixed by law. In estimating the just price of a *census*, it had to be considered "whether or not business was in a very flourishing condition in that district" (*utrum in ea provincia multum vigeat negotiatio*). Flourishing business makes present money more highly valued and the *census* valued lower. Finally, the abundance or scarcity of money must be considered, for a shortage of money makes a *census* cheap, as experience of recent years in Belgium shows."¹⁰⁶ This refers to the irredeemable and real *census*. With the redeemable *census* the case may be different, "because business is so flourishing that many want a personal redeemable *census* since they can easily make as much or more in the three contracts of merchants' partnership and that without any trouble."¹⁰⁷ An obligation from which they can later withdraw will be willingly accepted when they feel that the money may later be used profitably in some other way. When this redemption feature enters either as a concession to one side or both, it affects the price of the *census*. "This obligation can be a great drawback to him (the

buyer of the *census*, i.e., the lender of the money) because even though opportunities of employing the money most usefully may present themselves, yet he cannot recall it. Yet the seller (i.e., borrower) can refund it, even when it is useless to the buyer (lender) or even involves a loss, as when the price of money is increased, or when there is a great supply of money and no productive goods are for sale."

A lender does not like to have his money returned when there is no profitable alternative use for it, either because the price of an annuity is high or because the interest rate is low, or simply because generally good business causes people to keep whatever productive goods they may own. The alternative was to place your money in partnership, either directly or through the three-fold contract. The discussions of the obligations of trustees and guardians, who seem to have been quite numerous, indicate that there was a well-developed sense of the relation of the income derivable from these two sources and the advantage of shifting from one to another. While the gains of merchants themselves were known to vary widely, the rates on the triple contract did not, being limited to around 4%, 5%, and 6%, and, in Lessius' case, to his favorite $6\frac{1}{4}\%$.

"The greater number of opportunities for trade and gain" was among the reasons why the value of money would be greater in one place than in another,¹⁰⁸ and why persons who had disposable funds would put their money on exchange instead of buying an annuity or going into trade with an insured return.

These inter-relations might be traced out more tenuously but with perfect propriety and realism to the other outlets for the use of money enumerated above. They do not demonstrate any act of faith in the working of forces toward an equilibrium, because the Schoolman did not put the problem in these terms. They do, however, indicate the things to which the prudent man gave consideration in placing his money. These facts and their inter-relations were important because they determined to what extent the title of cessant gain or emergent loss might be valid *for him*. They indicate to what extent "true" and "legitimate interest" might exist in a community and they manifest a substantial grasp of the factors which determine the extrinsic productivity of money in any community.

¹B. W. Dempsey, "Just Price in a Functional Economy," *American Economic Review*, 35: 3, September 1935.

²Molina, 385: 17, *utilitates et commoditates*.

³Lugo, 26: 189; cf. Molina, 348: 2, 3.

⁴Molina, 348: 2.

⁵Lugo, 26: 47.

⁶26: 94.

⁷Lessius, 21: 76.

⁸Lessius, 21: 144, 147; Molina, 348: 3.

⁹Lugo, 26: 122.

¹⁰Molina, 354: 3.

¹¹Lessius, 21: 40.

¹²Lugo, 26: 141.

¹³Lessius, 21: 7.

¹⁴Molina, 348: 7.

¹⁵*I.e.*, John Major, also called "Scotus" (1478-1548) taught at Paris and wrote a commentary on the "Sentences" of Peter Lombard, as had Duns Scotus.

¹⁶The recurring phrase, "labor and expense," should not cause us to forget that labor was usually remunerated according to a guild scale and the expense was paid out to other industries similarly organized in which independent workers used their own tools. *Industria* as opposed to *labor* was work approaching that of the entrepreneur for which the levels of remuneration were not set by any vocational organization.

¹⁷Since Lugo, in discussing the same point, enumerates theft after shipwreck, *capta est a furibus* seems to be an admissible reconstruction of the untranslatable text *casta ex ab Rustibus*.

¹⁸Molina, 348: 8.

¹⁹Molina, 339: 1, 5; 345; 355: 6; 357.

²⁰Molina, 364: 3.

²¹Lugo, 26: 41.

²²Lugo, 26: 53.

²³Lugo, 26: 88.

²⁴Lessius, 21: 29.

²⁵Lugo, 26: 55, 149; also Molina 365: 9.

²⁶Lugo, 26: 55.

²⁷Lessius, 21: 152.

²⁸Molina, 401: 10.

²⁹Molina, 357: 3, 4.

³⁰In his discussion of the virtue of liberality, Lessius gives what seems to be a definition of money based on Aristotle's *Ethics*, Book 4, Chapter I. But despite the word used, it is clear from the context in both Aristotle and Lessius that money here means wealth or property generically and not money in any technical economic sense.

³¹Though commonly accepted by the authors, this axiom is nevertheless denied by Lessius when presented in the course of a formal scholastic argument. "Money is not salable because it is the price and measure of all other things. . . . As to the minor premise, I deny that money cannot be sold if it is distant in space or involves difficulties." Lessius, 22: 26.

³²Lugo, 25: 124.

³³Molina, 336, 354, 401, 406, 410, 507; Lessius, 22: 26, 23: 34; Lugo, 25: 124.

³⁴Molina, 401: 9.

³⁵Molina, 406: 2.

³⁶Molina, 410: 1.

³⁷Lessius, 24: 34.

³⁸Lugo, 27: 52.

³⁹Lessius, 20: 1; also Lugo, 25: 10.

⁴⁰Lessius, 20: 88; Lugo, 25: 91.

⁴¹Lugo, 26: 1.

⁴²Molina, 304: 12.

⁴³Molina, 327: 5, 361: 13. We may note here the difficulty in rendering accurately the words *negotians*, *negotium*, *negotiatio*. Strictly, they should refer to buying and selling operations in which the commodity remains practically unchanged. Yet they are freely used in the texts for cases where the commodity is notably altered in time, place, or form utility. The term, *negotians*, is used in broad opposition to *artifex*, or

opifex, craftsman, or to farmer, and includes everything that we would include under the heading of "business," as opposed to direct physical production.

⁴⁴Lessius, 20: 80; 20: 88.

⁴⁵Lugo, 25: 87.

⁴⁶Molina, 316: 11, *instrumentum*.

⁴⁷Molina, 404: 11; 417: 1.

⁴⁸Lessius, 20: 94. In 20: 123, he uses the principle without reservation: "since money is the tool of business."

⁴⁹Lugo, 28: 54.

⁵⁰Lessius, 20: 88.

⁵¹Lugo, 28: 69.

⁵²Lugo, 26: 98.

⁵³Lugo, 25: 91, 87.

⁵⁴Lugo, 28: 41.

⁵⁵Lessius, 20: 124.

⁵⁶"Even a pure barter of present commodities for future commodities . . . can be similarly reduced to a spot transaction, a forward transaction and a money loan." J. R. Hicks, *Value and Capital* (Oxford, 1939), p. 141.

⁵⁷Lugo, 27: 54.

⁵⁸Molina, 385: 2, 7.

⁵⁹Lessius, 21, 22, *passim*.

⁶⁰Lessius, 21: 65.

⁶¹Lugo, 26: 96.

⁶²Molina, 299: 3.

⁶³Lugo, 25: 1.

⁶⁴Lugo, 25: 6.

⁶⁵Lugo, 26: 10.

⁶⁶Lugo, 25: 10.

⁶⁷But recall what was said above about standards of novelty.

⁶⁸Lugo, 25: 18.

⁶⁹Lugo, 25: 21.

⁷⁰Lugo, 25: 21.

⁷¹Lugo, 25: 24.

⁷²Molina, 303: 7.

⁷³Molina, 306.

⁷⁴Lugo, 25: 185, 252.

⁷⁵Lugo, 26: 96, 97.

⁷⁶Lugo, 27: 11.

⁷⁷If we admit the idea of a market in which the privation of money has a common price, these titles might be considered as intrinsic to loans in such a market.

⁷⁸Molina, 314: 5.

⁷⁹Lugo, 25: 70.

⁸⁰Lugo, 25: 94, *quasi expensa et sumptus*.

⁸¹Molina, 314: 1, *interesse legitimum*.

⁸²Molina, 325: 3.

⁸³Lugo, 27: 34.

⁸⁴Lessius, 20: 68, *interesse*.

⁸⁵Lugo, 26: 108, *aliqua pecunia praesenti indigeant ad sumptus occurrentes*.

⁸⁶Molina, 357: 3.

⁸⁷Lessius, 25: 89.

⁸⁸Lessius, 20: 86, *pecunia otiosa*; Molina, 318: 3.

⁸⁹Molina, 314-318; Lessius, 20-22; Lugo, 25: 70 *et seq.*

⁹⁰*Ibid.*

⁹¹Molina's catalogue of the hints employed by a lender demanding usury but afraid to say so is worth recording: ". . . As if he should say to the borrower: 'You know what the custom is'; or 'I trust that this money of mine won't come back empty-handed'; or 'Don't forget that I am depriving myself of my money and I am a man with children,' or something of the kind." 303: 10.

- ⁹²Molina, 359: 15.
⁹³Lessius, 20: 32. The reference to Molinaeus is in section 31, "Car. Molinaeus, *lib. de commerciis*, num. 6 *et sequent.*"
⁹⁴Lugo, 25: 136.
⁹⁵Lugo, 26: 96, 26: 97, 27: 27.
⁹⁶Lugo, 26: 107. (Lugo refers to Lessius, 26: 56-58.)
⁹⁷Lugo, 27: 34.
⁹⁸Lugo, 28: 54.
⁹⁹Lugo, 25: 94.
¹⁰⁰Lugo, 25: 86. The Latin words are *opportunitas* or *occasio lucrandi*.
¹⁰¹Lugo, 25: 197.
¹⁰²Lugo, 25: 136, 197 *et seq.*
¹⁰³Molina, 393, 417. Lessius, 20: 88, 96, 107, 124, 126; 21: 57, 68, 74; 22: 61, 76, 61; 25: 84. Lugo, 25: 187, 196; 27: 16; 28: 60, 70; 30: 43.
¹⁰⁴Lugo, 27: 44.
¹⁰⁵Lessius, 22: 102.
¹⁰⁶Lessius, 22: 102.
¹⁰⁷Lessius, 22: 104-5.
¹⁰⁸Lugo, 28: 41. This referred "not to the intrinsic value which it might have because of better metal, nor because of the greater legal value."

CHAPTER IX

COMPARISON OF GENERAL PRINCIPLES

The material for a comparison of modern monetary theory and mature usury analysis was present from the day in 1898 that Knut Wicksell published his *Geldzins*. When, in 1907, Irving Fisher issued his *Rate of Interest* and, in 1911, Joseph Schumpeter's *Theory of Economic Development* appeared, all the elements of modern saving-investment study were assembled, together with all the terms needed for a comparison of the two sets of ideas. These three works, to which more recent writers have admittedly added little or nothing, emphasize the unity of the pricing system, in which interest must be included. In addition to the study of the determination of a rate of pure interest viewed as a cost, they applied themselves to the problems of interest as a capitalization factor, and as a factor in determining the volume of means of payment. Thus they came to interest as an element in general prices. To the Scholastic, likewise, interest was a special case of just price, and its contingency upon the presence of emergent loss (in the wide sense, including risk and cessant gain) bound it up with the prevailing price complex and made the theory of pricing one.

These modern works, moreover, boldly stated things upon which the earlier writers of the English classical school and the late Scholastics *seemed* to be at variance. To the recent writers, as to Aristotle, money was quite "sterile,"¹ which is at least a mode of speech that would not have sounded well coming from the defenders of the productivity of money. Schumpeter returned to another axiom of the Scholastics which had long been considered as gravely erroneous; he said, "There is, in general, no real continuous growth of value with the passing of time as a primary and independent phenomenon."² This is a proposition of which Molina, Lessius, and Lugo would heartily approve. That interest is a phenomenon arising among economic objects and subjects precisely insofar as they are durable, that time is our external expression and arbitrary measure of this durability, does not necessarily involve an alteration in such relations of those

enduring objects and subjects such as to yield a net surplus over the values imputed directly to the factors. Time may or may not be the occasion of such a surplus; it is always a condition, but *per se* never a cause. The factors which operate in durable objects and alter their relative values must be examined in detail; they cannot be bunched under the noncommittal head of "time."

Irving Fisher complains that the welcome received by his substitution of "impatience" for "agio" and "time preference" caused his emphasis on "productivity" to be almost completely overlooked, and an almost absolutely subjective theory to be ascribed to him.³ For this reason, he coined the expression "investment opportunity" to denote the technical magnitude "r," "the rate of return over cost." The change was a happy one for purposes of comparison with earlier writing; for it brings into prominence the relative character of "productivity," that in order to be a lasting source of interest this productivity must involve some superiority over alternative production functions. The relinquishing of these alternatives is the occasion of emergent loss in its wider sense and, in the Scholastic view, both the source and title to interest. When the superior alternatives are absent, r is 0; the "market line" has an angle of 45 degrees or a slope of 1; there is neither investment opportunity nor can there be emergent loss. Fisher's new terminology brings to light grounds for comparison long present but easily overlooked.

Even though the writings of these three may be regarded as the foundation of a distinctively modern theory of interest and prices, they were most modest concerning claims to originality. Wicksell's filial piety has been mentioned before; he was always at pains to emphasize the continuity of what he was saying with strictly classical tradition. He was vindicating Ricardo against Tooke. Schumpeter and Fisher attribute their doctrines to Böhm-Bawerk, even when the latter viewed his intellectual grandchildren without enthusiasm: Fisher habitually recast his doctrine this way or that to indicate its kinship with some other writer where the likeness may not be apparent.⁴ Perhaps this modesty prevented recognition of the fact that their revisions and extensions of previous teaching has brought about a substantial re-orientation of the problem as a whole; so that now there did exist a common ground with Scholastic teaching making possible an instructive comparison.⁵

A comparison between the two types of interest theory as summarized is confronted with most serious obstacles, some of them only apparent and avoidable with care, but others more persistent. First of all, the economy

upon which the Scholastics based their observations was not, even in the early seventeenth century, a highly integrated and sensitive one. Arbitrage, for example, was apparently practiced between financial centers but obviously without telegraphic or cable transfers; all forms of transport and communication were slow. Lag and delayed reactions therefore were the normal tenor of economic life in this field and in all others. Nevertheless, the principles of foreign exchange do manifest a concept of equilibrium toward which there was a real tendency for prices to move, however leisurely.⁶ The difference between the medieval world and the modern world, in this respect, is one of degree. Financial centers then as now were more quickly responsive to changes in price data than the hinterland. But is the sluggish reaction of the hinterland to a world center today essentially different from the sluggish response of a medieval hinterland to its metropolis? As transport and communication have improved, merchants have sought to extend an integrated price system over a far greater area; as the means of overcoming lags and frictions improve, new lags and frictions have been taken on. Can we say that the co-ordination of markets like Antwerp and Florence or Seville is of a wholly different order from the co-ordination of markets like London and Winnipeg or Hong Kong? The modern markets are the more responsive, but it may well be that a theory covering the earlier markets might easily be extended by amendment to cover the modern markets. That the change in physical extension necessarily decreases the abandonment of the older theory is not clear.

Secondly, the volume of goods passing through the circle of monetary exchange is far greater today than in medieval times. Direct exchange, working on various kinds of shares whose value might never be expressed in money, loans and payments in kind, was almost certainly far more common then than now. Therefore, a formula expressing economic relationships in money prices—and thus an interest rate expressed as a per cent of money capital—was a much less meaningful figure for the economy as a whole than it is today. Nevertheless, the problem of the inclusive range of the price system, though quantitatively altered, remains a real problem today. We are never certain in annual average prices how large an element they may contain of goods and prices newly brought within the price system, or to what extent they are conditioned by transactions outside the price system. Not only does imperialism build rambling additions to the price structure, but even within communities highly organized at the center the intensive range of the price system alters from time to time, though probably the general trend is toward more and more complete coverage of

transactions by monetary exchange. A little thought on the local history of some of the "141 principal cities," especially in the St. Louis, Minneapolis, Kansas City, and Dallas districts, will indicate how useful is the warning of the Federal Reserve Board that later figures are not comparable with earlier ones.⁷ Yet no one would conclude that this intensive and extensive growth in the range of monetary influence necessarily require a *new type* of monetary theory or principle with which to handle it. No more need we expect the same in medieval analysis. If the cities, from the great market towns down to cities the size of Bescançon, were well organized with a money price system and were thoroughly familiar with loans and credits, then the fundamental problems of interest and money were there to challenge the analyst; and later extension of the field need not invalidate his analysis.⁸

Thirdly, there can be little doubt that the centuries since 1600 have seen a vast increase in the volume of manufactured capital goods. The factory equipped with elaborate and expensive machinery is perhaps the salient concrete difference between a town then and now. But the various forms of natural capital—land, forests, quarries, mines, water-power, useful animals—all had to be priced somehow; and ships, docks, mills, buildings, wagons, and coaches presented problems in capital valuation differing in no essential respect from the valuation of modern machine goods. The most complex machine presents no essentially different valuation problem than the pricing of a good pair of millstones.

There is, therefore, no *a priori* consideration precluding comparison of the two sets of theories, or warning that the operation will be useless and meaningless. These differences in the scope within which the doctrines were intended to apply, and the differences in reaction time in Western economy, must be borne in mind; if they are applicable, a general comparison may be instituted.⁹

The Scholastic position may be summarized by saying that a loan which brought no antecedent loss or sacrifice to the *lender* could not be the foundation of a title to interest to that lender. If the loss emergent upon that loan because of forfeited benefit or opportunity was a personal loss to the lender he could charge for it. If such an emergent loss was prevalent in the economic community in which that person lived, he might also make a charge for that loss, even though he did not personally suffer a specific loss; for in these circumstances that would be the common price of this "privation of money." Evidently such a community would be one

in which economic progress was fairly rapid; else no such price for present money would be paid.

In a community in which there was no economic progress, a community which had settled down in the remote past to an established mode of life, a community in which no practical alternative rearrangement of these economic factors would occur to anyone, there would be no industrial or economic purpose in borrowing. The alternative arrangement of factors brought about by the greater control made possible by the borrowing would, by hypothesis, be less productive than its predecessor. There would be no source from which to pay interest, and the operation would not be repeated. "A world can be conceived in which the opportunities for the profitable investment are so small that people are willing to entrust their capital to governments and other stable recipients without expecting any reward other than the security of a full return on demand. In such a world interest would be unknown."¹⁰ On the other hand, a saver might withhold a sum from current income. The price of this year's produce would be lower and he would get a smaller share. Later, however, when he would cut back into the expenditure stream he would, in that year, get a larger share. But so far as the consequences of his saving are concerned (that is, not introducing price changes from meteorological causes, for example, into the years selected), there would be no net gain; he would have enjoyed the fruits of his income at different times; but *per se* the common value of the income would not have been greater. Likewise, if he had lent his savings meantime, barring the element of risk, there would have been no emergent loss in the loan. And since there is no reason in such an economy for assuming that risk, there is no one to pay for it. In such an economy, the rate of interest is zero, and titles to interest in the Scholastic sense do not exist; in Fisher's phrase, the rate of return over cost is zero. We have an example of Schumpeter's static state with established circular flow: "However I employ a hundred monetary units' worth of resources (including management) within the generally known and customary possibilities, I can obtain no greater receipts from them than exactly a hundred monetary units."¹¹

At the opposite end of our scale, however, we can conceive a community with many opportunities for economically superior combinations for its resources if these resources can be released from present employments. If, in such a community, a person saves part of his current income and refrains from consuming it, he is releasing part of the community's resources, which in such a community he could readily have applied to pro-

ductive purposes capable of yielding a net value surplus, a *gain*. If he relinquishes this opportunity in favor of another, there is an evident cost to him: "By cost is meant the comparative loss from one's income stream at first by substituting one use of capital for another,"¹² *i.e.*, the emergent loss. *A fortiori*, if there is a positive withdrawal of resources from actual present employments, there is a cessant gain. "Money is part of the private capital of an individual only if and insofar as it constitutes a means by which the individual in question can obtain other capital goods,"¹³ that is, insofar as the privation of it involves the emergent loss of this opportunity to get productive goods.

It is taken for granted, up to this point, that there is no gap between saving and investing, that money withheld from income promptly goes back to market to buy some counterpart of the goods relinquished, and that in a going community this is a fairly continuous process. Saving and investing are *pricipiative* equal in the sense that the value of the savings and the value of the new investment goods are the same, and that the income withheld from expenditure is approximately the same fund applied to investment; so that the rate of money interest is the expression of the rate of natural interest. Ultimately, when the new product or the old product at new and lower cost has found its way into the price system, saving and investing will have become *terminative* equal at new levels of valuation—which merely means that all capital assets, after the price complex has shifted in response to the product of new investment, are owned by some person who controlled saved-up resources. Regarding the assumed equality of saving and investing, one is justified, under the conditions given, in merely asking, "Why should they not be equal?"

From these general considerations of relations between modern writers and Scholastic usury theorists, we proceed to a more detailed discussion of attitudes on certain theorems concerning interest. The attempt is made to formulate propositions which, *in some sense*, would be admitted and employed by all the modern writers summarized. We shall then seek to discover what would be the attitude of the medieval writers on the same propositions. Two things must be borne in mind in employing such a method. First, with reference to the modern writers, it must be constantly recalled that though a given proposition may be used by different writers and admitted as valid, we do not imply that the proposition holds the same place in the theoretical construction of each. Schumpeter, in particular, habitually begins his analysis on a totally different logical plane from that of the other writers. Therefore, while each writer would allow such a

proposition as true, valid, and useful, we do not imply that the application or the penumbra of connotation is the same for all.

Secondly, with reference to the earlier writers, there is no reason to suppose that we shall find their ideas couched in parallel propositions or terms immediately or even proximately comparable. The task is to take what they wrote and see as best we can what it means to them, and then compare it with the statement of modern writing on the same phase of the economic process. In this procedure there is a double hazard to bedevil the investigator, two errors to be avoided if the historical and analytical validity of the study is to be maintained. First, the desire or expectation of finding a fruitful comparison must not beguile us into reading into the authors things which are not there. We must not make them say things they did not or would not say. Secondly—and equally—a *a priori* considerations of what they were able or unable to say should not cause us to read out of them what they actually did say. The goal is to see, first, what as a matter of record they did say, and, second, on *their* terms, what they meant by it.

I. *Money interest, apart from that on consumption loans, rests upon an underlying relationship of productive factors, such as can yield a net value surplus, a profit.*

This rudimentary idea is found in some form or other in all the modern writers discussed, and indeed in any modern writer except one holding a pure exploitation theory.

"He who borrows money at interest does not as a rule intend to keep it but to exchange it at the first suitable opportunity for goods and services by the productive use of which he hopes to be able to acquire not merely the equivalent of their price but also a *surplus value which constitutes the real rate of interest.*"¹⁴

"An entrepreneur who wishes to acquire command over capital goods and labor in order to begin a process of production must first of all have money with which to purchase them. . . . The demand for capital takes on the form of a demand for money. But this must not deceive us as to the nature of the phenomenon. . . . Despite its obviousness, this perception of the physical unfruitfulness of money was a necessary step on the way to full realization of the problem of capital and interest . . . [and] the development of the problem of the money rate of interest into the problem of the 'natural' rate of interest."¹⁵

"Every given structure of production, *i.e.*, every given allocation of goods as between different branches and stages of production, requires a certain definite relationship between the prices of finished products and those of the means of production. In a state of equilibrium, the difference necessarily existing between these two sets of prices must correspond to the rate of interest."¹⁶

"It is true that in every case corresponding to money interest, that is, to the premium on purchasing power, there is a premium on goods of some kind. It is true

that goods and not 'money' are needed to produce in the technical sense. . . . Interest is an element in the price of purchasing power regarded as a means of control over production goods."¹⁷

"We have seen that, theoretically, the rate of interest should be subject to both a nominal and a real variation, the nominal variation being connected with changes in the standard of value and the real variation being that connected with other and deeper economic causes."¹⁸

"It is characteristic of instrumental capital (*e.g.*, a machine) or of consumption capital (*e.g.*, a house) which is in use that its yield should normally exceed its carrying cost, whilst its liquidity premium is probably negligible; . . . and of money that its yield is nil, and its carrying costs negligible but its liquidity premium substantial."¹⁹

These quotations indicate the conviction that interest can and will be paid by borrowers when the relation of productive resources in the economy is such that he who has present funds with which to acquire resources is able to combine the resources so acquired in such a manner that their cost is less than their value, except for the sum to be paid as interest.

The central circumstance which transmuted usury into legitimate interest was the presence of an emergent loss to the lender. In business transactions, the significant form of pure interest (*i.e.*, abstracting from risk) was that special case of emergent loss called cessant gain. The characteristic property of cessant gain was the foregoing of the expected "increment" which the lender anticipated from the use of his own funds.²⁰ Though the gain is not always thus spoken of as an increase or surplus, the use of the word *gain* itself, which occurs innumerable times, carries with it an essential idea of a net surplus. Lessius gives the examples of having to sell naturally productive property in order to make the loan; here the idea of a surplus is clearer. The case of the fisherman selling his anticipated catch under the condition that he does not fish is used by all. "On exactly equivalent grounds, a merchant who has a sum of ready money for trading from which, as subject to his industry, he expects a certain gain, may lawfully demand the estimated value of the gain which ceases because he made the loan."²¹ That is, no emergent loss, no interest; and in specifically business transactions, no cessant gain, no emergent loss and no interest. And if the underlying relationship of productive factors is such that the person already possessed of money in hand could not employ it in any way that would yield "increment" or value surplus, then on Scholastic grounds there would be no interest permissible; and on the ground of the moderns there would be neither the motive to borrow nor, on a business loan, a source from which to pay interest. The basic position from which the older and earlier writers proceed is the same. The conditions in which the

one would allow moral existence of interest are broadly those in which the other would recognize its emergence on economic grounds.

II. *The rate of interest would be zero in an economy in which all saved resources were employed in maintaining productive capacity without improvement in its technical efficiency; that is, in an economy in which both the motive and the opportunity for superior alternative methods of the application of resources are absent.*

Some such theorem as this follows from the preceding, being the negative aspect of that "relationship of underlying factors." Its place in the theory of Wicksell, Schumpeter, and Fisher is clear. In the case of the others there remains a question as to the designation of the return accruing from instrumental goods even when any *differential* advantage has been worn away by competition. If it be conceded that these may be called rent, then there is no problem. The reason for the inclusion of the proposition here is to bring out that, as already shown, it was commonly "the opportunity of gain (*occasiones et opportunitates lucrandi*) which, on the part of the borrower, motivated and, on the part of the lender, justified loans at interest. The rents spoken of above would be completely compensated for in the just price of a natural productive good, and there would be no motive for borrowing to acquire such a good, as the discussions of the just price of a *census* reveal. Thus, in the absence of such "opportunities for gain," there would be no "legitimate interest" (*legitimum interesse*); for the mere possession of money opens the door to no source of net income surplus from which interest can be paid. The lender, therefore, in parting with such money could not incur an emergent loss and, least of all, a cessant gain. Thus there could be no possibility of a valid extrinsic title to interest, and within the limits of this case the rate of interest would be zero.

III. *Rates of interest represent the common market estimate of the advantage of present control of resources for various lengths-of time, and produce a balance between the superiority in income yield of the marginal unit of saved resources and the marginal unit of resources not saved (insofar as the opportunity for superior employment is open to both borrower and lender.)*

This proposition is a highly speculative one, inasmuch as the market in which this price is determined is gravely imperfect. The funds offered for loan at different rates, for different periods, and with different types of collateral security are not a homogeneous product by any means; but at least certain classes are sharply differentiated. Call loans, for example, are a poor substitute for guaranteed mortgage bonds or Federal Farm

Mortgage Corporation bonds. Moreover, the agencies offering loans for sale are not directly competitive in a theoretical sense but operate in a series of partly sheltered, partly overlapping markets. The possibility that some of the agencies may be able to finance the demand as well as the supply of their product we hold over for a moment. Despite these forces inhibiting the full efficacy of the process stated above, the process remains at work while being altered; that is, these factors condition the manner in which the process works but do not simply supplant it.

"It is a well-recognized principle of this kind that in the last analysis, the money rate of interest depends upon the supply of and demand for capital . . . that the rate of interest is regulated by the profits from employment of the capital itself. . . . The accumulation of capital consists in the resolve of those who save to abstain from the consumption of a part of their income in the immediate future."²²

"The margin by which the value of capital goods fall short of that of their expected products constitutes interest; its origin lies in the natural difference of value between present goods and future goods."²³

"For everyone there is a limit beyond which the magnitude of the sacrifice in the present economic period must exceed the magnitude of the increase in utility in the next. . . . The result of our discussion up to this point may be expressed in terms of the marginal theory, just as in the case of any price-determining process. On the one hand, interest will be equal to the profit of the 'last entrepreneur.' . . . We can say, then, that interest must in every case be equal to the smallest entrepreneurial profit that will actually be realized; with this statement we approach the usual interpretation. On the other hand, interest must be equal to the value estimate of a last or marginal capitalist for his money."²⁴

The proposition given above is a one sentence summary of Fisher's six principles, the two investment opportunity principles, the two impatience principles, and the two market principles.²⁵ We cannot as yet conveniently summarize Keynes, since he does not regard as fruitful any statement which does not include a term for the special price of money as such, though, insofar as the price of money is an expression of the demand for credit for investment purposes, he would not object to the proposition as far as it goes.

The absence of a developed marginal concept among the Schoolmen prevents us, of course, from finding any precise analogy to the proposition given. Moreover, the Scholastic writers did not consider the accurate determination of the *rate* of legitimate interest as directly in their province. Once the Schoolmen had isolated those cases in which an emergent loss in the wider sense existed, and in which therefore *some* interest was legitimate, the appraisal of the economic value of the loss was left to the judgment of prudent men in a fair market. The factors which affect the valua-

tions of prudent men have been summarized in the section on just price and have their most obvious applications here in the valuation of annuity-rents, the just price of goods yielding a natural increase, and the loss emergent upon the "privation of money" to those for whom money is the tool of their trade. The considerations affecting those valuations, though expressed with less precision than in the modern writers, are of exactly the same order—the price declining with dwindling demand or increasing supply, and rising as demand increases because favorable opportunities for investment are more numerous and the supply of funds withdrawable from other purposes becomes scarcer. But a rate of interest which expresses the common market valuation of the average opportunity current in the community to make a gain by the use of funds saved and loaned, would be satisfactory to the Schoolmen; for, if arrived at in a fair market, it would be an index of emergent loss.

IV. *The source of interest is the margin between value and costs made possible by control of resources in the hands of those able to combine them in more efficient ways; for this, time is a "condicio sine qua non." But processes longer in time are not necessarily the more economic.*

"If, nevertheless, present goods and services for which payment need be made only in the future fetch on the average a higher price corresponding to the level of the rate of loan interest—and this is the essence of every loan transaction and every advance of money—this is due simply to the ordinary laws of interest, or to the fact that labor and land if their fruits are not to be consumed immediately may assume such forms as to give them a greater (marginal) productivity, a greater yield in consumable goods than in their present forms."²⁶

"But surely an explanation of the causes which make investment more or less attractive should form the basis of an analysis of investment. Such an explanation can, however, only be reached by a close analysis of the factors determining the relative forces of capital goods in the different successive stages of production—for the differences between these prices is the only source of interest." "Now so far I have not expressly referred to the price margins which arise out of these relative fluctuations of the prices of the products of successive stages of production. . . . In a state of equilibrium these margins are entirely absorbed by interest."²⁷

"Interest is a premium on present over future purchasing power. . . . Hence, if the mere passage of time had a primary effect upon valuation and if what reality shows us to be its influence were not merely an unanalyzed fact which fundamentally rests in turn upon the existence of interest which is again to be explained on other grounds this line of argument would be in itself quite satisfactory, even though in my opinion it brings us into many a conflict with the actual course of the economic process. Purely logically it would be free from objection. But the passing of time has not this independent primary effect. . . . There is, in general, no real continuous growth of value with the passing of time as a primary and independent phenomenon."²⁸

"Thus the expression 'rate of return over cost' is applied to the comparative merits

of two alternative income streams. I repeat that by *cost* is meant the *comparative loss* from one's income stream at first caused by substituting one use of capital for another, and by *return* is meant the *comparative gain* which accrues *usually later* by reason of this same substitution. The *cost* is, literally the difference it makes *today*, and the *return* is the *difference* it makes in the future—the first *negative*, the second *positive*.²⁹

"The meaning of 'marginal efficiency of capital' of which I make use . . . was first introduced into economic theory by Irving Fisher in his *Theory of Interest* (1930) under the designation, 'the rate of return over cost.'³⁰

There are two sets of considerations to impel scrutiny of the above proposition. The views of the Schoolmen have been regarded as egregiously defective in the conception of time as an economic factor.³¹ The later medieval writers whom we have considered, like their earlier predecessors, do not concede to time an *autonomous* role *independent* of such forces as may require time in which to operate. The forces which can produce a net value surplus must reside in durable agents or agents with enduring effects, but, given that fact, the presence or absence of interest depends upon the evaluation of those durable objects; and the mere fact of duration is not an explanation of interest in any sense. For this reason, it is useful to bring out the fact that modern writers, while admitting, as they obviously must, that interest is a phenomenon concerning the *duration* of economic processes, likewise point out reservations concerning the inevitability of pure interest with the mere passage of time. This is a position which coincides with that of the Schoolmen, who held that there is no value surplus automatically generated in durable objects by their continued duration; the emergence of such a surplus is the special case which requires explaining. Secondly, Fisher's statement, which Keynes accepts literally and to which the others on principle have no reason to object, brings out that, if a positive rate of interest is to emerge, a cost is incurred in the withdrawal of income from its destined use in order to substitute it in some other use where it may yield a surplus. That is, in a going economy with various alternatives available, the lender does incur a loss emergent upon the loan; a borrower will not borrow unless the alternative use he has in mind will more than cover such loss. A positive rate of interest appears when and to the extent that there is emergent loss to the lender; and in an economy which is not stationary that loss takes the form of cessant gain. For the generation of the value surplus by which the borrower can economically compensate for that loss, time is required.

V. *Loans of funds which involve an antecedent sacrifice to the lender, other things being equal, produce a different price complex and disposition*

of resources from those which do not so impose a sacrifice; that is, loans made from funds which have been income affect the price complex differently from those which, not having been income, can involve no antecedent sacrifice.

"If we take as our starting point the view that a lowering of the loan rate below the normal rate (determined by the existing demand for capital and the volume of saving) in itself tends to bring about a progressive rise in all commodity prices . . . then all monetary phenomena would be extraordinarily clear and simple and at the same time the obligation of the banks to maintain the rate of interest in agreement with the normal or real rate of interest would be obvious. . . . Banks are not, like private persons, restricted in their lending to their own funds or even to the means placed at their disposal by savings. . . . If the banks lend their money at materially lower rates than the normal rate as above defined, then in the first place saving will be discouraged and for this reason there will be an increased demand for goods and services for present consumption. . . . The profit opportunities of entrepreneurs will thus be increased. . . . The prices of consumption goods will begin to rise. . . . *Neither is it [the price rise] distributed uniformly over the whole range of commodities, at any rate, not at first.*"³²

"Credit transactions fall into two groups . . . [those which] impose a sacrifice on that party who performs his part of the bargain before the other does [and those in which] the gain of the party who receives before he pays is balanced by no sacrifice on the part of the other party."³³

"The criterion by which we may distinguish these circulating credits from other forms of credit which do not act as substitutes for money is that they give to somebody the means of purchasing goods without at the same time diminishing the purchasing power of somebody else." "But does not the mere fact that money incomes increase throughout this process prove that more is being invested than is being saved (*i.e.*, that money that has not been earned in production becomes available for expenditure on products)?"³⁴

"From this it follows, therefore, that in real life, total credit must be greater than it could be if it were only fully covered credit. The credit structure projects not only beyond the existing gold basis but also beyond the existing commodity basis. . . . The distinction between normal and abnormal credit is, however, important for us. Normal credit creates claims to the social dividend, which represent and may be thought of as certifying services rendered and previous delivery of existing goods. That kind of credit, which is designated by traditional opinion as abnormal, also creates claims to the social product, which, however, in the absence of past productive services, could only be described as certificates of future services or of goods yet to be produced. Thus there is a fundamental difference between the two categories, in their nature as well as in their effects. Both serve the same purpose as means of payment and are externally indistinguishable. But the one embraces means of payment to which there is a corresponding contribution to the social product, the other means of payment to which so far nothing corresponds—at least, no contribution to the social product even though this deficiency is often made up by other things."³⁵

"The rate of interest must be such as to clear the market, that is, equalize supply and demand. That is, for some time interval the additions to some individuals' incomes

caused by borrowing or selling must balance the deductions from others caused by lending or buying."³⁶

"Expressed in the language of my *Treatise on Money* [the new argument] would run: the expectation of an increased excess of Investment and Saving, given the former volume of employment and output, will induce entrepreneurs to increase the volume of employment and output."³⁷

As heretofore remarked, Keynes' ability to look in both directions at once makes it difficult to express in his own words the antecedent and consequent relations involved in his thought. Yet in some cases the implication is closer to the surface than others, as in connection with his most recent ideas; these are stated in terms of the *Treatise* which proceeded on Wicksellian lines.

The utility of this proposition lies in the clarity with which it brings out a basic theorem concerning which there is a large degree of agreement in principle and the most complete disagreement on its practical significance. Though not all might agree with Mises that the distinction given "must form the starting point for every theory of credit and especially for every investigation into the connection between money and credit and into the influence of credit on the money prices of goods,"³⁸ yet the concept does hold a pivotal position in the theories of all. This is so obvious as to need no elaboration. On the practical applications, however, there is wide divergence. Wicksell, Mises, and Hayek take strong positions for the elimination of the possibility of loans involving no antecedent sacrifice. Schumpeter does not commit himself specifically but seems to feel that up to a point the good outweighs the evil. Fisher, of course, has always been a "stable money" protagonist but has not fitted this point into his theory of interest. Theoretically, he corrects actual rates by changes in the price level to arrive at a real rate. But the real rate thus arrived at is frequently the rate on a different volume of money from the rate prevailing at the first term of his comparison and may involve interest on substantial sums of money that would have been lent in violation of his market principle quoted above. Keynes takes a wholly different point of view and regards wholesale income displacement by money creation in political hands as the solution.

The Scholastic outlook on such a process would be simple and clear. We have here a case of loans in which, *ex hypothesi*, not only is there no antecedent emergent loss to the lender, but there can be none. Unless we were dealing with a case of public authority where impending calamity justified the invoking of the ultimate limits of social authority for the com-

mon good, the Schoolman's position on this point would be uncompromising; no emergent loss (in its broad, inclusive sense), no interest. But in spite of this divergence on practical policy, it is instructive that this theoretical case, in which modern writers unanimously see a fertile source of economic dislocation, is one which the scholastic writers would see as plainly usurious.

VI. *Money loans made out of funds which have never been income and which therefore involve no antecedent emergent loss impose a consequent loss on persons other than the lender from which their economic validity is derived.*

"In the next chapter, we shall be discussing, incidentally, some of the ensuing consequences. They are the more interesting in that they run completely counter to the ordinary view. For instance, it can be seen that credit institutions by supporting long-term enterprises can to some degree *force* the necessary real capital out of the public. . . . The *real saving* which is necessary for the period of investment to be increased is in fact *enforced*—at exactly the right moment—on consumers as a whole for a smaller quantity than usual of consumption goods is available for the consumption of the second year."³⁹

"An increase in the stock of money in the broader sense caused by an issue of fiduciary media means a displacement of the social distribution of property in favor of the issuer."⁴⁰

"The use of a larger proportion of the original means of production for the manufacture of intermediate products can only be brought about by a retrenchment of consumption. But now this sacrifice is not voluntary and is not made by those who will reap the benefit from the new investments. It is made by consumers in general who, because of the increased competition from the entrepreneurs who have received the additional money, are forced to forego part of what they used to consume."⁴¹

"If now credit means of payment, new purchasing power in our sense, are created and placed at the entrepreneur's disposal, then he takes his place beside the previous producers and his purchasing power, its place beside the total previously existing. Obviously, this does not increase the quantity of productive services existing in the economic system. . . . The process amounts to compressing the existing purchasing power. In one sense, no goods and certainly no new goods correspond to the newly created purchasing power. In the first place, the purchasing power of previous producers in the market will be compressed, then the purchasing power in the market for consumption goods of those people who receive no adequate share in the increased money incomes resulting from the entrepreneur's demand. This explains rising prices in the boom."⁴²

Forced saving has never played a formal part in the writings of Irving Fisher, though it is an idea to which he would have no objection whatever on principle and he has expressed his indebtedness to writers for whom the concept is fundamental. His emphasis has been on the processes which take place *after* forced saving.⁴³ In this he has been followed by Keynes,

with the important difference that contemplation of the sequelae of forced saving led Fisher to stable money and an espousal of the Chicago 100% Reserve plan, whereas it led Keynes to an espousal of monetary manipulation in the hands of the State. As noted above, Keynes' line of reasoning about fixed or stable money supply led to a quotation about a duck. Perhaps, having attained his "full" employment condition, Keynes would again take a view consonant with the proposition given. But by beginning his analysis at a point which cannot be explained without reference to previous forced saving, he is able to relegate its influence at his chosen stage to a minor and apparently not very illuminating role.

"Forced saving in their sense is a phenomenon which results directly from, and is measured by changes in the quantity of money or bank-credit. . . . But an attempt to extend this perfectly clear notion to conditions of less than full employment involves difficulties. . . . At any rate, I am not aware of any attempts having been made by the modern writers who are interested in forced saving to extend the idea to conditions where employment is increasing."⁴⁴

Of course, nothing in the writings of the Schoolmen directly corresponds to thoughts such as these. Loans of the type spoken of in the proposition were precisely those of which they disapproved; and an elaborate analysis of the course of prices and interest under such conditions would have seemed no more worthy of their attention than the analysis of an economy in which most incomes were built up by theft. The reason for its inclusion, however, is to call attention to the fact that, in order to explain the rates of interest which do prevail in modern economies, recent writers have still had recourse to a concept of emergent loss. The funds which are the occasion of forced saving would not be worth borrowing if they could not receive their economic validation from the consequent emergent loss which they bring about. And, in general, antecedent emergent loss attendant upon the making of a loan is not a disequilibrating factor; the loans commonly regarded as producing a cumulative departure from equilibrium are only those which involve consequent loss exclusively. Keynes' anomalous position arises from his simultaneous view of the process *principiative* and *terminative*; saving and investing always equate if we count both antecedent and consequent loss emergent upon the loan. How the processes which interest Keynes could come about if loans were never made save those involving only *antecedent* emergent loss is a matter upon which we await enlightenment.

VII. *There is, therefore, a valid and useful—though as yet imperfectly described—distinction between natural interest, in the determination of*

which changes in the volume and value of money, broadly understood, are not active, independent variables and money interest in which changes in the volume and value of money are active independent variables.

The expression of these interest phenomena as abstract rates *per cent* is logically difficult because, at the times for which the interest is being computed, precisely that has altered of which we seek so much *per cent*.

"There is a certain rate of interest on loans which is neutral with respect to commodity prices, and tends neither to raise nor to lower them. This is necessarily the same as the rate which would be determined by the supply and demand if no use were made of money and all lending were effected in the form of real capital goods."⁴⁵

"Wicksell distinguishes between the Natural Rate of Interest or the rate that could be determined by supply and demand if actual capital goods were lent without the mediation of money, and the Money Rate of Interest, or the rate of interest that is demanded and paid for loans in money and money substitutes. The money rate and the natural rate of interest need not necessarily coincide since it is possible for the banks to extend the amount of their issues of fiduciary media as they wish and thus exert a pressure on the money rate of interest."⁴⁶

"An adequate explanation of that 'natural rate' is the indispensable starting point for any realization of the conditions necessary to the achievement of equilibrium and for an understanding of the effects which every rate of interest actually in force exerts on the economic system."⁴⁷

"For us, however, there is no such thing as a real rate of interest, except in the same sense in which we speak of real wages; translating both the interest and capital items of any loan transaction into real terms by means of the expected variations in an index of prices, we may derive an expected, and by performing the same operation *ex post*, an actual rate of interest in terms of command over commodities."⁴⁸

"In the second approximation—which as we have just noted contains all that is most typical in the theory of rate of interest—the distinctive factor is the rate of return over cost, or the investment opportunity rate. This is also the most difficult factor to picture, isolate, and disentangle from the rate of interest which it helps determine. . . . The investment opportunity rate is distinct from the market or loan rate of interest because an investment opportunity is distinct from a loan."

"If the monetary standard were always stable with reference to goods, the rate of interest reckoned in terms of money would be the same as if reckoned in terms of goods. When, however, money and goods change with reference to each other—in other words, when the money standard appreciates or depreciates in value in terms of goods—the number expressing the two rates of interest, one reckoned in terms of money and the other reckoned in terms of goods, will be quite different. Moreover, the former or money rate, the only rate quoted in the market, will be influenced by the appreciation or depreciation."⁴⁹

Keynes, in his *Treatise*, employed Wicksell's natural rate as the axis of his system. Now, by taking his position exclusively in a world suffering from departures from the natural rate in this sense, he sees around him myriad "natural" rates corresponding to the various levels of employment

at points where the elasticity of employment is less than zero. This model, it will be observed, still employs Wicksell's rate as the standard from which the other phenomena are specified. The equilibrium from which we have departed and the rate of interest associated therewith remain the core of the system. It would be a valuable contribution to have Keynes' account of how the primary departure, the first schism between income and costs, takes place without invoking consequent emergent loss.

There is no necessity for us here to enter into contention as to the exclusively correct definition of the rate of natural interest. It is sufficient to note that there is such a natural rate, at least in the same sense as there are real wages as opposed to money wages. The two concepts have certain relationships; so that in the absence of technical advance, if funds which have never been income are placed in the hands of entrepreneurs, money wages will tend to rise and real wages to fall with no increase in employment; but the rate of money interest may even fall and yet the total share of interest may rise, because the rate is now being paid on a much larger volume of funds. And it is sufficient to observe that the rate of natural interest, the real yield of capital in a community which has not fully exploited every alternative advance in efficiency available would bear a recognizable correspondence to the common cessant gain entailed in foregoing such exploitation oneself and lending one's claim on the community to some one else. The average investment opportunity in the community and the average cessant gain attendant upon the relinquishing of it are at least prime components in any definition of the rate of natural interest. And though aberrations may be produced in other ways, unquestionably, when funds go to market, *funds which never having been income* can involve no antecedent cessant gain, then surely there is a departure of the rate of money interest from the rate of natural interest, no matter how we choose further to specify the phenomenon. That is, the absence of cessant gain is a clear case of a condition which, when present in a community, all regard as a source of imbalance.

VIII. *Loans contracted out of funds notably larger in volume than the volume prevailing when there was formed an equable price complex with reference to which the loans were made may produce a price complex such that a large proportion of loans, either new or previously outstanding, cannot be paid.*

"The amount of this rate of interest would be determined by the supply and demand for capital. . . . It is possible to set for this rate of interest an upper limit which has a more palpable significance. This limiting value is the amount by which

the total product exceeds the sum of wages, rents, etc., that have to be paid out. . . . It is clear the entrepreneur cannot pay more than this. . . . Little need now be said about the opposite movement of prices which must be set in operation when the lending rate remains permanently *above* the natural rate [and the volume of means of payment is then curtailed]. Not only will the entrepreneurs now fail to obtain any surplus profit but they will suffer losses."⁵⁰

"The increased productive activity that sets in when the banks start the policy of granting loans at less than the natural rate of interest at first causes the prices of production goods to rise while the prices of consumption goods, although they rise also, do so only in a moderate degree, *viz.*, only insofar as they are raised by the rise in wages. . . . But soon a counter movement sets in; the prices of consumption goods rise, those of production goods fall. That is, the rate of interest on loans rises again, it again approaches the natural rate. . . . It will no longer be profitable to conduct this enterprise. Whatever may now occur, whether the business is stopped entirely or whether it is carried on with smaller profits, in either case—not merely from the individual point of view but also from that of the community—there has been a loss of value."⁵¹

"Only so long as the volume of circulating media is increasing can the money rate of interest be kept below the equilibrium rate; once it has ceased to increase, the money rate must, despite the increased total volume in circulation, rise again to its natural level and thus render unprofitable (temporarily at least) those investments which were created with the aid of additional credit."⁵²

"The average time which must elapse before the new products appear . . . fundamentally explains the length of the boom. This appearance of the new products causes a fall in prices which on its part terminates the boom, may lead to a crisis, must lead to a depression, and starts all the rest. . . . The appearance of the results of the new enterprises leads to a credit deflation because entrepreneurs are now in a position and have every incentive to pay off their debts; and since no other borrowers step into their place, this leads to a disappearance of the recently created purchasing power just when its complement in goods appears."⁵³

"I venture the opinion, subject to correction on submission of further evidence, that in the really great booms and depressions of the past, each of the above named factors has played a subordinate role as compared with two dominant factors, namely, (1) overindebtedness (especially in the form of bank loans) to start with, and (2) deflation (or appreciation of the dollar) following soon after; also that where any of the other factors do become conspicuous, they are often merely effects or symptoms of these two. . . . We may deduce the following chain of consequences . . . a fall in the level of prices . . . a like fall in profits . . . complicated disturbances in the rate of interest, in particular, a fall in the nominal rates of interest, that is, the rates expressed in terms of money, and a *rise* in the real rates of interest, that is, rates translated into terms of commodities which money will purchase."⁵⁴

"The boom which is destined to end in a slump is caused, therefore, by the combination of a rate of interest which in a correct state of expectation would be too high for full employment, with a misguided state of expectation which, so long as it lasts, prevents this rate of interest from being in fact deterrent. A boom is a situation in which optimism triumphs over a rate of interest which in a cooler light would seem to be excessive."⁵⁵

Since the Schoolmen did not think in terms of anything like a theory of cycles, the reasons for the inclusion of the foregoing statements are of a different sort than the reasons for passages preceding. The reason is that the Scholastic position insists on existence of antecedent emergent loss as a warrant for interest. Modern writers take antecedent and consequent loss together as more or less the same phenomenon, notably Keynes, much less notably Schumpeter, and Robertson even less so. There is the danger of giving the impression that these movements are more or less compensatory, that they do not after all make so much difference, especially if they be the occasion of the introduction of really economic innovations which will increase real incomes all around in the long run. This danger is present even in the case of Keynes, despite the fact that his cheap money policy is expressly designed to bring out a redistribution of wealth. The quotations given above indicate that there is no necessary symmetry between these two, that the consequent loss may differ in extent and dispersion from the antecedent loss which would have produced the same volume of investment. There is no theoretical or practical reason why they should be regarded as compensatory.

The citation from Keynes carries with it another thought. Why these waves of optimism which seem to be the generators of ill-fated booms? Do business men do their anticipating in a void, or is there one erratic variable that defies calculation? If business men were forced to bid competitively to entice money from alternative uses and compensate fully for the loss emergent on the withdrawal, the danger of spontaneous combustion would be beneficially lessened.

Our modern authors have all, at one time or another, sought to define the rate of interest and the role of money in the economy in terms which implied conditions either of definite equilibrium or of a course of equable development; so that the transit involved in a passage from an old to a new equilibrium position would be direct and non-cumulative; the new position would be the definable limit of a definite process. To Wicksell, for example, this meant that the supply and demand for real capital were equal (and the monetary mechanism furnished an accurate register of both). Mises and Hayek would assent to this, adding more explicit consideration of the fact that the relative disposition between present and deferred consumption and the income displacements thereby entailed must be voluntary, lest a distorted structure of production result. The limits of his theoretical construction do not bring this type of description to the fore in Schumpeter's work, but a balance-sheet equality between contributions to and

claims on the social dividend lies behind. Fisher's formulation is sharply outlined in his double market principles of clearing the market: "additions to some person's real incomes must equal the subtractions from others," and the principle of repayment: that this equivalence must be of present values. Keynes employed a Wicksellian concept in his *Treatise* and still uses it as the terminus of his ascent from minor equilibria.

To look to the Schoolmen to compose these different views of the same processes when the moderns have not been able to do so themselves would be asking altogether too much. But it is worth indicating that *none* of these conditions can be fulfilled, if loans are taking place to which no antecedent emergent loss attaches. If there be no emergent loss whatever, then demand for real capital exceeds supply, income is displaced and the economy is operating on two sets of irreconcilable conditions. The balance of claims and contributions will be lost. Obviously, the additions to some people's real incomes are not equal to subtractions from others. Even Keynes might be included in this, because he could justify his loans on the ground that though they involved no antecedent loss neither did they impose a consequent one, because by increasing employment they increase real income all around. This could be done if Keynes had not picked up his story in the middle, where his economy was still bewildered from the last imposition of consequent emergent loss.

Since there can be no *antecedent* equality of saving and investing when the above conditions are not fulfilled, and since the above conditions would not be fulfilled in cases where no emergent loss to the lender corresponded to the loan, we do find a radical kinship between the Scholastic analysis of usury and the modern savings and investing analysis of price movements. The circumstances in which the Scholastic would allow that a source of legitimate interest exists are those in which, when the demand and supply of savings are equal, when all savings are invested, and when there is no investment which does not correspond to a subtraction from previous income, that is, to funds which have previously been cost and which therefore have found their place in the pricing system. In such cases, the rate of return over cost, the rate of natural interest, and the average emergent loss in the community express ideas with a great deal in common.

Wicksell liked to insist that the telling difference between his pedagogical economy in which goods were lent *in natura*, and the world in which we live, was that the production goods there considered as being lent are in reality no longer lent. Money now is lent and production goods are

bought and sold. The value productivity of the physical goods is an objective set of relationships. If money does not so change hands as to express accurately these value relationships, then the relations themselves are *altered* rather than expressed by the money sums paid for them.⁵⁶ When investment is made with funds that have never been income and, before being income, have never been cost, such a derangement is theoretically inevitable. Such funds are *sui generis* in the economy. They have for their holder the same potency as previous income but they are not such. We may call them pseudo-income, funds which yield to the one controlling them dominion over resources, just as income does; but, never having been cost to anyone, they are not derived from the economic process. These funds are the offspring of the second class of credit transactions spoken of by Mises—those in which “the gain of the party who receives before he pays is balanced by no sacrifice on the part of the other party. . . . and results for him in no reduction of satisfaction.”⁵⁷ And when investment is financed with funds that have never been income and which, therefore, could not possibly involve *antecedent* emergent loss or cessant gain, then there may well be *lucrum ex mutuo*, since someone is enabled to cut into the market and buy at current prices before the effect of the injection of this pseudo-income has had opportunity to operate. If the purchase of the investment goods proves to have been ill-advised, the actual borrower may not be the recipient of the gain he has occasioned. But somewhere in the economy, “windfall gains” will appear on someone’s books; the economic process then has operated to produce “a gain from a loan” even though no person could be shown to have been guilty of usury. Again we have the effect of usury without the personal fault. The usury is institutional, or systemic.

Thus far we have confined ourselves to the situation in which the pressure of the loan operation on the price level was upward. The injection of pseudo-income, involving no cost and thus no emergent loss, generated price rises and a displacement of incomes based on earlier costs.⁵⁸ But the process in the first instance need have caused no *positive, absolute* monetary loss since prices were rising. Transmitting the question of why this pressure reverses itself, we need only turn to experience to realize that the opposite situation is very real. We can have and have had a conjuncture in which the extinction of loans and the annihilation of funds upon which they were based has generated a cumulative rise of pseudo-costs, manifested chiefly in the writing down of the value of assets either sold under pressure or, even though not sold, obviously of less earning power to their

owners. Can the Scholastic analysis be applied so as to illuminate this process?

Directly, of course, it cannot be so applied. Deflation did not present itself to them as an acute problem. Inflation they knew both as caused by debasement and by new metal; they probably did not perceive the inflationary tendency of the banking methods developing in their day. Debasement they disapprove except under such circumstances as would warrant a tax of equal severity and incidence, and this, moreover, in the face of some impending disaster to warrant using the more expeditious but less just means. Inflation as they knew it did not necessarily generate a perceptible reaction. An attempt to derive some light as to how they might have viewed such a process is, therefore, not a direct application of their teaching.

When the pressure was upward, the windfall gains generated by injection of pseudo-income, the resultant forced saving by which the new funds were made economically valid, and the consequent depreciation of money were seen to be a process upon which the Scholastic would frown at *its very first step*, namely, the gain from a loan of funds that, not being income, could not involve emergent loss to the lender. If the loans and created funds upon which they were based were *all in the hands of one man*, the Scholastic would not approve of *that one man* calling all the loans simultaneously, inducing distress selling and an avalanche of pseudo-costs with resultant lower values, and then buying in the assets. That, too, would be gain from a loan; and to make one's own price by calling a loan would be no less reprehensible than charging a higher price for a good which the seller financed by a loan involving no emergent loss. Though the Schoolmen were not confronted with the problem, we may well believe that they would have condemned such a practice as heartily as they would condemn the depreciation of money by sending pseudo-income to market.

There are several substantial reasons for this conclusion. First of all, the Schoolmen had a strong sense of the pricing process as a social matter; the just, common, or natural price arose from community *participation* in the market. And this view was bound up with their doctrine on private property. The goods which come to be priced still bear the mark of the social destiny of all goods. A man could be forced to sell goods which he might be holding for a higher price, if the common good demanded it. Could he not *a pari* be obliged to sell money which he would be holding for lower prices of goods? Moreover, the Scholastic doctrine implied accurate pricing and favored anything that would promote this. A person selling a

good at a price higher than the common price because of some emergent loss or cessant gain was required to state this fact to the buyer, lest the latter be led into error concerning the true price. Moreover, though they do not to this writer's knowledge set it forth as an explicit assumption that the value of money is undergoing no radical change during a communal pricing process, it is not an unfair conclusion from their treatment of other problems of money to say that they would have been willing to make it explicit had it been a practical problem for them.

In order to maintain the symmetry of their equations, some recent writers have introduced the view of regarding sums not loaned, that is, income not spent on either consumption or investment, as loaned to one's self. At first sight this may seem a bizarre notion, especially when in the face of a declining price level there is no intention of making a commitment for some time and therefore no possibility of interest. Nevertheless, other considerations indicate that a good point is contained in this formulation. When under stable conditions earnings are reinvested, computing an interest charge on one's own investment as a cost is a common enough procedure though it amounts to lending to one's self. A *masse de manœuvre*, in order to seize upon the opportunity that may knock but once, is considered good practice in many mercantile and financial enterprises and an interest charge may be carried against it. Quite conceivably a merchant might borrow money from a bank in a period of falling prices, for the sole purpose of being able to cut into the market when the price fall is over; or perhaps his own support might end or help to end the decline. If a merchant withheld earnings with the same intent, it seems not so odd after all to regard the operation as a loan to himself.

If we admit this procedure, the relation of Scholastic analysis to the modern group becomes clearer and more direct when liquidity preference is high in a period of contraction and falling prices. If usury be *gain from a loan* (*lucrum ex mutuo*), as it was formally defined, then the gain from this loan to one's self is of the same character as the gain from pseudo-income when expanding loans were inducing windfall gains. The extraction of gain from the use of pseudo-income and from the imposition of pseudo-costs are symmetrical processes.

This analysis is interesting also for the reason that the concepts so much employed in recent controversy—forced saving, the principle of acceleration, and the “multiplier”—describe the relation of the same variables in different phases of an economic sequence. If the relation called the “multiplier” operates from an initial condition of full employment, it expresses

itself primarily in prices; the elasticity of supply being theoretically zero, quantities cannot respond. If the process of loaning pseudo-income begins in conditions of under-employment of resources, it will express itself primarily in quantities, prices remaining as they are until the slack is taken up. We need a correlative expression for the deflationary process—the deceleration of income velocity as liquidity preference rises and induces pseudo-costs marking down the value of assets.⁵⁹ If the Scholastic would consider the first process as being off the reservation, there seems to be no reason why the second would not also be so considered. That such a concept of loans to oneself should present itself as a mathematical device is interesting too; for it implies that if money does not go back to market within some customary period, the social status of these funds is altered, and a new view, both economically and morally, must be taken of gains accruing to such funds. Evidently such a view would not have been alien to the Schoolmen's view of the pricing process.⁶⁰

We may conclude from this that a Scholastic of the seventeenth century viewing the modern monetary problems would readily favor a 100% reserve plan, or a time limit on the validity of money. Interest may be viewed as a problem in the just price of money. A medievalist would not know how to approach a problem of just price when the supply was wholly unpredictable, as the supply of money is in a modern community. When the supply of money is conditioned in large measure by arbitrary decisions which are not rationally calculable, then the common appraisal becomes mere guesswork and should be treated under the heading of games of chance (*ludus*). A fixed money supply, or a supply altered only in accord with objective and calculable criteria, is a necessary condition to a meaningful just price of money. The Scholastic would not merely welcome a return to "cloakroom banking" (in Edwin Cannan's phrase), but would approve a sign "not responsible for goods left over one year."

But an observation of another sort may be made on the possible attitude of a usury analyst to the downward spiral of deflation. If loans were made only of funds risked out of previous income, could such a progressive condition ever arise? Spontaneous fluctuations in the rate of saving there might be and corresponding adjustments in the rate of interest and shifts in the direction of economic activity; but no movements that, once set in motion, have no tendency to come to equilibrium. The advantages and disadvantages of saving under these circumstances are tolerably well defined; the volume of money to be bid for is definite; there is no reason why a new price level and new rate of interest might not be

achieved. If cumulative price surges induced by pseudo-income were avoided, the problem need never arise; nor would cumulative price shrinkage follow in its wake. As Schumpeter says, "The only cause of depression is prosperity." The fact was remarked in discussing the first cases mentioned above, where an initial equilibrium condition of savings and investment was obvious. And the question was asked, why should not the condition be regarded as fulfilled? In the realm of the strictly economic, where do the notable shifts affecting liquidity preference come from if not from changes in the money supply? Hoardings from motives of personal precaution or from miserly abnormalities are not likely to be economic factors capable of maintaining their general effectiveness in the face of shifts in banking policy affecting the future prices of assets. The Scholastic would not regard the general downward spiral as something to be included in the "general" case. He would seek the source of the aberration from the normal as Wicksell did and take his stand on the elimination of the disturbing factor at its source. The money market is characteristically one of monopolistic competition, with multiple discrimination through the various rates. Price formation in such a market is extremely difficult to follow. Add to this the fact that the supply is subject to profound, abrupt, and arbitrary changes which also affect at once the value of the whole outstanding supply which is never diminished by consumption. Add to this the further fact that the quality of the supply may be altered as well as its quantity. Why should the economist hope for a simple principle with which to analyze such a market?

One of the great reasons why cumulative price declines can come to pass in modern economy is that large aggregates of disposable funds are in the hands of relatively few people; and even in those cases where the ownership is less concentrated, the disposal of the funds may be in relatively few hands. Whether or not Keynes is right in seeing this fact as a result of a deep-seated psychological bent, a rising propensity to save, the fact remains that a small fraction of the community can, by taking to cover in the face of an untenable price situation, induce a progressive decline in which they alone stand to profit. As has been remarked, this is a point which the Schoolmen quite overlooked; to them the distribution of income seemed to be important only in a secondary way, if at all. Nevertheless, it is a fair question for the theorist and a legitimate investigation for the historian to ask whether or not the present highly skewed distribution of income would have developed had Röpke's definition of the rate of natural interest always been carried out in real life.⁶¹

Apart from enrichment of politicians by confiscations, and exploitation of natives in imperial areas, whence do the modern aggregates of free capital funds arise if not from profits of credit-financed innovations, including the periodic innovation of military enterprise requiring the complete re-direction of the economy, with credit-financed windfalls to those holding assets with special wartime values? "What is usually meant by the size of the savings of a modern nation is nothing but the sum of those profits from development which never become elements of income."⁶² If innovation had always paid a full just price for the saved resources employed to the persons whose income-curtailment furnished the savings and upon whom the consequent emergent loss descended, how different would distribution of income be from what it is? What its shape would be we may not say, but we can safely hold that it would be very definitely less askew than it is. And the importance of liquidity preference as a special factor would be much less.

Thus it may be concluded that these conjunctures have notable points in common: conjunctures under which the Schoolmen would say a gain from a loan would be usury and the conjunctures which the Wicksell-Schumpeter train of thought sees as the source of a disequilibrium. If the principles which the Schoolmen applied *primarily to persons* are applied to a *process* and the usury then is regarded as "institutional," then the fundamental affinity is strong.

But here, I think, the likeness between usury analysis and modern monetary theory ends. The modern authors reviewed, possibly because of the optimistic outlook on the ultimate benefits of forced saving,⁶³ look to monetary authority for the determination of policies yielding the greatest good to the greatest number. Questions of banking policy are beyond the scope of the present study, but we may safely say that banking policy of this type would not appeal to the Schoolmen. Rights and wrongs were personal matters, and to obscure them by a perpetual shifting back and forth of exchange values in the vain hope of working them into some more equitable pattern would not coincide with their view. Just and natural price was to be arrived at on a fair open common market, the market regulated so as to make it an accurate register of the choices of the persons bidding. Anyone familiar with the Scholastic theory of the origin and limitations of civil authority, of the rights and duties of individual persons, of the relation of Church and State, and the origin and limitations of the right of property, of government and taxation and the consent of the governed and taxed, and of the primacy of commutative justice and its re-

morseless tenacity, will readily see what their attitude might be and the reasons for it. The role of government in social justice is to create conditions in which the citizens, not simply as such but as responsible persons, can readily recognize and fulfill their obligations in commutative justice. Its role is not to attempt to fulfill these obligations. Schoolmen would be extremely reluctant to leave to any group the manipulation of the price and volume of money according to no objective standard.⁶⁴

¹Wicksell, *Lectures*, II, p. 191; Mises, *Theory of Money and Credit*, p. 88.

²Schumpeter, *Theory of Economic Development*, p. 171.

³Fisher, *Theory of Interest*, p. ix.

⁴Cf. *ibid.*, p. 443, note, and p. 450, on Wicksell; pp. 518-519, on Walras.

⁵In the following sections, there is no suggestion of a continuity of intellectual influence from the late Scholastics to contemporary writers. Whatever may have been the case in the day of John Locke or even of David Hume, the impulse had long spent itself. The most cursory survey of most statements made about "Canonist" teaching by modern writers permits of only one conclusion. The moderns knew next to nothing about them.

Whatever may have been the reason for the failure to apprehend a degree of similarity to Scholastic doctrine in this group, it was not observed until the appearance in 1930 of the *Treatise on Money*, by John Maynard Keynes. The relations of Keynes' thought to Schumpeter are given in a footnote on p. 171 of Vol. I; the book as a whole is an Anglicized Wicksellian process. Later Keynes credited Fisher with having put his finger on the really fruitful concept. (Cf. Keynes, "Theory of the Rate of Interest," in Gayer, ed., *Lessons of Monetary Experience*, p. 145.) The point upon which comment was aroused was that of possible divergence between the volume of saving and investment, an alternative way of saying that the rates of natural and money interest may diverge. The emphasis was not on the more theoretical of Wicksell's cases but upon that in which forced saving emerges.

⁶The concept of equilibrium implicit in Scholastic analysis is not that of an analogy with physical forces working toward some new equation in which each impulse is offset by one equal and opposite, but rather that of *balance* in the accountant's sense, in which there corresponds to each asset some equity based on contribution and cost. Cf. Wesley C. Mitchell, *Business Cycles*, New York, 1927, p. 462.

⁷*Statistical Abstract of the United States, 1938*, Washington, 1939, footnote 2, p. 278, Table No. 303.

⁸The truth of this observation is exemplified by the place given to similar considerations in Hayek's theory of prices and money; cf. Lecture IV, *Prices and Production*.

⁹Like the modern writers with whom we deal, we are concerned with the problem of borrowing for industrial and commercial purposes. Personal borrowings for the sole purpose of adjusting the time shape of income present no special problem. Also, like the modern writers with whom we deal, we limit the discussion to transactions on pure credit terms, prescinding from the great *practical* qualifications placed on the theoretical analysis by the course of gold production and price, legislative changes in banking law, and the like. Likewise, except when speaking expressly of "anticipations," we assume the absence of flagrant errors and resultant gross misdirection of resources.

¹⁰Alfred Marshall, *Money Credit and Commerce*, p. 73.

¹¹Schumpeter, *Theory of Economic Development*, p. 189.

¹²Fisher, *Theory of Interest*, p. 157.

¹³Mises, *Theory*, p. 90.

¹⁴Wicksell, *Lectures*, II, p. 191.

¹⁵Mises, *Theory*, pp. 340, 88.

¹⁶Hayek, "Reflections on the Pure Theory of Money of Mr. Keynes," *Economica*, 11: 33, August 1931, p. 278.

¹⁷Schumpeter, *Theory of Economic Development*, p. 184.

¹⁸Fisher, *Theory of Interest*, p. 493; cf. also pp. 282, 499.

¹⁹Keynes, *General Theory*, p. 226.

²⁰Molina, 314, *incrementum*.

²¹Molina, 315; also Lugo, 25: 71, 86; and Lessius, 20: 86.

²²Wicksell, *Lectures*, II, pp. 190-192.

²³Mises, *Theory*, p. 339. The brevity and indirect quality of the citations from Mises on some propositions arises from the fact that he does not discuss *ex professo* the theory of interest but is concerned with other problems of the relation of interest and money. On this particular point the same is true of Hayek.

²⁴Schumpeter, *Theory of Economic Development*, pp. 193-194.

²⁵Fisher, *Theory of Interest*, pp. 148-149.

²⁶Wicksell, *Lectures*, II, p. 185. (The word "may" was not italicized in the original.)

²⁷Hayek, *Economica*, 11: 33, August 1931, p. 280; *Prices and Production*, p. 73.

²⁸Schumpeter, *Theory of Economic Development*, pp. 156, 170-171.

²⁹Fisher, *Theory of Interest*, p. 157. (The words, "usually later," were not italicized in the original.)

³⁰Keynes, "The Theory of the Rate of Interest," in Gayer, ed., *Lessons of Monetary Experience*, p. 145.

³¹Cf. Böhm-Bawerk, *Capital and Interest*, p. 23. The monograph to which Böhm-Bawerk refers is not the work of Thomas Aquinas but of Giles (Aegidius) Lessines, probably written in the year 1285. See M. Grabmann, *Die Werke des hl. Thomas v. Aquin*, S. 352, par. 16; M. Grabmann, "Aegidius von Lessines," *Divus Thomas*, 2 (1924), pp. 35-54; E. Hocedez, "La Date du *De Usuris* de Giles de Lessines," *Ephemerides Theologicae Lovanienses*, 4 (1926), pp. 506-512. Böhm-Bawerk does not remark as he should that the point here made about "time" applies properly in *solo actu mutui primo et per se*. *Sancti Thomae Aquinatis Opera*, Parmae, ex typ. P. Fiaccadora, 1864, Tomus decimus septimus. (Opuscula theologica et philosophica tam certa quam dubia) Opusculum LXVI, *De Usuris in Communi et De Usurarum Contractibus*, pp. 415-417.

Henry Pesch, commenting on Böhm-Bawerk's principle, "present goods are as a rule worth more than future goods of like kind and number" (Positive Theory of Capital, p. 237) makes the following observation based on Schreiber: "A pupil of St. Thomas Aquinas, Giles Lessines, had already in another form, called to notice the influence of time on the valuation of goods. '*Res futurae per tempora non sunt tantae existimationis, sicut eadem collectae in instanti nec tantam utilitatem inferunt possidentibus, propter quod oportet quod sint minoris existimationis secundum justitiam.*'" (Pesch, *Lehrbuch*, Bd. V, p. 671.) "Future goods are not valued as highly as the same goods assembled and immediately available, nor do they afford the same utility to their owners. For this reason they must be regarded as of less value according to justice." The passage quoted occurs with several paraphrases in the *Opusculum* cited, p. 426.

³²Wicksell, *Lectures*, II, pp. 201, 194-195. (Italics in last sentence inserted.)

³³Mises, *Theory*, p. 264.

³⁴Hayek, *Prices and Production*, p. 114; *Profits, Interest and Investment*, p. 43.

³⁵Schumpeter, *Theory of Economic Development*, pp. 101-102; cf. footnote same page.

³⁶Fisher, *Theory of Interest*, p. 149

³⁷Keynes, *General Theory of Employment, Interest and Money*, p. 78.

³⁸Mises, *Theory*, p. 264.

³⁹Wicksell, *Interest and Prices*, pp. 111, 156.

⁴⁰Mises, *Theory*, p. 349; cf. also pp. 206 *et seq.* and pp. 346 *et seq.*, and *Geldwert*, S. 45.

⁴¹Hayek, *Prices and Production*, p. 57; cf. also "A Note on the Development of Forced Saving," *Quarterly Journal of Economics*, 47: 1, November 1932, p. 234. Reprinted in *Profits, Interest and Investment*, pp. 183 *et seq.*

⁴²Schumpeter, *Theory of Economic Development*, pp. 108-109 with note.

⁴³Actually, it is difficult to see how, when balances are being created, Fisher's First Market Principle ("What was borrowed equals what was lent") can be fulfilled. He should therefore have included forced saving at a logically earlier point in his analysis.

⁴⁴Keynes, *General Theory*, pp. 80-81.

⁴⁵Wicksell, *Interest and Prices*, p. 102.

⁴⁶Mises, *Theory*, p. 355.

⁴⁷Hayek, *Monetary Theory and the Trade Cycle*, p. 201.

⁴⁸Schumpeter, *Business Cycles*, Vol. I, p. 127.

⁴⁹Fisher, *Theory of Interest*, pp. 36-37, 497.

⁵⁰Wicksell, *Interest and Prices*, pp. 104, 150.

⁵¹Mises, *Theory*, pp. 363-364.

⁵²Hayek, *Monetary Theory and the Trade Cycle*, p. 176.

⁵³Schumpeter, *Theory of Economic Development*, p. 233.

⁵⁴Fisher, *100% Money*, pp. 106-109.

⁵⁵Keynes, *General Theory*, p. 322.

⁵⁶Need we remark once more that there is no necessary simple connection between the "own-rates" of goods and the rate of natural interest which might arise from combinations of commodities with such and such "own-rates"?

⁵⁷Mises, *Theory*, p. 264.

⁵⁸Cf. Bulletin No. 2 on *Post-War Planning*, "After the War—Full Employment," National Resources Planning Board, Jan. 1942, p. 5, "Costs and income are just opposite sides of the same shield." This proposition is laid down as evident and as fundamental in post-war policy. Costs and income may be opposite sides of different shields, one made of real goods, the other made of paper. The economic significance of pseudo-income, money which never having been income cannot involve emergent loss, is of great practical importance.

⁵⁹Along the lines being developed by Prof. James W. Angell; see the bibliography and especially his "The General Dynamics of Money," *Journal of Political Economy*, 45: 3, June 1937, pp. 289 *et seq.*

⁶⁰Though, as is clear from the statement of Scholastic doctrine, "expectations of loss and gain" (*spes lucri vel damni*) and the proper evaluation of them were given much consideration, we have not introduced them here for the reason that the Scholastics did not regard them as an *independent* variable, as some recent writers do. Expectations were based on the objective data, which on the average were correctly appraised.

⁶¹"The rate which would establish itself if the volume of credit in the community were built up solely out of real savings and not out of additional credits besides." Röpke, *Crises and Cycles*, London, 1936, p. 114.

⁶²Schumpeter, *Theory of Economic Development*, p. 199.

⁶³Cf. Howard Ellis, *German Monetary Theory, 1905-1933*, Cambridge, 1934, p. 402.

⁶⁴The circumstance should be noted here that though we have limited the discussion to commutative justice and to considerations drawn from reason alone (since that was the most convenient way of dealing with usury), additional reasons and motives upon which the Scholastic might draw in order to persuade participation in the social process of pricing are not so limited. In addition to commutative justice, the virtues of social justice, personal charity and social charity, both natural and supernatural, liberality and munificence, all furnish new motives for staying in the market when "loans to one's self" might seem to be more profitable.

CHAPTER X

SPECIAL ANALOGIES

A recrudescence of usury analysis on a scientific basis first appeared in the British *Economic Journal* in the form of a series of comments on Keynes' *Treatise on Money* which, it was contended, contained in but slightly different form ideas which were characteristic "Canonist" teaching. The burden of the first of the succession of comments may be summarized as follows:

"The cardinal point made by Mr. Keynes is the distinction between Saving and Investment, between the saving of money and its conversion into capital goods. Saving without investment is not a service to production and the saving of money does not by itself cause any conservation of products, but their waste or their disposal at lower prices and the slowing down of productive activity. The continuity of the economic process requires that purchasing power should be exercised as it is received, otherwise the demand for goods falls below the supply and we find ourselves in the depressing company of unemployment, falling prices, and business losses. . . . The saving is sterile from the standpoint of the community, though it may be profitable to the individual who apart from any interest earnings may watch his idle money grow in purchasing power through the fall in general prices. . . . It is an inescapable conclusion from the Keynesian analysis that interest is the villain of the piece. . . . The fundamental distinction between Saving and Investment which Mr. Keynes makes renders it equally fundamental to distinguish between Interest and Profit and between Money and Capital. It is here that Mr. Keynes is brought into the camp of the Canonists. Professor Cassel in his *Nature and Necessity of Interest* criticized the Canonists and opposed them with the principle that interest is paid for the use of capital, not for the use of money. Now the Canonists never quarrelled with payments for the use of capital, they raised no objection to true profit, the reward of risk, ability, and enterprise, but they disputed the identification of the lending of money with the investment of capital and denied the justice of interest as a reward for saving without investment. . . . The Canonist principle was that sharing in trade risks made an investor a partner, a co-owner of capital, not simply a money lender, and gave a title to profit."¹

So far so good, but we have not traveled very far. The approval by the "Canonists" of receipt of compensation for the assumption of risk was but a very small segment of their teaching and is in principle but a special case of emergent loss; since for the duration of the loan at least, even

though the final outcome be profitable, goods subject to a risk are of less value than goods not so subject. This may help us to an understanding of why interest must be paid; but it is of little avail in telling us why people are willing and able to pay it. When the contract is not one of loan (*mutuum*) but of partnership (*societas*), the whole question of usury merges into the question of the just price of the asset involved. One of the merits of the Scholastic position was its ability to approach questions both of loan and valuation with one set of principles. To imply that the view of the Schoolmen was a fruitful one only in the case of a contract of partnership is scarcely an adequate application of their doctrine. Moreover, when the practical suggestion arising out of these observations is the abolition or substantial lowering of interest on savings deposits, we are left with the feeling that a hopeful beginning has brought us nowhere.

Somerville's comments called forth responses from Edwin Cannan, B. P. Adarkar, B. K. Sandwell, and John Maynard Keynes published in the following issue of the *Economic Journal* (March 1932). There is little in these comments to warrant repetition. Adarkar and Sandwell view the whole business with a bilious eye and supply some strong comments on "Canonist" doctrine which get no closer to the medieval teaching than Ashley. Sandwell suggests that "the Canonist doctrine seems to afford a splendid springboard for the transition to a full Soviet economy";² this is a truly remarkable conclusion. But Cannan's comments are of a different order. He distinguishes between "saving up" ("the accumulating of income-yielding things") and "saving on"—on tobacco, for example—an act of mere negative "refraining from expenditures"; he grants that if "saving is conceived as mere refraining from expenditure, interest as a consequence of saving becomes both mysterious and indefensible. Why should anyone be paid something *per annum* for 'having abstained'?"

"Abstinence is not necessarily a virtue and, besides, there are many virtues which bring in no income. . . . If saving is conceived as saving up money, the case against interest as a consequence of saving is also black. Saving up money is 'hoarding,' always condemned even by economists, and (unless there is an oversupply of money being issued from the mines or elsewhere) it leads to a general fall of prices and all sorts of inconveniences such as were and are now enduring owing to the hoarding propensities of American and French banks."³

Somerville's error, in Cannan's opinion, was that he assumed that interest was paid on savings in the mere negative sense of refraining from expenditure. In view of Somerville's emphasis on the importance of the price of capital assets, this scarcely seems to be the point; but in view of

his suggestion about lowering interest payments on saving deposits, it is perhaps a fair score. Having put his finger on an instructive symptom, Somerville did not follow through to a complete diagnosis but allowed his thought to be sidetracked on to a minor issue.

Keynes, in his contribution to the symposium, neatly seized upon Cannan's admissions quoted above, and insisted that an act of personal saving need not in any way lead to an increase in assets; but "if an increment of saving by an individual is not accompanied by an increment of new investment . . . then it *necessarily* causes diminished receipts, disappointment, and losses to some other party, and *the outlet* for the saving of A will be found in financing the losses of B."⁴ This is, however not quite the point that Somerville is making as far as the "Canonists" were concerned, though it may be true enough in itself and pertinent to that part of Somerville's paper where he speaks of the place of savings and investment. Keynes feels this and suggests that the "Canonists," impressed by the fact that "in the circumstances of their time, saving generally went with the creation not of assets but of debts," were trying to devise practical normative rules to keep savings and assets associated. This, too, may be possible; but surely nothing is more risky than lending one's money in non-productive enterprises, which would seem to warrant a rather high rate of interest on Keynes' terms. Somerville limits his case to interest titles based on the assumption of risk in the contract of partnership, and wishes to bind together the receiving of interest and the bearing of risk. Keynes, on the other hand, deplors the fact that savings go into debts rather than assets. Yet the Scholastics readily admitted the possibility of risk (*periculum sortis*) in the buying of a debt. Thus far a shadowy analogy has been glimpsed but no issue has been squarely joined.

Somerville closed the discussion in the June issue of the *Economic Journal*, giving many sound reasons why modern theorists had little reason for looking down their noses at usury analysis, giving a less felicitous exposition of "Canonist" teaching but coming back solidly to his original observation which he and Keynes feel has not been adequately disposed of, though it does not quite seem to fit in anywhere. Regrettably, Somerville felt that he "need not here consider exceptions based on extrinsic titles like *lucrum cessans*," limiting his case thereby to one set of transactions which present no great theoretical problem. If a natural object has an annual product, the owner may gather the fruit, and he may charge a price for a share in the participation of that fruit. And, of course, the person buying that share may garner the fruit of his new ownership.

"The merit of the Canonist theory is that it kept clearly in mind the fact that interest is a charge for the use of money, not a yield from the investment of capital. It is an error of modern theory to treat interest as the price of, or return from, capital. Money is not capital, it is not even 'representative capital,' though it is potential capital, but the lender of money does not make the change from potency to act. Capital exists only as capital goods, and the service of converting money loans into capital, of using it productively, of Investment in Mr. Keynes' word, is performed by the borrower when it is performed at all. . . . The great support which Mr. Keynes gives to the Canonists I take to be this: his strong distinction between Saving and Investment shows that it is theoretically wrong to treat money as representative capital and lending as Investment. Interest is the price paid for the use of money, it is not the yield of capital. The marginal productivity of capital, proved or assumed, may be one of the factors that go to determine the rate of interest but interest has no necessary relation with capital productivity."⁵

Upon this dogged but inconclusive refrain the controversy closed.

Another writer participated in the discussion but from a different point of view. Lawrence Dennis of New York found in the teaching of the "Canonists" better arguments for the cancellation of the war debts than he could find among the British neo-classicists who were urging cancellation. To preach war-debt cancellation and cling to traditional doctrines about thrift and credit and interest does not seem consistent to Dennis, and he questions both the expediency and justice of enforcing "unconditional promises of interest payments regardless of the use made of the borrowed money or of the ensuing course of events."⁶ "Destructive credit deserves more attention than it has received and at least as much attention as productive credit." The implication of this is that "Canonist" teaching would not allow interest for an unproductive purpose, and eminently not for a specifically destructive purpose like war. But this is not borne out by the facts. War loans, as we have seen and will see again shortly, were regarded as lawful by Scholastic writers, and like modern writers they used these loans as examples because of their simple and direct character. They certainly did not condemn war loans solely because of their destructive purpose. The alternatives open to the lender, not the needs or purposes of the borrower, determined the legitimacy or illegitimacy of interest. The reason why a Scholastic writer might view modern war debts with concern would not arise from the object of the loan.

Keynes returns to the charge himself in his latest reconsideration of his views.

"I was brought up to believe that the attitude of the Medieval Church to the rate of interest was inherently absurd and that the subtle discussions aimed at distinguishing the return on money-loans from the return to active investment were merely

jesuitical attempts to find a practical escape from a foolish theory. But I now read these discussions as an honest intellectual effort to keep separate what the classical theory has inextricably confused together, namely, the rate of interest and the marginal efficiency of capital."⁷

This statement contains a truth, but one very poorly presented. To a Schoolman, the marginal efficiency of capital would be another name for the loss emergent or gain cessant upon the relinquishing of money, the true cost of the alternative opportunities. In communities where these alternatives were numerous and would be competed for, there would arise a common price based on the community appraisal of an average profit opportunity, an average rate of marginal profit from investment. If injustice is to be avoided, this common estimate of marginal profit must equal the rate of interest. But, though the Scholastic norms required that these two coincide, the Schoolmen did not regard them as identical; obviously a usurious contract could exist in which the rate of interest differed from this common appraisal of profitable investment opportunity, *i.e.*, the marginal efficiency of capital. But though this possibility of *de facto* divergence meant that the *concepts* are distinct, it may be very misleading to say that the *Scholastics* labored to keep them separate when *concretely* their whole purpose was to keep them together. A high marginal efficiency of capital meant a true emergent loss to him who relinquished capital goods or the money means to them. The just price of present money, the rate of interest, was therefore high and a consistent Scholastic would work to keep it up, and to allocate the benefit to him to whom in commutative justice it was due, namely, to the one who incurred the emergent loss. Keynes is right in the distinction which he draws; but the use he makes of it is so different from the Scholastic application that it might readily be the source not only of confusion of ideas but also of imputation to the Schoolmen of ideas directly contrary to what they held.

In addition to the more general theoretical analysis of whatever kinship there may be between the Wicksell-Schumpeter-Fisher theories and the Scholastic doctrine on usury, certain cases may be considered which, though limited and partial, have some fairly definite resemblance to concrete modern situations.

The simplest example of which the Scholastic could think to exemplify the principle of cessant gain was that of a forced loan imposed by a monarch who compels merchants to part with their cash in hand, to withdraw money from their business, to sell assets at a loss, and drastically to curtail their operations. That such compulsion might be justifiable from the

standpoint of the monarch when the community was confronted with some calamity was regarded as conceivable, if not probable; granted the possibility of such a public crisis, only in the mercantile community could cash be found free to be mobilized readily. But regardless of the conceivable justice of this first step, not only was the loan to be paid back to the merchants but it was to be paid back with interest compensating them fully for their emergent loss. This was regarded as a clear-cut situation and as such was used for illustrative purposes. The merchants had actually incurred the loss; and therefore (though the monarch might, of course, tax the whole community to pay back the loan, and in this event the merchants would be taxed their share as part of the community) to the merchants alone must go the compensation for the loss actually incurred. *Antecedent* to any effect of this transaction on the price structure, the merchants have been deprived of money which to them had an extrinsic value greater than its nominal value. This value, too, must be restored.

A modern government confronted with a situation demanding an expeditious mobilization of funds does not descend upon the mercantile community. There is no *antecedent* emergent loss in the modern process, though the ultimate effect, the *consequent* emergent loss, will embarrass someone in much the same way as the older direct method. The following quotation outlines the essentials of the method in one historical case. "The government's monetary requisitions were adequately met by a fund of deposit currency, and the procedure employed—payment by credit, redeposit of funds, and exemption from reserve requirements—replenished this fund as required or desired by the emission of certificates of indebtedness without corresponding withdrawal or curtailment of banking credit in other quarters. The deposit currency created in this manner is not unfairly described as fiat—not a deduction from an existing limited stock but the provision of a new unlimited supply with no limitation short of the remote check of an ultimate gold reserve. . . . There could obviously be no credit or monetary strain or dislocation incident to a borrowing device when the accompaniment of that device was a mechanism which supplied for the asking a practically unlimited fund of the thing borrowed."⁸

This volume of deposit currency represents not so much a loan as a levy upon the holders of currency and deposits. They are the ones from whom the validity of the new fund is drawn through losses expressed in higher prices to be paid for goods when the new funds go to market, as they promptly do. "But that is not all. Besides drawing too much of what the government needs from the poor as compared with the rich, finance by

bank credits also causes a large transfer of real income from one set of people (mainly the receivers of fixed incomes) to another set of people."⁹

How can the Scholastic line of reasoning be applied to modern war financing? The modern state is under no necessity, as was Charles II, to stop the exchequer; but under war conditions it can borrow at its own rates and supply the means of lending to itself. Quite apart from the separate question of the interest on securities in which the indebtedness may ultimately be funded, no modern nation makes any attempt at allocating the compensation for the loan upon those whose emergent loss consequent upon the loan was the actual source of the economic validity of the new funds.

In the second instance, when a war loan bond is sold and is paid for out of funds created *ad hoc*, we have a two-fold phenomenon: first, the acquisition of an asset (the claim embodied in the bond) without any corresponding deduction from income or capital—in other words, without emergent loss or cessant gain by the new owner of the new bond; second, in the case of all persons who participate in wartime profits, we have a *lucrum ex mutuo*, arising from the fact that the lending operations cause a rise in the price of products of wartime industry. Thus even a person who might otherwise claim an emergent loss cannot at the same time also benefit by the rise in prices from the expansion of government credit, and on balance have any emergent loss. The question of presence or absence of emergent loss, it will be recalled, was not to be judged from the loan in the abstract but "from the business as a whole."

In modern states, with any degree of financial concentration, once this process was started, differentiation of claims would be practically quite impossible, with prices rising all around in irregular degree and the incidence of the *consequent* emergent loss quite unascertainable. But we may safely say that the Scholastics would again stand firm at the very first step of the operation; compensation for the transfer of the money and money equivalents to the state shall not be made except to those who have borne the cost of the efficacy of the newly evoked funds. And, secondly, no one may make a gain from a loan by lending money to the government to buy his own products at a higher price.

Mises laid great and proper emphasis on the income displacement occasioned by issues of new money, which have a cost trifling in comparison with their value and which bear no relation to previous income and costs. Wartime income displacements are, as is evident, very great. If the volume of circulating media were not expanded, the rate of interest the state would

have to pay would be very great indeed; but the rise in prices would be smaller and differently distributed. Both the subsequent interest receipts and the gains from control of present money would be in many more hands. Analysis along these lines rather than "destructive loans" would have illuminated Dennis' obscurities about war loans and related it to Scholastic analysis. The cessant gain and emergent loss that merited compensation after the war and its prices have passed will have been absorbed and dissipated. Payment of interest on obligations that represent no fundamental title regardless of the good will of present holders may well prove an impossible process. Among the reasons for this is the configuration of the income displacement, the effects of which, as previously noted, have probably been underestimated.

The second case suggesting itself directly from the authors and bearing some relation to modern situations is the implicit loan involved in those sales in which payment was not made until some appreciable time after the delivery of the article sold, or in which payment was made some appreciable time before the delivery of the article bought. The first case studied by the Schoolmen was an implicit loan (*mutuum virtuale*) by the seller to the buyer, and the second an implicit loan of buyer to seller. If one chose to do either of these things, well and good; he might do so, but on the occasion of such a loan there were two things he might not do: he might not take explicit interest on the money thus implicitly loaned, and he might not raise the price if he waited for his money or lower the price if he got the money before the delivery of the goods, thus making a gain which, though not expressed as interest, was nevertheless a gain due to the loan. Speaking on general principles and assuming the absence of extrinsic titles, both of these practices were absolutely prohibited. They were forbidden because either would be *lucrum ex mutuo*. (It is useful to insist here that the gain forbidden as unlawful interest by usury analysts need not appear in customary interest formula as so much per cent, though it could be so expressed, especially as discount.) But in the cases given, the unlawful gain from a loan of *mutuum* was the sum of money represented by the difference between the price of the goods as it would have been without the implicit loan and the price as actually contracted for.

When, however, the loan implicit in payments at times other than that of contracting involved an emergent loss either to him who paid for goods before he received them or to him who having delivered goods waited for payment, then the buyer or seller suffering the loss might reimburse himself in the price; for now the extrinsic titles are present. The emergent

loss could take any of the forms mentioned in the previous chapter: direct loss, such as assuming carrying costs on goods sold but not yet paid for; cessant gain involved in profitable alternatives relinquished; any risk assumed, including the risk of default; any cost incurred in collection difficulties—all these were various forms of loss emergent upon the implicit loan. The legitimacy of interest under these conditions as well as its illegitimacy in their absence were alike the “common opinion of the doctors.” Moreover, the examples cited indicate that such circumstances were not rare; else why should the factors from Genoa give a better price to the wool grower whom they did not have to finance than to those whom they did? Or why should the merchants of Antwerp, having agreed to wait for their money, grant discounts of 8% and 9% if the buyer paid before the time originally agreed upon? Prudent merchants would do this only because alternative opportunity or profitable employment awaited their sound and readily available funds; that is, because the original implicit loan had actually involved them in emergent loss.¹⁰

At first sight, it may seem that what common ground there is between these late medieval transactions and their modern counterparts would be of little significance. A contemporary merchant or manufacturer who finances his buyers does so only at a cost, expressed either directly in his interest payment to some lender or indirectly in the loss of alternative uses of his money. And every business man is convinced that he can make good use of money in hand. Therefore, when he finances his buyers, he is always involved in an emergent loss or cessant gain; in a competitive world the concessions that would have to be made would tend strongly to equal the rate of pure interest plus administrative costs and compensation for any special risk in this particular transaction. Therefore, a merchant who keeps up the price of his product by financing his buyers is, in a modern competitive economy, almost automatically in the clear as far as Scholastic analysis is concerned.

Nevertheless, a significant similarity is discernible, though the intervention of the banking system may introduce an additional step which obscures the likeness. A modern merchant or manufacturer sells goods, say to retail stores, and grants 90-day terms. Meanwhile, he must have money to carry on his operations, for which he appeals to his banker. The loan which he receives may involve either of two types of funds. It may be, first, money already withdrawn from active bearing on the market, personal savings earmarked for non-expenditure. In modern economy, such a sum automatically represents a curtailment of expenditure from previous income and a cessant

gain, in that the person who voluntarily curtailed expenditure from income normally has many investment opportunities of various sorts. On the other hand, the sum lent by the bank may represent a net addition to effective current purchasing power, if all the conditions be fulfilled under which this is possible.¹¹ In this second case, price has been maintained by a loan to which no antecedent emergent loss by any specific person or enterprise corresponds. There is, nevertheless, ultimately a consequent emergent loss suffered by the persons who buy this financed good at the higher price with no compensating gain in the prices of other commodities. Or, speaking more generally, there is a loss in the value of their money with reference to the financed commodity, for which there is no compensatory gain in the value of their money with reference to other commodities as there would have been had the loan employed funds whose assemblage represented an antecedent emergent loss, that is, if the loan represented an assignment of funds withdrawn from previous income for which there awaited profitable investment alternatives. In Mises' phrase, this is not one of the transactions "which are characterized by the fact that they impose a sacrifice on that party who performs his part of the bargain before the other does."¹² The borrower in this case has goods transferred to him "to which he has not that claim which alone gives access to the national dividend in other cases . . . i.e., past productive services."¹³ "Money that has not been earned in production becomes available for expenditure on products."¹⁴

The incidence of the *consequent* emergent loss may be quite concentrated or extremely diffused. A small group of persons may find their income-expenditure schedules radically deranged; or a very large number of persons may find prices so slightly altered that the change from this source would be lost in price changes arising from other factors. Likewise the gain from this loan, a loan unaccompanied by emergent loss or cessant gain, may be so distributed as not to be of great moment to any single party. The merchant may have paid out most of his margin in interest; the interest may have been a small item in the banks' total income. Yet an erratic element has been introduced into the pricing process; someone has entered the market for the common appraisal with a significant handicap; there is some price which is not a common price and somewhere a gain from a loan to which no adequate title corresponds. No single person perhaps would be convinced by a Scholastic author of the sin of usury. But the *process* has operated usuriously; again we meet systematic or institutional usury.

On the other hand, as in the first case, when the sums invested represent a contraction of expenditure from previous income, then the costs of the new alternative project will be accurately integrated with the old; then the value of the new investment equals the value of the antecedent emergent loss; then the rate of money interest will be the expression of the common money value of the rate of natural interest—the rate of average surplus value of available alternatives. “For the prices of the means of production were not determined with regard to this employment but only with regard to previous uses. Here, then, in the possession of a sum of money is a means of obtaining a bigger sum. On this account and to this extent, a present sum will be normally valued more highly than a future sum. Therefore, present sums of money—so to speak as potentially bigger sums—will have a value premium which will also lead to a price premium. *And in this lies the explanation of interest.*”¹⁵ If an individual borrower apply his funds in a way which is not only superior in value productivity to the alternatives relinquished, but is also superior to the average minimum surplus value productivity of the projects to which funds are being newly applied—and at which, therefore, it is worthwhile for anyone to borrow—then such a borrower may of course have a profit margin after paying all proper compensation for risk and emergent loss. Such gain from a loan by a *borrower* did not concern the Scholastic moralist: this was congruous compensation for a special skill, a violation of no one’s rights. Gain from a loan by a *lender* was the thing upon which they fixed their scrutiny.¹⁶

The general theory of the Scholastic view of the price of evidences of debt has been set forth in the historical section of usury analysis, where we found that most of the factors conceded a place in modern analysis were at least recognized, if not fully integrated. One case, however, merits special mention in connection with the cases just discussed. The question is this: If the evidence of my own indebtedness is for sale in the open market at a notable discount, may I buy it in? We follow Lugo’s discussion. The debt could be bought below par by some third person, if the low price represented the true estimate of the market, regardless of the causes of the low price. Therefore, it is argued by a few, the debtor himself could buy it in at the low price, just as anyone else might; for the low price is based on a true common appraisal, and there is no question of usury because this is a straight case of purchase and sale. There might thus be a question of unjust price; but the price is just by hypothesis; usury is not involved. Therefore, the transaction is unexceptionable. All other writers hold that the deal is illicit.

Lugo thinks that a distinction should be made. A debt may sell at a notable discount for two very different sets of reasons: first, circumstances which are in no way the result of the debtor's action; second, circumstances which may in greater or less degree be the result of his action. In the first case, the debtor himself may profit by objective market circumstance as well as any other; and the more so if the earlier payment be the cause of any emergent loss to him. But in the second case, if the low price of the debt be the result of any action of his (for example, if he has let it be known that he will make difficulty about payment), then he may not buy it in, because this is a circumstance which he is bound in justice to remove. And if he does buy it in, it is a usurious transaction; for to trade 90 now for 100 due then is equivalent to lending the seller of the note 90 to be redeemed at 100 a year hence. For example: "I infer from this first of all that public agents and royal ministers, whose business it is to receive royal moneys and to pay the creditors of the king, sin against justice when they buy these debts from creditors at a low price and later receive full payment from the king. Just as the king may not buy them at a lower price, so neither may the ministers."¹⁷

What is thus true of the purchase of one's own obligations would, perfectly *a pari*, be true of the sale of them—which raises some nice questions of a central bank making a market for government securities, and about open market operations in general. But modern sovereignties have notoriously indelicate consciences. Let us consider rather a bank with unemployed reserves which acquires an asset, paid for with a deposit to the credit of the former owner. A credit expansion ensues in which the bank is, at the least, one of the cooperating factors. The credit expansion results in the depreciation of whatever circulating medium the bank deals in. Prices rise; the asset appreciates. The bank absolves its debt by paying out on the deposit a currency of lesser value. Let us suppose further that the bank were to sell the asset thus acquired and, having sold the asset, to participate in a contraction of credit. The relation of this to Lugo's debtor making his own terms of payment is clear. The kinship with the case in which one makes the favorable price of an asset one wishes to buy is clear. In each case, we have made a transit from a directly personal operation to a process involving the cooperation of many persons, some perhaps unwittingly. But the effect is the same as if only one person were involved—an asset is surrendered to some person whose title to it has a peculiar color; or some asset held has yielded up some of its value. A process, if not *per se* usurious, has operated usuriously; some lenders have gained

from a loan without the corresponding emergent loss in some form on which a title might be founded.

We return thus by a different route to the general conclusion that we reached before. The modern situation to which theorists have applied the concepts of divergence of natural and money interest, divergences of saving and investment, divergences of income disposition from tenable patterns by involuntary displacements—all these have a sufficient common ground with late medieval analysis to warrant the expression, "institutional usury," for the movements heretofore described in the above expressions.

¹Henry Somerville, "Interest and Usury in a New Light," *Economic Journal*, 41: 164, December 1931, pp. 646 *et seq.*

²*Economic Journal*, 42: 165, March 1932, p. 134.

³Prof. Cannan is perhaps a little less than fair to the abstinence theorist. Abstinence may not necessarily be a virtue, but it is a necessary condition of real saving, and if real savings are to exist and be invested, abstinence, whether a virtue or not, may require the prospect of gain to be forthcoming.

⁴*Loc. cit.*, p. 135. (Italics in original; the word "necessarily" seems to be needlessly inclusive.)

⁵Henry Somerville, "Usury and Standstill," *Economic Journal*, 42: 166, June 1932, pp. 322-323.

⁶Lawrence Dennis, *loc. cit.*, p. 312.

⁷Keynes, *General Theory*, p. 352.

⁸Jacob H. Hollander, *War Borrowing*, New York, 1919, pp. 141-142.

⁹Arthur Cecil Pigou, *Political Economy of War*, London, 1921, p. 108. The British mechanism of forced loans corresponding to the American outlined above is given on page 96 of this same work, taken from *The Interim Report of the Committee on Currency and Foreign Exchanges*.

¹⁰With one problem in this category, the late Scholastics wrestled valiantly but in vain. They did not succeed in applying their principles concisely to a market with two characteristics: (1) a market in which all the goods come on the market at the same time or within a very short time, so that it is practically impossible to expect the merchants to have a sufficiently large supply of cash to buy the whole; and (2) a market in which therefore the price which ruled was a price *entirely* or *almost entirely* determined by sales on credit terms. The arrival of the fleet from the New World was an example of this, when goods of great value would come on the market in large quantity at a single stroke. If the importers had to sell only for cash and within a short time, the price of the goods would be very low indeed. Yet when the merchants who bought the goods transported them into the provinces and other countries, they would have a stable price far above this. This second price was undoubtedly the just price. Yet the price at the port would certainly fall unless the importer was willing to wait for his money. Yet deferred payment was an implicit loan; and to maintain price by an implicit loan was certainly *lucrum ex mutuo*, gain from a loan of *mutuum*, and therefore usury. Many, perhaps most, writers of established authority condemned the practice outrightly as plain usury and quoted merchants as agreeing that it was usurious. If it could be shown that the importer, for example (similar things were true of any good that came on the market in a single abrupt supply, e.g., crops), by reason of the implicit loan suffered an emergent loss, or cessant gain, or risk of loss of the goods, or trouble in collection, or anything of the sort estimable at a price, then again there was a problem. "But taking all this for granted, the great difficulty is whether those goods which are commonly sold only on credit or 'on term' (*ad terminum*) may licitly be sold at a greater price than the highest price at which they would be sold for cash. The question arises concerning certain goods which are

brought in great quantity, from the Indies, for example, and other places, to the great market towns and are immediately divided among various competing merchants to whom they could not be sold for cash; *nor* can those bringing in the goods wait until all the goods are disposed of gradually and bit by bit but they must distribute them immediately in great quantity in order to return to their own countries." Lugo, 26: 105.

After reviewing the contributions of Molina and Lessius and adding some of his own, Lugo concludes that this contract, *in the absence of clear extrinsic titles*, will always remain a "troubled" affair. Upon inspection, all of the various solutions proposed by the authors quickly reduced to an emergent loss or cessant gain of some sort, which in this particular case had been excluded by hypothesis. The reason for the exclusion was the fact that the practice flourished in some ports and markets without apparent reference to any actual emergent loss or cessant gain. Lugo attempts an answer by distinguishing two senses in the axiom that the just price in a contract is that prevailing at the time of delivery and not at the time of contracting. He emphasizes what no one had denied, that the probable future price may be a factor in present just price; but he is not satisfied with the result. The difference can perhaps be composed by saying that on principle the case was unanswerable in the absence of emergent loss; but in the kind of ports where this discussion was relevant, emergent loss was actually more prevalent than either the moralist or the business man realized—a question of fact rather than of principle. This interpolation seems justified when we recall that all the solutions proposed, *assuming the absence of emergent loss*, were always found, upon analysis, to involve emergent loss. If this is correct, then there could have been applied the same reasoning used by Lessius concerning the Antwerp Bourse. The case is complex enough under any theory of interest, and is instructive here in demonstrating the inability of the Scholastics to handle a case on any terms other than those which we have characterized in the text as the ones essential to their position.

¹¹We need not recount a process now generally familiar. Cf. C. A. Phillips, *Bank Credit*, New York, 1920, Chapters 3 and 6; Lauchlin Currie, *Supply and Control of Money in the United States*, Cambridge, 1934, Chapter 6; and W. Randolph Burgess, *Reserve Banks and the Money Market*, New York, 1936, pp. 6-9.

¹²Mises, *Theory of Money and Credit*, p. 264.

¹³Schumpeter, *Theory of Economic Development*, pp. 101-102.

¹⁴Hayek, *Profits, Interest and Investment*, p. 43.

¹⁵Schumpeter, *Theory of Economic Development*, p. 190.

¹⁶Such profit margins, of course, introduce a "Blondinian" element into the price averages. This is not undesirable nor a cause of cumulative disturbance, and is much preferable to a tight-rope price level upon which "Blondinian" policy-makers try to maintain themselves.

¹⁷Lugo, 26: 101-102.

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