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MONETARY THEORY

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PREFACE

The literature on monetary theory is voluminous and has grown apace since the appearance of Harry Johnson's well-known survey article "Monetary Theory and Policy" (1962), but it exists only in journal articles and in a few classic books such as Patinkin's *Money, Interest and Prices* (1965). So, despite its impact on teaching, the literature has not been synthesized and presented in a comprehensive textbook. This book aims to remedy the situation. It is designed to benefit graduate students following four types of courses:

Monetary theory
Money and banking
Macroeconomic theory
History of economic thought

Because the text is unique in being related to such a wide range of courses, an overview is in order.

Monetary theory is presented here in terms of its historical development, and in the main, its development since the 1930s. In this way, particular issues and the works of particular authors can be understood in terms of their relationships to one another. (It is this that makes the book relevant to courses in the history of economic thought.) The form of organization is not arbitrary; it reflects the fact that monetary theory cannot be fairly presented as a unified body of accepted theory since there are many controversial issues. These controversies make the subject exciting and a source of fascination for all economists, and they can be understood only in terms of their recent historical development.

Moreover, monetary theory essentially concerns the question of the role of money in macroeconomic models (although an understanding of this role frequently requires the study of the micro foundations of such models). Since this book has as a central concern debates over how to build macroeconomic models that are appropriate to a monetary economy, it is fundamentally related to graduate macro courses.

In regard to money and banking courses, the material included here relates to money, with no attention given to the theory of banking or to the institutions and implementation of monetary policy. This structure reflects the attempt to treat monetary theory as such as comprehensively as possible and to relate it to macro theory and to its own history. The theory of the balance of payments and international monetary relations is excluded, since it, like banking, warrants a textbook of its own.

The reader is required to have a sound understanding of undergraduate economic theory (both macro and micro), but nothing more. A high level of mathematical ability is not necessary, for the material is presented primarily in terms of words and diagrams. Although equations and algebraic notation are used, the reader does not have to follow through any mathematical derivation of results.

The material is organized so that Chapters 4 through 7 are concerned with the Quantity Theory tradition. The first two of these chapters are concerned with modern debates about the pre-Keynesian Quantity Theory, and they illuminate the problems of general equilibrium macro models applicable to monetary economics. Chapter 6 examines the writings of the Quantity Theorists and considers the relationship between simple versions of the theory and what the theory was really about. Chapter 7 looks at some elements of the modern Quantity Theory tradition developed at Chicago. The modern Quantity Theory, however, has many aspects and ramifications, and not all these are considered in Chapter 7. Some of the most interesting aspects are not discussed until Chapter 19 (where we consider inflation), Chapter 20 (on empirical studies), and Chapter 21. That final chapter summarizes the debate between monetarists and nonmonetarists particularly as it concerns policy issues, for it is in the formulation of the theory of policy—"crowding out" and the application of the rational expectations hypothesis—that monetarism has found its best-developed theoretical basis.

Chapters 8 through 14 are concerned with the development of monetary theory within the Keynesian tradition. They include developments in the theory of the demand for money within the framework of the portfolio approach, together with a discussion of the validity of that approach (Chapters 9 through 11), the Neoclassical/Keynesian synthesis approach to macro theory (Chapters 8 and 12), and the new Keynesianism developed since the late 1960s from a critique of that synthesis (Chapters 13 and 14).

In the other chapters, we consider the theory of interest (Chapters 15 through 17), and dynamic monetary models concerned with growth (Chapter 18) and inflation (Chapter 19).

Nearly every chapter makes use of theories and concepts developed in earlier chapters, and cross-references are given. Nevertheless, the reader need not read straight through from page 1 to the end. Different reading patterns can be followed according to the reader's main interest or the structure of the lecture course. A reader interested primarily in monetarism, for example, can proceed from Chapters 7 and 8 to 19, 20, and 21. One interested in the theory of the demand for money should start with Chapter 6 and read Chapters 7, 9, 10, 11, and 20. Readers interested in some of the main developments in the history of thought will concentrate on Chapters 4, 6, 12, 13, 15, 16, and 21. In following any of these patterns or an alternative devised for other needs, readers will find that they are not hindered by having missed intervening material.

There are two things about this book that, I think, make it uniquely valuable for students. First, it brings together theories and discussions many of which are otherwise accessible only in their original forms. Second, while emphasizing the historical development of theories, the book examines the latest theoretical developments (such as the new Keynesianism prompted by Clower and Leijonhufvud and the application of the rational expectations hypothesis). This structure results from my experience in teaching monetary theory at the London School of Economics, Birkbeck College, London University, and at the University of California, Berkeley. In consequence, my greatest debt for assistance in writing this book is owed to the students who have participated in my courses; I am grateful to them both in a general sense and for the specific comments they have offered on the various drafts that have existed over the years.

In fact, there are many people whom I thank most sincerely for assistance while in no way implicating them. David Currie and David Winter very generously read the final typescript at a time when they had many things to do, and they made careful and invaluable suggestions. Stanley Fischer read a portion of a very early draft and made comments that greatly assisted the preparation of the final draft. Viv Brown and Jerry Coakley took on the laborious task of compiling the bibliography, and while many people have given secretarial assistance at various times, the greatest burden of typing the final manuscript has fallen on Gill Robinson and BB Walker. All those mentioned already know that I am grateful to them, but here I offer both my thanks and my apologies. And I also record my thanks and apologies to Marjy, Clyde, and Scarlet, the apologies for having neglected my role as a father in order to write this book.

Teaching monetary economics has always stimulated my interest in the subject, and I hope that the reader discovers an equal interest. In my case, the experience of teaching monetary theory with my late colleague Carol Nussey from 1973 to 1975 was a particularly valuable experience. Her death in 1975 was a loss not only to her friends at Birkbeck but also to everyone who would have learned from the contributions to economics that such an enthusiastic and intelligent economist was due to make.

Laurence Harris

CONTENTS

PART **ONE**

PRELIMINARY PROBLEMS AND CONCEPTS

CHAPTER

ONE

APPROACHES TO THE THEORY OF MONEY

There are two fundamental questions that constantly recur in the theory of money and that, in fact, lie behind many advanced developments in monetary theory. What is money? and, Why is money used? These two problems are, of course, closely related, and in what follows we shall treat them as one. They are problems that have received the attention not only of economists, but also of historians, philosophers, and social anthropologists.

1.1 MONEY IS A SOCIAL PHENOMENON

Economics textbooks provide a traditional answer to the question, "What is money?" Money is defined as any commodity that acts as a Medium of Exchange, a Unit of Account, and a Store of Value. At this stage let us briefly examine the meaning of this definition, and to do so, let us consider whether a dollar bill satisfies it. A dollar acts as a Medium of Exchange in the sense that if you wish to sell a commodity (say, an automobile) and buy another commodity (say, a television set), you are not likely to exchange your automobile directly for a television set but will, instead, exchange it for dollar bills and then exchange some of the dollar bills for the set. The dollars in this example are used as a *Medium of Exchange* in the sense that you have exchanged an automobile for a television; this exchange has not come about *directly* by your giving an automobile to the television dealer, but *indirectly* by your selling the automobile to one individual and buying the television set from another, and you have done this by using dollars as an intermediary. In this transaction the dollars also act as a *Unit of Account* because the prices of the automobile and the television will each have been expressed in terms of dollars. That is, instead of saying that the automobile is worth five television sets, or that the price of the automobile in relation to that of the television is 5:1, the price of the automobile is expressed as $1,000 and that of the television as $200. Finally, in this transaction the dollars also act as a *Store of Value*, for if you sell the automobile one day and buy the television set the next, the dollars you hold will have retained the value of the automobile for use the next day in purchasing the television.

This is a simple example and scarcely needs spelling out, but we shall return several times to the concepts of Medium of Exchange, Unit of Account, and Store of Value and shall encounter some complex issues in connection with them. This example, however, enables us to illustrate the most fundamental characteristic of money: the fact that *money is a social phenomenon*. That is, not only does money exist because humans are social beings and all their activities (including economic activity) take place within a social framework, but, more important, it exists only within *particular* social and economic frameworks. And different types of money exist in different social and economic structures. Social and economic structures differ from one country to another and even between regions of a single country; moreover, within one country or region the social and economic structure changes over time in patterns of historical development. As we examine different structures of society (either between societies or over time), we find different monetary systems. In some societies, money does not exist; in others, money takes varying forms (gold in one society, cattle in another, dollar bills and bank accounts in another). In other comparisons, we find that money is used for varying purposes (in a capitalist society, money is used for the payment of rents, whereas, in feudal society, rents had a different nature and were paid in goods or service).

Systems of Exchange

Consider our example of an exchange of an automobile for a television set. Money is used only because an exchange takes place, and an exchange occurs only because the social and economic structure in the United States is what it is. There are laws, institutions, and attitudes that permit and encourage the exchange of commodities; in fact, the social arrangements of the United States would not exist in their present form if society were not based on the production and exchange of commodities. These arrangements are so much a fact of life that it is difficult to think of the alternative, but imagine the social arrangements of the Pilgrim Fathers in the few months after disembarking from the *Mayflower*. Their immediate need was to conquer nature and provide themselves with food, clothing, and shelter, and there were at least three social arrangements they could have decided on to achieve this victory (although it is an exercise in mythology to assume that they enjoyed a complete freedom of choice). They could have all worked communally as a team, sharing by mutual consent the food they grew and the housing they built (a form of primitive communism); in this case, there would have been no exchange of one commodity for another, say corn for timber, among families because all commodities would be owned by the whole community and shared out on an equitable basis by a decision of the community. Alternatively, each family could have claimed a different plot of land and different sources of raw material (for example, different timber forests) as its own private property, and each could then have cultivated just those crops which were required to satisfy its own needs (as happens in several primitive peasant communities today). Here, too, there would be no exchange, for all the family's needs would be satisfied from its own production. Finally, each family could have had its own private property but each could have specialized in the production of particular items; the family with a comparative advantage in corn production would produce only corn, and the family with a comparative advantage in woodland would produce only timber. In this last case where there is a social division of labor, there would be a need for exchange to take place, for the timber-producing family would need corn to eat and the corn-producing family would need timber for housing and fuel.

In this third type of society that the Pilgrims might have chosen, they might have effected the exchange of commodities through the medium of money, but our description assumes such a small, simple society that money would not really have been necessary. Exchange could take place in the form of *barter*. That is, the corn producer could make a deal with the timber producer to give a certain amount of corn in return for an amount of timber. Thus, money exists only in societies where exchange occurs—where, for example, the form of production is based on the division of labor and where the legal and ethical system permits private property. But it does not necessarily exist in all societies where exchange takes place, since exchange in simple societies can in principle be achieved by barter (although it may be questioned whether an economy based on generalized barter has ever existed).

Why Money—Not Barter?

In advanced capitalist society, however, barter is impossible and money exists as a necessary basis of exchange. One reason for this is that many different commodities are available for exchange and, indeed, this large and complex market is essential for modern industrial production. Where there is such a complexity of goods and individuals involved in exchange, barter is very difficult and inefficient. Suppose, again, that you wish to sell an automobile and buy a television set. But the television seller may wish to sell a television and buy a boat, and therefore is not willing to take your automobile in exchange for the television. You could conclude a barter transaction by finding someone who wanted to buy an automobile and sell a boat, carrying out the exchange, and then offering the boat to the television seller in exchange for the set you want. This procedure is obviously difficult and inefficient, and it is clearly easier to use money as a Medium of Exchange. A related reason for the necessity of money in advanced capitalist society is that capitalism's mode of production is based on the sale of labor-power. The producing individuals do not cultivate their own plots of land with their own tools and decide what to produce and sell. They each sell one commodity, their ability to work. In return they could, of course, receive the different commodities they need and desire, but this would involve an enormously intricate operation. Such a complex operation is avoided by payment in money, which can then be used to purchase the desired commodities.

It is possible to treat with some degree of rigor the theory that a society based on monetary exchanges involves lower social costs than one conducting exchange through barter arrangements. Following Clower (1967, 1969a), we may define a barter economy as one where any good is directly exchangeable for any other good. By contrast, a monetary economy is one where a particular commodity, money, is exchangeable for any good and any good is exchangeable for money, but goods (nonmoney commodities) are not exchangeable for one another. This definition can be represented by a simple matrix. Suppose that there are three commodities in the economy: C_A, C_B, and C_C. We can construct a matrix to represent the exchanges that are permitted in the economy by denoting the relevant element as X if an exchange is permitted and as O if it is not permitted. Thus, in Table 1.1, each commodity can be exchanged for itself (the diagonal consists of X's) and, in addition, any commodity can be directly exchanged for any other (C_A for C_B, C_B for C_A, C_A for C_C, and so on). Such a matrix represents Clower's definition of a barter economy. Table 1.2, however, represents a monetary economy where commodity C_A is defined as money and C_B and C_C as goods. It illustrates the idea that the C_B and C_C cannot be exchanged for each other since O is entered in the relevant elements, but that money (C_A) can be exchanged for itself and for the two goods C_B and C_C, and that each of the goods can be exchanged for money (and, in addition, for itself). More generally, for a barter economy, all the elements of the matrix have an X entry; for a monetary economy, all the elements of the diagonal and all the elements of the column and the row

Table 1.1

	C_A	C_B	C_C
C_A	X	X	X
C_B	X	X	X
C_C	X	X	X

Table 1.2

	C_A	C_B	C_C
C_A	X	X	X
C_B	X	X	O
C_C	X	O	X