By SHOZABURO FUJINO

It is just fifty years since John Maynard Keynes published The General Theory of Employment, Interest and Money in 1936. At the same time about one hundred years have elapsed since A. Marshall, L. Walras and others established the Neo-classical economics. It was in 1885 that A. Marshall gave an inaugural lecture under the title “The Present Position of Economics” upon becoming Professor of Economics at Cambridge. By that time L. Walras had already published the first and second volumes of Éléments d'économie politique pure in 1874 and 1877, respectively. Its second edition was published as one volume in 1889. In addition the first edition of A. Marshall’s Principles of Economics was published in 1890.

After about fifty years had elapsed since the Neo-classical economics had been established, Keynes’ General Theory was born out of the difficult workings of the world economy in the 1920's and 1930's. The Keynesian thought was criticized mainly by monetarists in the face of troublesome conditions characterized by the Nixon shock of 1971 and the oil shocks of 1973-74 and 1979-80. After some time had passed, however, we become aware of the fact that those criticisms did not shake the basic framework of Keynesian theory. Various aspects of the present situation of the world economy look like those observed about fifty years ago. Some persons assert that it is a non-Keynesian situation, but it is, I think, rather Keynesian. On this occasion I would like to investigate three problems regarding Keynesian macroeconomics.

First of all I will examine the reasons why demand restrictions on both output and labor and involuntary unemployment appear. By showing my opinion on this matter, I shall criticize the fixprice approach to Keynesian economics.

Secondly I will examine the so-called aggregate demand and aggregate supply functions show-
relationships between prices and output. Recently these two functions have been employed very frequently to analyze the behavior of prices and output. But the basic concept is closer to the postulate assumed by the natural rate hypothesis of M. Friedman etc. than to the Keynesian point of view. I will make clear this point.

Thirdly I will consider the theory of interest in Keynesian economics which has scarcely been investigated so far. Namely I will examine the validity of the theory of liquidity-preference, proposing that we should adopt instead the loanable-funds theory.

1. The Monetary Economy and Demand Restriction: Asymmetry of Demand and Supply
First of all, let us investigate the reasons why demand restrictions on supply behavior and involuntary unemployment appear. Here it seems that we should take into consideration two asymmetries, i.e., that between demand and supply and that between the firm and the household.

There exist many inconsistent descriptions in J. M. Keynes: The General Theory of Employment, Interest and Money (1936), which have led to various interpretations of Keynesian economics. In particular Chapter 2—The Postulates of the Classical Economics—and Chapter 3—The Principle of Effective Demand—are full of puzzling points by which readers have been troubled for many years. The former is related to the labor market and the latter to the output market, but they do not succeed in explaining consistently both the workings of labor market and those of the output market as well as interrelationships between them. The reasons why Keynes could not succeed in giving a consistent explanation about involuntary unemployment are the following; first of all, he did not derive the aggregate supply function and the effective demand for labor from one behavioristic principle of the firm on the one hand and did not derive the aggregate demand (or consumption) function and the effective labor supply from one behavioristic principle of the household on the other, and secondly, he did not show explicitly the rationale for why the household has to insist on an unrealized supply of labor which is different from the effective notion. Now, in order to make clear the reason why the seller of goods and services (excluding monetary services) has to take demand restrictions into consideration when deciding his behavior, we have to clarify the logical characteristics of the monetary economy. For this purpose, however, it seems that we have to consider the rationale for the monetary economy to be formulated, and to make clear what role money will play there in. And to do so we should, I think, go further to examine the rationale for the appearance of exchange and the market.

When we want to logically explain the rationale for exchange, the market, and the monetary economy, we would have to postulate at least the following six conditions;

[Condition: 1]
*Human beings choose a superior pattern of economic behavior in the sense of Pareto efficiency.*

[Condition: 2]
*There are differences between people’s tastes, but they are not so great that people’s tastes produce a similar consumption pattern of food, clothing, housing and so on among people.*

[Condition: 3]
*People are endowed with different amounts of production factors and differentiated technologies (or techniques) of production.*

Or
There exist economies due to organizing production and those of large-scale production under fairly even (or considerably uneven) distribution of factor endowments.

Each agent plans individually the demand and supply schedules of factors and goods.

Because of imperfect information about transaction chances and indivisibility of goods, it is not so easy to barter that we should spend transaction costs to overcome the obstacles.

An exchange system utilizing a general medium of exchange, which is established by an explicit or implicit social agreement among people, is superior to other exchange systems with respect to transaction efficiency.

Condition 1 concerns choice, Condition 2 concerns consumption, and Condition 3 or 3' concerns production. We may expect to observe permanently both an exchange of goods and a division of labor under Conditions 1, 2 and 3, or both an exchange of not only goods but also production factors and a division of labor under Conditions 1, 2 and 3'. In addition, if we have Condition 4, there will appear a market, which is defined as a space (or a region) where the demand and supply of a good or a factor, which are determined in a decentralized manner, adjust to one another.

We need further conditions for the appearance of a monetary economy. For it is possible for people to exchange their goods or factors through the barter system, where there exists, as W. S. Jevons (1875, pp. 3-41) points out, such a problem that it is very difficult to find a trading partner who attempts to offer a good we want and at the same time wants to obtain a good we want to offer. This difficult situation appears straightforwardly in the triangle of exchange pointed out by C. Menger (1892, p. 242).

In addition to the information problem, there is another difficulty in finding a suitable transacting partner under a barter system. There are differentials among various goods with respect to divisibility. Thus we face Condition 5.

Here we have to solve not only the problems of consumption efficiency and production efficiency but also one of transaction efficiency. And if we suppose Condition 6, then money would appear in the economy, functioning as the general medium of exchange, and a monetary economy would be established.

Now, the good chosen as money would occupy a distinguished position in the economy compared with other goods and services. That position of money is based on an agreement among persons participating in exchange. They are able to obtain easily other goods and services in exchange for it. With respect to this point C. Menger (1892, pp. 242-243) emphasized about ninety years ago differences in the saleableness of various goods and services and the nearly infinitely high saleableness of money in a monetary economy. He thinks that it is an error in economics to assume that all goods could be mutually exchanged in definite quantities at will. We can easily understand such properties of a monetary economy when we consider the above-mentioned logical conditions for a monetary economy to appear. Namely, money enters in a
market economy in order to save transaction costs. In an economy where this function of money works sufficiently well, there appears a great difference in liquidity between money and goods and services other than money, where the liquidity of a good is measured by the ease with which it can be exchanged for other goods without loss or discount.

Thus it is easy in a monetary economy to obtain goods and services in exchange for money, so that from the viewpoint of persons standing on the demand side of goods and services there is not much uncertainty about whether they can find a supply of their concerned goods or not. However, those seeking to get money in exchange for goods and services face uncertainty about whether there exists demand for the goods and services. That is, persons standing on the supply side suffer from demand uncertainty. This is based on the difference of saleableness between money and goods other than money, which is pointed out by C. Menger, and is another expression of the argument that money occupies an almighty position with respect to liquidity and has the highest saleableness. In other words the supply side of goods and services in a monetary economy should be subject to restrictions in demand, i.e., should take into account what amount of demand for goods and services exists, since it is not always easy for the supply side to find demand because of demand uncertainty produced by imperfect information. Contrarily the demand side, which attempts to obtain goods and services in exchange for money, should be easily able to find a supply of goods and services, because of the superior liquidity or saleableness of money, so that it can nearly neglect uncertainty about supply. That is, in a monetary economy the supply side and the demand side of goods and services are not symmetrical with respect to finding suitable transacting partners. This is the most fundamental property of a monetary economy.

Now, R. W. Clower (1976) thinks that the characteristic of the monetary economy is expressed as follows;

Money buys goods and goods buy money, but goods do not buy goods.

However, we might rather say that it is described as follows;

Money can buy goods and goods can also buy money, but money does easily and goods do not easily.

And it is from this property that both the firm's behavior restricted by the effective demand for goods and the household's behavior constrained by the effective demand for labor appear. Furthermore the supplying unit must take into consideration the restraint on the demand side not only in the supply of goods and labor but also in the supply of bonds (the demand for loans). Here we find the foundation from which Keynes' theory of the effective demand emerges as the basic theory for analyzing output, employment and loans in a monetary economy.1) In order to overcome the demand restriction, there appears specialization of sales and/or firms with respect to individual goods. Notice that there are specialized sellers, but there do not exist specialized

1) We made clear in Fujino (1962) that an essential feature of economics of Keynes is the hypothesis that the behavior of the firm is restricted by its perception of how much output it is able to sell, on the one hand, and the hypothesis that the supply of labor of the household has to adjust to (i.e., is constrained by) the demand for it, on the other hand. This view was expressed again in English in Fujino (1975, pp. 1-44). Fujino (1956) also alleged that there exists a restriction on borrowing funds which the firm should take into consideration when planning investment.
buyers, at least with regard to final consumption goods; in other words sellers are professionals, but buyers are amateurs. (And notice also that, generally speaking, those who advertise commodities are not the purchaser but the seller.) Namely, firms are so specialized in the supply of a certain good that they may gather more information with respect to the demand and supply of the good than otherwise in order to overcome the difficulty produced by uncertain demand. Because firms collect comparatively large quantities of information about a good, i.e., because they are the professional about it, they become in many cases able to set the price. They obtain profits as reward for risk-bearing with respect to selling.2)

R. J. Barro and H. I. Grossman (1976), J. P. Benassy (1975), (1978), E. Malinvaud (1977), E. Malinvaud and Y. Younés (1977) and so on adopt the fixprice approach in order to understand the theory of Keynes from the viewpoint of microeconomic theory. It is supposed in this approach that the seller of goods and services is obliged to behave subject to a demand restriction, because there appears excess supply under a fixprice. But it deals with both the demand side and the supply side symmetrically, so that it should suppose that the purchaser of goods and services behaves subject to a restriction of supply when excess demand arises in the market.

In the monetary economy we have examined, however, we have to suppose that the seller of goods and services behaves subject to the restriction in its perceived demand. This is nothing but the characteristic of transactions in a monetary economy.

But an economy could not function as a monetary economy, when there exists a permanent excess of demand for goods and/or services. For demand for goods and/or services in such an economy could not easily be satisfied, and there would appear, for instance, rationing of goods, so that to obtain them a coupon would be needed in addition to money. Then, however, what people call money would not be perfect money, but defective money. In addition, in an economy where there is permanent excess demand, we would observe that money is unable to perform its functions because its carrying costs increase owing to permanently rising prices, as a result of which people do not like to hold it.

Therefore, in order that the monetary economy works well even if there appears excess demand, it should be satisfied with inventories held by the firm or with an increase in production brought about by operating excess capacity of production. That is, we have to exclude from transactions (especially of non-perishable goods) in a monetary economy the assumption of voluntary exchange, which is assumed by the fixprice approach, and means that the short side between demand and supply is realized in actual transactions.

2. Asymmetry of the Firm and the Household and Involuntary Unemployment

In addition to the above asymmetry between demand and supply, there exists another asymmetry with respect to the ability to adjust in the case that firms or households cannot sell output or labor.

When excess supply or excess demand, especially the former, appears in the output market, what kinds of adjustment will the firm undertake?

2) If firms are risk-averse, and if they behave so as to maximize their expected utility of profits, then they can earn on the average positive profits. See E. Malinvaud (1972, pp. 296–297).
(1) The firm is able to pile up inventories in times of shortages, and to meet windfall demand from inventories. Or in the case of production-to-order the excess (deficiency) of demand will be adjusted by the increase (decrease) in backlogs of order.

(2) The firm can reduce its level of production if it is unable to sell its output, and it can expand output within the limits imposed by its producing capacity when the demand is increased.

(3) Generally speaking, the firm is the price-setter, because it is specialized in producing and selling a specific product and gathers a large amount of information about the market conditions compared with the purchaser, as shown above, and because one firm usually sells its output to many purchasers (especially in the case of final consumption goods). Therefore it can adjust the price level, when excess supply or excess demand arises.

(4) In addition, the firm can adjust its production capacity by means of fixed investment, although a decrease in fixed equipment will take longer than an increase therein.

Thus the firm will be able to adjust to changes in market conditions by various means such as inventory adjustment, backlog adjustment, output adjustment, price adjustment, and capacity adjustment. Accordingly it seems that we have sufficient justification from the point of view of reality to suppose that the firm can realize its optimum in the face of demand restrictions in a monetary economy. Namely, we have strong reason to accept the view that the firm can attain its optimum under imperfect competition.

On the other hand, does the household adopt such measures in order to adjust their labor supply?

(1) First of all, it is not possible for the household to hold labor in the form of inventories, meaning that unsold labor cannot be held until it is sold.

(2) The household cannot stop producing labor (if we may use such an expression), even though it is unable to sell labor. Therefore it is forced to consume its available time in the form of leisure when it cannot sell labor.

(3) Individual households are not in a position to set the rate of wages, even if labor unions can partly manipulate the rate of wages through collective bargaining with the firm, because one purchaser of labor (firm) would, as a rule, buy labor from many workers (households). Thus, generally speaking, the household cannot expect to be able to increase the amount of labor it sells by means of wage-cutting when it is unable to sell labor.

(4) Furthermore, the household does not attempt to adjust the rate of growth of the population, even though there exist unemployed workers.

Thus the household does not have measures by which it can adjust its capacity for supply to conditions in the labor market. Accordingly it is reasonable indeed to suppose at least with respect to unemployed households that they are not in an optimal situation.

Now it is clear that there is an asymmetry between the firm and the household with respect to their ability to adjust to market conditions. Keeping this in mind, let us investigate the two postulates of the classical economics.

The first postulate, which is accepted by Keynes, says that the real rate of wages in terms of output becomes equal to the marginal product of labor [Keynes (1936, p. 5, p. 17)]. From this we can derive the demand function for labor. This means, however, that the firm will be able to
realize its optimum under perfect competition. Perfect competition means in this case that the
firm is a price-taker (and a wage-taker), so that it cannot manipulate the price of output (and the
rate of wages) but that it can sell as much output as it likes at a given price, and can buy as much
labor as it needs at a given rate of wages. The content of this postulate may, Keynes admits, be
revised in accordance with certain principles, when competition is imperfect [Keynes (1936,
p. 5)].

To suppose perfect competition with respect to the firm contradicts the principle of effective
demand, by which we mean at the present stage of our investigation that the firm's behavior,
therefore, the demand for labor is restricted by the demand for output. The reason is that as
noted above, the firm under perfect competition has no restriction on the demand for output.

There is a way of excluding the contradiction and, at the same time, keeping the assump-
tion that the firm cannot manipulate the price level—namely, to suppose that the firm is
restricted by the size of demand for its output under a given price when there appears excess
supply in the output market. This is the fixprice approach to Keynesian economics. According
to this approach, because of the demand restriction, the firm will produce a level of output for
which the marginal product of labor is greater than the real rate of wages, or in other words, the
price is greater than the marginal cost. Therefore this is a way of removing the contradiction by
giving up the first postulate. As shown above, however, in a monetary economy the seller of
goods should always take into account the constraint of uncertain demand regardless of whether
there is excess supply or excess demand. Therefore we cannot follow the fixprice approach. We
choose rather another way. We already have a theory according to which the firm behaves
always under the demand restriction. This is nothing but the theory of the firm under imperfect
competition. In addition, it seems to be realistic, as pointed out above, to suppose that the firm
is the price-setter (and at the same time the wage-setter). Therefore we choose an approach
based on the theory of the firm under imperfect competition, by which we can suppose that the
firm will be able to realize its optimum, rather than the fixprice approach in order to obtain a con-
sistent explanation of the principle of effective demand and the demand for labor.3) We shall sup-
pose that the firm will behave subject to its subjectively perceived demand function for output
(and its subjectively perceived supply function of labor) and explain price-setting, output deter-
mination, the determination of labor demand, and wage-setting. Therefore we need to start
from the first postulate excluding the case of perfect competition to construct a consistent theory
of employment. And in order to expand the theory of the firm's behavior under uncertain
demand, we need to analyze output-inventory decisions, output-backlog decisions, and fixed
investment decisions under uncertain demand.

On the other hand, the second postulate of the classical economics, which is given up by
Keynes, asserts that the marginal utility of wage income is equal to the marginal disutility of labor
(the marginal utility of leisure). In this case the equality may, he thinks, also be disturbed by

---

3) There is one more reason why we cannot follow the fixprice approach. It excludes the Walrasian
tâtonnement from its analysis but introduces instead a kind of quantitative tâtonnement where trans-
actions take place only when demand coincides with supply with respect to all commodities under a
given price system. We think that quantitative tâtonnement is as artificial as the Walrasian tâtonne-
ment.
imperfections of competition [Keynes (1936, pp. 7-13)].

It seems to be reasonable to suppose that individual households are not wage-setters, and thus that they will behave subject to a given rate of wages. In addition, as shown above, the household cannot adjust its capacity for labor supply to market conditions even when it is not able to sell its labor. Under this condition, therefore, it will continue to supply its unsold labor.

The usual concept of perfect competition with respect to labor supply is that the household is a wage-taker and can sell as much labor as it likes at a given rate of wages. Perfect competition in this sense should be denied when analyzing the behavior of the household under the principle of effective demand. But because of its lack of capacity to adjust itself to conditions in the labor market, the household is obliged to continue to sell unsold labor. Namely, it is forced under a given rate of wages to plan the supply of labor regardless of whether it can sell the labor or not. Thus it behaves, at a glance, as if it were under perfect competition. On the other hand, in planning consumption it should take into account the restriction on the demand for labor. Thus we find a well-founded reason for applying to it the dual decision hypothesis asserted by R. Clower (1965). But we do not need the dual decision hypothesis with respect to the firm.

In the fixprice approach the effective demand or effective supply of a good is frequently defined by the demand or supply plan determined by taking into account demand constraints and/or supply constraints of goods other than the good in question.4)

But we choose another way in defining effective demand and effective supply. As shown above, sellers of goods and services other than money (including sellers of bonds, i.e., borrowers of loans) behave subject to the restriction of uncertain demand, whether there exists excess demand or excess supply in the market, except the case of permanent existence of excess demand. Therefore we define effective demand and effective supply by the demand and supply of goods, services and money balances, which are planned by each seller under demand restriction on goods and services supplied by himself. When summing up budgetary equations in terms of the effective plans of all agents defined by us, we can get Walras' Law. In this case we define Walras' Law as follows;  

\[
\text{Let every economic agent in the economy derive its mutually consistent demand and/or supply of goods and services (including money in the monetary economy), expressing its budgetary equation by the above demand and/or supply. Walras' Law means the summation of those budgetary equations over all economic agents.}
\]

But, of course, Walras' Law in our definition will be established in terms of the notional concept of the Neo-classical theory. And it could be established under various concepts as long as the condition of our definition is satisfied.

Now let us turn back to an examination of the second postulate. We have to notice here the fact that Keynes rejects the second postulate with respect to the employed [Keynes (1936, p. 5)]. But the second postulate has two aspects, that is, it means on the one hand that, concerning the employed, the marginal utility of wage income will become equal to that of leisure, and on the other hand that, with respect to the unemployed, the former is less than the latter. By denying

4) For example R. J. Barro and H. I. Grossman (1976, p. 40) state: "From the stand point of individual, these divergences (between actual quantities transacted and either the quantities supplied or the quantities demanded—Fujino) appear as constraints, to be taken into account when formulating in other market." E. Malinvaud (1977, pp. 22-29) uses also a similar method in defining the terms demand and supply of goods and services.
the first aspect Keynes seems to implicitly deny the second aspect as well. In order to establish the concept of involuntary unemployment, however, it suffices for us to deny the second aspect.

Therefore, we accept the first postulate and give up the second postulate in a somewhat different sense than Keynes’ original meaning. To accept the first postulate and give up the second means that the firm is able to realize its optimality, but the household is not always able to do so. This asymmetry seems to be fully justified in the actual economy, as we have shown at the beginning of this section. Accordingly, following Keynes, we shall investigate not involuntary underutilization of production capacity but involuntary unemployment.

3. Aggregate Demand and Aggregate Supply Functions

The point we discussed above referred to the aggregate demand and aggregate supply functions Keynes originally investigated, where the relationship between the demand for and supply of money (LM relationship) was not included. In analyzing the macroeconomic behavior of output and prices, however, many economists have frequently used another type of aggregate demand function as well as aggregate supply function as the tool for their analyses. In these cases the aggregate supply function is usually derived from the (representative) firm’s profit maximizing behavior under given prices and a given rate of wages. In some cases it includes also an explanation of the behavior of the rate of wages which will be determined in the labor market. Let us express this aggregate supply function as AS function in the following.

On the other hand, we can get an equation between real output and prices from both investment-savings relationship (IS relationship) and equilibrium condition between the demand for and supply of money (LM relationship), assuming that the stock of money is given (in addition the amount of autonomous expenditure is taken as given in some cases). They call this relationship the aggregate demand function (in what follows we denote it as AD function).

It is evident that apart from the behavior of the rate of wages the relationship called AS function is a behavioristic equation showing the level of output planned by the firm for each level of prices, while the so-called AD function is derived from two market clearing conditions of IS and LM. Consequently the former does correspond to the supply function, but the latter does not correspond to the demand function, in the case of one commodity. In other words, AS function shows the decision taken by the supply side of output, but AD function does not indicate the purchaser’s decision, so that their conceptual characteristics are different from one another.

Corresponding to this point, AD-AS tool shows the quantity supplied but cannot indicate the quantity demanded, when a level of prices is given. This is a defect of AD-AS analysis. Inspite of this, once relationships between prices and output have been set in the form of AD-AS analysis, one is apt to consider by mistake that AD-AS analysis indicates not only quantity supplied but also one demanded under a given level of prices, and that demand and supply are adjusted with one another in the process of Walrasian type of market adjustment, which is defined here by such a
dynamic adjustment that the change in prices responds to excess demand. However it is obvious from the deriving process of AD curve that the quantity demanded cannot be different from the one supplied in this analysis. We are unable to apply Walrasian type of market adjustment to AD-AS analysis.

However it is possible for us to suppose another type of market adjustment. Let us define Marshallian type of market adjustment by the process that quantity supplied changes in response to difference between the supply price and the demand price (market price). Then we can apply this type of adjustment to AD-AS analysis, because it supposes that prices change instantaneously so as to clear the market given the amount of output. It supposes not only that households' real income is equal to output supplied, but also that aggregate demand could be equalized to the output through price change.

We cannot suppose such a rapid price change in market adjustment at least in the short run. In addition, Marshallian type of market adjustment assumes a positive response to the level of the market price of output relative to the supply price, which reflects factor prices. This is nothing but the natural rate hypothesis raised by M. Friedman, etc.

Recently propositions derived jointly from both this hypothesis and the rational expectations hypothesis have been tested frequently against macroeconomic data. However they are so tolerant in such a sense that they fit so much various statistical relationships, that many different hypotheses may not be rejected. The natural rate hypothesis should be tested not against macroeconomic data but against microeconomic data. When we observed the microeconomic behavior of the firm or the household, we cannot help rejecting the behavior pattern supposed by the natural rate hypothesis except in agricultural production, because the fact that there exist inventory adjustments shows that prices cannot change instantaneously so as to absorb excess supply of goods. Those who employ AD-AS analysis are supporting monetarists rather than Keynesians. We have to and are able to recontruct the aggregate demand function, so that aggregate demand could be different from output.

4. Liquidity-Preference versus Loanable-Funds Theories

The third point we want to examine is related to LM relationship which we presupposed in our second investigation. There are at least three theories of interest; the saving-investment theory of interest, the liquidity-preference theory of interest, and the loanable-funds theory of interest. We might say that the first one is given in its most complete form by I. Fisher: The Theory of Interest, 1930. He attempts to explain savings by the theory of time preference (i.e., the theory of impatience), investment by that of investment opportunity, and the determination of the rate of interest by market clearing, namely, by the equalization of savings and investment.

Then Fisher identifies saving with the increase in supply of loans and investment with that in

---

8) See, for example, M. Friedman (1968), R. E. Lucas (1973, p. 237), and R. J. Barro and S. Fischer (1976, p. 156).
9) See S. Fujino (1987, ch. 7).
demand for loans. That is, he thinks that time preference will explain the supply of loans and investment opportunity the demand for loans. However, in a monetary economy we could hold savings in the form of money, and at the same time we might demand loans not only to finance investment but also to satisfy our demand for money. Thus Fisher’s analysis cannot be applied to the loan market. As Don Patinkin (1965, p. 367) says, only in a barter economy does there exist a simultaneous identity between savings and lending, and investment and borrowing. With respect to this point Keynes (1936, p. 165, p. 166) correctly criticizes the classical theory of interest for lacking an analysis of the portfolio decision. We might conclude that the saving-investment theory of interest is not a theory of interest in a monetary economy. Therefore we shall proceed to investigate the liquidity-preference theory and the loanable-funds theory.

In a monetary economy we find two types of exchange with respect to ordinary goods, i.e., the exchange of one good at present for money at present and an exchange between the good at present and the good plus money in the future. The former constitutes ordinary transactions of goods, while the latter means lending and borrowing of the concerned good. With respect to money it is meaningless to consider the exchange of money at present for itself, but because money is the general medium for exchange, some persons want to obtain money at present in exchange for money in the future. This is nothing but the lending and borrowing of funds. And if we have to take into consideration the borrowing demand for and lending supply of a commodity to investigate the determination of its rental, it should be natural that we take into account the demand for and supply of loans to examine the determination of the rate of interest. This is the loanable-funds theory of interest.

It is well known that J. R. Hicks (1946, p. 161) attempts to solve the opposition between liquidity-preference and loanable-funds theories in the following manner. Owing to Walras’ Law we are able to exclude one equilibrium equation of demand and supply of an arbitrary commodity when determining the market equilibria of a general equilibrium system including money and securities. Therefore “if we choose, we can eliminate the money equation, thus determining the prices of commodities by the demands and supplies of commodities, and the rate of interest by the demand and supply of loan funds; . . . Or alternatively we can follow Mr. Keynes in elimination the other equation which stands out from the rest as being peculiar—the equation of borrowing and lending, or purchase and sale of securities. If this is done, the \( n - 1 \) ordinary prices and the rate of interest are determined by the \( n \) equations of supply and demand for the \( n \) commodities, including money.” Thus Hicks thinks “that either of these methods is perfectly legitimate; the choice between them purely a matter of convenience.”

In the general equilibrium system, however, it is arbitrary indeed which of market equilibrium equations we exclude from it to determine prices. But this does not mean that the demand for and supply of the commodity has nothing to do with determining a general equilibrium, because establishing the market equilibria of the other commodities implies at the same time equalizing between the demand for and supply of the excluded commodity. By Hicks’ method we are not able to clarify the characteristics of the two theories.

Next, it is frequently alleged that the loanable-funds theory refers to a flow and the liquidity-preference theory to a stock. As asserted by Don Patinkin (1965, pp. 377–378), however, we are able to construct the former in terms of a stock, so that there is no rational ground for differen-
It is also Don Patinkin (1965) who made clear that the difference between them is related to that in the dynamic adjustment processes of the rate of interest. Namely, he thinks that a more sophisticated approach would have the phrase that the rate of interest is determined in the loan (money) market mean that the dynamic movement of interest is determined by the excess demand which exists in the loan (money) market. In other words, according to his interpretation, the two theories are alternative hypotheses about the dynamic change in interest. If we follow this point of view, we should test positively which theory is better.

Now one of defects of Keynes' theory would be that it lacks a theory of banking behavior. The market for loanable-funds is divided into the bank loan market and the securities market. Keynes is mainly concerned with the latter. In order to clarify how the rate of interest on bank loans is determined, we have to analyze the behavior of the bank.

In our interview survey of banks [Fujino (1986)], we investigated the behavior of the bank and found that there exist three types of banks which behave differently from each other. They are large, medium-sized, and small banks. Basing on those fact findings, we constructed our models. Then we empirically testified the interest adjustment with regard to each type of banks, observing that the large-scale bank adjusts the rate of interest more flexibly and definitely to excess demand, than the small-scale bank. This fact tells us that the loanable-funds theory is justified at least with respect to the bank loan market. In addition we found that the interest adjustment in the bonds market can also be explained very well by the loanable-funds theory [see Fujino (1987, ch. 8)].

The liquidity-preference theory of interest is certainly very convenient in investigating the workings of a macroeconomy, because we can treat the supply of money as an exogenous variable at least for the sake of simplicity. But when we introduce into our system not only high-powered money but also deposit currency, we cannot suppose that the stock of money is autonomously given and we must notice that it is not independent of the demand behavior for money in the bank and that in the non-financial private sector, as shown by the money multiplier. Thus the simplicity of the textbookish LM relationship is lost in the actual economy.

Furthermore, when government bonds are issued, we have one more autonomous variable in addition to high-powered money. And in this case it is difficult to analyze the workings of the economy by means of a simple IS-LM system, while we are able to manipulate our model easily if we introduce an equilibrium condition for the demand for and supply of loanable-funds, the latter of which depends on how the bank and the non-financial private sector demand cash or money, but both of which are independent of each other, instead of LM relationship. In this respect, the loanable-funds theory seems superior.

As pointed out at the beginning of this paper, it seems that we are now facing a Keynesian situation again. Taking into consideration various developments that have been added to it during
S. Fujino: The Present Position of Macroeconomics

...ing the past fifty years and keeping in our minds whether the conditions it assumes are justifiable with respect to the problem we want to investigate, we should employ Keynesian economics to clarify the workings of our economy. For instance we would have to be careful for applying it to analyze the oil shock situation. For the economy was divided into heterogeneous sectors consisting of energy-intensive and labor-intensive industries affected very differently by the high price of oil, whereas Keynesian theory is one-homogeneous-sector-economics. It seems that we are now proceeding to a new stage for developing macroeconomics further on the basis of our intellectual experiences during the past fifty years.

REFERENCES


* Written in Japanese.