Money, Credit and the State: Post Keynesian Theory of Credit Money and Chartalism[1)]

Paper presented for AHE Conference 2008
July, 2008 at Anglia Ruskin University

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1, Introduction

Some twenty years ago, the Post Keynesian endogenous money supply theory appeared as one of the modern theories of credit money. In recent years, the theory has developed while maintaining a close association with the Franco-Italian monetary circuit theory. The domain of the theory has expanded gradually and has become a macro-economic theory[3)4)]. The theory focuses on credit money, i.e. bank deposit money, and is a powerful method of approaching the modern monetary system. With regard to the role of the government or the state, the theory of endogenous money pays attention to the central bank, which offers the means of settlement between commercial banks and plays the role of the lender of last resort. However, in reality, the state enacts money and practices the diverse control of money. Accordingly, Keynes wrote “To-day all civilized money is, beyond the possibility of dispute, chartalist” (Keynes, 1971, p. 4). Chartalism, or the state theory of money, which is a view that regards the establishment of money by the state as the nature of money and emphasizes the relationship between the state and the money, has been revived by Post Keynesian theorists in recent years[5)].

What is the relationship between the theory of credit money and Chartalism? The theories could be regarded as opposing views, because in the theory of endogenous money, the money supply is endogenous, while in Chartalism, at a first glance, exogenous money by the state is assumed. One theory deals with bank money and the other with state money. Both theories are grounded in Post Keynesian theory, and are complementary in an argument like Pastoret's (2006), who argued that the theory of credit money deals with the money at the private level and that Chartalism discusses money at the state level. Bell (2001) also argues with regard to the hierarchy of money separating the level of Chartalism and the level of endogenous money.

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1) We would like to thank Prof. Masao Ishikura (Hitotsubashi University) for his detailed comments.

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3) In the credit money theory, there are various schools. The credit theory of Japanese Marxist economics is a modern development. In footnotes 12, its relation with this study is mentioned. In order to read more about the development of the past credit money theory, see Realfonzo (1998).

4) The representative literatures concerning the Post Keynesian endogenous money supply theory have been written by Moore (1988), Wray (1990) and Docherty (2005). The theory of monetary circuit, which centers on France and Italy, develops the macro-economic theory centering on the credit money theory similar to the Post Keynesian theory. For details, see Deleplace and Nell (1996), Rochon (1999) and Graziani (2003).

5) Chartalism in Post Keynesian theory starts in Wray (1998), but Bell and Nell (2003) deals with the monetary union in EU. In order to read more about the Post Keynesian theory of money, see Smithin (2000) and Ingham (2004).

The theory of credit money and Chartalism are certainly complementary, they share nominalism in the domain of the theory of the nature of money. In Chartalism, the establishment of money by the state is regarded as the nature of money; the state money is nominal, and is basically not related to a real value. Nominalism opposes metalism and the theory of commodity money in the domain of monetary theory. The theory of credit money emphasizes bank money and is also nominalistic in that the relation with the real value of money is not a premise. There were several advocates of the theory of credit money in the early twentieth century, e.g. Keynes introduced Chartalism in his *Treatise on Money* and Hawtrey adopted nominalism.

Although there are common grounds in both theories, the difference between them is large. First, as we have already mentioned, in the domain of the theory of the nature of money, both theories agree with the nominality of money, but the definition of money and other various points are different. Second, both theories diverge when they consider the role of the state. In the theory of endogenous money, although the state's role as the function of the central bank is generally assumed, the relationship between the money and the state and the problem of Chartalism is not thoroughly examined. The position of the state in Chartalism is unique and different from that stated in the theory of endogenous money. This study aims to clarify the relationship between both theories, based on two points. First, we compare both theories in the theory of the nature of money, and we consider to what extent money in the real world is Chartalistic. Second, we investigate the role of the state in each theory, especially the function of the central bank.

The composition of this study is as follows. In section 2, we examine what the term *money* means in the theory of credit money. First, we refer to Hawtrey’s view of the theory of the nature of money based on credit money. Next, we investigate the nature of credit money by focusing on the nominality of money. In section 3, Chartalism is examined. Then, after presenting the argument of Wray (1998), we explain what the money of Chartalism should be. In section 4, we consider the relationship between the state and money from both the standpoint of the theory of credit money and of Chartalism. After developing an examination of the central bank in the theory of credit money, we investigate its role and study the relationship between the state and money. In section 5, we present our conclusions based on the following three points.

First, the theory of credit money and Chartalism share nominalism in the domain of the theory of the nature of money. Nominalism is important as a basis for the view opposing the commodity money theory. Second, in the domain of the theory of the nature of money, the theory of credit money and Chartalism are different except for the nominality of money; however in the theory of credit money, the state plays an important role as it designates money as a means of final settlement. This is the significance of Chartalism in the theory of credit money. Third, the role of the state in the credit money theory also appears as the role of the central bank. Importantly, the central bank functions as the lender of last resort, which Post Keynesian theory has emphasized for its function of maintaining the monetary and financial system. To the contrary, in Chartalism, the central bank plays the role of the bank of government and does not conflict with the central bank in the credit money theory. In addition, it has a complementary function. Particularly, as a means of policy, both theories adopt the operation of a short-term interest rate, and the central bank plays an important role in the control of money.

2, Money in the theory of credit money

(1) Logical explanation of money

What is *money* in the credit money theory? This question is the domain of the theory of the nature of money; however, in this study, we discuss only credit money[6]. The theory of the nature of money presupposing credit money is a view that examines money from the credit/debt relations. There is a historical explanation about the origin of money; however, due to limited space and to avoid to going deep into history itself, we will provide only a logical explanation according to Hawtrey[7].

According to Hawtrey, two agent trading goods or services avoid the inconvenience of barter by carrying out credit transactions, and not by using some particular commodity as money. In other words, we assume that goods and services are not exchanged simultaneously in such transactions; instead, the settlement is carried out after the goods and services are transferred from one agent to the other. In this case, the seller of goods holds a credit for the buyer of goods, and the buyer of goods owes a debt to the seller of the goods. These credits/debts must be cancelled some day. It is noteworthy that the buyer of goods is not always a buyer of goods. Various goods and services are usually necessary for economic agents, and they supply themselves. Thus, in the economy supposed here innumerable trades are carried out. Consequently, countless credit/debt relations arise. Accordingly, in a usual case, the buyer of goods is also the seller of goods, the credits and debts co-exist in an economic agent. The problem is how to cancel or clear the credit/debt relations. Hawtrey, introducing his notion of "dealer," defines the bank as the “dealer of debt”, which is the agent that enacts the setoff or clearing of the credits/debts of various agents. Certainly, if these agents are introduced, the cancellation of credit/debt can be carried out. However, in this case, the credit/debt is defined in the two agents respectively, in that condition it is impossible to compare and clear the credit/debt between that of the two agents and that of other agents mutually, unless there is a common unit. Accordingly, Hawtrey introduces a common account unit and indication unit of debt. This is

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6) In this study, we focus on discussing only credit money rather than providing a general explanation of money because most money circulated in the actual economy is deposit money, i.e. credit money. Thus, it is important that we focus on the credit money. Although the theory of the nature of money in Keynes’s *Treatise on Money* starts with credit money, its aim is a more general explanation of money. The contents of the book are mentioned in Section 3. Because we base this study on the credit money theory, we confront problems when considering how to deal with recent topics such as local currency. This example, however, is actually not a problem, because local currency usually does not have a function of credit creation, which means that it is beyond the scope of this study.

7) When we consider the origin or generation of money, we use two methods of logical explanation and historical exposition. Usually after the logical explanation is undertaken, the historical illustration is used. In Hawtrey (1919), only the logical explanation is undertaken, but Keynes develops detailed historical explanation in his *Treatise.* In order to read more about the credit money theory of Hawtrey, see Naito (2004b).

called the “money of account”. In this way, what functions as money appears as “the money of account”, which is how the credit money theory defines.

Now the money of account, i.e., the common indication unit of debt allows for the debts of two agents to be collected and cancelled out, which increases the convenience of credit trade between two agents. However, this advance accounts only for the debt of the buyer. There is no general acceptability for the seller. Then, the debts of third person are used. The issuer of this third person's debt is the bank. What matters here is how the money is supplied. Because the money is the bank's debt, if an economic agent buys some goods for the bank, the seller obtains the bank's debt, certainly the debt is issued. However, usually the bank does not directly trade goods or services. Instead, the bank supplies money by lending money. Bank lending is actually composed of two contracts or transactions. First, the borrower acquires bank lending from the bank. This is a debt for the borrower and a credit for the bank. Second, simultaneously the bank deposit as the debt of the bank appears on the account of the borrower. This emerges in the balance sheet as a debt for the bank and as a credit (asset) for the borrower. In the balance sheet, the lending is an entry of the asset of bank, and the bank deposit is an entry of the debt of the bank. The bank deposit is created by lending and circulates as money. In this way, money is created by the demand for lending (Hawtrey, 1919, pp. 1-8).

Until this point, we have introduced money and clarified the importance of account money. Next, before we carry out a more detailed explanation of the function of money, we must examine the evaluation of money in the case that the framework of credit money theory is assumed. Thus, we examine the process of monetary circulation, which is a macro-economic framework for the creation, circulation and extinction of credit money[8)]. Money appears in the economy as financing for the production of goods or services. Thus, the economy is captured as the monetary circulation that money arises due to a credit planned for the financing of production, the firm actually outlays the money to the production factor, the agent receiving the money buys products, the firm allots the proceeds of the production to the repayment of the bank's lending, and the money refluxes to the bank and vanishes.

(2) The nominality of money

In the theory of credit money, the argument starts from the account money, and the most fundamental function of money is its function as the account unit. In fact, Keynes wrote that the account money was “the primary concept of a theory of money” (Keynes, 1971, p. 3), and Hawtrey stated that “the basis of monetary theory should be the money of account” (Hawtrey, 1919, p. 182). Post Keynesians also define money as “a store of abstract value” (Ingham, 2000, p. 21) and “a standard of value in which contractual obligations for the organization of production and exchange transactions are made” (Fontana and Venturino, 2003, p. 398). The important nature of account money is examined as follows.

First, Hawtrey introduces money as account money, but defines money as “the means for the

8) In order to read more about the process of monetary circulation, see Rochon (1999), Graziani (2003) and Naito (2004a).

legal discharge of a debt" (Hawtrey, 1919, p. 15). Hawtrey, then, defines "money" as the means of payment. This argument differs from the one that regards money as the means of exchange or store of value[9].

Second, the most important nature of account money is its nominality and arbitrariness, meaning that the unit of money is voluntarily and arbitrarily determined. The unit of money is actually determined according to the state as Yen, Dollar, Pound, and Euro. The "money proper" (Keynes, 1971, p. 3) corresponds to the money of account: the contents of money as substance is also nominal and arbitrary. For example, the money can be a precious metal such as gold, mere paper money or a commodity money such as corn or cattle; as long as the state designates what the money is and the society generally accepts that designation, money can be anything.

In this way, the nominality is an important character of account money, but this character is not confined only to the theory of credit money. The standpoint emphasizing the nominality of money like the credit money theory is called nominalism in the theory of the nature of money. Nominalism also appears in Chartalism, which we examine in section 3. Nominalism opposes metalism or the commodity money theory. One of the important conflicting axes in the theory of the nature of money is the confrontation of the commodity money theory and the anti-commodity money theory. Metalism is a view that emphasizes the relationship of money to the real value of money. It is adopted by the commodity money theory. In brief, the commodity money theory is the argument that money evolves from commodity and materializes, particularly, in metalism, the value of (precious) metals is emphasized, and a close relationship between money and its real value is advocated. Metalism is also a part of the commodity money theory because it argues that when a commodity evolves into money, something of high acceptability, which owns real value (such as a precious metal), is selected as money. On the contrary, in nominalism, the value of money is treated as nominal, money is denied a connection to real value: it is a denial of metalism and commodity money theory[10].

This opposition to the commodity money theory ranges not only over the domain of the theory

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9) The commodity money theory defines money as a means of exchange. This view is adopted in classical and neoclassical economics and is, at present, the mainstream view. On the contrary, Keynes in the *General Theory* and the part of the Post Keynesian theory represented by Davidson (1978), which is affected by the *General Theory*, emphasizes the means of the store of value. However, Keynes emphasizes account money in *Treatise*. Therefore, according to Keynes's thoughts on the theory of nature of money, it is generally evaluated that there is a rupture between *Treatise* and *General Theory*. However, in *General Theory*, the argument for the nature of money like in *Treatise* is scarcely undertaken and the relation between them is hardly clarified. Then, in 'The general theory of employment', which is one of the studies published after the *General Theory*, Keynes states that "money, ･･･ serves two principal purposes. By acting as a money of account ･･･ In the second place, it is a store of wealth"(Keynes, 1973b, p. 115). Keynes mentions that the first function of money is to be account money, and its second function is a means of store of value. This indicates that after the publication of *General Theory*, Keynes does not abandon the theory of the nature of money in *Treatise*. Although the account money and the money as the means of the store of value coexist, the relation between them is not clarified.

10) At the level of the historical explanation, money is certainly a precious metal that has the function of the means of the store of value. However, in order to draw attention to the argument of Keynes's *Treatise*, money is nominal as account money, and a precious metal such as gold, which has the means of the store of value, may be selected for "money proper" as the actual means of the payment.

of the nature of money, but also over the whole monetary theory. Commodity money theory assumes that during barter, each economic agent obtains his or her desired commodity or services and the double coincidence of desire is achieved. However, in order to achieve the double coincidence of desire by barter is difficult. For resolving this difficulty a commodity acceptable to all agents must be available. This acceptable commodity is money. The money in this case is at first defined as the means of exchange, and then, a commodity has become the money acceptable to all bartering agents for some reason. The commodity money theory believes, then, that a commodity evolves into money, and it emphasizes the similarity of money with commodity (Menger, 1892). The commodity money theory, since it emphasizes the similarity of money with the commodity, adopts the quantity theory of money-the view that the price of money itself is determined by its demand and supply, just like a commodity. However, the quantity theory of money is incompatible with credit money or endogenous money supply. In addition, in the quantity theory of money, it is difficult to explain credit money. In fact, in the commodity money theory, credit money, which occupies most of actual money, is captured as an irregular thing, and commodity money theorists argue the relation with the real value like the gold standard. They regard money as a means of exchange that is neutral, having no affect on the real economy. Thus, in neoclassical theory, if the barter is possible by the technical reason, the world of bartering without money tends to be regarded as an ideal state (Dow and Smithin, 1999)[11].

(3) The position of credit money and the state

The nominality of money is not only an important nature of credit money but is also a common character with Chartalism. In order to explain the importance, it is necessary to examine the relationship with the state. First, credit money is a debt to a bank and is assumed to be acceptable to economic agents. The account money or credit money is nominal money, and it is uncertain whether this money would be accepted in a final settlement. What is necessary in this place is the means of payment of debts, which can be finally cleared in the credit/debt relation of two agents. This is the means of payment acceptable to all agents or the means of final payment in a definite closed range such as a society or community. In order to be acceptable to every agent, some guarantee, i.e. the guarantee by convention, law or the sovereign is necessary. Hawtrey regards money as “the means established by law (or custom) for the payment of debts” (Hawtrey, 1919, p. 17). Hawtrey suggests that at least a guarantee by society is logically needed but that the state is not necessary at this level. In fact, in Post Keynesian theory, money is a “social relation” (Ingham, 2000, p. 22) and is defined as “a socially created social convention” (Swanke, 2004, p. 84).

Second, the means of final payment is actually not only the credit money, but also the money as

11) The commodity money theory, which this study criticizes, is the neoclassical theory represented by Menger. According to Marx and Marxian economics, whether the criticism in this study can be applicable is the big problem in itself. Marx and Marxian economics are not the target of this study.

substance, “money itself”, or “money proper” as named by Keynes (Keynes, 1971, p. 3). Therefore, the relation between the credit money and the money as substance is in question, but in this actual system usually there exists the central bank, and the credit money and the money as substance are connected and form a definite relation. We examine this point in detail after section 3.

Third, the money of account itself is nominal and arbitrary; however, continuity is actually needed when used in the settlement of debts (Hawtrey, 1919, p. 3; Keynes, 1974, p. 4). This is why there is the case of the carryover of settlement or that the settlement does not complete in the definite period. We suppose that in a pure credit economy in which there are no cash, a bank merely would settle debts. In a definite period -for example, a unit of a day- it is possible that an economic agent could develop a balance of debt or credit. When this balance is transferred to the next day, the money as an account unit must be used the next day. This is the condition where if the “redenomination” of the currency is carried out, it is smoothly acted. In other words, when the unit of account is altered, if the conversion from the former unit is carried out, the trade is continued[12)]. Society is at least necessary as a premise of the nominality of money, and actually designating the nominal money is the role of the state.

3, Chartalism

(1) An outline of Chartalism

As stated before, in the theory of credit money, the state or the society is the premise of the argument. Keynes introduced Chartalism in his *Treatise on Money* by referring to Knapp. Chartalism or the state theory of money is “the doctrine that money is pecuniarily a creation of the State”(Keynes, 1971, p. 4). Hawtrey also presupposed the state or the society, and it is considered that he substantially adopted the Chartalistic logic. In this way, in the theory of credit money, the Chartalistic standpoint has been adopted; however, in recent years, with regard to the endogenous money supply theory and the currency union with the EU, Chartalism has been revived. Particularly Wray (1998) could be called neo-Chartalistic. While the Chartalism of Knapp (1905) concentrates on the legal and institutional aspect of money, Wray argues presupposing the endogenous money supply theory: a view that we will examine.

Wray (1998) reconstructs Chartalism in the modern context. Chartalism is the view that “in all modern economies the government defines money by choosing what it will accept in payment of taxes” (Wray, 1998, p. viii). Chartalism can be summarized as follows. First, it is the state theory of money that the state designates money. It designates money to specify what it will accept as a tax payment. Second, money circulates because the state accepts it in the payment of tax. In Chartalism, the money, except the state money, is not always excluded. However,

12) The currency conversion in each EU country from their original money into the Euro is a modern example. In this case, a phenomenon exists whereby some countries take advantage of the situation to institute price hike. Despite this, the conversion itself is carried out without particular confusion because the conversion rate for the currency of each country and the Euro is

because the people in a state owe the liability to pay tax, whatever money is used in the transaction a person who owes the liability to pay tax must pay tax by the state money, thus, the state money circulates as a powerful money. Third, the state designates the money not only as substance, but also as the unit of account. The magnitude of tax is expressed by this account unit, which is also commonly used for money not acceptable to the state. Fourth, taxpayers finally have to obtain state money in order to pay their taxes. How the state money indispensable to pay taxes is supplied? Taxpayers are able to acquire the state money from the economic agents except the state in the transactions, but the ultimate method of supply is that the state purchases goods or services, i.e. the public expenditure as a fiscal policy[13)]. Fifth, when the state supplies money, the state only issues it. Thus, "the government does not 'need' the 'public's money' in order to pay taxes. ・・・it becomes clear that neither taxes nor government bonds 'finance' government spending"(Wray, 1998, p. ix). In other words, the government does not need the prior finance, which is different from the private agents like households.

We will next examine how Wray's (neo-) Chartalism, as mentioned above, deals with credit money. Apparently, it seems that credit money is not strongly related to state money, in Chartalism; however in Wray's argument, the credit money theory is presupposed and integrated. First, the credit money, or bank money, becomes the state money if the state accepts it. In fact, in many states, taxes can be paid with deposit money. In this sense, the bank money is integrated as the state money. Second, the credit money theory is endogenous money supply theory. In Chartalism, the money supply is also endogenous. In Chartalism, the state levies a tax and concurrently designates the money used as the means of the payment of tax. If there exists only money as substance, for the tax is paid in full, considering the hoarding of money, the deficit finance that the government expends more than tax revenues is the usual case, and the government has to supply money in proportion to the monetary savings. However, actually, the credit money is also used; it is created to finance the production of goods and services, expended, finally refluxed to the bank and destroyed. In this case, the credit money as well as the state money is used for the payment of the tax. The credit money is supplied not only for the finance of the production of goods and services but also in proportion to the demand for the payment of tax. In this way, the money is supplied endogenously for both types of demand.

(2) The money in Chartalism

What is the 'money' in Chartalism? First, money is something that the state designates, which is the state money theory. In this sense, the state is presupposed. Second, the money is designated by the state, then what the state does is essentially that the state names an indication unit such as the Yen or the Dollar. This is the money as account unit, and that the argument starts

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strictly determined. This example also demonstrates the nominality of money rather than an argument of its continuity.

13) In Wray's Chartalism, a more expansionary fiscal policy than the endogenous money supply theory is advocated. The similarity with Lerner's "functional finance" is pointed out and the policy of the "employer of last resort" is contended. In order to read more about the recent evaluation of the theory of functional finance, see Nell and Forstater (2003), and to read more about the employer of last resort policy, see Wray (1998) and Mitchell and Mosler (2001).

from the account money is in common with the credit money theory. The state also designates the form and material of the money as substance. The substance and indication unit of money is diverse; however, the important thing is that the state designates. This shows that money is a nominal existence. Nominalism is adopted in the same way in the case of credit money theory. Third, Chartalism defines money in relation to the state, particularly state money functions as the means of payment of taxes. Chartalism's definition of the means of tax payment is common to the definition of credit money theory: if taxes are regarded as the debt for the state, the money can be defined as the means of payment of debts.

Fourth, Keynes attempts to integrate Chartalism into the credit money theory in *Treatise on Money*. We will briefly examine Keynes's argument. In *Treatise on Money,* Keynes starts his argument with the definition of account money. Account money is nominal, and Keynes called the money as substance corresponding to the account money the “money proper”, “money itself”, or simply the “money”. “Bank money” derives from account money and is also “state money” because “it is the State or community ・・・ which decides what it is that must be delivered as a lawful or customary discharge of a contract which has been concluded in terms of the money of account”（Keynes, 1971, p. 4）. On the other hand, the account money itself is designated by the state. According to Keynes, “the bank money may represent ・・・ a debt owing by the State; and the State may then use its chartalist prerogative to declare that the debt itself is an acceptable discharge of a liability”（Keynes, 1971, p. 5）. In this way, Keynes includes the bank money into the state money because the state accepts it. In the credit money theory, Keynes emphasizes that the state plays the important role of designating the money（Keynes, 1971, pp. 3-5）.

4, Money and the state

（1）Credit money and the central bank

As already stated, the state plays several roles in the credit money theory. Post Keynesian theory has traditionally emphasized the central bank（Minsky, 1986）[14]. The central bank plays an important role if a more realistic monetary system is presupposed; however, in the pure credit economy, the central bank is necessary. In the argument above, we have implicitly assumed that there is only one bank. However, if there are multiple banks, the central bank is needed because debts must be settled among the clients of different banks. When transactions are made among the clients of a bank, the debts of the bank are used as money and the settlement of the transactions are finished inside the bank. However, if there exists multiple banks, in order to settle the accounts among the clients of multiple banks, in the same way as the credit transaction

14）In the Japanese studies of the credit theory, there is the theory of the central bank such as Youji（1988, 2004）. Youji（1988） is especially different from the Post Keynesian theory in its theoretical assumptions, but holds similar beliefs on its views of a central bank.

between two agents as already stated, the debts of a third party are needed[15]. The central bank is the institution that issues these debts of third-party and settles the accounts concentrically. The central bank carries out the settlement between different banks, in this case it provides the same services to banks that commercial banks provide to their clients. The central bank is defined as the “bank of bank”. Specifically, each bank settles its accounts among the banks by its debts to the central bank. If a shortage arises during the settlement, it is covered by the short-term borrowing from other banks; if this borrowing is also insufficient, the bank has to rely on borrowing from the central bank. When there is no cash currency, basically the money is supplied endogenously. The role of the central bank is to, first, provide the debt of the central bank as a means of settlement, and second, lend money to banks so that they can evade lapsing into insolvency. This latter function is known as the “lender of last resort”.

Next, we will examine the more actual case of the existing fiat money (cash currency). When fiat money is in use, banks must maintain a definite reserve ratio. In this case, for there is a possibility of the payment by cash, the reserve is necessary. Each bank can determine its reserve ratio; however, if there are multiple banks, there is an incentive to curtail the cash reserve that bears no interest. When a central bank exists, it or another currency authority usually determines the reserve ratio. Then, the central bank supplies the reserve for the commercial banks. Money is created endogenously by the bank lending, and there exists hoarding of cash by the consumer and the demand for the reserve is determined in proportion to it. In the case of existing not only the bank money, but also the fiat money (cash currency), when consumers hoard cash, there is a leakage from the system and the hoarded money fails to reflux to the bank system for that amount. Thus, in order to maintain the financial system, the reserve has to be supplied endogenously. Affected by the own animal spirits, banks lend for the investment plans of the firms, moreover, bank lending is not always repaid in the total amount due to uncertainty. Because of this, the bank reserve may be insufficient. In this case, the central bank must maintain the solvency of the banking system as the lender of last resort and, as a result, it supplies the reserve endogenously.

In the credit money theory, since the money supply is endogenous, the central bank does not directly affect the quantity of the money. The means of the policy is the short-term interest rate such as the official discount rate or call rate. In this process, it determines the official discount rate or call rate because this rate affects the minimal profit rate that banks have to realize. The lending rate is linked with the discount rate. In this way, the interest rate is determined exogenously by the central bank, and it is the means of policy.

(2) The central bank in Chartalism

We have stated that the central bank plays an important role of the administration in the credit

15) A more detailed argument about the necessity of a central bank in the presence of multiple banks developed in Rochon and Rossi (2004). In order to read more about Post Keynesian theory of the central bank, see Arestis and Sawyer (1998) and Lavoie and Seccareccia (2004).

money theory; however, it also exists in the Chartalistic system. In Chartalism, however, the central bank plays the role of the bank of government. There is an aspect that is vaguely understood that the central bank actually has two functions. Although a close relationship exists between both functions, it is necessary that the bank of government functions as the top of the hierarchy of the credit money system. In the following paragraph, the role of the central bank in Chartalism is briefly argued and its meaning is examined.

In Chartalism, the central bank plays role of the bank of the government, i.e. it holds the accounts for government expenditure and revenue above all. Monetary circulation in the Chartalistic system begins with fiscal expenditure, i.e. the government's purchase of the goods and services from the private sector. The private economic agents receive the money and carry out economic activity by using it. The state levies a tax at a fixed time, and the collected tax is paid into the account of the government at the central bank. In this way, the money circulates; however, the money supplied by the state is not entirely retired as tax because the private economic agents use a part of the state money for the monetary savings as the means of the store of value. Thus, if there are monetary savings, full employment is not always achieved because as the monetary savings increases for some reason, consumption decreases and the proceeds of the firms decline, and as a result, employment decreases. If the government makes the target of full employment, a fiscal deficit is inevitable. In recent years, fiscal deficits have been heavily criticized; however, in this system, some degree of fiscal deficit is a normal condition.

Next, we will examine the relationship between government bonds and fiscal deficits as the role of the Chartalistic central bank. When considering fiscal deficit, there is a debate whether so-called monetization of the debt（the creation of money to finance an expenditure）arises. In this system, the supply of state money is basically fiscal expenditure, and the purchase of government bonds is the means of financial policy. Then the money supply due to the increase of the fiscal expenditure is examined. When fiscal expenditure increases, consumption increases, outlays are higher and the final holder of cash retains the portion of the money received in cash. The rest of the money increased refluxes to the banking system and appeared as the excess reserve of settlement of commercial banks' accounts in the central bank. If the excess reserve is left alone, which occurs if liquidity is excessive, there exist the tendency that the call rate falls. In this case, if the central bank wants to maintain the current level of the interest rate, it has to sell the government bonds and reduce the liquidity. Specifically, the role of government bonds is not to finance expenditure but to maintain the interest rate. If fiscal deficit is accumulated, a zero interest rate is realized unless the interest rate is maintained, and the default of the national finance does not occur. The inflation or devaluation of currency occurs due to a low interest rate and not the fiscal deficit. Another reason that central banks manipulate the interest rate is that money refluxes to the government account at the central bank by the levy of tax from the private, the liquidity decreases and the short-term interest rate increases. Thus, in order to maintain the fixed short-term interest rate, the central bank has to supply the reserve endogenously（Mitchell and Moslem, 2001）.

(3) The state and money

Chartalism and the credit money theory are examined separately above; however, in this section, we will consider the relationship between the two theories. The theories have a basically complementary relationship, particularly in the theory of the nature of money, they have common grounds despite appearances. First, both theories adopt nominalism. In other words, the money as account unit is most important, and the substance of money may be anything. Next, in both theories, the function of money is regarded as the means of payment. In the credit money theory, money is a means of the payment of debt; on the other hand, in Chartalism, money is the means of the payment of tax. However, if we regard tax as the debt of the private economic agents to the state, these definitions are almost the same. Second, it is the role of the state to actually guarantee the nominality of money. In the credit money theory, the account money is the starting point; however, the account money is used continuously, and as the subject that designates the account unit, the state is actually a premise. The state usually designates the money as substance, i.e. "money proper". Thus, "to-day all civilized money is, beyond the possibility of dispute, chartalist" (Keynes, 1971, p. 4). This is why the enactment of account unit by the state is important in the practical level. This is one of the roles of the state in the credit money theory.

The credit money theory and the Chartalism have common grounds in the theory of the nature of money, but there are still different points. First, as already stated, at the level of the theory of the nature of money, the role of the state in the credit money theory is, that for money to be actually used, the guarantee, recognition, or confidence by the society is at least needed. For the monetary circulation, the state is not always presupposed. On the contrary, in Chartalism, the money presupposes the state.

Second, in the credit money theory, it is in the theory of the central bank that the role of the state is emphasized. At the practical and institutional level, the credit money itself is created by the bank; however, the central bank exists for settlements between the banks, and the state ordinarily administers it. As a result, the state administers the credit money through the central bank, which composes a part of the state organization. The role of the central bank is to function as the lender of last resort, which supplies the means of settlement and is to evade the inherent instability of the financial system. According to the evaluation of the central bank, there are the argument concerning the independence from the government and the free banking theory. However, there actually exists a movement towards the intensification of the independence of the central bank, and the possibility of the realization of the monetary system without the central bank seems to be low. One of the reasons that the central bank is not private is because it would be difficult for it to seek profit only through its business as central bank. More importantly, the central bank plays the role of evading the intrinsic instability of the credit money system. Thus, the central bank plays the role of administering the money as a part of the government[16].

16) In recent years, the argument about the independence of the central bank is popular. At first glance, it seems that this argument opposes the view of this study; however, the argument focuses on the evaluation of the central bank as a part of the

According to the role of the central bank, as already stated, the central bank has two functions: one is to supply the reserve, which is the debt of the central bank as the means of the settlement, and to execute the accompanying policy, the other is to be a lender of the last resort. In fact, the central bank usually also functions as the bank of the government, which plays an important role in Chartalism. The central bank in Chartalism certainly performs the function of the bank of the government. However, if its specific function is examined, it is not at all incompatible with the central bank in the credit money theory, and both central banks have complemental functions mutually. In this way, in the Chartalistic system, the central bank administers the money.

As already stated, we have clarified that the credit money theory and the Chartalism play complementary role in the role of the state and the central bank. We will now discuss the meaning of the state in a system that integrates both theories. In the credit money theory, credit money is nominal money, in order to circulate the means of the payment, the guarantee at least by the society or actually by the state is needed. On the contrary, in Chartalism, the state money is nominal money that the state arbitrarily enacts. The credit money theory also needs the central bank because it supplies the means of the settlement between banks and plays the function of the lender of last resort. The control of money by the central bank is possible by the supply of the reserve as the means of the settlement between banks, and financial policy is done. On the contrary, in Chartalism, the central bank plays the role of the government bank. In order to alleviate the fluctuations caused by the transfer of the funds of public finance, and to relax the influence on the interest rate caused by the excessive liquidity that accompanies the fiscal deficit, the money is administered by the manipulation of the short-term interest rate through the open market operation represented by the dealing of government bonds. The operation of the short-term interest rate is also the means of the policy of the central bank in the credit money theory. Thus, we can see that practical action of the central banks in the credit money theory and Chartalism coincides. This would be a reason that the central bank is also the bank of the government. In this way, in the credit money theory and Chartalism, the control of the money is through the central bank.

5, Conclusions

In this study, the relationship between the credit money theory and Chartalism is examined from the domain of the theory of the nature of money and the theory of the central bank, and the role of the state in the system that integrates the credit money and the Chartalism. The conclusions are following three points:

First, in the theory of the nature of money, the credit money theory and Chartalism share nominalism, and both theories oppose the commodity money theory. In the credit money theory and the Chartalism, money is a nominal existence, and there is no intrinsic relation to the real value. In this way, both theories adopt nominalism. Nominalism is important in that it is

state organization, which is noteworthy in that it is not a claim for the privatization of the central bank.

opposing the commodity money theory. The commodity money theory is adopted in neoclassical economics, and is also the basis of the quantity theory of money. The commodity money theory, or the quantity theory of money is the view that entirely conflicts with the credit money theory. The commodity money theory believes that the state or society basically is not presupposed and it denies the control of money by the state. However, in fact, as we have seen, the control of money by the state is necessary. If the commodity money theory view is adopted, it cannot explain the relationship between the state and money nor the role of the central bank. Thus, the criticism of the commodity money which is the basis of that view, is indispensable in establishing the basis of the Post Keynesian monetary theory.

Second, in the theory of the nature of money, the credit money theory and Chartalism share nominalism; however, there is a difference in the relationship between money and the state or society. In credit money theory, for the money to be actually circulated and used, at the purely logical level at least, the society is needed and the state is not always presupposed. On the contrary, in Chartalism, the "power" enacting the money or the state as some organization is assumed. This is the difference between the credit money theory and Chartalism. However, in the credit money theory, the state is related with the account money. In other words, at the actual institutional level, it is the state that designates the account unit and the "money proper" that is the money as substance. In this way, as Keynes stated in *Treatise*, the actual money has entirely a Chartalistic factor, and Chartalism is integrated into the credit money theory.

Third, in Chartalism, it is in the theory of the central bank that the role of the state is emphasized. The role of the central bank is slightly different in both the credit money theory and Chartalism; however, in the aspect of the control of money and policy, its function coincides. In the credit money theory, money is explained according to credit/debt relationships and is created by the bank. In the case of multiple banks, the central bank is necessary for the system of settlement. The central bank not only supplies its own debts as the means of settlement, but also lends, in order to avoid lapsing into insolvency. This is due to the inherent instability of credit money, and this is undertaken for the purpose of avoiding that the crisis amounts to the financial system or the whole economy. Because there is this function as the "lender of the last resort", the central bank is an existence that has the publicness, i.e. it composes a part of the state organization. The aim of the central bank is, in relation to the state, the maintenance of the monetary and financial system, and the function that has to play is the control of account money and money as substance designated by the state. On the other hand, in Chartalism, the state enacts the money, and the Chartalism is a theory that assumes the state. The control of the money is also acted through the central bank in Chartalism. The means of the policy is the manipulation of the short-term interest rate, which is the same as the role of the central bank in credit money theory. This indicates that as a role of the central bank, in Chartalism, not only the function of the lender of last resort as the maintenance of the financial system in the credit money theory, but also the control of money through the short-term interest rate is important. In conclusion, the central bank also functions as the point that connects the each system of the credit money theory and Chartalism[17].

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17) As a problem left, the significance of a monetary sovereign such as the state administering the money can be examined by considering the actual example of EU. For detail argument, see Bell and Nell (2003).

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