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Schumpeter's *Treatise on Money* and Schumpeterian Business Cycle Theory

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Abstract

Schumpeter's "book of money" is one of his essential unfinished works. Though Schumpeter's German "book of money" titled *Das Wesen des Geldes* (1970) by Fritz Karl Mann, have drawn little attention among English-speaking economists, recent new English version published in 2014 translated by Ruben Alvarado brought us good luck that we would examine Schumpeter's monetary theory in detail and as a whole. New translation is titled *Treatise on Money*. Whether Intentionally or unexpectedly, this title is the same as Keynes's *Treatise on Money*. The central subject of earlier works has been focused on the description in detail how and why his manuscript on money was left unfinished. Then we set the purpose of this paper on the identification of the characteristics of Schumpeter's monetary theory. Especially, we are concerned about the relationship between Schumpeter's *Treatise* (1970/2014) and his *Business Cycles* (1939). Schumpeter accepted a permanent position at Harvard in 1932 and spent the first year there working on the money manuscript but then apparently decided to switch to his voluminous work on business cycles. So, we assume that the essential points of a manuscript of *Treatise on Money* are reflected in *Business Cycles*. In fact, several footnotes in his *Business Cycles* refer to a forthcoming *Treatise on Money*. In this paper, we examine mainly on below two points. Firstly, we abstract essential and unique points of Schumpeter's monetary theory. At this examination, we compare them with those of Keynes's *Treatise on Money*. Secondly, we try to integrate them with his business cycle theory. We expect to develop our future research for reconstruction of Schumpeter's Business Cycles through this preliminary study.

Keywords: Joseph A. Schumpeter, *Treatise on Money*, business cycle theory, credit theory of money, monetary theory of credit, monetary circuit theory

JEL Codes: B25, B31, E32

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1. Introduction

Schumpeter's theory of money is an unfinished important theme in our time. Although Schumpeter intended to contribute 'book of money,' he could not complete it. We have been able to read Schumpeter's manuscript on 'book on money' only through a German edition edited by Fritz Karl Mann in 1970 until now. Now, we can broadly have the contents of Schumpeter's theory of money in common because of the publication of the English edition in 2014, which is translated by Ruben Alvarado based on the Mann's German edition. This English edition is newly entitled "*Treatise on Money*." We shall remember from this title Keynes's book *A Treatise on Money*[1]. This English edition, however, is a faithful translation to the Mann's German edition which lack a part of a full content of which Schumpeter planed originally, so we wish to make progress a research of the remained manuscript and a whole content.

In this paper, we discuss two points concerning Schumpeter's theory of money; one is the investigation of its bibliographical positioning in Schumpeterian economic system, and the other is theoretical development on the roles of money and credit within the framework of Schumpeter' business cycle theory along the former investigation. Regarding the latter, we hope it to make a contribution to the progress of Neo-Schumpeterian research agenda on national systems of innovation.

The rest of the paper is organized as follows. Section 2 reviews previous bibliographical studies concerning Schumpeter's manuscript, and points their meanings and limitations. Section 3 investigates Schumpeter's theory of money and credit in accordance with a standpoint from statics and dynamics to their integration. Section 4 show a view of a future development on theory of money and credit within the framework of Schumpeterian business cycle theory. Finally, Section 5 concludes the paper.

2. A road to *Treatise on Money*: meanings and limitations

2.1 Previous bibliographical studies

The core of the Schumpeterian system is the analysis on the development or evolution of the capitalistic process through time. We notice it at subtitles of Schumpeter's two main works; "An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle," in *The Theory of Economic Development* (1934) and "A Theoretical, Historical and Statistical Analysis of Capitalist Process," in *Business Cycles* (1939). Although at the background of Schumpeter's economics research, there was a dichotomy of statics based on Walrasian general equilibrium and dynamics based on Marxian endogenous economic evolution, Schumpeter's final terminal point was the accomplishment of

1 A translator R. Alvarado explains that in *Business Cycles* Schumpeter referred to the title of the "treatise on money" in various places throughout the two volumes, and Schumpeter saw his book in connection with Keynes's *Treatise*. (Schumpeter 2014: xxxix)

economic sociology which contained not only pure economics but also socio-cultural or institutional analysis. Therefore, through this research process, Schumpeterian system was to have been completed. Eventually, Schumpeter himself have not completed it, hence a theory of money must be the one of important blanks when we reconstruct it in our time.

In Schumpeter's theoretical research, it has been apt to emphasize uniqueness and contribution in the supply-side real aspect as a role of entrepreneur, practice of new combination, and economic evolution as creative destruction. But, as is generally known, it is essential a banker (a capitalist) who finances entrepreneur's activity and takes upon himself entrepreneur's risk in monetary and financial aspect. As a pillar of the development process, a banker has not to be in a complemental position but in a parallel position toward an entrepreneur. In a sense, a theoretical building of monetary and financial aspects which a banker takes on himself the responsibility for is indispensable. Schumpeter also made up his mind two main themes of the "money question" and "business cycles" to be solved throughout his entire life[2], so the development of a research on the "money question" seems to also be contributed to a research on "business cycles."

In Schumpeter's massive contributions, the first definite work on money and credit is the 1917-18 article entitled "Money and the Social Product." Subsequently, Schumpeter got down to writing a book on money, but his effort ended in a disappointing result. Why did Schumpeter finally decide not to publish own "book of money?" It has been emphasized on the influence of the publication of Keynes's *A Treatise on Money* (1930) in previous studies.

> Schumpeter told me that he would no longer be able to publish his manuscript. All the essential ideas, he declared, had been anticipated by Keynes in his *Treatise*. All that was left to do, he added, was to destroy the manuscript (Schneider 1975: 33).
>
> [W. Stolper said that] "I recall in discussions with him after Keynes' *A Treatise on Money* came out that Schumpeter complained that the treatise had made his manuscript completely out of date and that he had to rewrite it from scratch." (Swedberg 1991: 501)

However, we assume it is not a main reason particularly. Because there are some evidences in letters from Schumpeter to Keynes (in Schumpeter 2000) as below:

> I am leaving under a cloud having not succeeded in finishing the Ms of my book on Money, which will have not to wait now for another year upsetting all my plans of further work. I have been eagerly awaiting your book on the same subject, and am wondering how far it may be due to similar reasons why we have not yet received from you what will undoubtedly be the crack performance of monetary literature. What about handing

[2] See McCraw 2007: 498.

> over both our Ms. to some clever young man and letting him make a fricassé of them? (9, September 1930)
>
> Very many thanks for your work on Money just to hand which you have been kind as to send me. I want to congratulate you most heartily on this splendid achievement. It surpasses my understanding how you have managed to accomplish it among all the multifarious calls on your time and force to which I know you are exposed. This is truly a Ricardian tour de force, and must cause you the most intense satisfaction. I believe it will ever stand as a landmark in its field. (29, November 1930)

Moreover, there are additional evidences by F. K. Mann and T. McCraw[3]. We think, however, further exploration on the reason is insignificant, anyway, it is all we can definitely say that the last time that Schumpeter sounds affirmative about finishing the whole book is mid-1933 (Swedberg 1991: 501)[4].

After the death of Schumpeter, his wife Elizabeth B. Schumpeter found the German manuscript of his "book of money" in Taconic. According to the research on Schumpeter's posthumous manuscript by Marcello Messori, Schumpeter's posthumous manuscripts on money were divided in four places; the first folder contained 144 pages from chapter 1 to chapter 5. The second folder contained chapter 6, 7 and 8 which had page numbers from 145 to 291. The third folder contained chapter 9, 10 and 11 which did not have page numbers and the text was only partly typed and was broken up by many notes and some offprints. And the forth folder (it was not actually a folder but a brown trunk) also contained notes and manuscripts which were assumed to be corresponded to from chapter 12 to chapter 15[5].

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[3] K. F. Mann points out the reason of unpublished that "After this second (English) plan, the release was further delayed and eventually fell through. Perhaps Schumpeter hesitated with the publication for a similar reason as with another equally unfinished life's work, his *History of Economic Analysis*, the possible conclusion of which he discussed with me only a few days before his death: the scientific resistance that awaited him appeared too great to make one last effort worthwhile." ("Orientation" in Schumpeter 2014: xxxi) McCraw examines that "Schumpeter has kept in mind that one of the hallmarks of first-rate economic theorists is their ability to present a stripped-down model of reality without losing its essence. But often there were just too many variables, and he was unwilling to give them up - no matter how hard he had to work to include them." (McCraw 2007: 155-6)

[4] This book of money has been planned to publish as one of the serial books edited by Arthur Spiethoff, who was Schumpeter's friend and colleague at University of Bonn. After receiving a finished manuscript from Schumpeter, Spiethoff hoped to publish it immediately, but Schumpeter hoped to revise it. Just at that time, Schumpeter has scheduled a business trip to US and Japan, thus Schumpeter had no time to revise the manuscript. Afterword, Schumpeter decided to move Harvard and has spared more time for writing Business Cycles, so he could not spare less and less time for revising the manuscript on money. Concerning these backgrounds, we can find out in Messori 1998 and Stolper 1989.

[5] See Messori 1998: 650-51. These posthumous manuscripts is now put into the archive at Harvard University.

Elizabeth B. Schumpeter decided to try to have the money book put in order and translated into English. For this task, she offered to help Arthur W. Marget. He was Schumpeter's friend and colleague at Harvard and he was very interested in Schumpeter's theory of money. However, Marget was appointed to an important position at the Federal Reserve in Washington, and this left him with little time to work on Schumpeter's manuscript. Marget decided to revise and translate only the first twelve chapters[6]. After that Wolfgang Stolper, who had been Schumpeter's student in Bonn as well as at Harvard, was entrusted with the task of translating the manuscript. But, he never completed it[7]. By the way, there was another succeeding of the copy of Schumpeter's German manuscript from Marget to Fritz Karl Mann, because Marget has known that Mann was also interested in Schumpeter's theory of money[8]. In 1970, a German edition entitled *Das Wesen des Geldes* was published by Mann. That's all that we can find out from previous bibliographical investigations.

The English transition *Treatise on Money* published in 2014 is used Mann's German edition as an original text, thus this is only covered a part of the whole of Schumpeter's manuscript. Therefore, remained 3 chapters have not yet been exhibited to the public[9]. Concerning these final 3 chapters, some questions have been remained; e.g. How can we explain the fact that, being aware of chapters 13-15, Elizabeth B. Schumpeter and Marget decided not to include them in the revision and translation of Schumpeter's volume on money? Is it enough to be clear on Schumpeter's theory of money by a publication of this English edition? Anyway, we think it must be welcomed that at least the English-speaking researchers can widely share the contents on Schumpeter's theory of money and credit by the English transition.

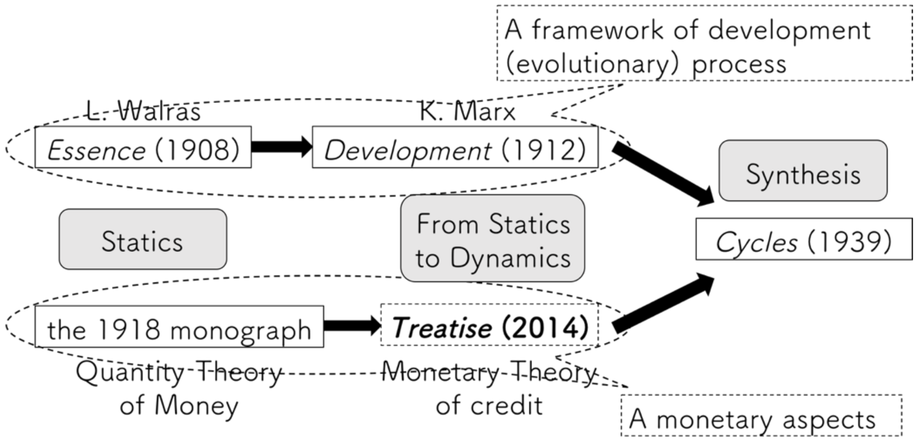
2.2 The location of *Treatise on Money* in the Schumpeterian System

In this section, we discuss on the location of *Treatise on Money* in the Schumpeterian system along with our hypothesis set up below ***Figure. 1***. Although it seems difficult to identify the period that Schumpeter started to research on money, we seem to consider it at least before Schumpeter wrote an article "Money and the Social Product" in 1917-18. In this figure, the upper flow of arrows describes Schumpeter's contributions on mainly real aspects, and the lower describes his contributions on monetary aspects. Both flows start from the static analyses based on the Walrasian general equilibrium theory and in the next step the dynamic analyses are developed by introducing the Marxian vision of the economic evolution. Furthermore, both flows are integrated in Business Cycles (1939), and in here the Schumpeterian system arrives at a provisional conclusion. Above interpretation along the horizontal direction follows a time series which the dichotomy between statics and dynamics is finally integrated, whereas the left-hand correspondence along the vertical direction shows that Walrasian exchange economy in the goods and services sphere is associated

6 See Swedberg 1991: 502-3.
7 See Stolper 1989: 438.
8 See Mann's "Orientation" in Schumpeter 2014: xxxi.
9 Regarding a further research contribution on this 3 chapters, we can make use of Berti and Messori 1996 with Italian language. We will examine it in our next research.

with the circulating money as the "claim on the social product" in the monetary sphere. Therefore, both spheres are focused on the analysis of the economic statics. In a same manner, *Treatise* seems to be corresponded to *Development* on the analysis of the economic dynamics.

Figure. 1: The location of Treatise in the Schumpeterian system



Here, we have a question that does *Treatise* discuss the transition from a static monetary circulation to a dynamic development theory as same as that of *Development*? We seem to be able to get clue to solve issues, through considering this question. Those issues are as follows; How far and what does Treatise make clear?, Is the preparation for the next research on business cycles settled enough?, What is a goal of revising the manuscript which Schumpeter has not completed?

Table 1: The Contents with Separate Chapters of *Treatise on Money* (2014)

I	Introduction
II	Regarding the Sociology of Money
III	Outline of the Development of the Doctrine of Money
IV	The Economic Account in the Socialist Commonwealth
V	The Capitalist Economic Process
VI	The Vehicles of the Social Accounting Process: The Household and the Firm
VII	The Vehicles of the Social Accounting Process: The Banks and the Central Bank
VIII	Bank-Mediated Money Creation
IX	The Essence of Money
X	Consequences
XI	The Theory of the Price Level
XII	The Theory of the Money Process and of the Functions of the Money Market
XIII-XV	

For considering above issues, we show a whole content of the present Treatise below ***Table. 1***. Here, we want to pay attention to three chapters. First is chapter 2 "Regarding the Sociology of Money."

It seems to be permitted that this chapter has been examined and referred in previous research[10]. In other chapters except chapter 3 which reviews the history of the theory of money, we do not actually seem to find advanced considerations from the 1917-18 article. If we may express our opinion through an overview of *Treatise*, chapter 9 seems to be a key chapter because it has caused previous discussions like as Earley 1994a and 1994b and had led to present criticisms and evaluations to *Treatise*.

To sum up above investigation, we will suggest four findings;

1. In the 1917-18 article, Schumpeter started from the role of money within Walrasian circular flow, and while suggesting his unique interpretation on the quantity theory of money, he developed an early sign of the consideration on the bank credit which is the role of money in economic dynamics.
2. Following the 1917-18 article, in *Treatise* which has written in a parallel with revising *Development*, we cannot find out a major advance from the 1917-18 article. We think that this proves the reason Schumpeter has finally given up the publication of *Treatise* with great difficulty.
3. Although *Treatise* has not been published, we seem that many fragment of its contributions have been richly realized in the 2nd edition of *Development* and *Business Cycles*.
4. To clarify the final three chapters of *Treatise* seems to be an important research theme for confirming our hypothetical diagram on the location of *Treatise* within the Schumpeterian system.

3. Schumpeter's Theory of Money and Credit

In this part, we investigate Schumpeter's theory of money and credit which must be integrated with his business cycle theory. Before starting our investigation, we want to show the evaluation by A. W. Marget, who seems to sufficiently understand Schumpeter's theory of money as below ***Table. 2***. In other words, to investigate validities of each seven points is an aim of this part.

Table 2: The points of evaluation of Schumpeter's theory of money by A. W. Marget

(1) Schumpeter's role in the history of the "income approach" generally (2) his presentation of the first algebraically formulated "income equation" of the general Fisherine form (3) his priority, among contemporary economists, in the formulation of the concept of "income velocity" (4) his establishment of the relation between his "income equation" and the concept of a "consumers' goods price-level" (5) his establishment of the relation of the concept of "aggregate demand" (6) his provision of an explicit "sequence" model tracing the successive impact of money-flows, and his relating thereof to devices of "general" value theory such as production functions and particular demand schedules, as well as to the theory of output as a whole (7) his "monetary theory of interest"

Source: Marget 1951: 62

[10] See Busch 2003, Frestrè and Nasica 2009, and Shionoya 1995.

3.1 Money within the Circular Flow and the Quantity Theory of Money

Just like L. Walras assumed at the discussion on the general equilibrium theory, a circular flow is an economic state which has been reproduced at a constant scale every year. It is conditioned by some assumptions[11]. For Schumpeter, pure economics is not a theory of economic incentives in terms of human interest and behaviour, but a theory to make clear the mutually dependent trade relationships of goods and services. Therefore, as for functions of money, Schumpeter more focused on a function as the means of payment than that as measurement of value and storage of value. Thus, the role of money within a circular flow is essentially a technical function of the market mechanism and money is related to the quantity of commodities.

What is money within a circular flow definitely? In Schumpeter 1917-18, he distinguished explicitly what is money and what is not money. In one hand, what is money contains (1) commodities which in fact circulate as money, (2) money made of a material the market price of which is less than the purchasing power of the monetary unit made of it, (3) bank notes, (4) current accounts and clearing accounts, (5) the amount of all payments which are disbursements out of income and are handled exclusively by compensation, (6) credit instruments and claim titles of all kinds, to the extent that they in fact perform the role of money. Because Schumpeter considered money as far as what is used as means of trade and payment, what is not counted strictly as quantity is also contained. Here, we seem to be able to recognize Schumpeter's theory of commodity money. Furthermore, means of credit is also contained as far as it is circulating in fact. This has been considered as the "monetary theory of credit" in previous studies. This is so to speak a "normal credit" which operates as a substitute money to offset a claim against a debt. So, in previous studies, this is considered a weakness of Schumpeter's theory of money, because of the identification money with credit[12]. On the other hand, what is not money contains (1) hoards, (2) the sums which at any given time serve as a basis for the issue of other types of money and are therefore temporarily immobilized, (3) Unemployed sums waiting to be used, (4) the true cash reserves of banks, firms and private persons. Schumpeter excluded what is not in the circulation.

From the above, money in the economic statics is the "claims to commodities" and there is not extra money which has not a foundation of commodities.

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[11] For example, according to Clemence and Doody 1950, below eight assumptions are pointed out; (1) Each firm is in the perfectly competitive equilibrium state. (2) The cost of each firm is constituted by wage and rent, and it exactly equals to the revenue of each firm. (3) The price always equals to the average cost. (4) Thus, profit equals zero and there is no opportunity for obtaining profit. (5) The interest rate also equals zero. (6) There is no involuntary unused resources. (7) As same as each firm, each household is also in the long-run equilibrium state. (8) In each household, its revenue equals its cost, and it cannot shift its manner of budget more favorable in the present condition.

[12] It is Earley 1994b that has been considered positively Schumpeter's theory of money is whether "credit theory of money" or "monetary theory of credit." Earley evaluated Schumpeter as a "frustrated 'creditist'", because Schumpeter considered the latter but could not grasp the former adequately.

> It follows immediately that, given stationary equilibrium, the money value of all consumer goods should equal the money value of all producer goods, and both identically equal the sum of all money incomes. The concept of money income is here used in Fisher's sense, to exclude savings and tax payments, but to include consumption loans or parts of capital used for consumption. Money income is therefore merely the monetary expression of the goods consumed. This corresponds to the nature of the matter. Money saved normally becomes income for somebody else who uses it to exercise consumption demand, while the consumption demand of the saver falls by an equal amount. This holds also for tax monies. If parts of money capital are used for consumption, they are immediately spent on consumer goods without first passing through the market for means of production. If we are to grasp the real processes of the world of goods behind the veil of monetary processes, we must define incomes in this manner. Their summation gives us the sum of incomes. Of the latter we can say, therefore, first, that all circulating money units enter into it; and second, that in each economic period it confronts the total consumer goods as the monetary expression of real income. Wieser was the first to stress this fundamental equality of sum of incomes and social product. We shall presently see its importance for an understanding of monetary interrelations. (Schumpeter 1917-18: 153)

In above citation, we shall understand that Schumpeter placed the individual monetary income within circulating economy as a basis of the theory of money[13]. Then, it was the quantity theory of money that was the predominant theory to grasp a mutual relationship among goods and services in the monetary aspect. As is well known, the quantity theory of money is formularized by Irving Fisher as a causal relationship between the monetary expenditure flow as a whole and the real goods and services flow as a whole. In general, Fisher' exchange equation is constructed as MV=PT[14], which M is the quantity of money, V is the velocity of money, P is the general price level, and T is the quantity of exchanged goods and services. In detail, Fisher distinguished bills and coins (M) from demand deposits (M'), and expressed the equation as MV+M'V'=PT.

In the circular flow of economy, on one hand, Schumpeter recognized the validity of the quantity theory of money, but on the other hand, he formulated it with a different interpretation and finally mentioned limitation of the quantity theory.

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[13] "The anchorage of the monetary theory to be expounded is the phenomenon of private money income, which is peculiar to the "market economy". (Schumpeter 1917-18/1956: 150)

[14] Schumpeter's interpretation of this equation is as follows; "The quantity theory holds that the quantity of money in circulation and efficiency determine the product sum – or, if the latter is decomposed into the total quantity of commodities and the price level, that M, V, and the quantity of commodities are the active and determining elements, and the price level is the passive and determined one; and that this is so not merely in an arithmetical, but also in a causal sense. (ibid: 183)

> The quantity theory too – and herein lies its greatest merit – rests on this recognition. But the matter was allowed to stand there for a long time. Writers were satisfied with attempts to explain the nature of money and with certain deductions therefrom; no-one traced, step by step, the resulting relations between the world of goods and calculation in terms of money. (*ibid*: 150)

Schumpeter suggested his original interpretation on the quantity theory of money as the "fundamental equation of monetary theory." (Schumpeter 1917-18/1956: 182)

$$\mathrm{E} = \mathrm{M}\times\mathrm{U} = p_1 m_1 + p_2 m_2 + \cdots + p_n m_n$$

notations: E: the sum of incomes in an economy,
M: the quantity of money in circulation,
U: the velocity of money
p_i (i=1,2, ... n): the price of consumer goods,
m_i (i=1,2, ... n): its quantity

The original characteristics in this formulation is that the right side is not the product of general price level and total income but the sum of the products of individual prices and quantities. Schumpeter accepted the quantity theory of money in that insofar as all prices change uniformly, general purchasing power depends on the quantity of money. He did not believe that an increase in the quantity of money occurs uniformly with respect to all commodities so that a price increase remains nominal. He also insisted that it could not be assumed that the velocity of money remained constant.

In sum, Schumpeter was by no means satisfied with the monetary theory of the quantity theory of money in the static system. He rather assumed that shock of the fluctuation of quantity of money affected transformation in real world. It is the subject of the theory of economic development to make clear a whole process of its impact.
As carried on the head of this section, Marget summarized Schumpeter's achievements as a builder of specific analytical instruments in the field of money in three points: First, Schumpeter's role in the history of the "income approach" generally. Secondly, his presentation of the first algebraically formulated "income equation" of the general Fisherine form. Thirdly, his priority, among contemporary economists, in the formulation of the concept of "income velocity." And finaly, his establishment of the relation between his "income equation" and the concept of a "consumers' goods price-level," in conjunction with the explicit specification of an equation for the prices of producers' goods. (Marget 1951: 62)

Schumpeter's critical assessment on the quantity theory of money is as follows;

> It [the quantity theory of money] builds the only component of the theory of money, which is – true or untrue – quite important. No one has been able to disprove this theory. Although the grounds for and against it have been accumulating, no one has yet succeeded in solving the problems it has raised and, in particular, in constructing **a new theory** that could replace it ... No one is satisfied with the present situation, but no one knows how to improve it, and a discussion whose defects everyone has seen all along drags on endlessly. (Schumpeter 1908: 285; [ ] and bold is by author)

We seem to understand that "a new theory" must to be the "credit theory of money," which Schumpeter could not end up by establishing. Anyway, we seem to roughly confirm some points (from 1 to 5) by Marget at the head of this section.

3.2 The "Credit Theory of Money" in the Economic Dynamics

The analytical subject of the economic dynamics is the capitalist economic process, which is based on the Marx's vision of "economic evolution." The Schumpeter's vision on capitalist economy seems to be the same as Marx. Schumpeter mentioned three characteristics to define a capitalist system (Schumpeter 1946: 801); (1) private property of non-human means of production such as land, mines, manufacturing plants, and equipment, (2) production on one's own account, i.e., production for profit based on private initiative, (3) the institution of bank credit.

The view of money as a veil covering the exterior of a real economy, which has traditionally been inherent in the quantity theory of money, must be rejected because in the world of economic development, money in the form of credit creation intervenes in a real economy. Schumpeter's vision of the role of money in economic development recognized an economy as a monetary economy. He shared this view with Keynes in *General Theory*, both economists attempted to get rid of the quantity theory of money. This, however, does not mean that Schumpeter's dynamic theory should be categorized as a monetary theory of business cycles.

The source of innovative investment demand is not individual entrepreneur's saving but credit creation supplied by a banker.

> A monetary process, the creation of money which is only a "claim ticket" and not also a "receipt voucher", and the rise in prices to which it leads, become a powerful lever of economic development. The essence of modern credit lies in the creation of such money. It is the specifically capitalistic method of effecting economic progress. It gives scope to the capitalistic function of money, as opposed to its market-economy function. (Schumpeter 1917-18/1956: 206)

In order to obtain command over resources to effectuate new combinations, the entrepreneur in a capitalistic market economy needs purchasing power. It is made available to him through bank credit.

Schumpeter saw the banking system as on the one hand providing the needed additional liquidity to realize innovations that increase the quantity and quality of goods available in the economy. “Credit is primarily necessary to new combination.” (Schumpeter 1926/1934: 70). A scenario of this upward cyclical process is as follows: In a circular flow, all productive resources are fully employed, an increase in the overall demand in monetary terms leads to an increase in the prices of productive resources. Credit expansion caused inflation. It can be compared with a tax on static firms, and channels needed resources into the hands of the entrepreneur.

Here, we want to call readers’ attention to Schumpeter’s two indications to be noticed. The first is a following viewpoint.

> ... the banks determine not only to whom they will grant credit, but also how much credit as a whole they wish to grant and what demand to call forth. In addition, they have no motive for issuing only as much credit money as is compatible with the existing price level. On the contrary, they do not lack a motive for a continuing credit expansion – they are driven to it by competition and by the prospect of increasing their industrial following. (ibid: 207)

It is just a time when three concepts of “capital,” “profits,” and “interest” are introduced. These are the concepts emerging in a dynamic aspect. Here, “capital” means that it consists exclusively of the purchasing power handed over to innovators. “Capital,” rather, is credit given to new producers. Here, we seem to be able to find Schumpeter’s original viewpoint in which he discussed credit creation not as the monetary theory of credit but as one opportunity in the development phase of a capitalistic economy. Schumpeter’s fundamental understanding: a money problem is a phenomenon within the economic cycles. “Economic cycles” are shaped by a mutual relationship between commodities and money.

The second is that Schumpeter explicitly recognized the existence of time-lags. In fact, at the beginning period of prosperity it is required the time between the period from when an entrepreneur get purchasing power newly created by a banker to when he produce his commodities and the other period when his commodities are supplied to the market. To say more detail, when new purchasing power which an entrepreneur gets will be used for the demand of production factors, each price of them will rise and the income of owners of production factors will increase. Then, the rising of prices will make a part of the existing producers’ demand for production factors cease to be valid. (Schumpeter called it “forced saving”) Moreover, although a part of increased incomes and invalidated demands will apply to the expenditure of consumption goods, this new sale to this new demand for consumption goods will be realized in the same period. Therefore, the sale exceeded purchase is possible and this will bring profits to existing producers. In this way, the existing producers are not necessarily selected immediately if they cannot adapt to the new circumstance by new combinations. Rather, they can continue to exist during a specific period according to a production period of new goods and services or a scale of its demand and supply.

Base on above two indications, the economic process of prosperity will be able to describe in a way one after another. Concerning that of recession, we can follow by the same way. When Schumpeter visited Japan in 1931 and gave a speech at Tokyo University, he made aware of the phase of money and credit as follows;

> Extinguishing debts means extinguishing means of payment if they were created for the purpose of the loan: The banks, in granting loans, have in so far given borrowers nothing but the right to draw on them, and it was with this right to draw on them that, partly at least, entrepreneurs have paid for equipment, raw materials and so on. Now, by the repayment of these loans these rights have disappeared, or, to put it in another way, as far as demand-deposits cease to exist when the business men pay back. So at the same time, at which as we have seen the flow of consumers goods increases, the total amount of means of payment decreases. (Schumpeter 1931/1991: 19)

> If in prosperity means of payment are created without a corresponding increase in commodities, in depression commodities are created not only without increase of means of payments but with a decrease of them. Hence the fall of prices in depression. (ibid)

Anyway, for Schumpeter, the one-to-one correspondence between commodities and money seemed to be essential. Therefore, Schumpeter seemed to keep in mind the idea of money as a sort of social accounting mechanism. Regarding to this deeper consideration is discussed in chapter 9 of Treatise, which is another major characteristic of Treatise as same as the institutional and sociological consideration on money.

In the real aspect of economy, because it is only decided a relative price, it is needed an introduction of a monetary factor for determining an absolute price. For this problem, Schumpeter used a concept of “the critical number of the system” as an arbitrary coefficient. Schumpeter chose for this number the product of prices and quantities of commodities expressed in the fundamental equation of the monetary theory, that is, the nominal income of an economy. The way of determination of this number seems to be just money as a social institution[15]. Here, we seem that two main characteristics

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[15] Concerning money as a social institution, Schumpeter referred in *Treatise* as follows; “Money, like any other economic institution, is an element of the overall social process and as such as a matter for economic theory, for sociology, and finally for historical, ethnological, and statistical “fact research.” (13) “This idea [social central bookkeeping] is supposed, first, to explain to us the essence of the social institution of money.” (216) “... this indirect and essentially nonsensical method makes up the essence of the social institution that we call money. ... the money method is that method of social account-settlement, according to which the critical number of the economic system changes autonomously.” (233)

of *Treatise* are interconnected. That is to say, the institutional and sociological consideration on money in chapter 2 which at a glance seems to be unclear at a relation to chapters in ahead and behind is united with the theory of money and credit through the medium of "the critical number of the system."

4. A Memorandum for the Bridge-building between *Treatise on Money* and *Business Cycles*

Above Mentioned our consideration does not claim positively that Schumpeter's business cycle theory is categorized in the monetary business cycle theory. So, how we must develop and integrate his theory of money and credit on the basis of his theory of economic development focused on a real aspect of economy? We seem to suggest two possible directions. The one is a direction for coming together with the circuit theory which is one of the theory of endogenous money supply. The other is a construction of a macro model on business cycles with the model of the banker's decision making. In this section, we focused on the former, and on the latter, I will discuss in earnest at the next article.

In recent Neo Schumpeterian economics, some researchers have been putting forward the discussion on Schumpeter's "economic sociology" as a terminal point of his professional life. The idea of money as an institution that determines economic activities and demands inquiries into not only the theoretical and historical but also the institutional and sociological aspects of money and monetary systems (Shionoya 1997: 177). Much the most important thing about *Das Wesen* was this recognition of "money" as an *evolving institution*. ... Note the evolution he observed in the monetary institution was from simple commodity money to highly complex "credit money." ... He lamented that the literature of money and banking failed to reflect this evolution (Earley 1994: 343).

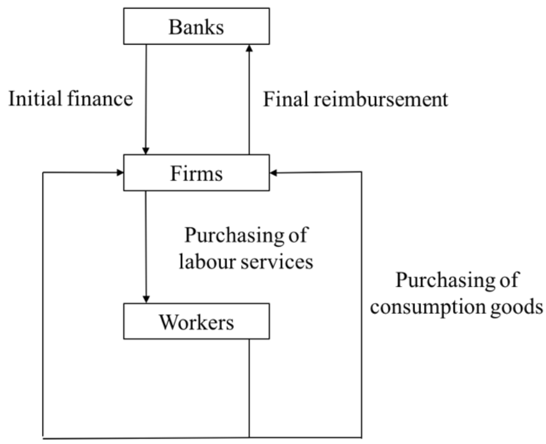
Here, we should notice considerations of Hyman P. Minsky who is one of Schumpeter's students at Harvard, and who seems to be an important bridge-builder between Schumpeterian vision and Keynesian economics.

Minsky briefly discussed Schumpeter's institutional or evolutionary viewpoint in Minsky 1990 as follows; (1) New combinations which result from the outcomes of negotiations among entrepreneurial business men and financiers, lead to process and product innovations as well as new financing relations and new financial institutions. (2) Two sets of new combinations, in production and in finance, drive the evolution of the economy. (3) Therefore, development is always a social process. Minsky also discussed a relationship between Schumpeter and Keynes on their monetary viewpoint that the visions of Schumpeter and Keynes are alike in that the subject of their work is a capitalist economy with complex financial structures (Minsky 1990: 53-4). However, on one hand, Schumpeter positively pursued the vision of a monetary production economy, on the other hand, Keynes intended rather to construct a tractable theoretical model. Anyway, both Keynes' and Schumpeter's schema are investment oriented, and investment in both involves a leap of faith into an uncertain future. Therefore, Schumpeter and Keynes are best viewed as complements, not as substitutes.

Minsky's investigations are summarized in four points: The first is that Schumpeter's vision of capitalism could be considered as an ever-evolving structure. The second is that Schumpeter's vision of the dynamic interplay between finance and business ... has been reduced to a simple formalization as Hicks and Hansen reduced Keynes. The third is that, when one digs deeper in to Keynes, and emphasizes Keynes' analysis of the price level of capital assets, then Keynes and Schumpeter (and W. C. Mitchell) become compatible parts of the quest for a unified price and monetary theory. The forth is that market-oriented economic development requires two analytically distinct sets of entrepreneurs: the innovators in product and process and the innovators in finance.

Although Minsky seemed to evaluate Schumpeter's contribution on theory of money from an institutional perspective, when we remember that Minsky is explicitly within the theory of endogenous money supply as an essential researcher, it seems to be meaningful for us to question where and how Schumpeter is located within the theory of endogenous money supply. Then we seem to be able to development Schumpeter's theory of money and credit along with the monetary circuit theory. In fact, according to Realfonzo 2012, Schumpeter is located explicitly as one of the main advocates in this theory with K. Wicksell and D. Robertson.

Figure 2: A Diagram of the Theory of Monetary Circuit



Source: Realfonzo 2012: 88, *Fig. 3*

The monetary circuit theory understands the relationship between a circulation of goods and services and that of money and credit as shown in ***Figure 2***, in which there is assumed three agents; banks, firms and workers. In this diagram, money is assumed as a mere book-keeping (certification), so banks simply play a role of transforming a non-monetary activity to a monetary activity. Firms are characterized as players who utilize the bank financing. Money supply is seemed to be endogenous, because a chain of circulation from the creation of money and its disappearance is completed within the economic system. This perspective calls the "circulationist" in the theory of endogenous money supply. The circulationists have focused on the process which the created money is literally circulating and finally disappearing in the monetary “circuit.” It has been seemed to point out that the theoretical backbone of this theory is the Wicksellian model of pure credit money. This model demonstrates that a new deposit is created by a bank loan, subsequently it is taken back and repayment of the loan. In this way, a debt is disappeared, and at the same time, a corresponding deposit is also disappeared. Here, banks who are agents of creating money is the specialized organizations in money creation and money cancellation. Of course, money in above examination is focused on the function as flow rather as stock. In this sense, the current monetary circuit theory seems to share the same perspective with Schumpeter.

Then, we investigate the five steps process of monetary circuit. We seem to recognize a point in common among Schumpeter and the circulationists. The first is a step which firms produce their commodities and determine their prices. Although entrepreneurial firms are confronted with the unpredictable state on a future situation, it is not so serious problem because they utilize the funds created by banks. The second is a step of the beginning financing and endogenous creation of money. The funds created by banks must be enough to fulfill the amount of additional demands by entrepreneurial firms, which at least cover their expenditures of wages and raw materials. The third step is creation of income flow. At this step, income must be payed before produced commodities are sold or realized. In terms of payment of income, although Schumpeter did not necessarily examine explicitly, in the monetary circuit theory it is clearly considered the time-lag between actualization of commodities’ value and payment of income. In this sense, this is the same as Schumpeter’s perspective. The forth step is the monetary back flow and the creation of profit. When products are sold and the money payed to firms, the firms’ debts are disappeared by repayment to banks and at the same time the process of monetary circuit is finished. The interest costs entailed loans are lower if firms repay earlier, as a result, remained money becomes the stock of money. This existence of remained money as stored savings formulates the fifth step.

When we compare the claim of the circulationists with Schumpeter’s theory of money and credit, it seems that the former goes ahead from the latter in terms of a strict distinction between money and credit. Anyway, at the backbone of the circulationists, it seems that Schumpeter is located explicitly and their contributions give us many hints to reconsider Schumpeter’s theory of money and credit within his business cycle theory.

5. Summary

In summary, we would point out three findings through this article.

1. Because the current English edition of *Treatise on Money* (2014) is the exactly translation based on the original German version edited by F. K. Mann, it is not a really new version which is additionally translated with Schumpeter’s remained notes and manuscripts. In this sense, we must

postpone our evaluation on Schumpeter's Treatise after final three chapters is bibliographically arranged.

2. As Schumpeter's originalities, following two points must be reconfirmed; The one is that Schumpeter explicitly insisted explicitly not only on entrepreneurs' decision making but also banker's. The other is that Schumpeter also explicitly described the successive process of economic development through bankers' credit creation and considered time-lags into this description.

3. Schumpeter's theory of money and credit seems to be similar with the monetary circuit theory and the theory of endogenous money supply via Minsky. For our future research, it seems to be appropriate to construct a theoretical model on business cycles as far as possibly faithful to Schumpeter's description.

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