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## MONETARY THEORY FROM A CHINESE HISTORICAL PERSPECTIVE

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This paper is the first of a planned series examining the Chinese history of ancient economic thought in light of later Western thought. We regret to report the sad passing of the senior Chinese author on this paper. John Whalley from the non-Chinese side first met him in Beijing in 2002, and even with language difficulties the scholarly rapport and intellectual honesty and creativity was richly apparent. His pioneering work on Chinese history of ancient economic thought is being carried on by his students who are co-authors of this paper. This work is of importance in better understanding the Chinese policy response to the global issues of the day; the financial crisis, global warming and climate change. We acknowledge financial support from the Ontario Research Fund (ORF-F3), IDRC, and the Centre for International Governance Innovation (CIGI), Waterloo Ontario. The views expressed herein are those of the authors and do not necessarily reflect the views of the National Bureau of Economic Research.

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Monetary Theory from a Chinese Historical Perspective  
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**ABSTRACT**

We discuss monetary thought in ancient China from the perspective of Western monetary theory. It sets out the structure of economic activity in the various dynasties of ancient China and emphasizes the differences in monetary structure from Europe (and later North America). Imperial China was a politically integrated structure with regional segmentation of economic activities and hence with regional money. Monetary policy was one body conducted at regional level, but overseen naturally politically before national integration under the Ming dynasty (14th century). In various regions different forms of money circulated, with gold, silver, copper, and paper all present at various times. Monetary policy was guided by monetary thought, such as later in Europe. Basic concepts such as monetary function, the velocity of circulation, inflation, interest rate parity and the quantity theory were all present. The economics of Imperial China witnessed boom and bust, inflation and deflation and monetary control much like Europe to follow. Monetary thought thus seemingly preceded Western thought, and had remarkable similarities. Whether much of this thought travelled down the silk road remains unknown, but the possibility is intriguing.

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## 1. Introduction and Background

This paper is the first in a series of planned papers involving scholars specializing in the history of ancient Chinese economic thought from the School of Economics, Peking University in which ancient Chinese thought is discussed in language hopefully accessible to non-Chinese audiences. The broad background to this work is as follows.

First, there are claims from the Chinese scholarly community of many of the key ideas later expressed in Western economic thought as being expressed much earlier in Imperial China, admittedly in different statements and with different emphasis. In Imperial China, great issues of the day were often passed to leading thinkers in the court who were given time and staff for reflection and advice. Young scholars (Westerners would call them students) affiliated with at least one of the commissions seemingly passed down the Silk Road, spent some years in Europe and may have talked to Quesnay in France in the 1750's (who intellectually, in some people's opinion, was a forerunner of Walras). There is speculation in the Chinese community that some of the key ideas in Western economic thought may have, in part, origins in old Chinese thought. Later, as detailed below, Marx in *Das Kapital* makes explicit reference to a specific old Chinese thinker (economist). Thus, the intellectual heritage of modern economics (now global) may in some small way reside in China.

Second, there are the large cultural differences between old Asia and newer OECD which both divide and inspire contemporary policy debates globally, and specifically across the Pacific. Eastern philosophical tradition does not accept absolute truth, as Popperian/Fredmanian in economics. Rather think science with objective truth and progress as represented by forward movement ever closer to the true frontier of knowledge, eastern philosophy argues instead there is only ???. acknowledge, is embodied in deep thoughts of old and new texts, with old texts in particular revered because of the tests of time to which they have been subjected. Delving into the wisdom of the past from an Asian traditional perspective as a way of moving forward in decision making on today's problems thus seems a sensible way for Asians to proceed.

Think, there is the intellectual melting pot that modern economics especially in its neoclassical form represents in today's milieu. Impressively formalized in its mathematical statement and rigorously econometrically analyzed in its data and empirical manifestation, economics remains as Joan Robinson characterized it as a pseudoscience. Absence of controlled repeated able laboratory experiments for entire economies (even if supplemented by modern experimental economies) implies a science different from physics or chemistry and none in the tradition of Durkheim's emphasis on development of chains of deductive logic and careful

empires, in the case of economics, to aid policymakers in reaching decisions on social action. Chinese thought of old thus enters the evaluation of how to proceed in the modern discipline of old and new knowledge once to be given equal weight.

The monetary structure of the economies of ancient China was both varied across dynasties and simultaneously more complex and less well developed than that in Europe. Three different forms of coinage typically circulated (gold, silver, copper). There no financial institutions involved in credit creation or issuance of insurance contracts, but there were monetary depositories where merchants and others depositing money received a paper certificate which could be exchanged for goods in the various provinces. Paper money is usually first credited to China, and arrived in the late 8<sup>th</sup> or early 9<sup>th</sup> century. Originally it was labeled “flying money” because it was so light the wind could blow it out of a holder’s hand. This money was originally a draft rather than bank issued money, but private merchant drafts were taken over by government in the early 9<sup>th</sup> century and this currency was used for forwarding local taxes and revenues to the imperial capital. Later, silk notes replaced earlier paper, and older money had to be exchanged for silk. A unified currency spread throughout China by the late 13<sup>th</sup> century, and Chinese notes were a monetary medium in Persia. Marco Polo on his visit to China was greatly impressed by Chinese money. In the Ming Dynasty (14<sup>th</sup> century) a new note named the “precious note of great rising” was issued but only in one denomination which was inconvenient. Copper coins were still allowed to circulate. Inflation occurred, and the precious note was progressively replaced by silver. In the mid 17<sup>th</sup> century, the Ming attempted to revive paper money after 200 years, but with no success. Only under European occupation in more modern times did paper money return.

The older Chinese paper money profoundly influenced Western banking. The original Hamburg and Swedish banks were set up following a Chinese model. The first western paper money appeared in Sweden in 1661. America followed in 1690, France in 1720, England in 1797, and Germany in 1806.

This paper focuses on ancient Chinese monetary thought. It sets out the structure of economic activity in the various dynasties of ancient China and emphasizes the differences in monetary structure from Europe (and later North America). Imperial China was a politically integrated structure with regional segmentation of economic activities and hence with regional money. Monetary policy was one body conducted at regional level, but overseen naturally politically before national integration under the Ming dynasty (14<sup>th</sup> century). In various regions different forms of money circulated, with gold, silver, copper, and paper all present at various

times. Monetary policy was guided by monetary thought, such as later in Europe. Basic concepts such as monetary function, the velocity of circulation, inflation, interest rate parity and the quantity theory were all present.

The economics of Imperial China witnessed boom and bust, inflation and deflation and monetary control much like Europe to follow. Monetary thought thus seemingly preceded Western thought, and had remarkable similarities. Whether much of this thought travelled down the silk road remains unknown, but the possibility is intriguing.

## **2. Schools of Monetary Thought in Ancient China**

In ancient times, many innovative monetary theories were developed in the several thousand years of the development covering both paper money and metal money. It is difficult to divide Chinese economic thoughts into separate historical schools. Rather successive groups of scholars shared similar views and understandings, with each adding new ideas to earlier theories. In this way, special Chinese monetary theories were formed.

Basically speaking, monetary theory in ancient China may be divided into a number of categories: **a.** theories concerning the origin of money; theories on the invention of money, money as a symbol of kingship, money as a medium of exchange, and money as a facilitator of commerce; **b.** theories on the nature of money, nominal money, metallic money, the trade-off between mother and son coins, and theory on the weight of money; **c.** theories of monetary circulation, the quantity theory of money, theories on the velocity of circulation, how “good money drives out bad”, and how “paper money drives out metal money”; **d.** theories on appropriate monetary policies; theories in favour of government monopoly, centralization of money, state control over money, unification of the monetary system, and theories for or against private coinage; **e.** theories of monetary management; theories for state intervention or for free coinage, and on the management of both nominal and real money; **f.** discussions of monetary materials, there were theories for real money, metal money, the replacement of money with grain and cloth, and the replacement of paper money with metal money; **g.** discussions of how to make money; there were theories for and against heavy money, theories for and against making money; **h.** discussions of the role of paper money, there were theories which regarded paper money as the pillar of the state, theories on the usefulness of paper money, theories in favour of convertible paper money or of inconvertible paper money, and theories on limited issue of money; **i.** there were discussions of gold and silver money; theories on the disadvantages of silver money,

theories on the co-existence of silver money and copper money, theories on the sole use of silver money or copper money, theories on the gold standard, the silver standard and the gold exchange standard.

Following Western thought, these theories may be categorized into the theory of metallic money, the theory of nominal money, the quantity theory of money, the neutrality of money, the demand for money, and the supply of money. Such a categorization weakens the boundaries between ancient Chinese thinking and Western monetary theories. Money has been a common historical phenomenon in the development of all human society, and money and its laws of its circulation are largely universal despite its different forms in various regions. Many monetary theories were developed earlier in China than in the West, and this is elaborated on in the third part of the paper.

### **3. Key Thinkers in the History of Monetary Thought in Ancient China**

The list of ancient Chinese thinkers on money ranges across a broad spectrum of vocations, including politicians, philosophers and finance ministers. Some of them held posts in the ministry of finance, but many others had little to do with the administration of the economy. The monetary elements of the economy affected various aspects of the social life in ancient China, and people of different professions were induced to reflect upon related monetary issues.

Scholars of the history of monetary thought in ancient China usually divide this thought into two stages, according to the emergence of paper money<sup>2</sup>. The first stage, in which metal money prevailed, dates back to the Pre-Qin Period, lasting until the end of the Tang Dynasty (c. 6th century BC – 10th century). The second stage began with the Song Dynasty and ended with the Opium Wars of the Qing Dynasty (c. 11th century – 19th century). The following are the ?? contributions of a number of significant figures in the history of Chinese thought on monetary issues; they are listed in chronological order:

#### **a. From the Pre-Qin Period to the Tang Dynasty**

Discussion of the trade-off between mother and son coins (“mother” and “son” respectively referred to metal coins of different sizes and weight; the purchasing power of each was in accordance with its weight) occurs with Shan Qi, a politician of the Spring and Autumn period,

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<sup>2</sup> See: Zhang Jiayang. *The History of Monetary Thought in China*. Wuhan: Hubei Renmin Press, 2001.

and Guan Zhong's theory of the weight of money. Jia Yi, a poet and political writer of the Western Han Dynasty, observed that debased money gradually drove undebased money out of the market, about two thousand years before "Gresham's Law" was proposed. His "Expostulation against Private Coinage" was the earliest study of money in China, perhaps in the world as well, written prior to Aristotle's discussion on the same topic in *Politics*. Sima Qian, a historian and writer of the Western Han Dynasty, held unconventional views on the origin of money, which became an important reference for later studies on the history of money. Sang Hongyang, an imperial secretary and finance minister of the Western Han Dynasty, was a forerunner in founding and consolidating a monetary system; advocating the state's control over money and emphasizing the centralization of coinage.

Ban Gu, a historian and writer of the Eastern Han Dynasty, considered money to be a reliable measure of wealth, an important component of the theory of money in ancient China. Lu Bao, a recluse who lived in the Western Jin Dynasty, wrote a satire on the worship of money, which may be compared with Shakespeare's description of the power of money written 1200 years later. The free coinage policy proposed by Shen Qingzhi, a military general of the Southern Dynasties, shows close resemblance to the demand for free coinage in modern capitalist countries during the time when metal money was used. Liu Yi, an official of the Tang Dynasty, was the first person in China to associate the demand for money with population growth, which provided a method for estimating the required quantity of money in circulation and a solution to the money shortage. Lu Zhi, a political philosopher of the Tang Dynasty, clearly presented a version of the quantity theory of money, 800 years before a similar theory was put forward by Jean Bodin, generally regarded as the founder of Western quantity theory of money later associated with Marshall, Fisher and Friedman. Bai Juyi, a Tang Dynasty poet, postulated the impact of money on other elements of the economy, claiming that money is capable of regulating commodity circulation and social relations, which may be characterized as a belief in the non-neutrality of money.

#### b. From the Song Dynasty to the Opium Wars

In the Northern Song Dynasty, a scholar named Zhou Xing realized that the issue of convertible paper money required only a fractional reserve, an idea which was quite original at the time but did not result in credit creation via banks in China. Shen Kuo, a scientist and politician of the Northern Song Dynasty, proposed that the velocity of money is related to its quantity, an argument about 600 years earlier than that suggested by William Petty. Emperor Xiao Zong of Southern Song provided a clear analysis of the relationship between the quantity of

paper money in circulation and its value, which was an early version the law of circulation of inconvertible paper money. Xin Qiji, a poet of the Southern Song Dynasty, while holding a favorable view on the usefulness of paper money nonetheless asserted the necessity of stabilizing its value – an unprecedented idea at that time. “Regulations on the Circulation of Bao Chao (Treasure Notes)” drafted by Ye Li, a politician and finance minister of the late Song Dynasty and early Yuan Dynasty, were the earliest regulations on the issue of inconvertible paper money in China and in the world. Having realized that it was possible to substitute metal money with paper money in circulation, Ye Ziqi, a Ming Dynasty scholar and philosopher, advocated the circulation of convertible paper money be based on its circulation laws. Wang Maoyin, a finance minister of the Qing Dynasty, was a Chinese scholar mentioned in Karl Marx’s *Das Kapital* for suggesting the issue of “token money” be backed by “real money”, a system based on convertible paper money.

It should be noted that due to the differences in their class, social status and life experience, as well as their ideologies, approaches and points of view, these thinkers tended to vary in their academic capacities, understanding and experience of monetary matters and fields of specialization. The range, content and form of their studies was also diverse.

#### **4. The Social Context of Chinese Monetary Theory**

Over several thousand years Chinese monetary policies were discussed in terms of how they might best facilitate the growth of the Chinese economy, which had long been one of the world’s most advanced economies. In the separate periods of metal and paper money, China’s debate focused on various monetary issues in different ways, and had profound influence on national progress and even the change of dynasties. Those considerations explain why some monetary theory in ancient China developed earlier than that in Western countries.

##### **a. Money and monetary policies in ancient China**

China was not only one of the first countries in the world to use money, its origin dating back to the later stages of the primitive society, but was also one of the first countries to use metal money measured by weight. This is clearly evidenced by findings from the Shang Dynasty and the Zhou Dynasty at the latest. Additionally, China was one of the first countries to utilize precious metal as metal money, and one of the first countries to invent metal coins. It is especially worth mentioning that China was the first country in the world to use paper money.

In the first year of the reign of Sheng Yuan of the Southern Song Dynasty (1023), the Jiao



Zi Office of Yizhou (situated in present-day Sichuan) was established for issuing Guan Jiao, the authorized paper money. The first issue of Jiao Zi was 1,256,340 guan backed by a reserve of 360,000 guan, at a reserve ratio of around 28%. Notes of the first issue were supposed to expire and to be replaced by notes of the second issue in three years (two years in reality). The Guan Jiao marked the beginning of the authorized issue of paper money in China, which was earlier than that in Sweden (1656), Britain (1692) and France (1716).

China was also a pioneer in monetary policy, being the earliest country in the world, for example, to have a unified national monetary system. As early as the middle and later Warring States Period, a unified half-liang coin system was set up. The “Law of Gold Coins”, a regulation on money discovered among the Shuihudi Qin bamboo slips unearthed in Yunmeng, Hubei in 1975, is regarded as the earliest legislation on money among current discoveries in China and the world. The half-liang coin system was promoted in various parts of country as Emperor Qinshihuang conquered separate states and gained control over China. However, a fully unified money system was not achieved in the Qin Dynasty, leaving the standardization of money incomplete, and the weight of half-liang coins greatly varied.

It was not until the reign of Emperor Wudi of the Han that a unified monetary system was generally established. Although free coinage was once allowed in the early Han Dynasty, in the fourth year of the reign of Yuan Ding (113 BC), a law prohibiting counties from making metal coins was introduced for the purpose of strengthening centralized control over the economy. The State Minting Factory, as well as a complete system of minting institutions, was established in Jingshi, signifying the official standardization of the money in China. In the Yuan Dynasty, a comprehensive monetary system was developed, one that was unmatched by those of the Western countries until the 1930s. The administration of Yuan Dynasty paper money was exceedingly detailed, its issue highly centralized. The issue of paper money and any changes in relevant laws had to be approved by the Emperor himself before it could come into force. Officials were appointed for the administration of Bao Chao, locations were chosen and methods were devised for printing it, specific steps and measures were devised for enforcing the laws, regulations were laid down for recycling worn notes and prohibiting private destruction of notes, and criminal laws were passed for penalizing forgers.

In addition to the above-mentioned characteristics, money and the monetary system in ancient China also differed from those found in Western countries in the following ways:

a) The monetary system was not unchanged from dynasty to dynasty. Each dynasty developed its own monetary system with little resemblance to that of its previous and following

dynasties. This frequently led to problems in circulation, which demanded strengthened administration of the newly established government.

b) The making and circulation of copper coins, which were utilized throughout the dynasties, was complicated. The use of copper coins has a history of at least two thousand years from the half-liang coins of the Qin Dynasty to the Guangxu coins of the Qing Dynasty. A special problem that troubled governments of various dynasties was that copper was the main material for making a great variety of daily necessities, and even musical instruments, Buddhist figures and pagodas. This led to the conflict between the daily use of copper and the making of copper coins, a problem not faced by European countries which utilized only gold and silver coins. Consequently, special measures were devised for the administration of the making and circulation of copper coins. Thus, in ancient China, theories on making metal coins were far more discussed than those in the West.

c) The minting of metal coins was often regionalized. In ancient China, copper coins were usually made by separate states in times of political disunity, or by regional authorities when a central government existed. For example, the Kai Yuan coins during the reign of Hui Chang of the Tang Dynasty, the Hong Wu coins during the reign of the Da Zhong of the Ming Dynasty, and copper coins of the Qing Dynasty were all made by regional governments. This added to the difficulty of administering money, for it would necessarily result in variation in the fineness, weight and form of copper coins. Because copper coins were circulated on a national scale, coins of different fineness, weight and form were bound to exist in the same market to complicate commodity exchanges and the circulation of money. Scholars' attention has long been attracted to these problems, upon which they formulated noteworthy theories.

#### b. Monetary topics and focuses of different historical periods

According to Chinese legend, money originated four or five thousand years ago in China. The earliest record of money was the "bei", and minted money existed in the 10th century BC in the form of copper bei. But the discussions on money during that period are little known to us due to the lack of written records. Among current discoveries, the earliest exposition on money is Shan Qi's expostulation against King Jing's decision to make heavy coins and abolish light coins, which was recorded in "Zhou Yu" of the book of *Guo Yu*. From then on to the Tang Dynasty, copper coins were the major form of money in China. Monetary theories of this period mainly focused on problems of making and the circulation of copper coins. These included: a) how the weight and size of copper coins could meet the demand in actual use, and whether it was feasible for light coins and heavy coins to coexist on the market; b) the relationship between the value of

goods and the weight of metal coins, and how the fluctuation of grain price might be maintained within a certain range so as to benefit both agriculture and commerce; c) whether coinage should be centralized; d) how to regulate the national economy through the circulation of money; e) money's social function; f) money's origin and economic functions.

During this period, the main focus of discussion was the authority of coinage and the relationship between money and commodity prices. After money came into being, people came to realize that changes in money would affect commodity prices, a phenomenon which did not occur earlier in times of pure barter exchanges. After the emergence of a monetary economy, scholars' attention naturally turned to the nature of money and the relationship between money and commodity prices. These became the topics of the two earliest major theories on money in ancient China, namely Shan Qi's theory on the trade-off between mother and son coins, and Guan Zhong's theory on the weight of money.

During the politically united Qin and Han Dynasties, the focus shifted to the authority of coinage. The reason for this has been briefly explained above: not only would regionalized coinage pose a great threat to the central authority, but variations in the value of coins were also likely to hinder economic development. After political unity was achieved, it seemed reasonable that coinage should be centralized. However, there was still a heated debate between the use of a laissez-faire economy and interventionism. Those in favour of the government's monopoly over coinage had many supporters. The debate lasted for a long time during the Western Han dynasty, but after the authority of coinage was taken over by the state, theories in favour of the central government taking control of money in regulating and interfering with the national economy (with a profit to the government), became more popular.

During the Wei, Jin, Northern and Southern Dynasties, China was split into warring states. The monetary system was consequently left in a divided, disorderly state, and people naturally opted for commodity money for convenience's sake. During this period, theories in favour of commodity money gained influence. The most well-known monetary theory of this period can be found in Lu Bao's essay *On the Money God*, a vivid and philosophical satire on the worship of money, which the author referred to as "Kong Fang Xiong" ("Brother Square-Hole"), a coinage which had a lasting influence on the perception of money in China. The emergence of thinking was in accordance with a cynical world view prevalent among intellectuals of the period, but it also revealed the belief that the demand for money had always existed and always would, no matter in what form it appeared.

During the Tang Dynasty, the circulation of money went through several phases. The

economy largely took the form of barter exchange during the early Tang Dynasty, and changed into a monetary economy during the middle Tang Dynasty, experienced a serious inflation followed by a deflation, and returned to barter exchange in the late Tang Dynasty. Monetary theories, especially those centering on the relationship between commodity prices and the quantity of money, were enriched as the demand for money increased with the development of the monetary economy.

The system of paper money was officially introduced in the Song Dynasty. Both the birth and subsequent development of paper money reflected the following economic conditions: a) the highly developed economy of the Song Dynasty demanded more money which was easier to carry about; b) various monetary areas had been formed across China after the Five Dynasties, and as it was prohibited to take copper money out of the country, paper money not only provided a common currency between different monetary areas, but also effectively prevented the outflow of copper; c) iron money, which was big in size and small in value, was still utilized, causing much inconvenience; d) paper money was also used to wipe out the deficit caused by the huge military expense, as China was frequently harassed by foreign assaults during the Song Dynasty. In addition, the invention of printing and the improvement in paper-making techniques provided substantial technical support for the creation of paper money. This also explains why paper money was utilized much earlier in China than it was in the West.

The emergence and development of paper money restructured the monetary system in China, presented it with new situations and new problems, and signified a new stage in the study of monetary issues. Basic monetary theories centering on paper money were formulated, as the issue, circulation and administration of paper money which became the focus of attention and the major topic of discussion. The main characteristics of the monetary theories of this period may be summed up as follows: a) like European countries in the 15th century, the Song Dynasty had long been faced with a severe monetary shortage due to the development of the commodity economy; thus explanation of and solutions for this problem were important topics for monetary theories; b) as paper money of the Song and the Yuan Dynasties was inconvertible, discussions on the circulation law of paper money and ways to stabilize its value mainly focused on inconvertible paper money; c) because the central government depended on issuing a large amount of paper money to make up its deficit, the rate of inflation was constantly growing during the Song Dynasty and much of the Yuan Dynasty; and therefore, dangers of increasing inflation and solutions to it were a main concern; d) in addition, a large variety of topics were discussed, such as the origin and function of money, differences and similarities between paper

money and metal money, the interplay between paper money and metal money, and the difference between the circulation of paper money and of metal money. Moreover, theories against foreign trade were in trend during the Southern Song Dynasty as there was a large trade deficit in gold and silver due to inflation, a historical background similar to that behind the rise of Mercantilism in the West.

The Ming and the Qing Dynasties saw further changes in the monetary system. During the early Ming Dynasty, paper money still prevailed, whereas gold and silver money were banned. But the use of silver gradually became widespread, and the use of paper money slowly faded out, until it was officially replaced by silver in the first year of the reign of Zheng Tong (1436), when the ban on silver money was lifted. This put an end to the use of paper money which had prevailed since the Northern Song Dynasty, marking another major shift in the history of the monetary system of ancient China. From then on until the first few years of the Republic of China, silver was used along with paper money. Apart from a few discussions on paper money during the early Ming Dynasty, monetary thought of this period might be said to have entered “the age of silver”, as it mainly focused on the circulation of silver. It was precisely during this period that the Western civilization made great advances thanks to the geological discoveries of the 15th century, overtaking the old Chinese empire and casting it behind on the path to progress. Chinese monetary thought, as well as the country itself, gradually faded out on the historical stage.

## **5. Chinese Monetary Thought and the Structure of the State**

According to Peng Xinwei (2007, p.14), a distinguished scholar of Chinese monetary history, there were two major elements in the monetary theories of ancient China. The first of these is the statist stance on money, which claims that money had no intrinsic value and that it was strictly used as government-issued tokens. This theory is similar to the one proposed by G. F. Knapp. Behind it lies the advocacy of a unified monetary system aimed at solving the problems caused by a disorderly monetary system at any time. A second key element was the quantity theory of money. Developed from the battle against inflation, it was viewed as a progressive theory at the time. Discussions on money in ancient China mainly focused on monetary policies, e.g. on the authority of coinage during the Han Dynasty, and on policies about paper money during the Song Dynasty. In comparison, theories on the nature and value of money were mentioned as supplementary comments to monetary policies.

These views have been summarized in the earlier part of our paper. Because the formulation of monetary theories is greatly dependent on the development of a prior monetary economy, it seems reasonable to argue that the highlights of monetary theory in ancient China were produced mostly before the Yuan Dynasty, when China was one of the world's most developed economies, and before it was surpassed by Western countries. Similarly, Western monetary theories are highly valued and widely studied today, because Western countries have become leading powers in the world's economy. Developing countries wish to learn from Western economic and monetary systems, just as Japan learned extensively from China's social systems during the Tang Dynasty. (See Laidler (2004), Jevons (1899), Keynes (1972a,b,c,d), Laidler (1991), Ascheim and Taylor (1996), Laughlin (1911), Skaggs (1999), and Dimond (2002).

## **6. Key Concepts in Chinese Monetary Thought**

### **A. The Concept of and Role of Money**

#### a. The origin of money

There are three main explanations for the origin of money in Western economic theory: 1) the theory of invention, which believes that money was invented by the state or ancient sages; 2) the theory of exchange convenience, which is also called "the theory of co-option", for its belief that money is chosen collaboratively as a solution to problems that occurred in barter exchanges; 3) the theory of wealth preservation, which maintains that money came into existence for the sake of preserving, measuring and exchanging wealth. Similar theories existed in ancient China, and were developed earlier than their counterparts in the West.

The dominant theory of the origin of money in ancient China was that money was created by the sage-kings. Shan Qi (524 B.C.), a 6th-century politician, believed that money was invented by one of the sage-kings in ancient times to protect refugees who had escaped from the flood. Therefore, instead of being the product of commodity circulation, money was regarded as reflecting the will of the ruler, its purpose being to measure the value of commodities. This earliest version of this type of theory was also mentioned in *Guan Zi (685 B.C.)*, an important theoretical work on monetary theories, who also indicated that there were two devastating floods during the reign of Yu and Tang. Seeing their people selling their sons and daughters to maintain a living after the floods, Yu and Tang invented money so that people could redeem their children with it. Shan Qi and Guan Zi were the earliest figures in the history of monetary thought in ancient China, whose influence extended over the dynasties. Their theories on the origin of

money are regarded as canonical theories on this topic. There is also another reason why the theory of invention gained such popularity: these kings were canonized in Confucianist works as role models of virtue. Other theorists, such as Chao Cuo, a politician of the Western Han Dynasty, Lu Zhi, a government official of the Tang Dynasty, Li Gou, a scholar of the Northern Song Dynasty, and Qiu Jun, a government official of the Ming Dynasty, also held the same view.

Contrary to this view is the theory that money was created for convenience's sake, a view held by a comparatively smaller number of scholars. Among them, the most well-known are Sima Qian, Luo Mi and Ye Shi. Sima Qian (104 B.C~91 B.C.) observed that money was the product of commodity exchange and its emergence and prevalence are inseparable from the circulation of commodities. This remarkable observation contrasted with the popular theory of invention. Luo Mi (1165 A.D.~1173 A.D.), a historian of the Southern Song Dynasty, pointed out that money was created to facilitate daily economic activities, and was only adopted by kings later to rule their countries. These views that held money was born out of necessity, showing independent influence from the theory of invention, were rare after Sima Qian. Ye Shi (1150 A.D.~1223 A.D.) who believed that money emerged in commodity exchanges and was related to business activities. He explained that during the Pre-Qin Period, there was little need for money, as the country was divided into separate states with self-sufficient natural economies, but the demand for money increased significantly after the political unification of the Qin and Han Dynasties, when commodity exchanges occurred on a national scale. This is the most important elaboration on the "money for convenience's sake" theory.

#### b. The nature of money

In Western studies, there have been two main types of theories on the nature of money: the theory of metallic money and the theory of nominal money. Regarding money as a measure of value, store of value and world currency, the metallic view of money equates money with precious metal, assuming that money must have the content and value of metal, and that its value is determined by the value of the metal. In comparison, the nominal view of money sees money as a medium of exchange and medium of payment, a token without any intrinsic value.

In ancient China, both of these theories had their supporters. It may be inferred from the dialogue between Shan Qi and King Jing of the Zhou Dynasty that Shan Qi was a supporter of the theory of metallic money, for he argued against King Jing's decision to make heavy coins and abolish light coins, concerned that metal coins might depreciate. After Shan Qi, many theorists maintained that money should be made of metal which had intrinsic value. The issue was further complicated by the emergence of paper money.

Liu Dingzhi (1433 A.D.), a Ming Dynasty scholar, claimed that laws that applied to the circulation of metal money and paper money were different. He observed that the exchange value of metal money based on its weight could only remain stable when the intrinsic value of metal money equalled the value of commodities, whereas the value of paper money, which was determined by its quantity, could be stabilized when its supply met its demand. This was the first clear analysis of the nature of metal money and paper money in historical Chinese monetary thought. Qiu Jun (1487 A.D.), a Ming Dynasty government official, held a similar view. Xu Mei and Xu Lian (1846 A.D.) of the Qing Dynasty also noted that the value of commodities, including money, was determined by their quantity. Gold and silver were expensive because they were scarce, whereas sand, stones and soil were cheap because they were abundant. As for paper money, although it could not completely replace silver, it was also feasible to issue convertible paper money backed by a full reserve, or else it would be a mere piece of paper. This is a typical example of the metallic view of money.

However, the nominal view of money appears to have been more popular in ancient China. Essay 73 “The State Economy” of *Guan Zi*, suggested that precious jewels, gold and knife coins were used as money not because of their intrinsic value, but because the king decreed that it should be so. “If a man holds them, they cannot make him warm; if he tries to eat them, they cannot satisfy his hunger”. This sentence in *Guan Zi* became a frequently quoted expression on the nominal view of money. A similar expression can be found in Chao Cuo’s argument (168 B.C.) which was written in the Western Han Dynasty: “One cannot eat it when he’s hungry, or wear it when he’s cold” i.e., money had no practical use compared with grain and garments. Thus he proposed that grain should replace money in such economic activities as collecting taxes, paying government officials and paying off penalties. Zhou Xingji (1107 A.D.~1110A.D.), a government official of the Northern Song Dynasty, believed that money had no measurable value, unless it was exchanged with commodities. This is also a typical example of the nominal view of money. Xin Qiji (1175 A.D.), a poet of the Southern Song Dynasty, remarked that although copper coins might be “heavier” than paper money, it was similar to paper money for it had no practical value. This was the first analysis in historical Chinese monetary thought of paper money from the nominal point of view.

## **B. Monetary Circulation**

### a. Debate about the Authority of Coinage

As coinage was a prerequisite for monetary circulation during the time metal money was used, discussions on the authority of coinage made up an important part of Chinese monetary



thought. There were at least four major debates on this issue.

The first one occurred in the seventh year of the reign of Emperor Wu of Han (175 B.C.), when the “Ban on Private Coinage” was lifted. Private coinage, according to Jia Yi (179 B.C.), was harmful in three ways, namely, it might lead to social instability, give rise to chaos in the monetary system, and produce a negative effect on agricultural production. The best way to curb private coinage, apart from monopolizing the authority of coinage, was for the state to monopolize the material for making coins as well, especially copper. Jia Shan (179 B.C.) compared the authority of coinage to the sceptre of the nation and the pivot of national interest: “Money itself is useless, but when the ruler takes it in his hand like a sceptre, it’s endowed with the power of distributing wealth among the people. Granting people the right to make money is like allowing them to share the sceptre with the ruler, which should not be encouraged.”

A second debate happened during the Conference on Salt and Iron in the sixth year of the reign of Emperor Zhao of Han (81 B.C.). Confucian government officials unleashed a violent attack on the “five-zhu system” and demanded free coinage, whereas Sang Hongyang, the finance minister, strongly opposed it, arguing that free coinage would induce people to abandon farm work. In addition, if private coinage was permitted, “profit would be monopolized by the rich and the powerful”, good money and bad money would co-exist on the market, causing chaos in the monetary system, which would be disadvantageous to both the country and the people. Sang advocated centralized coinage, for if the authority of coinage was not controlled by the central government, officials of regional governments were likely to make bad money and earn profit from it. This would not only reduce public revenue, but also boost the political and economic power of regional governments, posing danger to the central government. On the contrary, if coinage was monopolized by the central government, the value of metal coins would be stabilized, as no bad money would be produced, and people would have faith in money and monetary exchange. Seen from today, such an argument is still defensible, because theoretically speaking, state credit is still the most reliable.

The third debate took place in the first year of the reign of Emperor Xiaowu of Song during the Southern Dynasties (457 A.D.). Shen Qingzhi, a minister of Emperor Xiaowu, proposed free coinage in order to increase public revenue, for “the treasuries are half-empty. It is money that both the government and people lack”. This proposal was strongly opposed by Yan Jun and Liu Yigong, who argued that “there should be a proper way to carry out reforms”. According to them, Shen Qingzhi’s plan would only result in chaos in the monetary system and a serious shortage of money, because “although people may be rich, it would not help increase the public revenue”.

The fourth debate occurred in the 22nd year of the reign of Emperor Xuanzong of Tang (734 A.D.), when Zhang Jiuling, the prime minister, proposed free coinage to ease the money shortage, which met with opposition. Two typical counter-arguments were put forward by Liu Zhi in “The Five Disadvantages of Free Coinage” and “The Four Advantages of Banning the Free Use of Copper”. However, it was not until seventy years later, in the seventh year of the reign of Zhenguan (793 A.D.), that Liu Zhi’s arguments were accepted by the central government, when a regulation banning the free use of copper was issued in spite of heavy pressure. In the West, a similar point, that the authority of coinage should remain with the monarch who had the utmost credit and authority as representative of his or her country, was made by Nicole Oresme (1320 A.D.~ 1382 A.D.), a French clergyman and scholar, about 1500 years later than Jia Yi, and 600 years later than Liu Zhi.

b. Theories on monetary circulation

Chinese scholars’ elaborations on monetary circulation date back to very early times. It was pointed out in *Guan Zi* that the state’s regulation on the quantity of money in circulation had a twofold purpose: to make profit from it and to stabilize commodity prices. According to *Guan Zi*, the following measures might be adopted in regulating monetary circulation: a) regulate monetary circulation and thereby the economy by maintaining the equilibrium between “heavy” money and “light” money; b) stabilize commodity prices by balancing supply and demand; c) control the quantity of money in circulation. It is remarkable that these measures were proposed more than 2000 years ago.

Monetary circulation in ancient China often went to two extremes. One was an excess of money, when the total value of money in circulation far exceeded the total value of commodities, or when some metal coins were not accepted because of their low purity, light weight or high cost. Both situations were likely to result in “the lightness of money and heaviness of goods”, i.e. inflation. In these cases commodity prices soared, consequently impeding normal economic activities and threatening social and political stability. The other extreme is money shortage, when there was a gap between the quantity of money in circulation and its actual demand, typically the monetary shortage which occurred at the end of the Tang Dynasty, during the Song Dynasty and the shortage of silver during the Ming and the Qing Dynasties. As a result of money shortage, commodity prices would go down, “farmers would be put in a predicament whereas trade would flourish day by day”, and normal economic order would also be affected.

Various Chinese scholars expressed views on these matters. It is notable that although inflation occurred more frequently than deflation in Chinese history, more discussions focused

on the latter issue. This may be explained by the fact that a large proportion of Chinese intellectuals who had the means to express their thoughts held posts in the government, whose interest was closely associated with inflation, whereas ordinary people, who suffered badly from inflation, lacked the means to voice their opinions. Therefore, criticism of and complaints about inflation, if any, were seldom heard. On the contrary, because deflation and various forms of money shortage occurred in many parts of China during the Song Dynasty and had profound influence on the economy, it attracted more attention from Chinese scholars.

For example, Zhang Fangping (1068 A.D.~1085 A.D.) reasoned that there were mainly two causes for the money shortage in the Northern Song Dynasty: one is the loss of money to northern countries such as Khitan, Nuchen and the Western Xia; the other is money exported via sea to Japan and Vietnam. Additionally, an increasing amount of copper coins were melted down to make other objects after the ban on the free use of copper was lifted. Zhang Fangping also observed that money stored in the Treasury would flow to the market through various expenses, and would then return to the Treasury through public revenue, which he considered to be the law of circulation. If collected taxes, such as the tax of scutage, were hoarded in the Treasury, the normal flow of money would be impeded, which would give rise to money shortage.

Shen Kuo (1077 A.D.) listed several reasons for money shortage: a) the increase in population led to an increase in various expenses, and consequently a rising demand for money; b) a small proportion of money was gradually worn out in circulation; c) copper coins were melted down to make other objects after the ban on the free use of copper was lifted; d) a large amount of metal money was hoarded because people did not have confidence in “salt notes”; e) the supply and variety of the source materials for making metal coins were severely limited; f) hoarding money was a prevalent practice; g) a large amount of money was exported, and this was to be reduced by imposing control on goods import; h) money shortage was specific to certain areas, such as the north-western border. Shen Kuo also proposed corresponding solutions to these problems, such as reforming the monetary system, enhancing the credibility of banknotes, enlarging the variety of source materials, looking for special solutions for special areas, and increasing the velocity of circulation.

Shen Kuo’s propositions were quickly adopted by the government. A number of measures were taken, such as collecting objects made of copper and melting them down to make copper coins, banning the free use of copper, imposing controls on copper export and limiting the legal amount of money that might be hoarded. These measures eased money shortage to some extent.

However, the emergence of paper money brought new problems to monetary circulation.

Zhou Xingji (1107 A.D.~1110A.D.), a philosopher of the Northern Song Dynasty, pointed out that the introduction of various forms of paper money such as Jiao Zi and Xiao Chao was unsuccessful because they were irconvertible. Thus a certain proportion of reserves was required for paper money to gain trust. Yet a full reserve was not necessary, because paper money was prone to accidents such as flood, fire and robbery, and it would not be redeemed when it was still in circulation. Therefore, Zhou Xingji suggested a reserve equal to 2/3 of the issued amount of paper money. His proposal was the earliest discussion of the reserve for paper money in ancient China. Ye Ziqi (1378 A.D.), a scholar of the Ming Dynasty, made a similar point. Using the metaphor of a pond, he pointed out that the total value of paper money should not exceed the capacity of market, just as a pond with the equal amount of water flowing in and flowing out would be constantly refreshed, but a pond with only the inflow of water would become stale and finally brim over. Similarly, the equilibrium of paper money in circulation could be maintained only when it was flowing in and out at the same time. This metaphor bore a close resemblance to the one used in Western economics.

The intellect of Chinese scholars was well reflected in their effort to ensure the smooth circulation of paper money. “Regulation on the Circulation of Zhi Yuan Bao Chao”, the earliest comprehensive regulation on paper money in China and the world, was drafted by Li Ye in the Yuan Dynasty. Its fourteen clauses established the silver standard and defined Bao Chao as the legal tender for collecting taxes, paying government officials, doing business and lending money. The Regulation also determined the face value of paper money, fixed the exchange rate between the Zhi Yuan new note and Zhong Tong old note, devised methods for issuing and redeeming the Bao Chao, and laid down specific measures for setting the proportion of reserve and selling and buying gold and silver. In order to consolidate Bao Chao’s status as the legal tender, there were also highly detailed clauses for penalizing counterfeiting, bartering, doing transactions in gold and silver and corruption of government officials, which showed close resemblance to relevant laws in modern countries.

Among the discussions on monetary circulation, there was one theory which was reminiscent of Gresham’s law. Ye Shi (1150 A.D.~1223 A.D.), a scholar of the Southern Song Dynasty, noticed in the issue and circulation of paper money a major defect which drove paper money out of the market, and led to monetary shortage. Before him, Jia Yi of the Western Han Dynasty and Yan Jun of the Northern and Southern Dynasties made similar points to the expression “bad money drives out good”, such as Jia Yi’s statement (179 B.C.) “Bad money is flourishing day by day, whereas good money is dying out”, but neither of them surpassed Ye Shi

in the depth of their observations. However, unlike Gresham's law, in which "good money" and "bad money" both refer to metal money, these terms referred respectively to metal money and paper money in Ye Shi's theory, whereas Jia Yi's theory was perhaps the earliest version of Gresham's law in the world. Yuan Xie (1208 A.D.), another scholar of the Southern Song Dynasty, dealt with this topic from the perspective of the inflation and deflation of Chu Bi (a name for paper money at the time), observing that copper coins were well circulated when they are the only form of money in the market, but when they coexisted with Chu Bi, it was often driven out by the latter, so that there was a shortage of copper coins. As Yuan Xie and Ye Shi, who lived in roughly the same historical period, both had a basic understanding of Gresham's law, it may be concluded that it was not mere coincidence that thoughts similar to Western monetary theories emerged earlier in China.

### **C. The Quantity Theory of Money**

The quantity theory of money, which explains the relationship between overall prices and the quantity of money, is the most influential theory on commodity prices in Western economics. Its theory in simple terms is that if the velocity and quantity of money were constant, then the inflation rate would exactly equal the growth rate of the money supply.

#### **a. Origin and development of the quantity theory of money in China**

The quantity theory of money has a long history in China. It was the main theoretical basis of *Guan Zi* (645 B.C.), which was also the earliest book in China which included discussions of monetary issues. It was pointed out in this book that "goods are cheap when they are abundant, and expensive when they are scarce". After an analysis of three types of money, namely gold, copper coins and grain, *Guan Zi* concluded that the quantity of money determined the rise and fall of commodity prices, which in turn affected the purchasing power of money. Therefore, it was the quantity of money that determined its purchasing power. Such a statement is not dissimilar to the quantity theory of money in Western economics.

Expressing his view on commodity prices, Zhang Lin, the royal secretary during the years of Yuan He in the reign of Emperor Zhang of Han (84A.D.~87A.D.), observed "all goods are expensive, that's why money is cheap" "when the quantity of money is small, goods are cheap". Kong Ji (482 A.D.) of the Southern Qi Dynasty associated the quantity of money with commodity prices, remarking that "grain is inexpensive because the quantity of money is small". Both of them had a profound understanding of the relationship between the quantity of money and commodity prices.

Reflecting upon the relationship between the quantity of money and its value, Liu Zhi (734

A.D.) of the Tang Dynasty noted that “Goods are heavy (expensive) when money is light (cheap). This is caused by the excess of money. Therefore regulations should be made to reduce the quantity of money, so that it will be heavy again.” As for the relationship between population and the value of money, Liu Zhi reasoned that if the quantity of money did not increase in proportion to population growth, it would fall short of the actual demand, and the value of money would rise. According to him, as increased population would provide more labour forces for production, the trade volume would expand, requiring a larger quantity of money. Therefore, in order to stabilize the value of money, the quantity of money should be increased in proportion to population growth. This was perhaps the first theory to associate the demand for money with population in the evolution of monetary theory.

Drawing upon the traditional “theory on the weight of money”, Liu Zhi’s contemporary, Lu Zhi (794 A.D.), clarified his understanding on the quantity of money: “Goods are cheap and money is heavy when the quantity of money is small, so more money should be made to scatter it. Goods are expensive and money is light when the quantity of money is large, so laws should be made to accumulate it. Therefore, the prices of goods are determined by the quantity of money, which could be controlled by the expanding or contracting policies of the government.” This indicated that the quantity of money might be inferred from the price level. The state had the power to regulate the value of money by releasing a certain amount of money to the market or withdrawing it from the market.

Shen Kuo (1077 A.D.), a scientist of the Northern Song Dynasty, made a remarkable contribution to the quantity theory of money by pointing out the impact of the velocity of money on its total value: “Money benefits from circulation. If a city of ten households has a hundred thousand unit of money, which is accumulated in one household, its total value will remain unchanged in a hundred years. But if the same amount of money is circulated among ten households, which will all benefit from it, then its total value will be a million. If it is perpetually circulated, then its total value will be incalculable.” This may be the earliest statement of the velocity of money in the world.

Zhou Xingji (1107 A.D.~1110A.D.) of the Northern Song Dynasty observed an intrinsic homogeneity between money and the commodities it mediated. Basing his observation on the “theory on the weight of money”, he argued: “Money has no value in itself; its value lies in the commodities it commands. Money is neither light (low) nor heavy (high), its weight (value) depends on and equals the value of commodities it commands.” Before him, theorists usually regarded money as a means for measuring the value of commodities; Zhou Xingji was the first

one to propose an intrinsic homogeneity between money and commodities, expressing it in the phrase “its weight depends on and equals the value of commodities it commands”. This equality implies that there is a homogeneous quality in money and commodities, which renders them comparable with each other. Although Zhou Xingji did not name this intrinsic quality, he did in fact touch upon the basics of the labour theory of value.

He also drew the conclusion that the homogeneity of money and commodities came into being on the market, where the growth in the money supply would lead to inflation, but the inflation rate was higher than the growth rate of the money supply. Zhou Xingji’s explanation for this, which has the same implications as the quantity theory of money, was that private coining added to the money issued by the central government, and as the total value of commodities equalled the total amount of money in circulation multiplied by the velocity of money, the inflation rate was actually higher than the growth rate of the money issued by the central government, but equalled the growth rate of the total amount of money in circulation.

Yuan Xie (1208 A.D.), a scholar of the Southern Song Dynasty, applied the traditional quantity theory of money to the circulation of paper money, noting that when the quantity of money was great, its value was low, and vice versa. By using various means to reduce the quantity of money in circulation when the supply of money exceeded demand, the government might stabilize the purchasing power of money and build up people’s confidence in it.

Thanks to these advanced theories, government regulations on the circulation of money were highly sophisticated in ancient China. The “weight and exchange” policy of the Song Dynasty was the earliest government measure for regulating the circulation of paper money in the world. To “weight and exchange” was to exchange the excessive paper money in circulation for metal money or such commodities as silk, tea and salt, so as to stabilize the value of paper money. It was not until the 18th century that a similar method was devised in the West by John Law (1705 A.D.). The “weight and exchange” method was developed out of experience. Many of its practices for controlling the money supply were similar to the later selling of securities in the open market operations of Western central banks.

After the Song Dynasty, Chinese monetary thought gradually fell behind economic theories of Western countries. There was little development in the quantity theory of money, with the exception of Qiu Jun (1487 A.D.) of the Tang Dynasty, who produced the most notable monetary theory after the Song Dynasty. He contributed to the regulation on the money supply by proposing that in order to stabilize the value of money and the price level, the money supply should correspond to the total value of commodities. Emphasizing the state control over the

money supply, Qiu Jun suggested the adoption of the “balancing and measuring” policy, so as to regulate commodity prices by controlling the quantity of money, a measure which is still used today. He also emphasized the importance of maintaining the balance between paper money and metal money, which could be achieved by the “weigh and exchange” method. If there was too much metal money, the government should exchange paper money for metal money, so as to reduce the quantity of metal money in circulation, and vice versa.

b. Characteristics of the quantity theory of money in ancient China

The quantity theory of money in ancient China has two characteristics which differentiate it from later Western statement. First, it was formulated in an earlier time. For example, most of the chapters in *Guan Zi* were written during the Spring and Autumn period (c. 600), whereas in Europe, the quantity theory of money was first put forward by the French political philosopher Jean Bodin in the 16th century, and was later developed by the English philosopher John Locke in the 17th century, almost a thousand years after its statement in China. A related concept, the velocity of money, was proposed by Shen Kuo in the 11th century. But it was not until 600 years later, in the 17th century, that this concept was introduced in Europe by William Petty.

Secondly, in ancient China, the study of changes in commodity prices was based on the relationship between the quantity of money and the quantity of commodities. Consequently, it was proposed that commodity prices could be regulated by controlling the quantity of money in circulation. For example, in Essay 93 “The State Economy” of *Guan Zi*, Guan Chong suggested to the king that he could “control prices and maintain an equilibrium, according as commodities become light or heavy”, so that “high and low prices might be evened up”. As minting was usually under state control, the quantity theory of money in ancient China showed an inclination towards government intervention by adopting administrative measures such as banning or permitting free coinage, and banning or permitting the free use of copper, which became the major source of intervention in China’s economic structure.

**D. The Operation of Banks**

A bank is a financial institution whose primary activity is to act as a payment agent for customers and to borrow and lend money. It is an institution for receiving, keeping, and lending money in hopes of repayment. Modern banks originated in Medieval Italy. The first bank in the world, the Bank of Venice, was established in 1171, followed by banks in other cities of Italy and in Germany and the Netherlands. The 18th and the 19th century saw the rise of large joint-equity banks, which later evolved into the main types of Western banks. With the further development of a credit economy and the government’s growing intervention of the economy, there was an



increasing demand for a central bank. In 1844, the restructured Bank of England became the forerunner of central banks around the world, which were established in the later half of the 19th century.

In ancient China, banking remained in elementary form despite a highly developed monetary economy. A type of financial institution named “gui fang” existed in the Tang Dynasty, and acted as an agent for customers to deposit valuable objects, but consensus has not been reached on whether this kind of depositing service can be considered as the traditional sense of deposit. The “dui fang”, another type of financial institution providing exchange service between paper money and metal money, was prevalent during the Song Dynasty, but went out of business when paper money was no longer used. The “qian zhuang” of the middle Ming Dynasty and “piao hao” of the Qing Dynasty showed some characteristics of Western banks, but were still vastly different from large joint-equity Western banks, being mainly private-owned institutions with a small capital and few branches, offering a limited range of services. The first capitalist bank in China was the China Merchants Bank founded in 1897. In 1905, China’s first state bank, Bank of the Ministry of Revenue, was founded by the central government of the Qing Dynasty, and functioned as the central bank.

a. Why banking in ancient China remained in its elementary form

In ancient China, there were few noteworthy discussions on banking due to the lack of development in the banking business. The reasons for the slow development of banking in China are multiple.

To begin with, one of the main services of banks, deposit, was not a common practice in ancient China, because the Chinese tended to hoard their savings in their own cellars. Money exchange, the origin of Western banks, was not popular in China. As Peng Xinwei (2007, p. 396) suggested, exchange transactions were far less important in China than in Europe, because the latter was an interconnected area of different countries utilizing various types of money. The difference in the purity and weight of metal coins mattered much less in China, which utilized copper coins, than in Europe, where coins made of precious metals such as gold and silver were used. The value of all copper coins was often deemed as equal in ancient China.

Moreover, China was a unified state with a small proportion of foreign trade, so that foreign currency was seldom used. Therefore, there was far less need for money exchange in ancient China. The only service that flourished was loans. According to *Zhou Li*, state-run lending institutions existed before the 6th century. After the Qin and the Han Dynasties, mercantile capital and usury were so profitable that a few merchants of the Eastern Han Dynasty

accumulated enough wealth from lending money to compete with the kings. However, there was little room for the development of non-government financial institutions, as private capital were quite sufficient for handling loans, and the government kept the right to give loans in its own hand.

Second, agriculture, the main industry in China since ancient times, had a profound influence on the values of the Chinese. The Chinese had long been under the impression that grain and its substitutes, including paper money and metal money, were always reduced by use. Thus it was believed that their value was preserved by saving them, and the best way to do so was hoarding. “The way to make the state wealthy is to cut down expenses, so as to benefit the people, and keep the rest of wealth well preserved.” This quote epitomizes the view on money in an agricultural society like China. Hoarding money has been a prevalent practice in China up till the middle 20th century. Peng Xinwei believed that this phenomenon reflected people’s preference for money to stay ready at hand in case of emergency, which he referred to as the preference for fluidity. However, the amount of money required in emergency was relatively small in actual situations, so contrary to people’s expectations, hoarded money gradually lost its fluidity, which was both the cause and effect for the underdevelopment of deposit in ancient China.

Finally, the traditional social structure and functions of the family in ancient China also hindered the development of banks. According to Chen Zhiwu (2006, pp.34~37.), the family had two major functions: reciprocal economic aid and emotional aid between family members. The economic aid is a twofold function. First, there were potential financial contracts between family members, e.g. children bore the potential responsibility of requiting parents’ “investment” on them, siblings might borrow from each other, and one family might borrow from another family of the same clan. Second, the idea of family bond, which held family members together with the Confucian virtue of filial duty, considerably reduced the risk of financial transactions. Consequently, the financial function of the family was greatly strengthened at the cost of the demand for public financial resources. This was the social factor for the underdevelopment of banking.

b. Wang Maoyin’s theory on the issue of paper money

Wang Maoyin, a government official of the Qing Dynasty, is also worth mentioning. He was the only one Chinese person who mentioned in Karl Marx’s *On Capital*<sup>3</sup>. This indicates that

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<sup>3</sup> See: Zhao Jing. *Continuation of the General History of Economic Thought in China*. Beijing: Peking Univ. Press. 2004. P.68.

Chinese monetary theory had clearly reached the West, not to mention the special status of *Das Kapital* in contemporary China, which is a socialist country.

Wang Maoyin lived in the period around the Opium Wars, when there was a significant outflow of silver which resulted in a silver shortage, subsequently giving rise to a series of monetary problems. Reflecting upon the fact that the use of paper money never lasted long in the history, Wang Maoyin proposed to “buttress one kind of nominal money with several kinds of real money”, i.e. to strengthen paper money with several types of metal money. According to him, the government should introduce tight controls on the issue of paper money to limit its quantity. He also suggested that paper money should be issued and exchanged by yin hao (a financial institution similar to a bank), and by government salt retailers or pawnshops in areas where there were no yin hao. This suggestion, which is one of the few theories on the operation of banks in ancient China, is reminiscent of Friedrich Hayek’s criticism on the state’s intervention on money.

#### **E. Money and Commodity Prices**

Studies of commodity price movements in ancient China have often met with difficulties because of the lack of means and tradition to record the precise quantities of various commodities. Records of commodity prices before the Ming Dynasty had little value for economic studies, for they were mainly prices during special periods of time, such as a bumper harvest, or a natural disaster. Besides, the Chinese academic tradition paid more attention to reasoning and induction than to statistical analysis. Compared with the Western theoretical tradition, monetary theories in ancient China had few records of statistics or equations, but were abundant in theoretical discussions on the relationship between money and commodity prices. But the following people and their theories are worth comment.

Shan Qi’s theory on the trade-off between the mother and the son money may be regarded as either the quantity theory of money or the theory of metallic money, but it also touched upon the relationship between money and commodity prices. Shan Qi (524 B.C.) noted that the weight of metal coins should correspond to the actual need: if coins’ weight was too light and its purchasing power too small, which would cause inconvenience in transactions, heavier coins would have to be made. Thus the heavier coins would be called the “mothers”, and the lighter ones the “sons”; the two types of coins were both to be used on the market. The purpose was to balance the son coins with the mother coins. Conversely, if coins’ weight was too heavy and its purchasing power too great, which would also cause inconvenience in transactions, lighter coins would have to be made. Thus the lighter coins would be called the “sons”, and the heavier ones the “mothers”; the two types of coins were both to be used on the market. The purpose was to

balance the mother coins with the son coins. That is to say, the weight of coins should be the most convenient for circulation, so that the best trade-off between lighter and heavier coins would be achieved at a certain exchange rate. When functioning as the measurement for the market value of goods, money should have a proper weight which corresponded to the actual price level.

It was mentioned in Essay 74 “State Regulation” and Essay 76 “National Economic Stability” of *Guan Zi* that if the state withdrew a certain amount of money from the market, so as to reduce the quantity of money in circulation, then the value of money would rise, and commodity prices would fall. Conversely, if the state purchased a large quantity of goods so as to increase the quantity of money in circulation, then the value of money would fall, and commodity prices would rise. The quantity of money in circulation determined the change in the value of money and the rise and fall of commodity prices, which in turn determined whether money and goods were in good circulation. Therefore, *Guan Zi* demanded that in order to regulate commodity prices, the state exercise effective control over the quantity of money in circulation and goods on the market, and use these two powers alternatively to increase or reduce the quantity of money in circulation, thereby changing the purchasing power of money. *Guan Zi* also explained how the state should determine the quantity of metal coins which should be made. As the price of grain, a daily necessity in ancient China, could be regulated by the quantity money, the stability of the society might also be maintained by exerting control over money. Private coinage was to be banned. The mining of gold and copper, two main materials for making money, was to be monopolized by the state. Having centralized the making of money, it would be possible for the state to estimate the demand for money according to the quantity of grain that might be yielded. The price of grain could therefore be forecasted, and the corresponding amount of money would be distributed across the country.

The Mohist Canons (468 B.C.~376 B.C.), another classic of the Pre-qin period, was also one of the early books in China which discussed the relationship between money and commodity prices. It pointed out that knife coins and grain represented each other’s price: if knife coins were light, its purchasing power low, then grain would not be regarded as expensive even if its price was high; if metal coins were heavy, its purchasing power high, then grain would not be regarded as cheap even if its price was low. Even though the face value of knife coins remained stable, its real value was constantly changing because the price of grain was different every year.

Fan Li (536 B.C.~448 B.C.), a historical figure in the Spring and Autumn period, made a remark on the price level, which had profound influence on later understandings of the price of

grain. Fan Li held that a high price level would have a negative effect on agricultural production, whereas a low price level would reduce the supply of money, and impede the development of the economy. Only a price level between 20 and 90 (the unit remains to be verified) would benefit both agricultural production and the economy. If the state wished to stabilize the price of grain, it had to purchase grain at a higher price when grain was cheap, so as to check the fall of grain price, store it for later use, and sell it at a lower price when it became expensive, so as to curb the rise of its price. These measures relied on several functions of money such as the measurement of value and the medium of exchange. The regulation of grain price was at the same time regulated the purchasing power of money. Profit was ensured when money and goods were constantly circulated.

Lu Zhi (794 A.D.), a government official of the Tang Dynasty, observed that the quantity of money both determined commodity prices and was reflected in the latter. The state might regulate the purchasing power of money by controlling the quantity of money in circulation.

Yang Wanli (1192 A.D.), a poet of the Southern Song Dynasty, innovated Shan Qi's theory of the trade-off between the mother and the son, by referring to copper coins and iron coins which were prevalent in his time as the mother, and paper money such as huizi as the son. Thus, the best trade-off was to be sought between the interdependent, inter-exchangeable metal money and paper money, which was represented by metal money. The theory of the trade-off between the mother and the son extended its influence over the history. After Yang Wanli, theorists of later dynasties applied the same theory to the relationships between copper coins and iron coins, between silver and paper money, between silver and copper coins, etc. Yuan Xie, a contemporary of Yang, put forward the theory of the trade-off between real money and nominal money, which may be regarded as an alternative version of Shan Qi's theory. According to his definition, paper money was the nominal money, and metal money was the real money and the specie backing the former. Thus, the value of paper money might be maintained by regulating the quantity of metal money in circulation.

Shan Qi's theory was further developed by Ye Ziqi (1378 A.D.), a renowned scholar of the Ming Dynasty, who suggested that commodity prices might be regulated by issuing convertible paper money. Metal money was to be used as the mother, and paper money as the son. The regulation of commodity prices was to be achieved by releasing money when prices were high, and withdrawing money from the market when they were low. In this way the price level might be stabilized.

Due to the lack of accurate data on the quantity of various commodities, scholars in ancient

China often turned to the change in commodity prices as the indicator of the quantity of commodities on the market, so discussions about the supply of money were usually related to commodity prices. Qiu Jun (1487 A.D.), a government official of the Ming Dynasty, explained the interaction between commodity prices and the supply of money through the change in the price of rice, one of the most important commodities at that time. He suggested that the Ministry of Finance should adjust the supply of money according to the monthly report of the price of rice, which was to be submitted by regional governments. Such a method had not been commonly used in ancient China before.

#### **F. The Role of Interest**

In the history of man, exchanges of money and goods were often accompanied by the use of credit, which was further developed after the emergence of money. Its product, interest, was a center of debate in China and overseas in ancient times. The Chinese Confucian School, represented by Mencius, dismissed earnings from interest as immoral. Aristotle opposed the charging of interest because he regarded money as non-productive. In 344 BC, a law was passed in Rome to prohibit the charging of interest. Compared with the strong opposition against interest in Medieval Europe, Chinese scholars held a favourable attitude toward the charging of a reasonable rate of interest.

As mentioned before, it was recorded in *Zhou Li* that government-run lending institutions existed before the 6th century BC in China. Essay 74 “State Regulation” of *Guan Zi* proposed that the government could control the price of grain by purchasing grain in advance with agricultural loans, so that private capital and profiteering merchants would not be able to profit from high interest. After the Han Dynasty, mercantile capital and usury became even more prevalent. A special “loan market” existed in Chang’an during the Western Han Dynasty. Some merchants in the Eastern Han Dynasty were as wealthy as kings with money earned from interest. In the 1st century AD, Wang Mang, an official who seized the throne, came up with the remarkable innovation of providing government loans with interest rate differentials.

Discussions on interest were scarce in the one or two thousand years that followed. A noteworthy comment was made by Bai Juyi (806 A.D.), a poet of the Tang Dynasty, who advocated abolishing government loans because the poor were made even poorer with the burden of usury borrowed from intermediate agents. Even though the wealthy also got loans from these agents, the high interest was still somehow exported to the poor. Additionally, the government would not be able to collect the money from those who were unable to pay back. Bai Juyi’s proposal was to replace usury with tax, so that the burden on debtors would be shared by the

entire society. This was quite an advanced thought in ancient China.

## **7. Concluding Remarks**

That ancient China had rich monetary structure and experienced a wide range of debates on monetary theory seems hardly in doubt, but has received little attention in Western research output. How much of these discussions might have travelled the silk road and influenced the evolution of later Western thought is hard to ascertain, but the suggestion that this may have been in part the case is intriguing. And today, with rapidly maturing financial institutions in China this history of debate in current China seems all the more significant. Our hope is that later work to follow will flesh out many of these broader issues.

## 8. References

- Ascheim, J. and G. S. Taylor, "Monetary Economics in Doctoral Perspective," *Journal of Money, Credit and Banking*, Vol. 28, No. 3, August 1986, pp. 406-417.
- Bai Juyi. *Forests of Countermeasures, Volume 29*. 806 A.D.
- Ban Gu. "Biography of Jia Shan", *History of the Former Han Dynasty*. 88 A.D.~106 A.D.
- Chao Cuo. *Memorandum to the Emperor for Rising Grain's Price*. 168 B.C.
- Chen Zhiwu. "The Ending of Filial Duty of Confucianism and the Rising of China's Fiance", *New Wealth*. 2006.
- Diamond, R. W., "Patinkin on Irving Fisher's Monetary Economics," 2002.
- "Discourse of Zhou", Volume Two. *Discourses of the States*. 947 B.C.~ 453 B.C.
- Fang Xuanling. "Treatise on Food and Money", *Chronicles of the Jin Dynasty*. 646 A.D.~648 A.D.
- Guan Zi*, 645 B.C.
- Hicks, J. E., *A Market Theory of Money*, Oxford, Clarendon Press, .
- Huan Kuan. "Money". *Discourses on Salt and Iron*. 48 B.C.~33 B.C.
- Jevons, W. S., *Investigations in Currency and Finance*, MacMillan, 1894.
- Jia Yi. "New Statements". *Anthology of Jia Yi*. 179 B.C.
- Keynes, J. M. "Alfred Marshall," in Volume X, *Essays in Biography, The Collected Writings of John Maynard Keynes*, MacMillan, 1972a.



Keynes, J. M., *A Treatise on Money. The Pure Theory of Money, Volume V, The Collected*

*Writings of John Maynard Keynes*, MacMillan, 1972b.

Keynes, J. M., *A Treatise on Money. The Applied Theory of Money, Volume VI, The Collected*

*Writings of John Maynard Keynes*, MacMillan, 1972c.

Keynes, J. M., *A Tract on Monetary Reform, Volume IV, The Collected Writings of John Maynard*

*Keynes*, MacMillan, 1972d.

Kong Ji. *Statement on Casting Coin and Equiposing money*. 482 A.D.

Lacylin, J. L., *Money and Business Cycles*, 1911.

Laidler, D. E. W., *The Golden Age of the Quantity Theory*, Princeton University Press, Princeton,

N.J., 1991.

Laidler, D. E. W., "Chicago Monetary Traditions," 2004.

Li Tao. *Continuation of History Retold as a Mirror for Rulers, Volume 283*. 1163 A.D~1177 A.D.

Liu Dingzhi. *Countermeasures on Ten Subject, Volume Six.*. 1433 A.D.

Liu Zhi. *On Money*. 734 A.D.

Lu Zhi. *The Complete Works of Lu Xuan Gong, Volume Four*. 794 A.D.

Luo Mi. "On the Origin of Money", *History of the Lu*. 1165 A.D.~1173 A.D.

Ma Duanlin. "Money", Part Two, *General Study of Literary Records, Volume Nine*. 1307 A.D.

*Mohist Canons, Volume 43*. 468 B.C.~376 B.C.

Peng Xinwei. *The History of China's Money*. Shanghai: Shanghai Renmin Press, 2007.

Qiu Jun. “Copper Coin and Paper Currency”, *More about the Great Learning Derivative*. 1487 A.D.

Shen Yue. “Biography of Yan Jun”, *Chronicles of the Sung in Southern Dynasty*. 487 A.D.

Sima Qian, “the Book on Counterpoise”, *Shi Ji Historical Records*. 104 B.C~91 B.C.

Skaggs, N. T., “Changing Views: Twentieth Century Opinion on the ?? School – Currency School Controversym,” *History of Political Economy*, Vol. 31(2), 1999, pp. 361-391.

Xin Qiji. *Memorandum to the Emperor for Applying the Money of Huizi*. 1175 A.D.

Xu Mei. *On Money*. 1846 A.D.

Yang Wanli. “Memorandum to the Emperor for Begging to Suspend Ferruginous Coin and Huizi Money in Jiangnan State”. *Anthology of Cheng Zhai*. 1192 A.D.

Ye Shi. “Financing”, Volume Two, *Another Anthology of Shui Xin*. 1150 A.D~1223 A.D.

Ye Ziqi. “Part of Various Institution”, *Cao MU Zi*. 1378 A.D.

Yuan Xie. *Memorandum to the Emperor for People’s Convenience*. 1208 A.D.

Zhang Fangping. *Statement on Money and Banning Copper*. 1068 A.D.~1085 A.D.

Zhang Jiaxiang. *The History of Monetary Thought in China*. Wuhan: Hubei Renmin Press,2001.

Zhou Xingji. “Statement to the Emperpr”, Volume Two. *Anthology Fuzhi*. 1107 A.D.~1110A.D.