Monetary Diversity in Manchuria at the Beginning of 20th Century: What is the Relationship among Multiple Monies?

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20世紀初頭の満洲における貨幣の多様性
—多元的貨幣の関係性とは何か？—

カミニシ・ミリアン*

Abstract

This paper aims to analyze the relationship between different currencies in a multiple currency system through the case of Manchuria in the early 20th century. The research was conducted based on statistics data such as the exchange rate and currency issuance published by the South Manchuria Railway Company. The analysis is conditioned through three approaches: “the currency substitution”, “the competition among currencies” and “the complementarity among monies”, each focusing on the different aspects of the relationship among multiple monies. The article argues that the relationship among different currencies in a multiple currency system depends on the time and space in which these currencies circulate. The market structure of Manchuria was characterized by a four layers structure and the currencies adopted vary from different layers of the market as well as from different periods of the year. The research also reveals that the relationship among these currencies is not always substitution, competition or complementarity, but a combination among them.

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I. Introduction

Monetary diversity refers to the phenomenon or practices where a variety of currencies (foreign, national, provincial and local) are in circulation side by side. There are some reasons of the emergence of a multiple monetary system. First, the most popular reason, according to the Report of the League of Nations\(^1\), was the independent economic development. Each region had independence in the issuance of currency, not necessarily following the national monetary standard.

This is very common in underdeveloped economies where there are multiple governments, warlords or anarchy and therefore a lack of political and social integration. According to previous research, the “currency is one of the major bounding factors between domestic and foreign region. Thus, if a region has multiple currencies it is not likely to be well integrated in other respects such as politically and socially”\(^2\). Countries in economic instability may adopt another stable currency and therefore create a situation of multiple currency circulation, as is the case of Latin American countries. It also may happen in advanced economies during their transition from national currencies to a single monetary system for further integration, as is the case of some European countries before the Euro is commonly adopted.

This research aims to examine the relationship between multiple currencies in circulation based on the practices of Manchuria during the early 20th century, with an assumption that the cause and the relationship among different monies are strongly linked to the economic development of the concerned region. The research reveals that the main economic activity was the production of soybean and its exports in Northeast China. The economic development concentrated in the soybean production is the key element to understand the relationship among different currencies in Manchuria.

The route of soybean commercialization can be divided in multilayer market structure (or four stages), each one using different kind of currencies at a different period of year. Thus, by focusing on the variety of currencies in this route of soybean commercialization, and based on the analysis of the market structure in concerned area, the author will evaluate three approaches related to the multiple currencies: the first is the currency substitution, the second is the competition among currencies and the third one is the complementarity among monies. Through these approaches one can verify what the relationship among multiple monies was. Thus, the question to be answered is: what is the relationship among multiple monies in a multiple monetary

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system in Manchuria at the beginning of 20th century?

This paper is divided into four sections: the first section is the theoretical background, focusing on three approaches about the inter-monetary relationship. The following section shows the main economic activity and the market structure in Manchuria. The third section is the major currencies in circulation and its issuers in the region. The fourth topic is an analysis of the relationship among different currencies, based on the three approaches mentioned in the first section.

II. Theoretical Background
1. The Currency Substitution

The term “currency substitution”\(^3\) in the literature of economics is usually associated with the substitution of a domestic currency for another more stable foreign currency in a contemporary context. Some Latin American economies have been the most common examples, especially during the period of hyperinflation\(^4\) in the 1990s, including Argentina, Brazil, Ecuador and Peru. The currency substitution followed by most of these countries is related to the term “dollarization” in which the domestic currency was replaced by the U.S. dollar, like in Argentina, Ecuador and Peru. In Brazil, on the other hand, the government adopted an indexation system of prices\(^5\) to adjust the real value of goods and services.

Obviously, the term “currency substitution” is not restricted to the term “dollarization” or to the Latin American economies, as other examples can be found in Canada and Egypt\(^6\). The term “currency substitution”, according to Giovannini and Turtelboom, is “ambiguous in economics” since the substitution is partial in most of the cases analyzed by both authors. Moreover, they attest that when the national currency is substituted, it does not occur in all aspects of the function of money, such as medium of exchange, unit of account or store of value\(^7\).

According to Giovannini and Turtelboom, the concept of currency substitution is sometimes related only to the function of medium of exchange in which a foreign cur-

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3 Giovannini and Turtelboom prefer to adopt the term “substitutability”, i.e., able to be replaced, instead of substitution. However, to be the term “currency substitution” more frequent in the economic literature, this author chose to adopt the “currency substitution”, instead of “currency substitutability”. GIOVANNINI, A.; TURTELBOOM, B. Currency Substitution. NBER Working Paper 4232. December, 1992. p. 3.


currency is adopted to carry out daily transactions within the national territory. Another approach, according to Giovannini and Turtelboom, limits the concept of currency substitution to the function of the store of value, exemplifying the substitution of domestic bonds by foreign ones. To better understand what Giovannini and Turtelboom argue, let us briefly see the process of dollarization in some Latin American countries.

The currency substitution in Argentina and Peru had, as the main feature, government approval for commercial banks to accept U.S. dollar deposits and to lend the U.S. dollar to their residents. It does not mean that the domestic currency, the peso (in Argentina) and the sol (in Peru), was replaced completely in the domestic monetary system, but that the U.S. dollar developed parallel functions with the national currency.

According to Rodrigues,

“As credibility in the stabilization plan increased, residents started transferring their foreign currency deposits into domestic banks. As those funds were lent locally, a fraction came back to the banks as new deposits and, because of the fractional reserve system, were lent again, giving rise to the “argendollars” and “perudollars”.”

In this article, Rodrigues does not mention the unit of account in the monetary system of both countries. However, given that this function is related to the unit of measure used to calculate the relative price of certain goods, it is assumed that the U.S. currency was also adopted in the function unit of account.

In the case of Ecuador, for example, the currency substitution process began with the adoption of U.S. dollar as the unit of account to seal private contracts. The contract relations were established with a stable currency to protect the income payments from the risk of inflation. According to Beckerman, “the growing number of people who rented out housing, placed savings at interest, sold professional services, undertook commercial contractual relationships, and so on tended to insist on the dollar as the unit of account, to the extent they possessed the “market power” to do so.”

Thus, in Ecuador, dollarization including the three functions of money occurred since 2000. Since then, the U.S. dollar has been the official currency in circulation.

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10 That authorization was established by the Convertibility Law (Law No. 23,928), implemented in 1991 by the then Economy Minister Domingo F. Cavallo.
11 RODRIGUES, C.A. 1993. Table 1: Monetary and Credit Indicators of Argentina.
However, many people faced problems adapting to the new currency, especially because of the shortages of small denomination monies, as is shows by Beckerman\textsuperscript{14}. Nowadays, the Central Bank of Ecuador issues fractional coins in denominations of 1, 5, 10, 25 and 50 cents of dollar, whose usage is restricted to the national territory, circulating alongside the U.S. dollar\textsuperscript{15}. The issuance of small denomination by the Central Bank of Ecuador can be explained by two reasons: firstly, the fractional currencies facilitate the small scale transactions and also avoid the increase of prices and services; secondly, is due to the low transaction cost (like transportation or insurance, etc) by issuing small denomination currencies by the Central Bank of Ecuador instead of bringing them from the U.S.\textsuperscript{16}.

Figure 1 - The Relationship between the Functions of Money and the Currency Substitution

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Brazil | different countries | Argentina | Ecuador

Obs. the gray colour means that the domestic currency was substituted by a foreign one. Chart elaborated by this author based on the topic of the currency substitution.

There is, on the other hand, the Brazilian example of adopting different monetary indexes as unit of account\textsuperscript{17}. This process is known as monetary indexation, which differs from the replacement of domestic currency for a foreign one to the purpose of performing private transactions. In this example, we have the store of value or the unit of account based on the currency indexed by the government, such as the Fiscal

\textsuperscript{14} BECKERMAN, P. 2001. p. 32.
\textsuperscript{16} Information provided by the Department of Economic and Statistical Studies of Central Bank of Ecuador. Access in: November 25, 2010.
\textsuperscript{17} There is the example of UFIR (Fiscal Reference Unit) established by Law No. 8,383 of December 30, 1991, as a measure of value and parameter of the monetary tributes and values in cruzeiros (the former national currency) during the high inflation period.
Reference Unit (UFIR) and the Real Value Unit (URV), both were adopted by the Brazilian government in the 1990’s. UFIR was introduced to the Brazilian economy to maintain the real value without the direct influence of inflation on tax collections\textsuperscript{18}, and URV was a daily index price which was fixed to the U.S. dollar exchange rate\textsuperscript{19}.

In this sense, we can see that the currency substitution usually occurred when there is instability of the national currency, and the replacement tend to be partial since the currency that substitutes and the substituted bear different functions of money. ‘Store of value’ and ‘unit of account’ are the most adopted functions in explanation of currency substitution. However, the function ‘medium of exchange’ is the least adopted, and even when adopted, it occurs only partially, as in the case of Ecuador where fractionated local currencies are issued based on the dollar by the federal government.

Some assumptions for the partial adoption of the function ‘medium of exchange’ can be raised here. For instance, the fractional coins seem to be more difficult to be replaced, since they facilitate small daily transactions, especially among the poorest people, with little access to the financial system\textsuperscript{20}. In addition, the fractionated currencies are, according to Kuroda, more dispersed and therefore they are more difficult to be collected. The difficulty to collect fractional coins shows that the small denomination monies are more stagnated and therefore had a low velocity of circulation\textsuperscript{21}. Because replacement is always partial, the substitute currency would be in circulation side by side with the money replaced.

2. The Competition among Currencies

Let us now consider the term “competition” from the perspective of the currency. According to Friedman, the competition among the issuers of fiduciary currency would not be feasible, since the currency’s value would be driven to the marginal cost of physical production\textsuperscript{22}. Thus, according to Friedman, the advantages of a fiduciary currency system would lose the sense leading the monetary system to a commodity standard. According to Friedman,

“So long as the fiduciary currency has a market value greater than its cost of production - which under favorable conditions can be compressed close to the

\textsuperscript{20} In Ecuador, “many people experienced initial difficulty adjusting to using dollars (the fact that dollar bills are all the same colour was a problem for illiterate people, for example), and the authorities had to carry out a public information campaign”. BECKERMAN, P. 2001. p. 32.
cost of the paper on which it is printed - any individual issuer has an incentive to issue additional amounts. A fiduciary currency would thus probably tend through increased issue to degenerate into a commodity currency - into a literal paper standard - there being no stable equilibrium price level short of that at which the money value of currency is no greater than that of the paper it contains. And in view of the negligible cost of adding zero, it is not clear that there is any finite price level for which this is the case.\(^{23}\)

It is in this sense that Friedman defends the role of the government on issuing currency by attesting that "the central tasks for government are also clear: to set an external limit to the amount of money and to prevent counterfeiting, broadly conceived\(^{24}\)."

For Klein, Friedman inappropriately adopts the term "competition" to implicitly assume that competitive institutions are issuing indistinguishable currencies from each other\(^{25}\). Klein says that users of the currencies in a competitive market would be able to qualitatively distinguish these currencies. In other words, users would be demanding and capable of distinguishing one currency from the other. In this sense, the decision rests with the users to select which currency would remain in circulation. Because of this, the value of the currency would not be driven to marginal cost, as stated by Friedman. Hayek reinforces Klein's arguments by asserting that,

"most people seem to imagine that any proposal for private agencies to be allowed to issue money means that they should be allowed to issue the same money as anybody else (in token money this would, of course, simply amount to forgery) rather than different kinds of money clearly distinguishable by different denominations among which the public could choose freely.\(^{26}\)

Thus, some characteristics can be raised here to analyze the concept of competitiveness in relation to currencies. The first would be that competition would not be restricted among the currencies, but among the money issuers, taking as an example in history like governments, banks, and even private individuals. The second characteristic is related to competitiveness in the aspect of the functions of money. Below some of these characteristics are examined.


Klein demonstrates the case of currency competitiveness in the New England colonies (Massachusetts, Connecticut, Rhode Island and New Hampshire) in the first half of 18th century. In these colonies, paper money issued in each province was accepted for tax payments and transactions in general. The issuance was performed without central control or direction. According to Klein, there was clearly an unrestricted issuance of these currencies, resulting in significant depreciation of this money in the colonies of New England. The description of Klein emphasizes two aspects of competitiveness: the first is the competition between currencies “hand-to-hand”, describing the money’s function of medium of exchange. And the second is the competition among the issuers of currency.

Figure 2 - The Relationship between Demanding Users and a Diversity of Currencies in Circulation

The competitiveness among currencies in the functions unit of account and store of value can also be found in the international monetary system. In this sense, competitiveness would also be present among states issuing currency.

For example, during the 1930s, the power struggle among some countries led to the creation of the “currency bloc” of influence in the international system according to Kobayashi. England created a structure of monetary influence called “Sterling Bloc”, followed by Germany with the “Deutsch Mark bloc”, and the United States with the “Pan-American bloc” with the U.S. dollar as the central currency. The same happened to Japan, which had initiated the creation of the “Yen Bloc” in Asia, with Korea and part of China under its influence.

This “racing” for broader economic influence occurred in the interwar period, when most European countries had suspended the gold standard by adopting the gold-exchange standard. Then many countries kept their reserves in the form of bank deposits, treasury bills (National Treasury bills) and currencies from major financial centers, such as the pound sterling and the U.S. dollar. For some time, this measure for example allowed Britain to protect its gold reserves from the impact of speculative capital withdrawals after the stabilization of the European currencies. This period shows that the management of money is not neutral since the country controls the money had economic and political advantages.

According to the approach raised above, we can see that the competition occurs among different issuing institutions: firstly, in domestic territory, competitiveness occurs among the issuers of currency, such as financial institutions, and the function of ‘medium of exchange’ is the most discussed as an example. In this case, according to Klein, the quality of the currency would be the main condition to be considered by users to distinguish among a variety of currencies supply.

Secondly, in the international sphere, the competition occurs among states issuing currency when they dispute for greater influence with other states by the creation of a “currency bloc”. On the other hand, the “currency bloc” shows the competition among currencies in the functions of ‘unit of account’ and ‘store of value’. This type of competition usually occurs during periods of political instability, putting in evidence the non-neutrality of money.

3. Complementarity among Monies

There is, moreover, the argument that the monies in a multiple currency system develop a complementary function, i.e., “one money could do what another could not, and vice versa”. According to Kuroda, the circulation of multiple currencies in the economy was not a random phenomenon, but necessary during periods of high demand for money and low elasticity of money supply, as in the post-harvest periods in rural economies.

It is known that the cycle of agricultural production influences the activities of the peasants, and their access to the market is seasonal. The period of trading of commodities was usually performed after harvest, and every agricultural commodity had its own time of cultivation. However, many commodities have the same cycle of cultivation, with harvest periods coinciding with each other. When this happened, the result was a large trade volume and hence high demand for money. It was during this

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short period of high demand for money, and low elasticity of money supply, that the monetary plurality emergency arose, according to Kuroda\textsuperscript{32}.

In the period of high demand and low elasticity of money supply described by Kuroda, one currency did not cover all the functions required in the market. Thus, a variety of currencies would alleviate periods of low elasticity of money. Also according to the author,

"some currencies might be distributed well but assembled poorly, while others might be slowly distributed but assembled swiftly. That is why people created an assortment of currencies to fulfil a wide range of transactions. Thus, one money could do what another money could not, and vice versa. In this case, both monies could not be in a substitutive relationship but in a complementary one. An assortment of monies with a complementary relationship enabled traders to do what a single money was not able to do\textsuperscript{33}.

However, there was not only one type of currency that circulated in each market, but a variety of them that were complementary to one another in order to meet periods of high demand for money. This phenomenon describes the market structure with multiple layers; and in each layer different currencies were used for different purposes. To illustrate this, Kuroda shows the currency circulation in the Red Sea region,

"The Maria Theresa dollar's circulation in the early twentieth-century Red Sea region shows at least three layers of monetary circulation, with the layer of the silver dollar of Austrian origin inserted in the middle. Above the layer of the dollar's circulation the pound sterling or the equivalent Indian rupee was used in the international or interregional circuits. At the boundaries between the two upper layers, depending on fluctuating exchange rates, native exchangers such as shroffs and traders engaging in interregional trade were competing for profits through speculation. On the other hand, below the dollar's flow, a variety of smaller monies such as the Italian 10 lira note, copper coins, ammunition cartridges, cloths, salt bars and beads circulated, varying from region to region. At the borders between the two lower layers, currency exchange businesses also prospered, though on a smaller scale\textsuperscript{34}.

Kuroda argues that in rural markets the small denomination currencies were more appreciated than the large denomination ones, since small currencies facilitated the daily transactions of peasants. The foreign currencies, based on gold or silver, were more required in international trade. Thus, in the same region different currencies were in circulation side by side, each one developing at different levels of trade. Here, Kuroda points out the function of medium of exchange in different markets.

This approach (the complementarity among monies) emphasizes that in an economy with multiple currencies in circulation, the diversity of monies would relieve periods of an inelastic money supply, which is common in agricultural markets in the post-season period. A variety of currencies are distributed on a multilayer structure. The layer related to the agricultural market is the place where there was greater movement of the smallest denomination currencies used for small daily transactions. The imaginary currency or unit of account was usually adopted to standardize the different types of currency in long distance trade. Moreover, the foreign currencies were also adopted in international trade.

The approach of the complementarity among monies emphasizes the space and time by dividing the market into a level structure and by adding the seasonality of demand for money. In this sense, we shall assume that what makes the complementary relationship among currencies is the complementary role they play each other in different market levels: a currency that performs the function that another currency would not play alone, and vice versa, as argued by Kuroda.

Thus, supported by these three approaches (the currency substitution, the competition among currencies, and the complementarity among monies) we shall analyze the relationship among multiple monies in Manchuria. In the next topic we shall understand the relationship between the economic activity and the market structure before going on to examine the relationship among a variety of monies.

35 KURODA, A. 2008a.
III. The Main Economic Activity and the Market Structure

According to the South Manchuria Railway report, the economy of Manchuria had agricultural production as its main activity. The five major grains produced in the region were: soybeans, covering 30% of total production, followed by kaoliang with 28%, millet with 20%, corn with 12%, and wheat with 10%. Besides these products, other cereals such as barley and rice were grown and, to a lesser extent, hemp, flax, ramie, tobacco, cotton, and cocoons for natural silk.

However, with the exception of soybeans, the production of the other grains was mostly consumed in the region. About 56% of the soybean production was exported in the form of grain, bean cake and bean oil. About 70% of the total was exported to Japan, and the remaining 30% to Europe and the United States. Soybean production in Manchuria represented 80% of the world production. These data show how the region was dependent on the production and export of soybeans.

The cultivation of major agricultural products (especially soybean, millet and kaoliang) concentrated for about six months, between spring and autumn, since the re-

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region is located in the North Temperate Zone. Climatic conditions are characterized by harsh winters and relatively warm summers. The beginning of the sowing and the harvesting periods varied in few weeks according to the grain and also the region where it was cultivated. Usually in northern Manchuria the sowing and harvesting periods began a few weeks in advance of southern between March and April.

From September, after the harvest period, the products were traded in cities near the rural area and usually negotiated among grain dealers and trading houses known as liàngzhàn (糧棧). In addition to buying the grain, the liàngzhàn were responsible for resell the product on to other larger commercial houses and transporting between one market and another. This trade was conducted after harvest, between October and November.

Between November and December, the agricultural production, when intended for the foreign market, had already been delivered to major commercial areas such as Harbin, Fengtian or Dalian. Products consumed in the region were negotiated locally, without the need for transport between different markets. The soybean production, for example, because it was mostly intended for the international market, was delivered to oil refineries or to export and exported from December.

The marketing period between one market and another was relatively long for three reasons: first, due to the natural process of maturation of the crop. It was necessary after harvest, dry the soybeans, threshed to screen, and then, only in the final step, the soybean was bagged. The whole process took an average of few weeks, varying with the size of the harvest.

The second reason was also related to the climate of the region. Many grain dealers awaited the arrival of winter to perform the transport, since the region's cold weather froze the roads and helped the sliding of the carts that transported the product. Thus, the cost of transport became relatively low. The third reason, according to

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40 The liàngzhàn could be small, medium or large, depending on their location or management. The importance of these liàngzhàn is due to the characteristic of the peasants in the region. Most of them were poor peasants with a small production area scattered throughout the region. The liàngzhàn gathered the production and resell for larger commercial houses. Minamimanshū tetsudo keizai chosakai. Manshū ni okeru Ryōsan. Dairen: Minamimanshū tetsudo,1933. p. 11.

41 To have an idea, in the summer a cart (pulled by one animal) could carry a total of 400kg and cover a distance between 25 and 30km per day. In the winter the weight could be up to a ton and the distance range between 30 and 35km per day. NAGAI, R; YASUTOMI, A. Toudōso Keakera Basha. p. 95. In: YASUTOMI, A.; FUKAO, Y. Manshu no Seiritsu: Shinrin no shojin to kindai kukan no keisei. Nagoya: Nagoya daigaku shuppankai, 2009.
the Report of the SMR, was that often the broker or the liángzhàn itself kept the grain in silos in order to expect the price increase, speculating between one transaction and another. Thus, each step in the commercialization of grains followed a different period.

In the case of soybean commercialization the structure of the market can be divided into four stages, each one passing through a market and at a different period. The first step is related to the rural market, where farmers sell their soybean after harvest from September. Thereafter, the second stage of commercialization, the product is distributed in local markets and then to a mid-market, corresponding roughly to the months of October and November. In the third stage, between November and December, the soybean was distributed in industries or for exporters. From there, in the fourth stage, soybean bound for foreign markets, with this last stage of commercialization around December. Exports to Europe or Japan only happened from December, according to Langenberg, since the transport from the rural area to the port of export lingered, often about 60 days.

At each step of negotiation a different currency was adopted. Typically, the rural market currencies in circulation were the ones with the smallest denomination, based on copper or silver, or notes issued by private individuals. The notes of smaller denomination were used for daily transactions by peasants to negotiate with grain deal-

![Figure 4 - The Route of Soybean Commercialization and the Currencies in Circulation](image)

Figure adapted from KOBAYASHI, H. 1975.; KURODA, A. 2002.
Obs. *The months were added by this author.

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42 This type of speculation would not compromise the quality of the product, since the cold was a natural conditioner of the product. Minaminimanshū Tetsudo Keizai Chosakai. *Manshān okeru Ryōsan*. Dairen: Minaminimanshū tetsudo, 1933. p. 11.
ers. In the second stage of commercialization on the local market or those of medium size, the grain dealers collected the soybeans from the peasants and resell it on to the liángzhàn. At this stage, due to the greater volume of trading of soybeans, the currencies in circulation were currencies of larger denomination. These monies were usually based on silver, or also notes issued by private individuals.

When soybeans were delivered at the third level of the market, where there were oil refineries and exporters, the currencies adopted were currencies with large denominations issued by local government or foreign currencies. Typically, trading of soybean for export was made in Japanese currency based on silver or gold. Some reasons for using two currencies based on two metallic standards can be presented: first, the region had a large number of foreign companies, including the majority of Japanese origin. Second, there was relative stability of Japanese currencies if compared to local currencies in circulation in the region. The third reason was related to the monetary system adopted in Manchuria, based on silver, and the monetary system based on gold, adopted by most countries importing soybeans. Foreign companies needed to exchange currencies based on gold for currencies on the basis of silver in order to trade with Chinese merchants. According to Kann, “all quotations for soya beans and other cereals are officially issued throughout South Manchuria in silver yen currency. [...] it can be safely asserted that the silver yen currency is now, at the close of 1926, the backbone of trade in South Manchuria”.

Thus, by following the example of soybean production and its commercialization one can say that each stage of the market different types of currencies were in circulation. We shall now turn to the next topic to better understand what sort of currencies were in circulation and what kind of issuers were established in the region.

IV. The Major Currencies in Circulation and their Issuers in Manchuria
1. The Major Currencies in Circulation

A variety of currencies circulated in China until the early 20th century. Coins and paper currencies, which exceeded a few hundred, circulated side by side. Currencies based on three standards of money-copper, silver and gold-were adopted and issued by governmental institutions as well as by individuals. However, only cop-

48 Paper currency is the general term to distinguish from the metallic money (coin).
per and silver were considered part of the official monetary system. The gold standard was the basis of foreign currencies, particularly those of Japanese and Russian origin.

These currencies can be categorized in four different groups according to their origin, as shown in the Table 1. One can see that there was not a homogeneous monetary standard, but some currencies could be considered as national currencies since they were adopted in a large area in China. Regional currencies, most of them paper notes, were issued in each province having as the reference the national currencies. The private notes issued by locals did not follow a specific monetary standard. We shall explain them one by one.

### Table 1 - The Origin of the Major Currencies in Manchuria

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<th>Origin of the currencies</th>
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1. The currencies of the first group are foreign ones like Japanese and Russian currencies. Most foreign currencies\(^\text{49}\) in circulation were of Japanese origin, based on gold and silver, and a small parcel was of Russian origin, based on gold. The circulation of these currencies became popular from the late 19th century, after the Sino-Japanese War and the Russo-Japanese War. The most important foreign currencies were the Japanese silver yen, also known as *yinpiao* (銀票) or *chaopiao* (鈔票), issued by Yokohama Specie Bank, and the Japanese gold notes issued by the Bank of Chosen.

\(^{49}\) A small portion of Mexican silver (Mexican dollar) also circulated in the region, in addition to coins from other parts of China itself, such as the Hong Kong dollar. However, these are not addressed in this study.
2. In the second group there are national currencies. They were not standardized (varying in weight, size and value) but they were in common circulation in other area of China proper. Some of them are copper cash coins or chinhsien (制錢), copper coins tungyuan (銅元), silver dollar coin or yangchien (洋錢), and silver liang (兩) system or silver tael.

3. The regional currencies make up the third group. They were issued and accepted regionally (in two or more provinces close to each other, but not in all China). As an example, there are: i) the higher value of silver dollar notes, tayanchiengpiao (大洋民間票), could be issued by the authority of the three provinces of Northeast China (Fengtian, Jilin and Heilongjiang) and also by the authority of Harbin district. Usually, they could circulate in all Northeast China, but each region had your own silver dollar note. The silver dollar notes issued in those regions received the name of the province in which they were issued, such as Fengtian silver dollar notes or Fengtian tayangpiao (奉天大洋票), Jilin silver dollar notes (吉林大洋票), Heilongjiang silver dollar notes (江省大洋票), and Harbin silver dollar notes or hatayangpiao (哈大洋票). ii) small denomination paper notes based on silver like hsiao yangchienpiao (小洋民間票). iii) government notes, known as kuantieh (官帖), issued only by the provincial authority of Jilin and Heilongjiang. iv) copper coin notes or tungyuanpiao (銅元票).

4. The currencies of the fourth group are private notes issued by private institutions, like merchants and local companies, with their acceptability limited to a small area. Usually, they were issued based on silver, but could also take copper as reference. The private notes were convertible only in exceptional cases.

Although they are currencies of different origins, the circulation of them was more concentrated around a specific market as we have previously seen. It does not mean that the currencies could not circulate through the markets, but the markets were divided as a structure with multiple layers with interface. In addition, one can see that regional and local currencies were mostly paper monies.

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50 There are hundreds of measures of tael value based on the ounce unit, but they are all different in purity, weight and division. Each region in China would adopt its own measure. For example, 100 Kuping taels accounted to 98 taels in Haikwan, and 102 taels in the region of Manchuria; on the other hand, 100 taels in Haikwan corresponded to 111 taels in Shanghai. The silver tael system was adopted in transactions among different regions in China proper. KANN, E. 1926. p. 83-84.

51 It was possible since the region was under the command of Zhang Zuolin (張作霖), military and civil governor of the Three Eastern Provinces (Fengtian, Jilin and Heilongjiang).


54 KURODA. A. 2008a. p. 15.
2. Currency Issuers

Kobayashi classifies the issuers of currency in Manchuria into three groups\textsuperscript{55}. 1) international financial institutions established in the region that emitted some of the major foreign currencies in circulation; 2) provincial financial institutions responsible for the issuance of regional currency; and 3) local financial institutions and private companies that issued private notes.

In the first group are the foreign financial institutions with branches in Manchuria. These institutions, according to Kobayashi, accounted for 20% to 25% of the total currency in circulation in the region\textsuperscript{56}. The institutions were mainly of Japanese origin, such as the Yokohama Specie Bank and the Bank of Chosen, but it was also possible to find agencies of the Russian Chinese Bank, of French origin, the American branch of City Bank, and HSBC, of English origin.

The provincial financial institutions are part of the second group, and the major ones were: Three Eastern Provincial Bank, Jilin Provincial Bank, Heilongjiang Provincial Bank, Bank of China and Bank of Communication. These banks were responsible for issuing government banknotes \textit{kuantieh}, based on copper, and for the issuance of the silver dollar notes, such as the Fengtian silver dollar notes, Harbin silver dollar notes, Jilin silver dollar notes and Heilongjiang silver dollar notes.

The banks of this group are named by Hoshino as banks of the modern type, to distinguish them from traditional local financial institutions\textsuperscript{57}. The banks of the modern type were established in the early 20th century; the Three Eastern Provincial Bank, for example, was created in 1905, the Jilin Provincial Bank, in 1909, and the Heilongjiang Provincial Bank, in 1905. All of these banks, in addition to their numerous branches spread in the region, had under their management oil refineries, commercial houses (\textit{liángzhàn}) that traded special products, and some distilleries.

The local financial institutions are part of the third group: \textit{chienchuang} (錢莊), \textit{yinlu} (銀樓), \textit{piaochuang} (票莊) and \textit{chienpu} (錢舖); and private corporations such as oil refineries, distilleries, grain trade houses (\textit{liángzhàn}), merchants, pawnshops or chambers of commerce. At the beginning, the local financial institutions served more to the purpose of exchange shops than of regular banking, and they had little diversity of functions. Hoshino says that these institutions were predominant in the region until the early 20th century, but with the progress of foreign trade and the opening ports, they were replaced by the banks of the modern type. It was possible to find them in

\textsuperscript{56} KOBAYASHI, H. 1972. p. 123.
almost every town, large or small\textsuperscript{58}, and all of them had autonomy in the issuance of private notes\textsuperscript{59}.

According to Hirano, the number of private institutions that issued private notes was beyond the control of the provincial authorities. The number of stores issuing private notes was 70 in Cheng-chia-t’un, 36 in Fa-k’u-men, 11 in Ch’ang-t’u, 7 in K’ai-yuan, 10 in Liao-chung, 15 in Kai-p’ing-ch’eng\textsuperscript{60}. Some of them like pawnshops and piao-chuang（票莊）were rivals in the issuance of private notes\textsuperscript{61}. The excessive issuance of private notes forced the provincial authorities to declare their circulation illegal\textsuperscript{62}. However, in some localities, such as the District of Cheng-chia-t’un, in the province of Jilin, during the 1910s and 1920s, the private notes were still the main currency in circulation. Thus, in order to eradicate the private notes in circulation, the provincial government of Jilin and Heilongjiang began to issue the \textit{kuantieh} notes\textsuperscript{63}. Let us analyze now the relationship among multiple monies through the different markets.

\textbf{V. What is the Relationship among Multiple Monies?}

The rural market is where farmers negotiate the production of soybeans after the harvest, usually from September. The currencies adopted in this market are the smallest denomination monies based on copper or silver, and also private notes. There was not much control over the issuance of private notes, and the variety of institutions that were issuing them was great. The Jilin and Heilongjiang governments by aiming to control the excessive issuance of private notes began to issue \textit{kuantieh} notes based on copper, as seen above. Thus, we may assume that the private institutions by issuing private notes were competing with each other and also we can say that there was competition between private issuers and provincial authorities.

The Jilin \textit{kuantieh} issued by the governmental authority of Jilin circulated only in that province. The same occurred with the Heilongjiang \textit{kuantieh} which circulation was limited to the Heilongjiang province. The correlation coefficient between the two \textit{kuantieh} notes is 0.91 in the monthly average of the exchange rate, during the period between 1911 and 1928. One can observe that this result indicates that both vary very closely in the same direction and same market level, even both of them not being in the same provinces. They are currencies based on copper for daily transactions, and issued to replace the excess of private notes. Thus, we cannot assume that the relation-

\begin{enumerate}
\item Economic History of Manchuria… 1920. p. 266.
\item KOBAYASHI, H. 1972. p. 123.
\item HIRANO, K. 1983, p.297.
\item Economic History of Manchuria… 1920. p. 250.
\end{enumerate}
ship between both of them is complementary nor substitute since they do not develop a complementary function among them in the same market level. And also, we cannot assume that they have a competitive relationship because both of them did not circulate in the same area.

Let us analyze the exchange rate in the chart below. The exchange rate of the kuantieh notes shows great movement around roughly at the same period, from September until February. Roughly speaking, this movement follows the trend of seasonality of agricultural production in which there was great demand for money in the post-harvest period. Also, in late January, a few months after the harvest comes the time for the preparations for the festive period of traditional Chinese New Year, in which the smallest denomination currencies were largely required. During these months we can see in the graphs below that there is a period of the kuantieh money appreciation against the yen gold.

Graph 1 - The Exchange Rate of Heilongjiang Government Note or Kuantieh (官帖) between 1916 and 1919 - Harbin city Monthly average (unit: tiao/1 yen gold)*

Graph 2 - The Exchange Rate of Jilin Government Note or Kuantieh (官帖) between 1916 and 1919 - Changchun city Monthly average (unit: tiao/1 yen gold)*

*Obs. One tiao is thousand cash.

However, as of March the kuantieh currencies began to depreciate. Between the post-sowing and the pre-harvest periods, it can be seen in the graphs above that there is devaluation in the exchange rate of kuantieh, that is, a period of low demand for this currency. There are some exceptions in the month of June, when some peasants
receive in advance of crop in cash through the advance contract (青田契約). 

Graph 3 shows the variation of the exchange rate of the small silver dollar coin, fractional currency hsiao yangchien (小洋錢). In this graph, we can see that the exchange rate of the hsiao yangchien began to appreciate in the period after harvest, from September until February, except in the period before the World War I until 1920 due to appreciation of silver and the end of Pittman Act.

Graph 3 - The Exchange Rate of Hsiao Yangchien (小洋錢) - Dalian city Monthly average (unit: yuan/100 yen gold)

Between September and February was the period of post-harvesting and festive period of Chinese New Year and hsiao yangchien was widely used since it was the smallest denomination currency. A similar phenomenon with the kuantieh can be observed here as well. Usually, the currency begins to depreciate after sowing and before

64 The contract in advance was performed if the buyer previously knew the peasant, ensuring that the crop was delivered on time. This contract could be done in advance between the months of May and July, and an advance payment of one third to one half of the estimated value of production could be made. This contract was a fairly common practice among peasants in Manchuria, since many of them depended only on the production of soybeans. Minami Manshū Tetsudo Keizai Chosakai MMT (KC). Manshū ni okeru Ryōsan. Dairen: Minami Manshū Tetsudo, 1933. p. 36.

65 In 1918, during the World War I, the U.S. Congress enacted the Pittman Act limiting the export of silver with the goal of keeping the reserves in the country. According to Friedman the act was enacted in the U.S. Congress to provide silver to Britain during the World War I. However, the value of silver declined with the suspension of the Pittman Act in 1920, and the discovery of new mines in the United States. FRIEDMAN, M. *Franklin D. Roosevelt, Silver, and China*. The Journal of Political Economy, Vol. 100, No. 1 (Feb., 1992), pp. 62-83. See also: NISHIMURA, S. *Senkyohakaku Nijinendai Tosansho Chihokenyokuno Hokai Katei*. Osaka Gaikokugo Daigaku Gakusho, 25 (Jul, 1971), p. 140.
the harvest period and begins to appreciate gradually from September. This tendency of the *hsiao yangchien*’s appreciation indicates a period of high demand for money.

The correlation coefficient of the Heilongjiang *kuantieh* and *hsiao yangchien* is 0.62, and between Jilin *kuantieh* and *hsiao yangchien* is 0.63, both results being calculated according to the annual average of the exchange rate between 1916 and 1928. One can propose that the three currencies vary together in the same market level and they follow the same seasonality. Heilongjiang *kuantieh* and Jilin *kuantieh* circulated each in their respective regions, but that was not true with *hsiao yangchien*, which circulated in the same region as the *kuantiehs*. Despite having different metals as a currency reference, the *kuantieh* and the *hsiao yangchien* performed the same function as the smallest denomination currency for everyday transactions and shared the same market level and area of circulation.

In this sense, we cannot say that *kuantieh* and *hsiao yangchien* are complementary, but that they may be substitutes, because for being complementary one would have to play the role that the other does not play. Moreover, one cannot say that the relationship between the two currencies was competition; as far as this research is concerned, there is no information or data indicating a relationship of rivalry between the two currencies.

The *kuantieh* currency was paper money issued by institutions linked to government authorities in Heilongjiang and Jilin, and the convertibility of the former was suspended in 1920, and of the latter in 1911. The *hsiao yangchien*, in turn, was the metal coin based on silver, but during the First World War, due to the appreciation in the price of silver, was gradually replaced by *hsiao yangchienpiao* (小洋錢票).

In the urban market, the largest currency in circulation was the silver dollar notes or *yangchienpiao* (洋錢票). Each region could issue its own silver dollar notes, and the most popular among them was the Fengtian *tayangpiao* (奉天大洋票), issued by the province of Fengtian. According to data from the Yokohama Specie Bank, the Fengtian silver dollar accounted for 70% of total notes in circulation in the region, and was also adopted in neighboring regions, such as Shandong and Zhili66. The issuance of the Fengtian silver dollar, as shown in Graph 5, indicates the period of highest demand for money, i.e., from September, after the harvest period.

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The graphs shown so far indicate that the demand period of those currencies varies seasonally. The correlation coefficient of the Fengtian silver dollar and the silver dollar coin, hsiao yangchien (小洋錢), is 0.52, in the monthly average of the exchange rate in the period between 1921 and 1928. This value indicates that both currencies do not closely vary together, but they vary in the same direction.

They were adopted at different market levels and for different purposes. The Fengtian silver dollar was normally used for commodity trading between liangzhans and exporters. The hsiao yangchien, because of its small denomination, was mostly used for small daily transactions. Thus, one can assume that they have a complementary relationship since they developed different function in different market level, but in the same region. That is, “one money could do what another money could not, and vice-versa” as argued by Kuroda.

Let us now consider the example of two currencies that circulated in the same market level, but in different cities: Fengtian silver dollar notes, fengtayangpiao (奉天大洋票), and Harbin silver dollar notes, or hatayangpiao (哈大洋票). The former (fengtayangpiao) circulated in a wide area in Manchuria and the neighboring provinces, and the latter (hatayangpiao) had a strong presence in the city of Harbin. The correlation coefficient between both currencies is 0.81, in the monthly average on the exchange rate in the period between 1921 and 1928. This figure indicates that they
closely vary together in the same market level. Although they circulated in different cities, they are in the same market level and developed the same role. As a result, we shall assume that their relationship is not complementary, because they play the same role in the same market level.

Graph 6 - The Exchange Rate of Harbin Silver Dollar (哈大洋票)
Monthly average (unit: yuan/100 yen gold)


One can also consider that the hsiao yangchien (小洋錢) and the hatayangpiao (哈大洋票) currencies are complementary since they develop different functions at different market levels, although circulating in the same city. The correlation coefficient between hsiao yangchien and hatayangpiao is 0.86, according to the monthly average of both exchange rates between 1921 and 1928. This number indicates that the ratio of variation between the two currencies is closer than the variation relationship between hsiao yangchien and fengtayangpiao.

Shall we turn to the two major foreign currencies in circulation, the notes of the Bank of Chosen, based on gold, and the notes based on silver of the Yokohama Specie Bank. The correlation coefficient of both currencies is -0.13, in the monthly average on issuance between 1917 and 1928. This value indicates that the two currencies vary separately from each other. That is, when the magnitudes of one currency are high, the other’s magnitudes are sometimes high, and sometimes low. There is an independent movement between both currencies.

Let us consider the graphs of the two currencies issuing in the same period of time between 1918 and 1921. The issuance of the Bank of Chosen notes follows an
uptrend issuance in the months between November and early next year. The issuance of YSB follows a similar trend, fluctuating more frequently according to each year.

Graph 7 - Currency issuing of the Bank of Chosen between 1918 and 1921 (unit: million of gold yen)

Graph 8 - Currency issuing of the Yokohama Specie Bank between 1918 and 1921 (unit: ten thousands of silver yen)

Although they do not vary exactly together in the same market level, they had a complementary relationship since they developed different function in the marketing of commodities between international and domestic markets. One can also be stated that both currencies against the silver dollar currencies (大洋票) were complementary as well, because each one played a role distinct from the other and at different market levels. The notes issued by Bank of Chosen were widely used in trading special commodities for export while YSB notes were essential to commercial transactions among Chinese merchants and foreigners. China maintained a monetary system based on silver and the YSB notes, based on silver as well, were relatively more stable than the Chinese currencies.

The correlation coefficient of the issuance of both Bank of Chosen note and Fengtian silver dollar is 0.28, and of the issuance of both Bank of Chosen note and the Harbin silver dollar is 0.37. These correlation coefficients were calculated based on the monthly average from July 1924 to December 1928, according to the availability of data on issuance of silver dollars. One can analyze that both figures indicate that the magnitude of those currencies do not vary closely but they vary in the same directions. One can see these results since both currencies had each one gold and silver as
a standard, and also they circulated in different market level.

On the other hand, the correlation coefficient of the issuance of both Yokohama Specie Bank note and Fengtian silver dollar is 0.69, and the YSB note and Harbin silver dollar is 0.55, in the monthly average from July 1924 and December 1928. The result of this example indicates that the two magnitudes have closer range than the variation between Bank of Chosen note and Fengtian and Harbin silver dollars. Those currencies are based on silver and they developed different function in the same market level. The Yokohama Specie Bank note, also known as yinpiao (銀票) or chaopiao (鈔票) by native people, developed an important role in the commercialization of special commodities among foreigners, especially Japanese buyers, and Chinese merchants.

Moreover, according to historical and analytical approach attested by Tsao, one cannot disregard that the relationship between the currency of Japanese origin and the Harbin silver dollar could also be one of competition\(^\text{67}\). Tsao argues that it was after the reduction of the circulation of the Russian currency in the region of Harbin, after the Russian Revolution in 1917, that the Chinese government began to issue Harbin silver dollar to limit the expansion of the circulation of Japanese currencies.

In addition, one can assume that the relationship between foreign currencies of Japanese and Russian origin was one of rivalry while both had a strong presence in Manchuria until approximately the end of the 1910s. Before 1917, the Russian currency was the main currency in circulation in the northern region of Manchuria, especially near the Chinese Eastern Railway and the city of Harbin. Yet, we are not able to evaluate Tsao’s arguments due to the absence of more detailed data, especially concerning the circulation of the Russian currency in the region.

VI. Conclusion

Despite of the limitation of data, we can point out some concluding remarks about the relationship among multiple monies in Northeast China in the beginning of 20th century. According to this research, we realized that the relationship among those currencies is related to the market in which they circulate but especially to the function that they develop in each market.

In the first stage, the private notes had a tendency of competitiveness since there were innumerable issuers in a relatively small area. In addition to the competitiveness among private institutions, there was competitiveness between private issuers and

local governments in the issuance of currencies. While the private institutions were issuing private notes, the local government issued *kuantieh* notes in order to avoid the over issuance of private notes by substituting them.

One cannot say that the relationship between the two *kuantieh* currencies is complementary, substitute nor competitive, because the two currencies played the same role as the smallest denomination monies for daily transactions at the same market level, but in different regions. Although there is an exception in issuing *kuantieh* currency based on silver in Heilongjiang, the two monies were largely issued based on copper.

On the other hand, we may suggest that the relationship between *kuantieh* currencies and *hsiao yangchien* is that of currency substitution, since the two performed the same functions at the same market level, like the smallest denomination monies, although based on different metals. Jilin *kuantieh* and *hsiao yangchien* circulated in the same region, as well as the circulation of *hsiao yangchien* and Heilongjiang *kuantieh*. However, there are not data that the two *kuantiehs* circulated in the same region; leading us to believe that each was limited to its own issuing province.

At the second market level, where the largest denomination currencies were more demanded, it appears that we cannot assume that the relationship between the silver dollars monies, both *fengtayangpiao* and *hatayangpiao*, was complementarity, substitution nor competition. The silver dollars performed the same functions at the same market level, but in different regions. The circulation of *hatayangpiao* was concentrated in the city of Harbin while the *fengtayangpiao* circulated in a wide area in Manchuria, including nearby provinces like Shandong and Zhili. Moreover, there is no record that both of them were competing for the same region.

However, it appears that the relationship between silver dollars (大洋票) and monies of smaller denomination, both the *kuantieh* (官帖) and the *hsiao yangchien* (小洋錢), was complementary. Both currencies played different roles at different market levels, although it was possible to find them in circulation in the same region.

At the third market level, where foreign currencies prevailed, it appears that the relationship among the currencies of Japanese origin, based on silver, and the silver dollars was complementary. One played a role that the other alone could not play, as an example, mediate between the domestic and the international trade.

Therefore, we can verify four kinds of relationship in rural market: first, competitiveness among private issuers and local government; second, the currency substitution of *kuantieh* notes for private notes; third, the relation of currency substitution among *kuantieh* notes and *hsiao yangchien*; and fourth, a neutral relationship between two *kuantiehs*.

In larger markets, we also can see a neutral relationship among *fengtayangpiao*
and *hatayangpiao* since they develop the same function, in the same market level and in different cities. The relationship between the Japanese currencies, one issued by Yokohama Specie Bank and another issued by Bank of Chosen, is complementary and we also can suggest that their relationship was elementary for the international trade. However, we may assume that the relationship between Japanese and Russian currencies was a competitive relation when both of them were active in Manchuria.

In summary, it can be argued that there are cases of duality, neutrality, substitution, complementarity and competition among currencies that circulate at the same market level. As an example of dual relationship there is the relationship between competitiveness and substitution of lower denomination currencies, such as *kuantieh* and private notes. It is possible to observe the relationship of neutrality between currencies which perform the same function and at the same market level, as the two *kuantiehs* and the *hsiao yangchien* silver dollars. The competition between foreign currencies that circulate at the same market level is another example to be raised here as well as the complementary relationship between the currencies of Japanese origin based on gold and silver.

However, among currencies that circulate at different market levels, examples of the complementarity relationship are more numerous than those of substitution relationship or competitiveness relationship. In addition, one can find that the analysis of this topic was limited to the money's function of medium of exchange instead of other functions such as store of value and unit of account. This restriction is justified by the absence of statistical data on the currencies that circulated in the Manchuria.