

INTERRELATIONS BETWEEN "GINME" BAR SILVER, THE MEXICAN SILVER DOLLAR, AND FOREIGN EXCHANGE RATES DURING THE EARLY MEIJI ERA

By SHIGERU YAMAGUCHI

Professor of Currency and Banking

I

The monetary system during the Tokugawa period was the treble metallic standard based on gold coins, silver bar and copper coins. The exchange ratio of these metallic moneys was officially fixed by the *Bakufu* (the shogunate government), but the actual ratio was not regulated by an official rate, fluctuating with demand, due to the lack of free-coinage. The unit was one *ryo* which was worth four *bu*, one *bu* being the equivalent of four *shu*; and *ryo*, *bu* and *shu* could be represented by gold coins, silver bar and copper coins. Under the Keicho (1596-1614) currency system, one *ryo* was represented by *koban* (gold coin) containing 4.73 *monme* of gold, and also by 50 *monme* and shortly after 60 *monme* of silver or 4 *kwan* of copper. (1 grain=0.064 grammes, 1 *monme*=3.75 grammes) During the Genroku era (1688-1703), as a result of recoinage, the weight of gold in *koban* was reduced by half, and the weight of silver per *ryo* (*ginme*) remained unchanged as official parity for a long time, notwithstanding the successive debased recoinage of gold and silver coins. However, the actual rate was regulated principally by the demand of gold and silver in business transactions. It was the custom to use a different currency according to the transaction of commodities,¹ and there was a rough distinction between *kin-zukai* (gold-medium economy) in Yedo and the *gin-zukai* (silver-medium economy) in Osaka. This brought about a change in the demand for currency.

In this way, silver circulated a long while as a currency by weight at the parity of 60 *monme* per one gold *ryo*. This official rate of *ginme* was generally maintained in business transactions, but among money changers silver was transacted by quotations, bringing about fluctuations of the rate of *ginme*. The rate of *ginme* fluctuated principally with the supply and demand of gold and silver but was not affected by changes in the substantial

¹ Takatsugu Mitsui, A New Chronological History of Money Exchange, Vol. II, Historical Inquiry, p. 104.

value of *kobang* caused by successive recoinage. The fineness of gold and silver currencies was kept in the greatest secrecy, but money changers knew the technique of finding it out. There was, however, no fluctuation in the rate of *ginme* caused by fineness, fluctuations being principally brought about by the demand for gold and silver.

Silver was transacted by weight for a long period, but in the Meiwa era (1764-1771), a silver coin containing 5 *monme* of silver was minted, and 12 pieces of this coin were exchanged with one gold *ryo*. This silver coin had a fixed content and weight, 12 pieces containing 60 *monme* of silver. Fluctuations in the rate of *ginme* disturbed the circulation of this five *monme* silver coin as a money of fixed content, resulting in the failure of this coinage.² It was natural that even under a feudalistic currency system, the compulsory fixing of 12 pieces of five *monme* silver coin as 60 *monme* of *ginme* was impossible, because the rate of *ginme* fluctuated between 62 *monme* and 68 *monme* at that time. Consequently, the minting of 5 *monme* silver coins was suspended in the beginning of Anwei (1772).

Following the suspension of the coinage of the 5 *monme* silver coins, a new silver coin of two *shu* named *nanryo* was minted in the same year; this coin had a content of superior silver and was regarded as of the grade of a gold coin. The content of this Anwei *nanryo* silver coin was 2.7 *monme* of superior silver, and the coin was money of fixed content, 8 pieces of *nanryo* to be exchanged for one *ryo* of *kobang*, the determination of money by weight thus completely disappeared.³ The content of this silver coin was superior silver, but the total weight of 8 pieces was only 21.6 *monme*, while 8 pieces could be exchanged for one gold *ryo*. From this viewpoint, the currency can be said to have become bimetallic, gold and silver, not accompanied by a free coinage system, when copper is excluded from consideration. However, as there still existed silver as money by weight, the *nanryo* silver coin can be regarded as a modern subsidiary currency. Consequently, silver circulated either as money of fixed content or as money by weight. Later, silver coins as money of fixed content increased due to the mintage of one *bu* silver coin etc. On the other hand, transactions in silver as money by weight also continued to exist, resulting in the fluctuation of the rate of *ginme*.

The fluctuations of the rate of *ginme* and the exchange ratio of gold and silver through a comparison of *kobang* and *chōgin* (the silver bar) for each recoinage period are shown in the following table.⁴

² Naokata Kusama, A Graphical Cyclopedi a of the Three Currencies, Vol. 19; T. Mitaui, *ibid.*, p. 179.

³ T. Mitsui, *ibid.*, p. 180.

⁴ Koga, A Table of Coins of the Tokugawa Period; Shigeru Yamaguchi, Oriental characteristics in the Currency System, Annual Report of the Southeast Asia Economic Research Institute of the Tokyo Commercial University, pp. 544, 545.

	Rate of Gold and Silver	Legal weight	Rate of <i>Ginme</i> Actual rate (<i>monme</i>)
Keichō (1596-1614)	1 : 12.38	50	61.79
Genroku (1688-1703)	1 : 22.78	60	56.77
Hōei (1704-1710)	1 : 22.88	"	58.55
"	1 : 30.42	"	
Shōtoku (1711-1715)	1 : 15.43	"	72.49
Gembun (1736-1740)	1 : 26.82	"	61.57
Bunsei (1818-1829)	1 : 31.70	"	63.12
Tempō (1830-1843)	1 : 39.04	"	63.58
Ansei (1854-1859)	1 : 46.35	"	69.76
Manyen (1860)	1 : 14.257	"	82.38
Meiji 4 (1871)	1 : 16	"	

The rate of *ginme* fluctuated principally with demand in transaction, with no relation to the substantial value. The ratio of gold and silver after the Manyen era was affected by the world currency system.

A comparison of silver coins of fixed content and one *ryo* of *kobang* is as follows:

Meiwa 9 (1772)	Meiwa <i>nanryo</i>	1 : 7.988
Bunsei 7 (1824)	Bunsei <i>nanryo</i>	1 : 4.798
Bunsei 12 (1829)	Old 1 <i>shu</i> silver	1 : 7.513
Tempo 3 (1832)	Old 1 <i>bu</i> silver	1 : 4.669
Ansei 6 (1859)	New 2 <i>shu</i> silver	1 : 17.204
	New 1 <i>bu</i> silver	1 : 5.132
Meiji 1 (1868)	New deteriorated 1 <i>bu</i> silver	1 : 13.866

As regards the ratio of gold and silver in comparison with *chōgin* and *ryo* of *kobang*, silver was greatly undervalued, whilst the ratio of the fixed content silver coin to *kobang* indicated a higher valuation of silver. *Chōgin* was a standard silver currency, whilst fixed content silver coins such as *nanryo* were subsidiary. However, *nanryo* coins were used in the same way as gold *kobang* due to its content of superior silver, *nanryo* coins may be regarded as paralleling a standard. Further, from the fact that the ratio of exchange between foreign silver and one *bu* silver coins became a problem, the fixed content silver coins may be said to have been a kind of standard currency. The rate of *ginme* continued to fluctuate with the conditions of demand in transactions, with no relation to the above. The rate was the substantial exchange ratio based on the market ratio of exchange between gold and silver, but following the increase in the issue of fixed content silver coins, *ginme* gradually became a yardstick for measuring money.

The rate of foreign silver, as mentioned in the following section, was expressed by *ginme*, indicating one dollar of foreign silver in terms of silver weight in Japanese currency; the rate of *ginme* did not indicate the exchange

ratio between foreign silver and *Chōgin*. Thus, *ginme* gradually became nominal and its nature as a yardstick became apparent.

II

While the currency system in the Yedo period experienced the above mentioned change, foreign silver currency was introduced in Japan. During the period of national isolation, foreign trade was carried on with Holland at Dejima near Nagasaki on a limited scale. Following the arrival of American ships in Kaei 6 (1853), Japan was gradually compelled to open the country to foreign commerce, and a treaty of amity was concluded between Japan and the United States by the Shimoda treaty (signed by Commodore Perry and Hayashi-Daigaku-no-Kami) in December of Ansei 1 (1854).⁵ By this treaty, Japan was to supply fuel, food, etc. against payment in gold, silver and copper currencies, as well as goods. In January of Ansei 5 (1858), a commercial treaty was concluded between Japan and the United States,⁶ involving a "clause of same kind same quantity concerning money". Article 5 of this treaty stipulated that "foreign currency may circulate in Japan in weight and kind as the Japanese currency; both Japanese and foreign currencies may be used for payment by both nationals; as the Japanese were not accustomed to the value of foreign currency, governmental authorities at each port shall exchange Mexican dollar against one *bu* silver coin during a year after the opening of ports." By this provision, foreign currencies were authorized to circulate in Japan under the same kind same quantity principle, and the *Bakufu* was bound to exchange Japanese and foreign currencies under the said principle.

Foreign currencies were Mexican silver containing 416 grains (about 7.2 *monme*) of silver and other foreign silver currencies;⁷ the Japanese currency was the old one *bu* silver coin of Tempō 8 (1837), which was a fixed content silver coin containing 2.3 *monme* of silver. The exchange ratio was that one dollar of Mexican silver was worth one piece of one *bu* silver coin, from the principle of same kindsame quantity.⁸ The reason for this unreasonable ratio may be a misunderstanding in the valuation of Dutch currency in terms of *ginme* and weight of silver as per stipulation of Article 12 of the supplement of the Nagasaki treaty of Ansei 2 (1855), providing that one guilder of gold, silver and copper shall be exchanged with 6.25 *monme* of Japanese silver.⁹

⁵ Awa Katsu, History of the Opening of Japan, Vol. II. P. 1037.

⁶ Awa Katsu, *Ibid.*, p. 1085.

⁷ Administrative Ordinance of April 14, Meiji 1 (1868) (Classified Collection of Regulations, Part 1, Government System, Miscellaneous System 4, Money 2, p. 162).

⁸ Awa Katsu, *ibid.*, p. 1156.

⁹ Mitsuo Hara, Foreign Trade at the Time of the Opening of Yokohama, and the History of Mexican Silver Rate, p. 2

The exchange ratio of one Mexican silver with one *bu* silver coin was later revised through the protest of American officials to one Mexican silver against three *bu* silver coins. The content of one dollar Mexican silver was 7.12 *monme* of silver as against 6.9 *monme* of silver for three *bu* silver coins, the difference was approved as a mint fee following the same kind same quantity principle clause in the Japan-U. S. commercial treaty of Ansei 5 and the tariff revision agreement of Keio 2 (1866). However, the exchange ratio for the collection of customs duties was 100 pieces of Mexican silver per 311 pieces of one *bu* silver coins, on the basis of the analysis table of Harris.¹⁰

$$\begin{aligned} 7.153 \text{ monme} \times 100 &= 715.3 \text{ monme} \\ 2.3 \text{ monme} \times 311 &= 715.3 \text{ monme} \end{aligned}$$

So 100 pieces of Mexican silver = 311 pieces of one *bu* silver coins. There was no reason to consider a remint fee in the collection of customs duties. However, the problem of the fee existed in other cases, though the ratio showed some changes.

As above stated, under the currency system in Yedo period, the value of Mexican silver was calculated in terms of one *bu* silver coins, and the exchange ratio was officially fixed. The ratio of three one *bu* silver coins per one piece of Mexican silver was based on the same kind same quantity principle; when calculated in terms of *ginme*, the value of one Mexican silver was worth 45 *monme* of silver ($60 \text{ monme} \times \frac{3}{4}$). This was the exchange ratio or foreign exchange rate based on the substantial value of the Japanese and foreign currencies, and may be regarded as the legal or mint ratio. The value of Mexican silver began to be expressed in terms of *ginme* which became a money of account, one *ryo* of gold was expressed by 60 *monme* in terms of *ginme*, and the exchange ratio of Mexican silver was expressed by *ginme*.

Thus, the exchange ratio between Mexican silver and one *bu* silver coin was at first based on the content of silver and had no meaning as a foreign exchange rate. Since the Bunkyu era (1861-1863), with the activity in private foreign trade and the commencement of transactions in Mexican silver, Mexican silver has become a foreign trade currency. As a result, the exchange ratio of Mexican silver began to fluctuate with the changes in demand disregard of the exchange ratio of the same kind same quantity principle.

The same kind same quantity principle could not guarantee the exchange ratio of Mexican silver which became a foreign trade currency. Mexican silver circulated in various countries of the Pacific coasts, functioning as actual silver exchange; they have appeared in Japan as the foreign trade

¹⁰ Marquis Okuma, His Life for 85 Years, Vol. 1, p. 180.

currency since the Bunkyu era. The exchange ratio of three one *bu* silver coins per one Mexican silver based on weight was affected by the demand and supply relations. The exchange ratio of Mexican silver in terms of *ginme* has been about 36 *monme* since the opening of the Port of Yokohama. According to a report on the average exchange rate of Mexican silver made by Mr. Sōbei Mogi in May of Meiji 8 (1876), it showed a decline below the official rate as mentioned in the following table. This exchange ratio may be that in Yokohama.

		Monthly average (<i>monme</i>)	
		High	Low
Bunkyu	2 (1862)	35.87	31.82
	3 (1863)	36.47	34.49
Genji	1 (1864)	39.4	32.61
Keiō	1 (1865)	36.93	34.63
	2 (1866)	46.57	39.5
	3 (1867)	50.4	45.19

The decline in the exchange rate of Mexican silver below the substantial value was attributed to an excess of exports over imports at Yokohama at that time.¹¹ Figures of foreign trade of Yokohama from Ansei 6 (1859) are shown in the following table.¹²

		Exports	Imports
Ansei	6 (1859)	587,908 yen	543,005 yen
Manyen	1 (1860)	3,194,688	2,996,568
Bunkyu	1 (1861)	2,343,755	2,189,506
	2 (1862)	4,113,755	3,858,016
	3 (1863)	3,704,484	3,474,749
Genji	1 (1864)	3,601,284	3,377,949
Keiō	1 (1865)	5,318,767	4,988,921
	2 (1866)	6,794,439	6,373,079
	3 (1867)	6,764,749	6,345,229
Meiji	1 (1868)	13,307,201	7,684,032

Thus, owing to the continued excess of exports at Yokohama the supply of Mexican silver increased, resulting in a decline in the exchange rate. Mexican silver was exchanged with nearly 45 *monme* of *ginme* during the period when foreign trade was small and the value of Mexican silver as a foreign trade currency was low, but with the advance in foreign trade and increased transactions in Mexican silver, the exchange rate in terms of *ginme* began to fluctuate and decline as result of an excess of exports.

¹¹ Yokohama Chamber of Commerce, *Fifty Years of Yokohama and Port*, 2nd. Vol. p. 437.

¹² *ibid.*, p. 463

III

As stated above, the rate of *ginme* was the exchange ratio between gold and silver. However, following the appearance of fixed content silver coins, the rate became nominal, and, in particular, the exchange of Mexican silver in terms of *ginme* did not reflect the ratio with *chōgin*, in this case, the exchange rate between Mexican silver as a foreign trade currency and one *bu* silver coins was expressed by *ginme* which indicated only that one *ryo* of gold was worth 60 *monme* of silver. This exchange rate of Mexican silver became the actual silver foreign exchange which fluctuated with demand in foreign trade transactions, apart from the substantial value.

Thus, Mexican silver coins acted as actual silver exchange towards the end of the Tokugawa period, but in a different way from a real monetary system accompanied by free-coinage. In modern foreign exchange systems, international accounts are settled by foreign exchange bills, and foreign exchange rates fluctuates with the demand of such bills. When fluctuations exceed a certain limit, international accounts are settled by the shipment of gold or silver, therefore fluctuations are limited by the specie points.

To make the difference clear, for instance, A in Yokohama exported 1,000 dollars worth of raw silk to B in New York, and D in Yokohama imported 1,000 dollars of raw cotton from C in New York. B must pay 1,000 dollars to A, and D must pay 1,000 dollars to C. In this case, payment and collection will be carried on through foreign exchange bills which will offset payment and collection; A will draw an exchange bill upon B and sell it to D so as to collect the payment for raw silk; D will send the exchange bill drawn by A upon B to C for the payment of raw cotton prices; C receives the payment for raw cotton by B through the exchange bill drawn by A upon B received from D; B can settle the debt owed to A through the payment of the amount of exchange bill drawn by A upon B to C.

The foreign exchange bill is a means to offset payment through credit transactions, any remaining balance is settled by the remittance of gold. This explains the settlement through foreign exchange bills among traders, but in reality, it is difficult to meet payments with receipts. Thus, with the necessity of foreign exchange banks between A and D or exporters and importers, A will sell an export bill to a foreign exchange bank and receive yen equivalent to 1,000 dollars, the amount of the bill. In this way, A can collect the value of exported silk promptly.

D will receive from a foreign exchange bank a dollar bill drawn by the bank and payable to C, in return for the payment of yen equivalent to

1,000 dollars, the value of raw cotton, and send it to C; the foreign exchange bank sends the dollar bill purchased from A to its branch in the United States to collect the amount from B and pay to C.

In this way, the transaction is completely settled. However, in reality, the export bill drawn by A is not sold to D; the foreign exchange bank will purchase dollar export bills, and will draw a different dollar bill and sell it to D. Thus, the foreign exchange bank acts as a reservoir for the purchase and sale of foreign currency bills.

International accounts are also settled through foreign exchange bills. When exports or other accounts receivable are large, the sale of foreign exchange bills to banks becomes active, bringing about an increase in the supply of foreign currency in the market. On the contrary, when imports or the accounts payable are large, the demand for foreign currency in the market is increased. When the supply of foreign currency bills exceeds the demand, quotations of foreign exchange bills will show a decline; when the demand for foreign currency bills exceeds the supply, quotations will advance. The rise and fall in quotations of foreign exchange bills shows the ratio of foreign to domestic currency. An increase in the demand for foreign currency means an increase in the supply of domestic currency; an increase in the supply of foreign currency means an increase in the demand for domestic currency. Such rise and fall in the quotations of foreign exchange bills causes fluctuations in the exchange rate of foreign and domestic currencies, that of the value of foreign currency in terms of domestic currency and that of the value of domestic currency in terms of foreign currency.

Thus, foreign exchange rate fluctuate with the supply and demand relation between foreign and domestic currencies; when accounts receivable are large due to excess exports or other reasons, the exchange rate shows a rise, whilst when accounts payable are large due to excess imports or other reasons, the exchange rate falls. Therefore, when the payment account between two countries is one-sided, the foreign exchange rate will rise fall without limit.

However, with the international gold or silver standard, settlement can be realized through the remittance of gold or silver. Therefore, if fluctuations of exchange rates are sharp, international payments will be settled by the remittance of gold or silver, which will check the fluctuation of exchange rates. Between gold standard countries, settlement is made through the remittance of gold on the basis of the mint par of gold of two currencies calculated from the content of gold—for instance 100 old Japanese yen were worth 50 U. S. dollars—, deducting or adding transportation charges; therefore, fluctuations of the exchange rate are limited to the specie point. Accordingly, even if the exchange rate fluctuates by the demand and supply relations in the market, the fluctuations of the exchange rate are limited to

the specie point with the transportation of specie, in case the fluctuations of the exchange rate are beyond the limit of the specie point.

The modern foreign exchange system based on the principles of profit-making is regulated by the mint par value of gold—the transportation charges of gold—the supply and demand of foreign exchange bills.

IV

The actual silver exchange through the Mexican silver was different from the modern way. In modern foreign exchange practice, the movement of exchange rate appears as fluctuation in the value of foreign exchange bills. The value of foreign exchange bills rises or falls indefinitely following the supply and demand. However, this rise and fall in the exchange rate is restricted by the mint par value of gold or silver deducting or adding the transportation charges. Thus, there are two kinds of fluctuations in foreign exchange; the one is due to relative value which moves with the supply and demand situation of foreign and domestic currencies; the other is due to the substantial value, which regulates the former fluctuation and stabilizes it.¹³ The substantial value is fixed directly by the content of gold or silver, and indirectly by the purchasing power parity. The gold parity and the purchasing power parity will coincide in equilibrium, but the gold standard by means of the gold parity regulates the foreign exchange rate as regard substantial value. The fluctuations of modern foreign exchange rate in the field of relative value is regulated by transactions in foreign exchange bills, and the fluctuation in substantial value by the content of currency; exchange bills and specie act separately in the function, constituting the foreign exchange organization.

The rate for Mexican silver as a foreign exchange rate did not separate the fluctuations due to relative and substantial value, because it was an actual silver exchange, the two being involved in Mexican silver itself. The rate for Mexican silver, according to which one Mexican silver coin was worth three pieces of one *bu* silver coin or 45 *monme* of *ginme* was a standard based on substantial value, but the rate declined to about 36 *monme*, disregarding the exchange ratio based on the content and indicating fluctuation due to the relative value; despite the substantial value of 45 *monme* of *ginme*, the value of Mexican silver declined owing to demand and supply conditions. The fall in the rate of Mexican silver coins was, as already mentioned, a consequence of their increase in supply as a result of excess exports.¹⁴

¹³ Shigeru Yamaguchi, *General Theory of Finance*.

¹⁴ Yokohama Chamber of Commerce, *ibid.*, 2nd Vol. p. 453.

How was it possible that the substantial value of Mexican silver was 45 *monme* of *ginme*, whilst its value as a foreign trade currency was 36 *monme*? At that time, one *bu* silver coins were not in free coinage, and Mexican silver also were not freely coined in Yokohama. The exchange of Mexican silver coins into one *bu* silver coins was not smooth owing to the failure of the government to mint one *bu* silver coins; therefore, Mexican silver coins bearing the Japanese term "revised to three pieces of one *bu* silver coin" were used as a substitute.¹⁵ The currency system at that time was far from the commercialism of today; there prevailed feudalistic economy. However, there must have been various fields permeated by commercialism though free economy did not prevail, as foreign firms and banks were established in concessions and Japanese trading firms keenly interested in profit making were engaged in buying and selling.

As commercialism prevailed to some extent, why was the value of 45 *monme* not realized for one dollar of Mexican silver? It may be presumed that no one exchanged Mexican silver at the standard value when the actual rate was 36 *monme*. It is to be supposed that profits from foreign trading were sufficient to cover the loss of 9 *monme* resulting from the depreciated rate, and that the utilization of Mexican silver in foreign trade was more profitable than payment at the substantial value on account of the large profits in foreign trade at that time. This can be proved by examples.

A Merchant in Yokohama sells goods purchased in the country with three pieces of one *bu* silver to a foreign trading firm in the concession. If the foreign firm can export it at 3 dollars, the exchange rate on a commercial basis will be three pieces of one *bu* silver per 3 dollars of Mexican silver or 15 *monme* per one dollar; thus the rate of Mexican silver can decline to the level of 15 *monme* of *ginme*. As the foreign trade of Yokohama registered an excess of exports during the period from the Bunkyu to Keio era (1861-1867), Mexican silver was in over-supply as against one *bu* silver coins. Although the rate of Mexican silver declined to 35 *monme*, registering a loss of 10 *monme* compared with the substantial value, the export at this low rate of Mexican silver still realized a profit of 20 *monme* even without a adherence to the substantial value of 45 *monme*. It is proper to consider that the decline in the rate of Mexican silver was caused by deviation of the exchange rate from the substantial value due to the above relation and that this decline governed the exchange rate to one *bu* silver coin. Consequently, when the difference between the lower rate of Mexican silver and the rate on a commercial basis became smaller than between the substantial value and the lower rate of Mexican silver there was greater possibility that the rate of Mexican silver as a foreign trade currency could be governed by the exchange rate at the substantial value.

The following was the relation between the rate of the Mexican silver

as foreign exchange, and its substantial value and the rate on a commercial basis.

	Substantial value of Mexican silver	45 <i>monme</i>
(1)	Rate of Mexican silver	35 <i>monme</i>
	Rate of Mexican silver on a commercial basis	15 <i>monme</i>

When a commodity purchased at three pieces of one *bu* silver coins is exported to the United States at 3 dollars, the rate on a commercial basis of Mexican silver is one piece of one *bu* silver coin or 15 *monme* per dollar.

The transaction of Mexican silver at the foreign exchange rate entailed a loss of 10 *monme* as compared with the substantial value. As the transaction registers a profit of 20 *monme* compared with the rate on a commercial basis, the balance between the profit of 20 *monme* and the loss of 10 *monme* is a profit of 10 *monme*.

	Substantial value of Mexican silver	45 <i>monme</i>
(2)	Rate of Mexican silver	40 <i>monme</i>
	Rate of Mexican silver on commercial basis	35 <i>monme</i>

Transactions at the rate of Mexican silver registered a loss of 5 *monme* compared with the substantial value; $45 \text{ monme} - 40 \text{ monme} = 5 \text{ monme}$. The transaction registers a profit of 5 *monme* compared with rate on a commercial basis; $40 \text{ monme} - 35 \text{ monme} = 5 \text{ monme}$. As the profit and loss is the same, the value of Mexican silver remains the same as the substantial value; therefore, in this case, Mexican silver will be re-minted or utilized as foreign trade currency.

The substantial value, the rate of Mexican silver and the rate on a commercial basis are equalized,, and are going to approach to the condition of equilibrium in a free economy.

Thus, the function of Mexican silver as an exchange rate had a different form compared with modern foreign exchange conditions, but in substance, its function was the same as in modern foreign exchange. The rate of foreign exchange bills in the modern foreign exchange system under the gold standard is identical with the rate on a commercial basis. The rate of exchange bills is based on a commercial basis. The rate of Mexican silver and the rate on a commercial basis were combined into the foreign exchange rate, constituting a foreign exchange organization which secured stability through limitation by the specie point (the substantial value of Mexican silver). In the modern free-circulation economy, in order to attain equilibrium the substantial value, exchange rate and the rate on commercial basis are approaching each other, and fluctuations of the exchange rate are limited within the specie points.

The difference between the rate of Mexican silver as a foreign exchange rate and modern foreign exchange consists in the fact that the latter is an economy in equilibrium, whilst the former involves extreme unbalance due

to the lack of a free economy.

V

The abolition of *ginme* transaction was ordered by the Administrative Ordinance of May 5th 1868 Meiji 1¹), and *ginme* which had become already merely nominal continued to be used as a yardstick for measuring money. Quotations of Mexican silver expressed in terms of the *ginme* in the earlier years of Meiji were as follows, according to figures quoted by Mr. Sōbei Mogi and Mr. Ukichi Taguchi:¹⁶

Quotations of Mexican Silver after the Restoration
(in terms of 60 *monme* by *ginme*)

year	highest	lowest	year	highest	lowest
1868	51.40	36.09	1874	62.71	61.77
1869	66.24	53.03	1875		62.19
1870	63.41	60.00	1876		60.00
1871	60.67	53.39	1877		60.92
1872	63.70	58.62	1878		62.83
1873	63.84	60.99	1879	March	75.54

It should be noted that the principle of equality between *ryo* and *yen* was established by the New Currency Regulation of 1871 (Meiji 4), and the exchange rate of *ginme* was amended from 45 *monme* to 60 *monme*, that is:

Old : — 1\$ Mexican silver=3 pieces of one-*bu-gin*= $\frac{3}{4}$ *ryo*=45 *monme* by *ginme*.

New:—1\$ Mexican silver=one yen silver coin=one yen gold coin=one gold *ryo*=60 *monme* by *ginme*.

Meanwhile, the Mexican silver had undergone a change in character, the quotations which had retained meaning as an exchange rate up to about 1867, now in the light of foreign trade at the Yokohama port acquiring a new relationship.¹⁷

Foreign Trade at Yokohama after the Restoration
(in yen)

year	Exports	Imports	year	Exports	Imports
1868	13,307,201	7,684,032	1875	12,970,987	22,539,784
1869	10,384,060	15,774,732	1876	21,814,921	18,920,824
1870	10,770,381	24,794,474	1877	15,916,358	21,028,788
1871	12,074,628	13,883,552	1878	15,540,291	24,870,241
1872	11,729,835	19,024,050	1879	19,258,733	23,606,570
1873	15,694,060	19,742,563	1880	18,984,217	26,324,650
1874	13,034,243	16,748,401	1881	21,481,187	21,584,318

¹⁶ Ukichi Taguchi, The Anti-Mexican Silver Problem, Dec. 1878.

¹⁷ Fifty Years of the Yokohama Port, edited by the Yokohama Chamber of Commerce, 2nd. Vol., p. 453.

In the earlier years of Meiji, foreign trade at Yokohama showed a considerable adverse balance due to overwhelming importation of Western goods, but with the exception of 1868 and 1876 there was a large favourable balance mainly on account of the increased exportation of raw silkworm egg cards based on special circumstances.¹⁸

A comparison of Mexican silver quotations with exports and imports at Yokohama during the period from the Restoration to the year of the New Currency Regulation, will show some correspondence. Silver quotations were lowest (36.09 *monme*) in the starting year of Meiji (1868) when exports recorded a large excess over imports, but for the remaining years remained in the neighborhood of 60 *monme* against 45 *monme* of standard weight, while trade turned adverse by far more than to offset the export excess during the period from Bunkyu to Keiō (1861-1866). This appreciation of Mexican silver was attributable to the excess of imports over exports. Thereafter, however, fluctuations remained within the small range around the level of 60 *monme* in spite of the continued adverse trade balance up to 1879.

This would imply that Mexican silver quotations were by degrees subject to some modification. This tendency as shown at Yokohama cannot always be applied to Hakodate, Hyōgo, Nagasaki and other ports, among which there was little inter-relation at that time. The conditions at other ports, however, might be supposed not to be quite different from this tendency which could be observed also in the foreign trade figures of the whole country.¹⁹

Exports and Imports of the Whole Country
after the Restoration (in 1,000 yen)

year	Exports	Imports	Difference	Year	Exports	Imports	Difference
1868	15,553	10,693	4,860	1875	18,611	29,976	-11,365
1869	12,909	20,784	-7,875	1876	27,712	23,965	3,747
1870	14,543	33,742	-19,199	1877	23,349	27,421	-4,072
1871	17,969	21,917	-3,948	1878	25,988	32,875	-6,887
1872	17,027	26,175	-9,148	1879	28,176	32,953	-4,777
1873	21,635	88,107	-6,472	1880	28,395	36,627	-8,231
1874	19,317	23,462	-4,145	1881	31,059	31,191	-132

So I cannot help thinking that the adverse balance after 1871 did not give rise to a rise in Mexican silver quotations which accordingly diminished in significance as a foreign exchange rate.

Foreign firms and bankers who had entered Japan since the opening of ports engaged in foreign trade on spot exchange account with Mexican

¹⁸ *ditto*, p. 473.

¹⁹ General View of the State of the Japanese Empire for the Period of Meiji and Taisho, edited by the Oriental Economist, p. 445.

silver, and the transactions between them would be cleared by the modern transfer of foreign bills. The figures on foreign exchange rates inserted in the "Statistical Yearbook of the Japanese Empire" for certain period after 1874 were those transacted among foreign firms and bankers. However, spot exchange dealings in Mexican silver had decreased by degrees in importance, and not later than 1877 the rise in Mexican silver did not always reflect the adverse balance. If most of the foreign trade had been subjected to exchange dealings in Mexican silver, quotations should have more advanced. But the level before that year showed only a little higher rate than 60 *monme*, its parity. It must be presumed that quotations of Mexican silver gradually lost importance as a foreign exchange rate.

VI

Since the appearance of the one yen silver coins (trade silver coins) equivalent in weight to Mexican silver, authorized by the New Currency Regulation of 1871, the quotation of the latter used to indicate a market exchange rate of inconvertible notes issued after the Restoration, to one-yen silver coins and Mexican silver.

The enormous outflow of coins before the restoration was chiefly due to the difference between the parity of gold and silver in Japan and that in foreign countries, but after the Restoration the depreciation of paper money through successive issues of various government and bank notes in addition to the excess of imports during several years also gave rise to an outflow of gold and silver. New gold and one yen silver coins were introduced by the above Regulation,²⁰ and gold coins in circulation diminished from 43,551,000 yen at the end of 1873 to 11,998,000 yen at the end of 1884 owing to the outflow of gold coins in spite of new coinage. On the other hand, silver coins in circulation increased in consequence of the greater issue of one yen silver coins, so that the de facto silver standard since the beginning of 1886 could be placed on a firm basis.

Besides metallic money, inconvertible notes appeared one after another. After the issue of government notes, called *Dajōkan-satsu*, by Administrative Ordinance of April 19th. 1868,²¹ devised as one of the measures to meet financial difficulties, Ministry of Civil Affairs notes (*Minbusho-satsu*),²² Land Reclamation Authority notes²³ and Exchequer Convertible Notes followed in succession. Meanwhile, several bank notes issued by The Kawase Kaisha Banks appeared since 1869, followed by national bank notes issued by

²⁰ General View of the State of the Japanese Empire, p. 132.

²¹ Administrative Ordinance, April 19th 1868.

²² *ditto*, Sept. 17th 1869.

²³ *ditto*, Oct. 12th 1871.

national banks established on the basis of the National Bank Regulation of 1872, though the latter turned into inconvertible notes by the revision of that Regulation. Thus, inconvertible notes in circulation amounted to the following;

Government and Bank Notes in Circulation
(in 1,000 yen)

year		year		year	
1868	24,037	1875	100,492	1882	143,754
1869	50,091	1876	106,892	1883	132,271
1870	55,500	1877	119,150	1884	124,396
1871	60,272	1878	165,698	1885*	122,457
1872	68,400	1879	164,355	1886*	136,852
1873	79,743	1880	159,367		
1874	93,897	1881	153,302		

Source: Abstract of the Circumstantial Report on the Monetary Reform.

* Bank of Japan notes included.

According to the above figures, the notes in circulation in 1877 amounted to twice as many as in 1869, but the increased demand for money did not give rise to a large value divergence between paper and silver. Quotations for Mexican silver, which should certainly have risen owing to the depreciation of notes, fluctuated not far from the 60 *monme* level. Owing to the civil war in 1877, however, the note issue rapidly expanded, which led to a rising tendency of Mexican silver quotations after January 1879. The trend of quotations is shown as follows:

year	Annual average	Standard level	Monthly figures	
			1880	1881
1868	33.66 monme	45 monme		
1869	43.29	"	Jan.	81.90 monme
1870	46.485	"	Feb.	83.34
1871	{ 44.01 58.68	60 monme	Mar.	86.10
			Apr.	92.94
1872	61.08	"	May.	82.38
1873	62.16	"	June.	82.02
1874	62.28	"	July.	82.68
1875	61.74	"	Aug.	83.22
1876	59.34	"	Sept.	89.34
1877	61.98	"	Oct.	99.06
1878	65.94	"	Nov.	101.16
1879	72.72	"	Dec.	99.54
1880	88.62	"	average	88.62
1881	101.76	"		101.76

Source : *ditto*.

The above figures up to September 1879 are the quotations of Mexican silver and since then those of one yen silver coins.²⁴

Those up to Dec. 13th 1879 are converted into units of *Ginme* against one dollar of Mexican silver, and those since then into units of 60 *monme*.

Quotation of Mexican silver after the promulgation of New Currency Regulation, as above shown in comparison with notes in circulation, had no longer measuring as an exchange rate, nor did they reflect continued adverse balance in foreign trade. As clearly shown by the above figures, quotations reflected a divergence between silver and paper, due to the depreciation of paper money.²⁵

After the civil war in 1877 this divergence had been intensified by the expansion of in convertible notes, and accordingly Mexican silver rapidly appreciated, quotation being 104.04 *monme* in October 1881. This rise did not always paralleled the expansion of the note issue, but there was no doubt that this was presumably due to speculation in Mexican silver dealings.

Before the Restoration, when Mexican silver functioned as trade money, it had been necessary for exporters to sell it and for importers to buy it, and accordingly exchange brokers visited trading firms for buying or selling of Mexican silver and to adjust the demand and supply. The development of foreign trade and the increase in the number of exchange brokers resulted between 1861 and 1864 in the establishment of Chamber of Exchange Brokers, where they assembled for dealings. After the Restoration speculative transactions in Mexican silver became more and more active. In order to stabilize quotations and meet the abrupt rise after the civil war, Mr. Shigenobu Ōkuma, the then Finance Minister, established a Mexican Silver Exchange at Yokohama in February 1879, which was later renamed the Yokohama Exchange.²⁶ In October of that year, transactions in gold and silver coins were opened at the Tokyo and Ōsaka stock exchanges in addition to the Yokohama Exchange, to contribute to the promotion of foreign trade through stability in the exchange rate of gold and silver coins as the standard money.²⁷ However, Mexican silver speculation continued without the least improvement. At the Yokohama Exchange, spot dealing was settled through differentials without delivery of actual silver. The government prohibition of fictitious transaction and the order that transactions should be carried out through spot delivery²⁸ was of no avail. In May 1880, future transactions in gold and silver coins were prohibited²⁹ and a call was prohibited for a

²⁴ *ditto*, Sept. 12th 1879.

²⁵ Tokyo Nichi-nichi Shinbun, Oct. 15th 1879.

²⁶ Marquis Okuma, His Life for 85 years, Vol. 1, p. 722.

²⁷ Tokyo Nichi-nichi Shinbun, Oct. 4th 1879.

²⁸ *ditto*, Dec. 13th 1879.

²⁹ *ditto*, May 21st. 1880.

while because of sharp fluctuations.³⁰

In order to prevent the rise in silver prices and to promote the smooth operation in silver transactions, Mr. Ōkuma placed silver coins on the market through the First National Bank, the Mitsui Bank and the Yokohama Specie Bank in March 1880. Owing to this measure, the price rise stopped temporarily, but restarted as soon as the sale was suspended. From September of that year he thought to remove the divergence between silver and paper through the redemption of notes.³¹

Quotation of Mexican silver rose with the depreciation of paper money to the highest point in the autumn of 1881, two years later than the peak in the note issue, the note redemption policy, earlier intended by Mr. Ōkuma, was firmly established in the autumn of 1881 by Mr. Masayoshi Matsukata. Since then the divergence between silver and paper was gradually reduced by the fall in silver prices as well as the appreciation of notes. A serious deflation crisis followed until the divergence disappeared at the end of 1885 when one yen silver coins became equal of one yen notes. This also signified the disappearance of Mexican silver quotations.

As mentioned above, *Ginme* as money by weight was merely a nominal money of account, during the time when it was used as an indication of Mexican silver quotations, which early meant the exchange rate and later the silver price in terms of inconvertible notes. Silver quotations in this sense disappeared in January 1st, 1886, when Japan's currency system came to be based in fact on the silver standard.

The price of *Ginme* lost its real meaning and become nominal by the issue of *Nanryo*, one-bu-silver coins as token-money, but after the abolishment of *ginme* transactions in the starting year of Meiji (1868) it acted as a nominal evaluation unit or money of account, thereafter it was used as an indicator of Mexican silver quotations until December 13th 1879, and also as a price indicator of other commodities, as *rin* (1/1000 yen) and *sen* (1/100 yen) were the latter function of the *Ginme*, which of course has been gradually replaced by the *sen-and-rin* indicator, has remained partly effective locally for a considerable time. According to the examples given in Text Book of Soroban (Japanese calculating machine) edited by Bunjiro Watanabe (1890), *Ginme* was at that time merely an evaluation unit expressed in terms of 60 *monme* of silver equivalent to one yen.³²

This characteristic change of the prices of *Ginme* and Mexican silver and the retreat of their importance reveals the gradual transition from the old Japanese to the new economy through the New Currency Regulation. Spot silver exchange quotations indicated by the price of *Ginme* and Me-

³⁰ *ditto*, April 20th 1880.

³¹ Marquis Ōkuma, Vol. 1, p. 728.

³² Complete work on Arithmetics, edited by Bunjiro Watanabe, 1890.

xican silver signified the transition to a modern exchange system realized by a combination of that Regulation and foreign trade.

Where the quotation of Mexican silver as an exchange rate once implied the divergence between silver and paper, there appeared the modern exchange rate. As a result of the New Currency Regulation of 1871, standard gold coins and one yen silver coins were minted, the parity being 1 to 16.01.³³ Since the circulation of one yen silver coins was allowed only within open ports, the New Currency Regulation should have established the principle of a gold standard combined with restricted standard silver coins. However, owing to the successive issue of inconvertible notes since the Restoration and the huge outflow of gold coins caused by the unfavourable balance in foreign trade, in spite of the increased issue of gold coins after 1871, Japan really remained an inconvertible note country on a silver basis. Thus the Japanese foreign exchange rates at that time, which were so-called silver exchange rates, are determined by the exchange relation between the one yen silver coins and foreign gold coins based on the parity of silver and gold. According to the figures taken from the "Statistical Yearbook," the exchange rate on London traced a continual downward course due to the decline in silver, from 4 shillings 2 pence to one yen in 1874 (annual average to 2 shillings in 1897, at the depreciated rate of which the yen was connected to the pound sterling by the establishment of the gold standard. Exchange bill transactions were carried out by foreign bankers, but later also by the Yokohama Specie Bank.

³³ Finance Ministry's Decession of April 1872 ; New Currency Regulation of May 1872.