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Early monetary policies of the Tokugawa shogunate and merchants' coping strategies: 1695–1736*

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Abstract: The Tokugawa monetary system was a new experience in Japanese history, and the Genroku debasement, which was necessitated by the exhaustion of gold and silver resources, was a new experiment for both the shogunate and merchants, the representatives of the townspeople. For the same reason, the shogunate had no choice but to implement a monetary policy “nominalistically,” but the merchants responded “metallistically.” This was because the merchants valued money as bullion. The conflict between the shogunate and merchants played an important role in invigorating the Tokugawa economy. This study describes the historical economic situation.

JEL Classification: D46, E31, K42, N15, Z13.

Keywords: commodity money, early modern Japan, fixed and floating exchange rates, Edo and Osaka, nominalistic and metallistic.

Abbreviations

60MMT	60 momme multiplication table (<i>Rokujoyume no kakeho</i>)
HTLxxxx	Horeki Tokugawa Law No. xxxx (<i>Ofuregaki Horeki shusei</i>)
KTLxxxx	Kanpo Tokugawa Law No. xxxx (<i>Ofuregaki Kanpo shusei</i>)
MFDbxxxx–xxx	Mitsui Family Documents <i>betsu</i> No. xxxx–xxx
MFDhxxxx–xxx	Mitsui Family Documents <i>hon</i> No. xxxx–xxx
TMG	Tokyo Metropolitan Government

Style

The style of this paper is (author, date: page numbers) system.

The macron ¯ of Hepburn romanization system [the vowel letters (ā, ē, ī, ō, ū)] is omitted in this paper.

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‡ This paper is inspired primarily by the following two books: Fox & Ernst, 2016; Desan, 2014.

1. Introduction

Around 1716, something strange happened in the Edo market. Many Keicho kobans, which had completely disappeared from the market over the past two decades, began to be used. Ultimately, they amounted to nine-tenths of the kobans in the market ([Dazai, 1729/1914: 139](#)). Arai Hakuseki, the adviser of the shogun, believed that new good silver coins could draw the hoarded good silver coins back into circulation ([Muro, 1713/1914: 250](#)). Although he was wrong about this in terms of silver coins, it did work for gold coins.

This enigma can be explained. The reason old Keicho kobans flowed into the market in short bursts can be attributed to the socio-cultural characteristics of the market in early modern Japan. Gold production in Japan peaked at the beginning of the 17th century. This was when almost all Keicho kobans were minted. Over the following 75 years, they wore down with use. In 1674, 90% of them were worn down, 8% had been repaired, and 2% were under the legal weight, which meant their weight had reduced by at least 0.84% (approximately 0.15 g; Mitsui, 1932: 44). Nevertheless, because people disliked the worn kobans due to their low weight and liked only the repaired kobans, circulation of kobans decreased in the market. The shogunate had to order that legal lightweight kobans be used in the market and that all kobans be considered of the same value, regardless of weight (KTL1756, 1674/1934: 892). Subsequently, people looked forward to exchanging the worn kobans for new good ones. However, the first recoinage of 1695 involved reducing the quality of coins and the shogunate's "nominalistic" policy. By the fourth recoinage of gold coins, the highest quality kobans were minted from 1716 with a "metallistic" policy. This period was when people were most willing to exchange hoarded kobans for new ones.

This study covers the period 1695–1736 and focuses on recoinages. The reason the paper does not cover the entire Tokugawa period is that a type of silver coin was issued as a gold coin in 1772, which indicates a revolutionary change in the Tokugawa monetary system.

2. Commodity money and commodity market

Modern Western theories of money have focused intensively on the functions of money, for example, as a medium of exchange, a unit of account, and a store of value. Consequently, commodity money, through extensive investigations by economists, has been separated into commodities and money. In conformance with

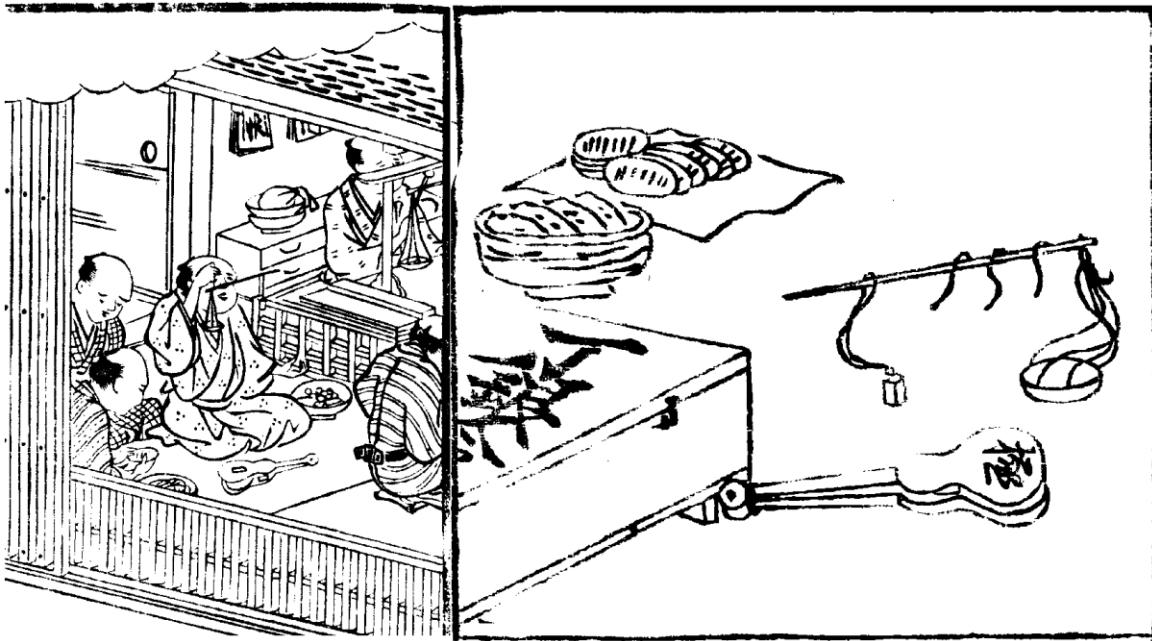
the development of theories of money, commodity money has also changed in the real world to commodity-backed money, fiat money, and cryptocurrency. Considering this, where has the commodity gone? Fortunately or unfortunately, precious metals continue to be valuable without being abstracted and excluded from our society.

Of course, commodity money was not only money; it was also a commodity. Discussing the debate of Locke versus Lowndes, Desan says the following about international trade:

The anomaly was not so mysterious. The reason coins traveled across foreign borders according to their silver content was that, in precisely that circumstance, they were *not* “money.” Money was a domestic affair, a political project based on the institutions of minting, spending, taxing, adjudicating, and enforcing that made it work as a way to count value, settle debts, and circulate value at home. Stripped of that infrastructure—outside of the engineering that made it circulate *as money*—coin was, in fact, bullion. European polities had long settled external accounts in silver or gold, given the value those metals held for money-making within their bounds. (Desan, 2014: 347)

The merchants in early modern Japan recognized the value of money as bullion. Therefore, they considered weight and quality of money as its most important factors. Money was measured during the selling and buying of merchandise (see Figure 1). For instance, the great novelist Takizawa Bakin was a regular customer of the Daimaru kimono fabric shop in Edo city. On September 3, 1828, he bought a kimono at the shop with gold coins, as he usually did (Takizawa, 1828/2009: 415). However, the shop clerk said that because Bakin’s koban weighed less than the original one, he had to pay three momme to compensate for the shortage, which was approximately 0.89 g. The clerks were always very careful about underweight coins or imitations. Their examination of money was sometimes stricter than that imposed by the law of the shogunate, for such laws generally aimed to reduce the strictness of the cash handling system in the market.

Today, one distinguishes between gold coins counted by face value and silver coins valued by weight; during the Edo period, they were used as two types of currency. However, those days, not only silver coins, but also gold coins were weighed. Gold and silver coins were commodities for merchants, just like kimonos. They always paid attention to these values. The most valuable of the three types (gold, silver, and kimonos), which varied with the times, was stocked by kimono merchants (MFDb921, 1793).



(a) Portable scale in the shop (b) Coins and a portable scale

Figure 1. Portable scales in the Handbooks of Japanese Mathematics.

Sources: (a) [Takeda, 1826](#). (b) [Daikoeki jinkoki sekaigyoku, 1794](#).

3. Recoinages and exchange laws

This section discusses the recoinages and exchange laws from the beginning of the Tokugawa regime to the Genbun debasement. This is explained simply by using figures and tables.

3.1. Measurement system

Table 1. Calculation of Gold, Silver, and Copper coins in the Edo period.

Gold coins 金貨: (ryo 両; bu 分; shu 朱)		
1 ryo =	4 bu	
	1 bu =	4 shu
1 ryo	=	16 shu
Silver coins 銀貨: (kan 貫; momme 匁; fun 分; rin 厘; mo 毛)		
1 kan =	1,000 momme	
	1 momme =	10 fun
		1 fun = 10 rin
		1 rin = 10 mo
Copper coins 錢貨: (kan mon 貫文; mon 文)		
1 kan mon =	1,000 mon	
	1 mon =	a copper coin (regardless of the quality)

Notes:

Gold coins 金貨: (ryo 両; bu 分; shu 朱)

The quaternary numeral system was used as the accounting unit for gold coins.

The face value of all types of kobans was 1 ryo 両.

Silver coins 銀貨: (kan 貫; momme 匁; fun 分; rin 厘; mo 毛)

Denominations of weight were used as the accounting unit for silver coins.

Fun 分, rin 厘, and mou 毛 were the decimal parts of a momme, which was the basic unit of silver coins.

Copper coins 錢貨: (kan mon 貫文; mon 文)

The accounting unit of copper coins was mon 文.

Many types of copper coins made in China were used as currencies in medieval Japan, where no official coins were issued (minted).

The monetary policy in medieval Japan was monometallism by means of imported copper coins.

3.2. Recoinages

The Shotoku and Kyoho recoinages were a temporary monetary ‘reversionism’, which aimed to restore the debased coins to the standing of the original Keicho coinage and to emulate the apparently ideal monetary system of the reign of the first shogun Ieyasu, who was also referred to as ‘God lord’ (see Tables 2 and 3).

3.2.1. Recoinage of gold coins

Table 2. Gold coins 1601–1736.

gold coins	face value (ryo)	minting period	quality		weight (g)	length (cm)	width (cm)	amount of mintage (ryo)
			gold (%)	silver (%)				
Keicho Koban	1	1601–1695	84.291	15.709	17.85	7.12	3.79	14,727,055
(Keicho Ichibuban)	1/4				4.46	1.70	1.06	
(Sandaime)	1				17.85			
Genroku Koban	1	1695–1710	57.366	42.634	17.85	7.42	3.82	13,936,220
(Genroku Ichibuban)	1/4				4.46	1.67	0.97	
(Genroku Nishuban)	1/8				2.23	1.12	0.76	
Kenji Koban	1	1710–1714	84.291	15.709	9.38	6.00	3.18	11,515,500
(Kenji Ichibuban)	1/4				2.34	1.48	0.85	
Shotoku Koban	1	1714	84.291	15.709	17.85	6.91	3.85	213,500
(Shotoku Ichibuban)	1/4				4.46	1.82	0.91	
Kyoho Koban	1	1716–1736	86.785	13.215	17.85	6.97	3.82	8,280,000
(Kyoho Ichibuban)	1/4				4.46	1.73	0.94	
Genbun Koban	1	1736–1818	65.714	34.286	13.13	6.58	3.58	17,435,711
(Genbun Ichibuban)	1/4				3.28	1.61	0.70	

Sources: Mitsui, 1933a: 777–794; [Tsukamoto, 1923](#).

Notes:

Apart from the coins shown in the above table, there were Oban gold coins (Tensho, Keicho, Genroku, Kyoho). For instance, Genroku Oban—face value: 10 ryo; minting period: 1695–1725; gold: 56.36%; weight: 165 g; amount of mintage: ca. 30,000 Obans ([Kusama, 1815/1916: 493](#); KLT1824, 1725/1934: 922).

Shotoku koban was modeled after Keicho koban.

Kyoho koban was modeled after Sandaime Keicho koban.

“Length” and “width” are not averages, but examples from Tsukamoto (1923).

The amount of mintage of Keicho kobans in Table 2 is underestimated.

3.2.2. Recoinage of silver coins

Table 3. Silver coins 1601–1736.

silver coins	minting period	quality		amount of mintage (kg)	amount of mintage (kan)
		silver (%)	copper (%)		
Keichogin	1601–1695	80	20	4,500,000.000	1,200,000.000
Genrokugin	1695–1706	64	36	1,521,937.500	405,850.000
Futatsuhogin	1706–1710	50	50	1,042,987.500	278,130.000
Eijiggin	1710	40	60	21,885.000	5,836.000
Mitsuhogin	1710–1711	32	68	1,389,326.250	370,487.000
Yotsuhogin	1711–1712	20	80	1,504,650.000	401,240.000
Kyohogin	1714–1736	80	20	1,242,825.000	331,420.000
Genbungin	1736–1818	46	54	1,970,497.125	525,465.900

Source: Mitsui, 1933a: 777–794.

Notes:

There were two types of silver coins (gin): chogin and mameitagin.

Chogin weighed approximately 161.25 g.

Mameitagin were small silver coins of no certain weight.

Kyohogin was modeled after Keichogin.

3.3. Exchange laws

During the Genroku debasement, a premium was offered when old coins were exchanged for new ones at the mint. However, considering the reduction in the quality of the gold, this premium, which was only one ryo for every 100 ryo of Keicho kobans until 1707, was insignificant. As many types of coins were present in

the market, the exchange rates were determined by law in 1714. The law was proposed by Tani Choemon, a merchant in Sakai City (Arai, ca. 1716/1964: 462–463; see also [Muro, 1713/1914: 278](#)). Until then, for instance, the silver mint bought 1,000 momme of Keichogin for 1,500 momme of Yotsuhogin (Arai, 1713–1714/1907: 199–200). However, after 1714, the mint had to buy them for 2,000 momme of Yotsuhogin (KTL1800, 1714/1934: 908), and everyone was able to buy them for 2,000 momme of Yotsuhogin (MFDh1481–6–1, 1714). Based on the quality of silver, 4,000 momme of Yotsuhogin should have been paid (see Table 5). This means that the shogunate defrayed a shortage of 2,000 momme of Yotsuhogin. The reign of Shotoku’s law was remarkable.

Table 4. Exchange rate law of gold coins 1714–1744 [kin=koban.]

law no.	date	exchange in the market	exchange at the mint
KTL1800	1714-05-15	Keichokin/Kyohokin 1 ryo = Kenjikin 2 ryo Genrokukin 1 ryo = Kenjikin 1 ryo	Genrokukin 100 ryo = Kenjikin 100 ryo + premium 2.5 ryo
KTL1810	1718-01-01	Genrokukin was banned in the market.	
KTL1815	1720-01-01	Kenjikin was banned in the market.	
KTL1822	1724-01-01		Genrokukin and Kenjikin became not treated as coins at the mint.
KTL1829	1730-01	Kenjikin ban was lifted. Keichokin/Kyohokin 1 ryo = Kenjikin 2 ryo	
KTL1834	1736-05	Keichokin/Kyohokin 100 ryo = Genbunkin 100 ryo Kenjikin 200 ryo = Genbunkin 100 ryo	Keichokin/Kyohokin 100 ryo = Genbunkin 100 ryo + premium 65 ryo
*1	1736-06	Keichokin/Kyohokin 100 ryo = Genbunkin 165 ryo Kenjikin 200 ryo = Genbunkin 165 ryo	
KTL1842	1738-05-01		Keichokin/Kyohokin 100 ryo = Genbunkin 100 ryo + premium 30 ryo
KTL1847	1738-05-01	Keichokin/Kyohokin 100 ryo = Genbunkin 100 ryo Kenjikin 200 ryo = Genbunkin 100 ryo	
HTL1299	1744-06	Keichokin/Kyohokin 100 ryo = Genbunkin 165 ryo	Keichokin/Kyohokin 100 ryo = Genbunkin 165 ryo
*2	after 1744	Keichokin/Kyohokin 100 ryo = Genbunkin 163 ryo Genrokukin 100 ryo = Genbunkin 101 ryo Kenjikin 100 ryo = Genbunkin 76.5 ryo	Keichokin/Kyohokin 100 ryo = Genbunkin 163 ryo Genrokukin 100 ryo = Genbunkin 101 ryo Kenjikin 100 ryo = Genbunkin 76.5 ryo

Sources: KTL, 1934: 905–931; HTL, 1935: 430.

*1: [Kusama, 1815/1916: 576–577](#). *2: [Kusama, 1815/1916: 291](#).

Table 5. Exchange rate law of silver coins 1714, 1718.

1714-05-15 (KTL1800)						
silver coins	momme	[pure silver]		silver coins	momme	[pure silver]
Keichogin/Kyohogin	1,000	800	=	Eijigin	2,000	800
Keichogin/Kyohogin	1,000	800	=	Mitsuhogin	2,000	640
Keichogin/Kyohogin	1,000	800	=	Yotsuhogin	2,000	400
Genrokugin	1,000	640	=	Eijigin	1,600	640
Genrokugin	1,000	640	=	Mitsuhogin	1,600	512
Genrokugin	1,000	640	=	Yotsuhogin	1,600	320
Futatsuhogin	1,000	500	=	Eijigin	1,300	520
Futatsuhogin	1,000	500	=	Mitsuhogin	1,300	416
Futatsuhogin	1,000	500	=	Yotsuhogin	1,300	260
1718-11-01 (KTL1811)						
silver coins	momme	[pure silver]		silver coins	momme	[pure silver]
Keichogin/Kyohogin	10,000	8,000	=	Genrokugin	12,500	8,000
Keichogin/Kyohogin	10,000	8,000	=	Futatsuhogin	16,000	8,000
Keichogin/Kyohogin	10,000	8,000	=	Eijigin	20,000	8,000
Keichogin/Kyohogin	10,000	8,000	=	Mitsuhogin	25,000	8,000
Keichogin/Kyohogin	10,000	8,000	=	Yotsuhogin	40,000	8,000

Source: KTL, 1934: 905–919.

Table 6. Exchange rate law of silver coins 1724–1744.

law no.	date	in the market	at the mint
KTL1822	1724-01-01		Genrokugin/Futatsuhogin/Eijigin/Mitsuhogin/Yotsuhogin became not treated as coins at the mint.
KTL1834	1736-05	Keichogin/Kyohogin 10,000 momme = Genbungin 10,000 momme	Keichogin/Kyohogin 10,000 momme = Genbungin 10,000 momme + premium 5,000 momme
	1736-06	Keichogin/Kyohogin 10,000 momme = Genbungin 15,000 momme	
KTL1840 KTL1842	1738-05-01	Keichogin/Kyohogin 10,000 momme = Genbungin 10,000 momme	Keichogin/Kyohogin 10,000 momme = Genbungin 10,000 momme + premium 2,000 momme
KTL1847	1738-05-01	Keichogin/Kyohogin 100 momme = Genbungin 100 momme	
HTL1299	1744-06	Keichogin/Kyohogin 100% = Genbungin 150%	Keichogin/Kyohogin 100% = Genbungin 150%
*1	after 1744		Keichogin/Kyohogin 1,000 momme = Genbungin 1,200 momme Genrokugin 1,000 momme = Genbungin 896 momme Futatsuhogin 1,000 momme = Genbungin 700 momme Eijigin 1,000 momme = Genbungin 560 momme Mitsuhogin 1,000 momme = Genbungin 448 momme Yotsuhogin 1,000 momme = Genbungin 280 momme

Sources: KTL, 1934: 925–931; HTL, 1935: 430.

*1 [Kusama, 1815/1916: 585](#).

However, the Kyoho law of 1718 subsequently ordered the correct exchange rates according to quality (KTL1811, 1718/1934: 917–918). Nevertheless, Choemon’s law was undoubtedly “metallistic.” In other words, it was a merchant’s law. The “nominalistic” policy was inadequate to resolve the chaos caused by the use of many

types of money. Although the law was implemented, the complexity regarding many different types of coins continued. All types of coins, both good and bad, were present in the market. This situation differed from Gresham's law derived from the socio-cultural conditions in the English market, where, for instance, there were many clipped coins. To ease the confusion regarding money, diagrams were sold in the market (see Figures 2 and 3; Table 7).

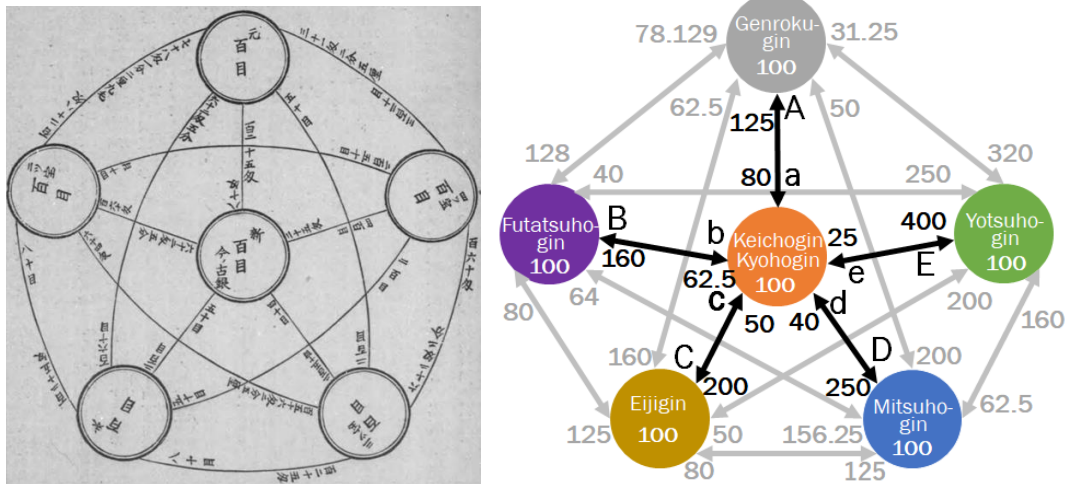


Figure 2. Diagram for the exchange of silver coins (before the Genbun debasement).
 Source: [Yamagata, 1820/1916: 312](#).

Table 7. A part of the calculation shown in the Diagram of Figure 2.

	silver coins	quality	momme	pure silver (momme)		silver coins	quality	momme	pure silver (momme)
A	Keichogin Kyohogin	80%	100	80	→	Genrokugin	64%	125	80
B	Keichogin Kyohogin	80%	100	80	→	Futatsuhoigin	50%	160	80
C	Keichogin Kyohogin	80%	100	80	→	Eijigin	40%	200	80
D	Keichogin Kyohogin	80%	100	80	→	Mitsuhogin	32%	250	80
E	Keichogin Kyohogin	80%	100	80	→	Yotsuhogin	20%	400	80
a	Genrokugin	64%	100	64	→	Keichogin Kyohogin	80%	80	64
b	Futatsuhoigin	50%	100	50	→	Keichogin Kyohogin	80%	62.5	50
c	Eijigin	40%	100	40	→	Keichogin Kyohogin	80%	50	40
d	Mitsuhogin	32%	100	32	→	Keichogin Kyohogin	80%	40	32
e	Yotsuhogin	20%	100	20	→	Keichogin Kyohogin	80%	25	20

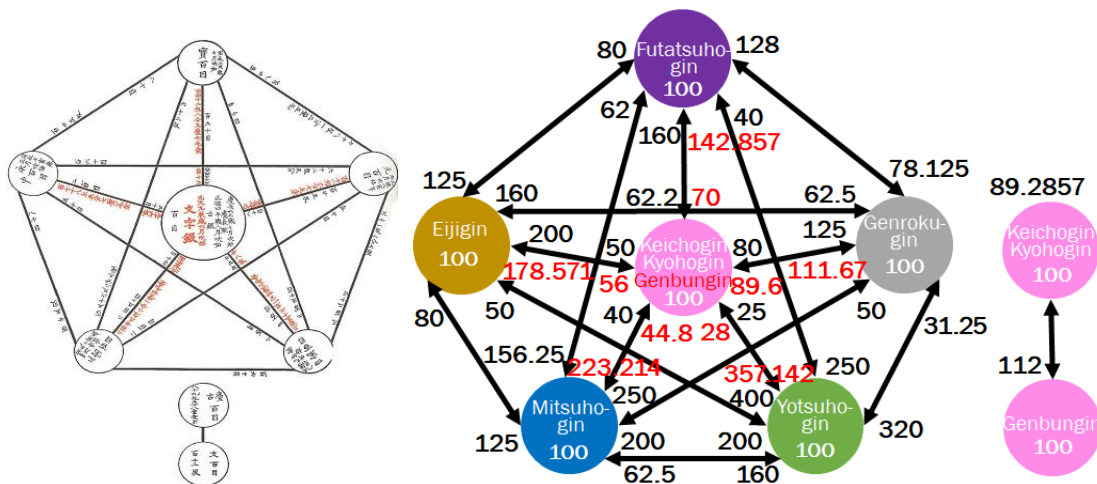


Figure 3. Diagram for the exchange of silver coins (after the Genbun debasement).
 Source: Mitsui, 1933b: 201.

4. Inflation and the shogunate

The Tokugawa monetary system, which introduced gold and silver money nationally, was a new experience in Japanese history, a new experiment, and it caused fresh confusion. At the beginning of the Edo period, the system worked very well because of the abundant production of precious metals. The shogunate owned almost all precious metal resources and managed gold, silver, and copper mints. Nobody knew that gold and silver resources were going to be almost exhausted in a few years. Thanks to the good quality of the coins, people could use them for a century. However, the shogunate treasury was completely emptied in a century (Ogyu, ca. 1727/1914: 414), which was a serious problem. Recoinage was an option to refill the treasury by effectively reutilizing the finite resources, namely, the minted coins in the market.¹ Hence, the shogunate carried out the 1695 Genroku debasement.

This debasement caused several problems, the worst of which was runaway inflation. The reason behind the rise in prices was frequently discussed in the city (Muro, 1713/1914: 214–216). The most common opinion was that the reduction in the quality of coins corresponded with rising prices. However, this opinion lacked an impregnable theoretical background. From ancient times, Japan had considered China an advanced nation. Chinese classics were for the Japanese what Greek and Roman classics were for Europeans. Unfortunately, few Chinese philosophers

¹ The shogunate's plan was very simple, namely, that if the shogunate were to withdraw all the currency present in the country, remit twice the amount from the withdrawn currency, and return half of it into circulation, the shogunate would be able to refill the treasury with the same amount. The plan had nothing to do with the quality of the money (see Muro, 1714/1914: 290).

studied the theory of money. In addition, the gold–silver monetary system was used for only short periods in the entire Chinese history. Therefore, Japanese scholars tried to understand economic phenomena by reading the rare book *Guanzi*, which deals with money and commodities. Von Glahn writes:

Pseudo-Guanzi ignored the fundamentally moral issue that preoccupied Aristotle, namely, how can the use value of goods be expressed in terms that makes an equitable exchange possible. Instead, he asserted that the value of a commodity is determined not by its intrinsic worth but, rather, by the laws of supply and demand. Drawing, no doubt, on empirical observation of price fluctuations, Pseudo-Guanzi enunciated an equation of exchange that became the keystone of Chinese monetary thought: the values of money and commodities were related in inverse proportion to each other. This equation can be seen as a quantity theory of money, since it holds that the value of money (as measured by purchasing power) and the value of goods (measured by prices) are functions of the relative quantities of each. By manipulating the quantities of goods and money, the ruler can adjust the ratios of exchange and thereby control market prices. (von Glahn, 1996: 29)²

As many Chinese classics were written for rulers, von Glahn's highlighting of the ruler is correct. His words "the laws of supply and demand" and "the ratios of exchange" come from *Guanzi's* theory of "*qingzhong*; the light and the heavy" (von Glahn, 1996: 28). The theory states, "If money is valued (*zhong* 重), goods will all be cheap (*qing* 輕), but if money is cheap, goods will all be expensive" (Rickett, 1998: 417). Just as von Glahn says, the theory was induced by an "empirical observation of price fluctuations."

Chinese history books, e.g., "Equalization" in *Shiji* or "Treatise on Foodstuffs" in *Book of Han*, tell us what the concrete experiences were, which refer almost exclusively to copper coins. In other words, recoinage to thinner and a greater number of coins progressively accelerated inflation. Therefore, the quality of copper coins was proportional to the quantity, because the quality and weight of the coins were reduced in most cases. Hence, one must also consider the 'quality' theory of money to be able to analyse inflation.

The Genroku debasement presented the same situation, namely, less quality and more quantity. Hence, considering the increase in the supply of money, Japanese historians currently use the quantity theory of money to explain the Genroku inflation (see [Honjo, 1940: 10–12](#); see also Miyamoto, 2004: 61; Nishikawa,

² See also von Glahn, 2016: 120–123.

1985: 49–52). However, such an understanding is incorrect. It is well known that Hakuseki statistically researched coins, gathering information from gold and silver mint officers. According to his estimation, the circulation quantity of the coins in the market did not change during the Genroku debasement because of the hoarding of many old coins.³ Therefore, people attributed the inflation to the debasing of the quality of coins, not to the increase in quantity.

Subsequently, the shogunate was constantly on the brink of a fiscal crisis. The recoinage to increase money was ineffective in the long term because of inflation. The shogunate also attempted to increase taxes on merchants. However, merchants added taxes to merchandise prices. The vicious circle of taxes and prices also factored in inflation. Hence, the shogunate could not escape the inflationary spiral.

5. East and West

The Tokugawa monetary regime was supposedly trimetallic (high denomination gold coins, middle denomination silver coins, and low denomination copper coins). However, it was not really trimetallic, for the chief mediums of exchange in West Japan were silver and copper coins, while those in East Japan were gold and copper coins. The regional economies were bimetallic or monometallic, mostly copper. The trade of merchants was also bimetallic, specifically, gold and silver.

Because Edo, the center of East Japan, was an emergent city that had gradually developed since the 17th century, sophisticated goods were largely imported into Edo from the old cities in West Japan. The commercial center in West Japan was Osaka, where many goods were packed and exported to Edo, the biggest consumer city (see Figure 4).

³ The amount of reminted Keicho gold and silver coins is known from the mint documents. Hakuseki's report, which largely concurs with these documents, reveals that 8,824,350 ryo of Keicho gold coins and 287,617.155 kan of Keicho silver coins were reminted to 13,236,534 ryo of Genroku gold coins and 357,535.380 kan of Genroku silver coins (Arai, 1713/1907: 192). Currently, nobody knows the amount of coinage of Keicho gold coins because the mint documents were destroyed in a fire. However, Hakuseki's report tells us that the mint officer put the number of Keicho gold coins at 20,000,000 ryo and the number of Keicho silver coins in the city at that time at 400,000 kan (Arai, 1711/1906: 673). Hence, broadly, one can say that half the Keicho coins were reminted and the remaining coins were hoarded. This means that the total amount of currency in the market was unchanged or reduced a little. The abundant outflow abroad is not referred to here.



Figure 4. East and West Japan

East and West Japan had different market characteristics. Broadly, the merchandise in Edo city was priced in gold-denominated moneys of account, which followed the non-decimal system, that is, the quaternary numeral system. In other words, people sold and bought goods according to the face values of gold coins, just as is currently done. Meanwhile, in West Japan, the merchandise was priced in terms of the silver-based moneys of account, wherein the prices were stated in weights of silver coins, which had no face values. For merchants, the accounting unit of silver weight and the decimal system were very convenient for calculating prices in minute detail. Conversely, high-denominated gold coins and the quaternary numeral system were unsuitable for counting pennies.

Generally speaking, the commodity market in East Japan operated with the gold standard and the fixed exchange rate system, but in West Japan, the silver standard and floating exchange system were applied. Accordingly, one could assume that East Japan was a country separate from West Japan. The East–West exchange rates were similar to the international exchange rate.

6. Exchange rates and commodity prices

In early modern Japan, there were multiple exchange rates between gold and silver; in other words, they were determined at the regional level, namely, the markets of Osaka, Edo, Kyoto, and so on. The difference in the rates, especially between Osaka and Edo, gave rise to price inflation because it was reflected in commodity prices.

For instance, if the exchange rate was 40 momme of silver to 1 ryo of gold in Osaka and 80 momme of silver to 1 ryo of gold in Edo, the merchants in the West shipped goods to Edo at twice the price as in the West. The delivered goods were purchased with gold coins in Edo, then the gross gold income was exchanged for silver in Osaka, and thus, the accounts were settled. Hence, if the merchants in the West had sold the goods in Edo at their original prices, they would have sold them at half the price (see Figure 5).⁴

<p>Before 1700 (fictional)</p> <p>Exchange rate between silver and gold in Osaka = 40 momme : 1 ryo</p> <p>Exchange rate between silver and gold in Edo = 80 momme : 1 ryo</p> <p>Merchandise A in Osaka = 80 momme [Osaka original price]</p> <p>Merchandise A exported to Edo = $80 \times (80 \div 40) = 160$ momme [exported pricing]</p> <p>Merchandise A imported into Edo = 160 momme [Edo price]</p> <p>Purchased Price of A in Edo = $160 \div 80 = 2$ ryo [according to the exchange rate in Edo]</p> <p>Proceeds of A exported to Osaka = 2 ryo</p> <p>Proceeds of A imported into Osaka = $2 \times 40 = 80$ momme [according to the exchange rate in Osaka]</p> <p>*After 1700 (not fictional but factual)</p> <p>Exchange rate between silver and gold in Osaka = ?? momme : 1 ryo [floating = temporary]</p> <p>Exchange rate between silver and gold in Edo's commodity market = 60 momme : 1 ryo [fixed]</p>
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Figure 5. One fictional example: An Osaka Merchant selling in Edo (before 1700)

Hence, the difference in exchange rates was by no means negligible as a cause of inflation. Until the Genroku debasement, the exchange rates in the East and the West were extremely stable, 60 momme of silver to 1 ryo of gold. However, after the debasement, violent fluctuations ensued in the gold–silver exchange rates. The exchange rate of silver was generally higher in Osaka than in Edo, which caused inflation only in the latter. Ten guilds, called the Edo Tokumi Donya, were annoyed by the East–West exchange rate, which caused inflation and cooled the Edo economy. The shogunate finally paid heed to their frequent entreaties in 1700 and established a fixed rate of 60 momme of silver to 1 ryo of gold throughout the nation. The ten guilds were willing to obey the fixed 60–1 law strictly; in short, all

⁴ As an actual example, the exchange rate in the West was 45 momme of silver to 1 ryo of gold, while in the East it was 60 momme to 1 ryo in the commodity market in November 1718.

commodity markets in Edo operated under a fixed exchange rate, while the exchange rate was floating in money markets in Edo (see Figure 6).⁵

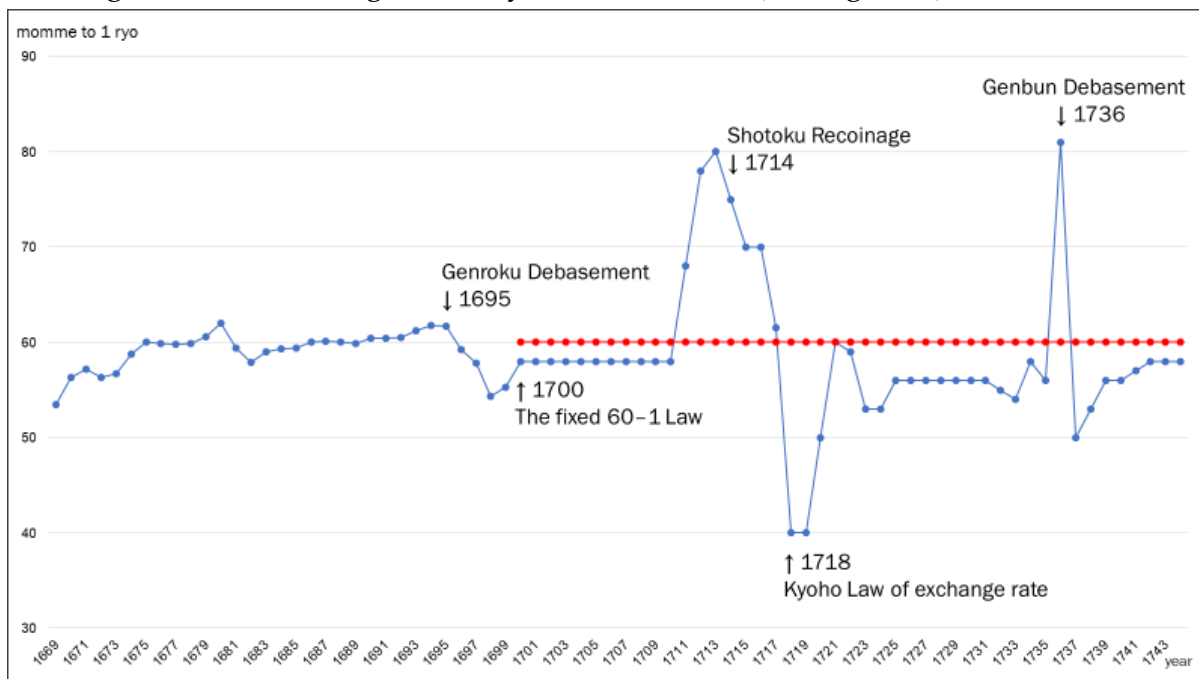


Figure 6. Exchange rates from the documents of the Konoike Family in Osaka [= Blue line]. [Red line =] Fixed 60-momme rate in Edo’s commodity market from the Genroku fixed rate law of 1700.

Sources: KTL1767, 1700/1934: 895; Konoike Zenemon family documents, 1669–1744: Nos. 1071–1075.

However, Western commodity merchants did not obey the fixed exchange rate law. In those days, people did not commonly obey monetary laws, except for when these laws served to benefit them. Furthermore, the rate difference benefited Western merchants. In this way, the unique situation of commodity markets arose between the East and the West.

7. Merchants’ strategy and the shogunate policy

7.1. Chaotic monetary policy versus the double-price strategy

The law of the Genroku debasement dictated that the new Genroku coins be used like old Keicho coins without distinction in the market. This meant that the evaluation criterion of gold coins would be face value, regardless of the quality. In the case of silver coins, old and new coins of the same weight would have the same value, regardless of their relative quality. Following the law, the shogunate tried to

⁵ The floating exchange rates of the money markets in both the West and the East did not vary too much. This means that the fixed exchange rate of 60 momme to 1 ryo in the commodity market in Edo was not the exchange rate of real money, but the rate used to calculate the gold denomination value in Edo based on the silver prices of the goods from the West.

switch from the old coins to the new ones, adding a slight premium. However, people delayed switching to them, as their color clearly indicated lower value. Nevertheless, as this was the only devised solution, the shogunate continued with the recoinages to escape from financial difficulties. Consequently, six types of gold kobans and eight types of silver chogins were circulated in 1736 in the market (see Figure 3).⁶

Fluctuations in the gold–silver exchange rates in the money markets were also erratic. However, there was an exception to this situation. The fixed exchange rate law of the shogunate implemented in 1700 was obeyed only by the shogunate itself and the Edo commodity market.⁷ As discussed previously, the merchants in the West had to reflect the differences in the East–West rates in their prices. Specifically, this was the difference between the fixed exchange rate in the East and the floating exchange rate in the West. If the fluctuation in the latter was extreme, merchants in the West had to change their price tags tremendously. This meant enormous menu costs.

The kimono fabric shop “Echigoya” is now known as Mitsukoshi. The most famous business method of Echigoya is well known even now as “Genkin Kakene Nashi,” which means, “If you buy a kimono by cash, we will sell it at the cheapest price.” When this method of sale was launched, deferred payment sales were common. In short, it was a sales innovation that affected the sales methods of all shops. Thus, the “Genkin Kakene Nashi” method became the most popular all over the country. Echigoya’s cash method was strongly connected to the price tag on which the cheapest price was written. However, the chaotic monetary policy began, and the cheapest price tag strategy faced a crisis because of the huge menu costs.

The solution also involved a price tag, which listed the doubled price. The new method was named “60 Me no Kakeho (60MMT),” from the fixed exchange rate of 1 ryo–60 momme in Edo (MFDh1031–1, 1719; TMG, 1967: 369–374). In the table, a list of ratios of doubled prices to selling prices was provided. The information the clerk had to obtain was of four kinds: the doubled price of the kimono the customer selected, the method of payment the customer desired, the floating exchange rate in the West, and the suitable ratio in the 60MMT. By multiplying the doubled price by the suitable ratio, the clerk was able to calculate the selling price immediately (see Table 8). The merit of the 60MMT system was that one did not need to change the

⁶ Many types of coins were already legally banned in the market in 1736. However, the diagram shown in Figure 3 indicates that such coins were used as currencies, disregarding the law (see [Kusama, 1815/1916: 571](#)).

⁷ The accounting of the shogunate was based on the fixed exchange rate all over the country.

tag prices thanks to the double-price tag, even if the exchange rate in the West fluctuated intensely.

Table 8. 60 Momme Multiplication Table (60MMT), 1719.

Exchange rate: silver coin price (momme) per 1 ryo of gold coin in the West	38	39	40	41	42	43	44	45	46	47	48	49
basic discount	0.79	0.77	0.75	0.74	0.72	0.7	0.68	0.67	0.65	0.64	0.63	0.62
average	0.77		0.72			0.67			0.63			
immediate payment	0.78	0.75	0.72	0.73	0.7	0.67	0.68	0.65	0.62	0.64	0.61	0.58
pay at the end of the month	0.8	0.78	0.75	0.76	0.73	0.7	0.7	0.68	0.65	0.66	0.64	0.61
pay at the end of the season	0.83	0.8	0.77	0.78	0.75	0.72	0.73	0.7	0.67	0.69	0.66	0.63
pay in summer or at the end of the year	0.87	0.84	0.8	0.85	0.8	0.75	0.77	0.74	0.7	0.73	0.7	0.66
Exchange rate: silver coin price (momme) per 1 ryo of gold coin in the West	50	51	52	53	54	55	56	57	58	59	60	61
basic discount	0.6	0.59	0.58	0.57	0.56	0.55	0.54	0.53	0.52	0.51	0.5	0.49
average	0.59		0.56			0.53			0.5			
immediate payment	0.6	0.57	0.54	0.57	0.54	0.51	0.54	0.51	0.48	0.51	0.48	0.45
pay at the end of the month	0.62	0.6	0.57	0.59	0.57	0.54	0.56	0.54	0.51	0.53	0.51	0.48
pay at the end of the season	0.65	0.62	0.59	0.62	0.59	0.56	0.59	0.56	0.53	0.56	0.53	0.5
pay in summer or at the end of the year	0.69	0.66	0.62	0.66	0.62	0.59	0.63	0.6	0.56	0.6	0.57	0.53

Sources: MFDh1031-1, 1719; TMG, 1967: 369-374.

Thus, Echigoya managed sales in Edo despite the chaotic monetary policy of the shogunate, and handled the pricing well.

7.2. “Nominalistic” policy versus “Metallistic” strategy

This subsection could also be retitled as “nominal or face value policy versus bullion or intrinsic value strategy.” The Genbun debasement was implemented in 1736. The debasement from Kyoho gold koban and Kyoho silver chogin to Genbun gold koban and Genbun silver chogin was more radical than the Genroku debasement from Keicho coins to Genroku coins. The lowering rate of pure gold from Kyoho koban to Genbun koban was 44.34%, while that of the Genroku debasement was 31.91%. The lowering rate of pure silver was 42.5% from Kyoho to Genbun and 20% from Keicho to Genroku. The rates of the Genbun debasement were radical, but they maintained the rate balance between gold and silver. This showed that the shogunate had learned from the experience of the Genroku debasement that the disproportionate lowering rates of gold–silver coins induce disproportionate exchange rates.

The monetary policy of the shogunate tried not only to compensate for the empty treasury, but also to lighten the greatly increased debts of samurais. The debasement was proved useful for the latter purpose. In the long term, the

debasement was fatally ineffective because of inflation, which followed without fail. However, in the short term, specifically, before inflation, the shogunate was effectively able to use the debasement by treating it legally and “nominalistically.” The law of the Genbun debasement stipulated that the new Genbun kobans would be as valuable as the old Keicho kobans in the market. This was similar to the law of the Genroku debasement. However, when people would exchange 100 ryo of old Keicho kobans for new Genbun ones at the mint, the shogunate would exchange them for 165 ryo of new kobans with a proper premium. Similarly, 10,000 momme of the old silver would be exchanged for 15,000 momme of new silver (see Tables 4 and 6). This was a contradictory policy, “nominalistic” as well as “metallistic.”

For example, the Eastern merchants, Tokumi Donya, complained to the shogunate about the acts of lending and borrowing on May 28, 1736 (MFDh1498–23, 1736; Mitsui, 1933a: 645–646); if one were to repay the debts of old kobans with the same face value of new kobans according to the law of currency without distinction between old and new, the lender would face considerable loss. In response to this, the shogunate maintained the nominalistic view that one ryo equaled one ryo, irrespective of the quality of the gold coins. In fact, many Daimyos (territorial lords) repaid their multitudinous debts with new kobans a few days after the debasement (see [Kusama, 1815/1916: 577](#)). It was the very short-term “nominalistic” strategy favoring samurais.

Incidentally, what was Echigoya up to? Wealthy merchants mostly received information about the debasement in advance. With this information, Echigoya planned a short-term “metallistic” strategy. To sum up, the plan was that Echigoya collect as many old kobans as possible. To do this, Echigoya held huge sales in both Edo and Osaka from June 15, 1736. The sale price is now known from historical documents of the Mitsui family (MFDb921, 1793). The doubled price, which was 120 momme (the original price was 60 momme = 1 ryo) before the debasement, was reduced to 48 momme. In other words, it was 0.8 ryo (3 gold bu and 3 silver momme), 20% off. If one would make the purchase with new gold kobans, the price was 79.2 momme (1.32 gold ryo). Nevertheless, people could buy a kimono, originally priced 1 ryo, with a new 1 ryo koban, based on the law of no distinction between the old and new coins. However, the new 1 ryo koban contained 8.581726 grams of pure gold, while the sale price of 0.8 ryo with the old koban provided 11.9759232 grams of pure gold based on simple calculations. This sale was highly

popular with customers, so Echigoya was inundated with visitors from distant places every day.⁸ They were willing to buy kimonos using old kobans.

In general, people withheld from any purchases at the time of debasement because of anxiety. Echigoya brilliantly converted the business crisis into a good sales opportunity.

8. Conclusion

Arai wrote twice in his petition against the debasement that samurais originally did not think at all about the quality of money (Arai, 1714/1907: 248), which meant that they would hardly think of money, because they were samurais who had to devote their lives to more worthy causes than money. In addition, they could think lightly of money, relying on the Chinese classical thought of money, which treated it nominalistically and quantitatively, because money itself could not be food for the hungry and clothing for the naked. Therefore, grain was more important to them. Conversely, because many samurais regarded gold and silver as treasures of the nation directly connected to national prestige, money made of precious metals was tremendously more valuable to them than paper money, for example, of the Yuan dynasty. These factors caused the chaotic and contradictory monetary policies of the shogunate. If precious metal resources had not been exhausted during the Edo period, the shogunate would not have faced monetary difficulties and would not have considered managing monetary systems. In other words, samurais were unavoidably engaged in their weakest subject.

Samurais and merchants differed drastically in their attitudes toward money. Of course, to most merchants, money was extremely valuable and the center of their business, not as a function, but as an object. However, the shogunate often fiddled around with money and made alterations in terms of quality, weight, and size. Hence, the merchants made it their business to not only purchase and sell merchandise, but also manage many kinds of money and exchange rates.

Observationally, there was a difference between Western and Eastern merchants. For instance, a type of copper coin was minted in 1768,⁹ whose worth was legally four times that of the normal copper coins in the market. Such coins circulated in East Japan, but not in West Japan ([Nakai, 1789/1915: 401–402](#)), because they did not weigh four times as much as the normal copper ones. The main currency in the West was silver coins, whose monetary value was dependent on

⁸ This sale became the stuff of legends in the business history of Mitsui (MFDh468–2, 1794).

⁹ Technically speaking, the four-mon coins were brass coins. (ca. 70% copper, zinc, lead, etc.)

weight. Western people were more sensitive than Easterners regarding the weight of coins. For them, the value of copper coins also depended on their weight. Therefore, the worth of coins should correspond exactly with their weight (coins that were four times as valuable should have been four times as heavy). However, the actual weight of these coins was one and a half times that of normal copper coins. Nonetheless, they were used in the East because such coins were extremely convenient to calculate with and carry because of their lightness. The lightness of the coins was good for Easterners, but bad for Westerners. Hence, one could say that Easterners tended to be legal and nominalistic, while Westerners tended to be illegal and metallistic.

The conflict between the shogunate and merchants and the difference between the Eastern and Western merchants played an important role in vitalizing the Tokugawa economy. Most of the money the shogunate minted flowed into the market, which was controlled by merchants, and never returned. Consequently, it gave birth to a unique society wherein there were many wealthy merchants classified as the lowest order in the Edo period and a considerable number of poor samurais who occupied the highest position in the social hierarchy at the time.¹⁰ This was because the business talent of merchants was especially outstanding compared to that of the shogunate.

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¹⁰ For example, an Edo Samurai complained of the upside down society (see Buyo, 1816/2014: chap. 5).

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