

## TAISHO ERA CONTROVERSIES OVER CURRENCY AND BANKING PRINCIPLES

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### I. *Introduction*

A Currency Principle-Banking Principle Controversy arose in England in the 19th century in the form of a controversy over enacting the Peel's Bank Act (1844), which was related to problems concerning the organization of the Bank of England along with the system of note issue. The Currency Principle was based on both an automatic adjustment mechanism of the gold standard and the quantity theory of money. The Principle supposed a causal nexus: an increase in excess exports (imports)→an inflow (outflow) of specie→an expansion (contraction) of currency→a rise(fall) in prices→a decrease in excess exports(imports). And it linked an expansion(contraction) of currency to an inflow(outflow) of specie. On the other hand, the Banking Principle denied the direct relation between specie and currency. It supposed that the quantity of currency would change in proportion to the need for transaction, that is to say, prices and outputs or volume of transaction would be in a continual state of flux. And it asserted that an expansion (contraction) of currency was not a *cause* of an increase(decrease) in the volume of transaction and a rise(fall) in prices but a *result* of them, which was contrary to the quantity theory.

In the Taisho Era (1912–1925), the Currency Principle-Banking Principle Controversy of England was introduced into Japan and was controverted energetically by scholars and the policy maker in Japan. The Currency Principle-Banking Principle Controversies of the Taisho Era should be understood from the viewpoint of the great phenomenal change in the Japanese economy at that time.

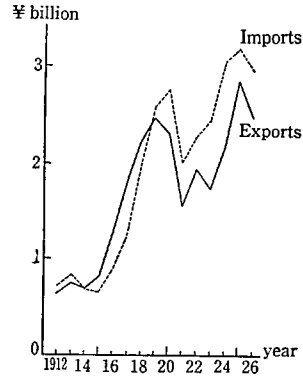
Thus we divide the Taisho Era into two periods: the first one (1912–1920) characterized by a rise in prices and an expansion of currency, and the second one (1920–1925) characterized by higher prices and higher interest rates. And we will consider the development of the Currency Principle-Banking Principle Controversies in Japan according to the above-mentioned situations.

### II. *The Economic Situations of the Taisho Era*

We should survey briefly the economic situations that arose in the Taisho Era before we consider the development of the Currency Principle-Banking Principle Controversies here in Japan.

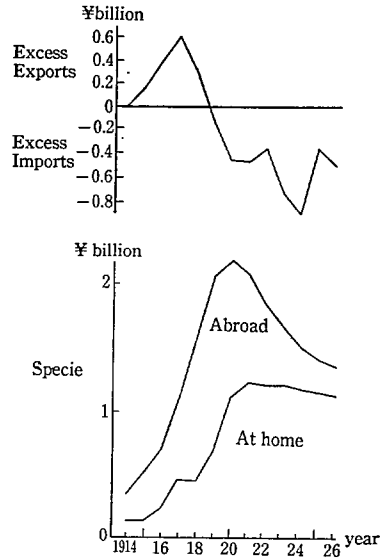
A major event that had a great influence on the Japanese economy in the Taisho Era

FIG. 1 EXPORTS AND IMPORTS



Source: Ippei Yamazawa & Yuzo Yamamoto, *Estimates of Long-Term Economic Statistics of Japan since 1868*, vol. 14, *Foreign Trade and Balance of Payments*, 1979.

FIG. 2 EXCESS EXPORTS (IMPORTS) AND SPECIE

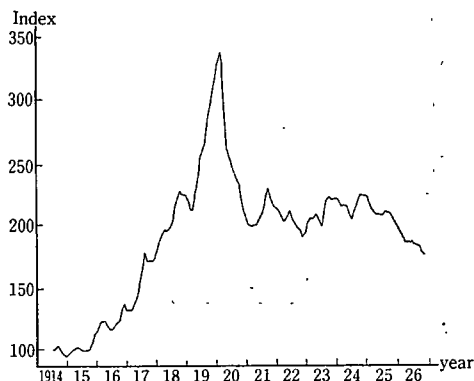


Source: Bank of Japan, *Economic Statistics of Japan*.

was World War I (July 1914 – November 1918). Thus by dividing the Taisho Era into two periods, using the “Great Reaction”<sup>1</sup> (March 1920) just after the war as a dividing line, we can define the influences of World War I and the situations in both the first half and the latter half of the Taisho Era.

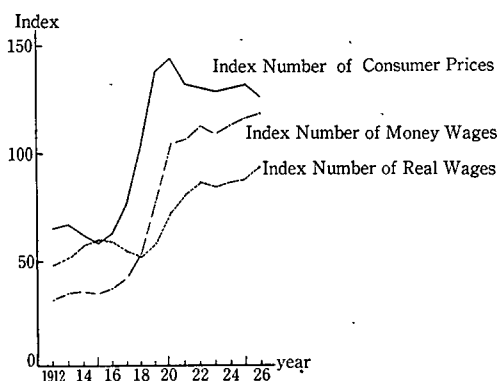
<sup>1</sup> The Japanese economy has been plunged into the “Great Reaction” since the great slump in stocks of March 15, 1920 ([1] vol. 3).

FIG. 3 INDEX NUMBER OF WHOLESALE PRICES (IN TOKYO, JULY, 1914=100)



Source: Bank of Japan, *Economic Statistics of Japan*.

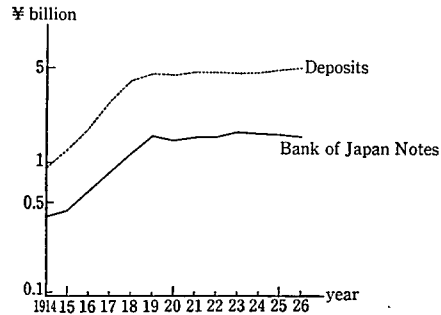
FIG. 4 CONSUMER PRICES AND WAGES



Source: Kazushi Ohkawa et al., *Estimates of Long-Term Statistics of Japan since 1868*, vol. 8, *Prices*, 1967.

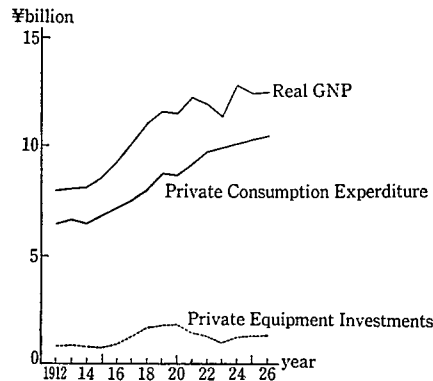
In the first half (1912 — 1920), exports increased more rapidly than imports and so there was a situation of excess exports (Fig. 1). These excess exports caused an inflow of specie and at the same time tightened the supply-demand relations of domestic goods. Thus the stock of gold held at home and abroad increased rapidly (Fig. 2). Next, prices (wholesale prices and consumer prices) rose through 1915 into 1920 (Figs. 3 and 4). For instance, the index number of wholesale prices increased from 100 in September 1915 to 338 in March 1920. It increased rapidly over three times during only four and a half years. At the same time money wages increased rapidly, too (Fig. 4). Thirdly, currency (cash currency and deposit currency) expanded rapidly (Fig. 5). A stock of convertible notes issued by the Bank of Japan was about 390 million yen at the end of 1914. It reached about 1,560 million yen at the end of 1919, this representing an increase of about four times the 1914 stock level. And deposits expanded from about 890 million yen as of the end of 1914 to about 4,430

FIG. 5 BANK OF JAPAN NOTES AND DEPOSITS



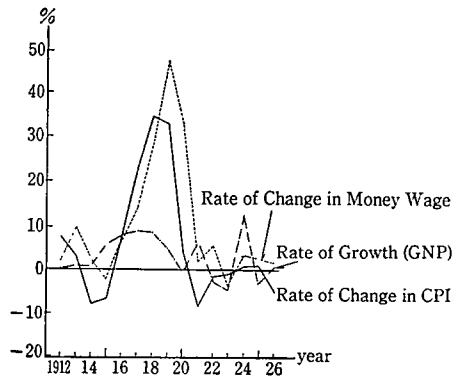
Source: Bank of Japan, *Economic Statistics of Japan*.

FIG. 6 GNP, CONSUMPTION AND INVESTMENTS



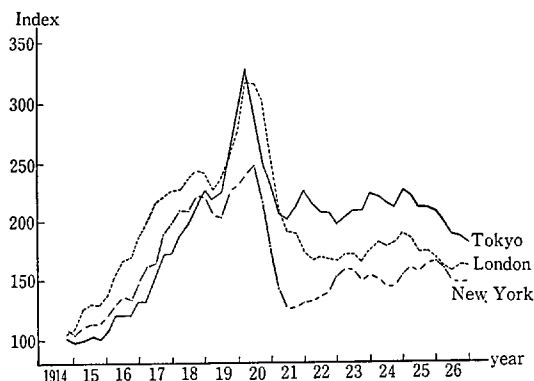
Source: Kazushi Ohkawa *et al.*, *Estimates of Long-Term Economic Statistics of Japan since 1868*, vol. 1, *National Income*, 1974.

FIG. 7 INFLATION AND GROWTH



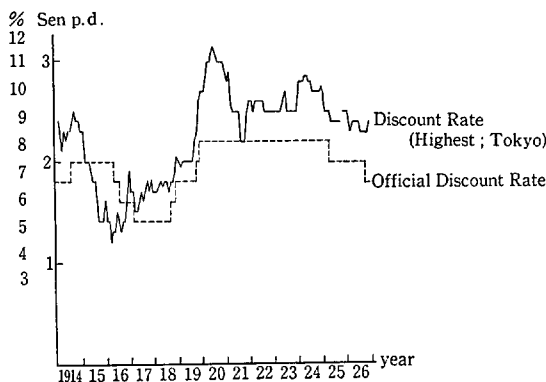
Source: Kazushi Ohkawa *et al.*, *Estimates of Long-Term Economic Statistics of Japan since 1868*, vol. 1, *National Income*, 1974; vol. 8, *Prices*, 1967.

FIG. 8 INDEX NUMBERS OF WHOLESALE PRICES AT HOME AND ABROAD (July, 1914=100)



Source: Bank of Japan, *Economic Statistics of Japan*.

FIG. 9 INTEREST RATES



Source: Bank of Japan, *Economic Statistics of Japan*.

million yen as of the end of 1919, this representing an increase of about five times the 1914 amount. Fourth, following a worldwide gold embargo, Japan followed suite. However, Japan did not subsequently follow the lifting of the gold embargo by the countries of Europe and America (the period of the gold embargo in the United States: August 1917 — June 1919).<sup>2</sup> And so Japan continued the gold embargo till January 1930.

In the latter half of the Taisho Era (1920 — 1925), an overall depression continued, following the Reactionary Depression just after World War I. We can find some negative rates of economic growth during this period (1920–1925). Private equipment investments reached a peak in 1920, and they decreased sharply after then (Figs. 6 and 7). Next, imports exceeded exports by a large margin, and excess imports continued as in Fig. 1. However,

<sup>2</sup> Sweden enforced the lifting of the gold embargo in April 1924. In the wake of it, the United Kingdom and the Netherlands enforced a lifting of the gold embargo in April 1925.

not so much specie flew out and because the gold embargo was still enforced in this period, there was scarcely any change in the stock of gold held at home (Fig. 2). Thirdly, prices maintained a higher level than was the case before the war. Levels of both wholesale prices and consumer prices were roughly twice as high as they were in 1914 (Figs. 3 and 4). But such high rates of inflation as in the first half of the Taisho Era were not maintained, but fell (Fig. 7). Compared with foreign countries, the wholesale prices maintained a higher level than did those of London and New York (Fig. 8). In addition, money wages maintained a higher level than previously. Moreover they had a slowly rising tendency (Fig. 4). Fourth, though the tendency of expansion in the currency was suppressed, the great stock of currency continued (Fig. 5). Fifth, interest rates maintained a higher level, which was especially characteristic of this period. For instance, the Bank of Japan's rate of discount continued at about 8% (2.20 Sen p.d.) in the period between November 1919 and April 1925. Also, the market rate of discount (the highest) maintained a higher level of between 9 and 10% (Fig. 9).

Thus the first half of the Taisho Era is characterized as being a period in which both an expansion of currency and a rise in prices coincided with World War I. On the other hand, the latter half during the depression just after World War I is characterized as a period in which both higher prices and higher interest rates did not abate.

### III. *The Development of the Controversies*

If we divide the Taisho Era into two periods (the first one characterized by an expansion of currency and a rise in prices, and the latter one characterized by higher prices and higher interest rates) as mentioned before, we can see how the various controversies of the first and the latter Taisho periods developed according to the situation of the times.

We can find three controversies in the first half of the Taisho Era. The first controversy held in 1916 or thereabout over the disposition-accumulation of specie held abroad. In this controversy, the theory of disposition and the theory of accumulation were opposed to each other concerning the sharply accumulating specie held abroad and its effects on the domestic economy. The former was advanced from the standpoint of the Currency Principle that an increase in specie leads to an expansion of currency. On the other hand, the latter (the theory of accumulation) was advanced from the standpoint of the Banking Principle that declares that an increase in specie does not always lead to an expansion of currency and that an excess supply of specie over demand leads to hoarding. In addition, the proponents of the theory of disposition divided up into two camps and they were strongly opposed to each other regarding the state of the gold embargo. The one held that international equilibrium should take precedence, and that their task should be to equibrate the balance of payments as a whole by redemption of foreign bonds etc. in order to prevent an increase in the amount of specie held abroad. The other held to the theory of abolishing the transferring of specie held abroad into specie reserve: from the viewpoint that domestic equilibrium should take precedence and that the transferring of specie held abroad into specie reserve should be abolished so as to check the expansion of currency resulting from the increase in specie held abroad.

The second controversy was a controversy over price stabilization. This reflected a

sharp rise in prices during the period 1915 to 1920. We can find two arguing points, reflecting the situation of "the rise in prices and the expansion of currency" at that time. The one was connected with the causes of the rise in prices. An argument for an expansion of currency was advanced from the standpoint of the Currency Principle. On one hand, an argument for a demand-supply of goods was advanced from the standpoint of the Banking Principle. On the other hand, an argument was advanced from the standpoint of the causal relation between currency and prices. The Currency Principle supposed a causal relation by which an expansion of currency would lead to a rise in prices. The Banking Principle, however, supposed a causal relation that a rise in prices caused by a demand-supply relation of goods would lead to an increase in demand for currency and thus an expansion of currency. And so it can be seen that the Currency Principle and the Banking Principle were opposed with each other concerning the causes of the rise in prices and the causal relation between prices and currency.

The third controversy was a policy controversy over the raising of interest rates, which took place in 1919 following the forementioned controversy over price stabilization. In that controversy, the Governor of the Bank of Japan, Junnosuke Inoue, and a non-government party, Kenseikai, were opposed to the Minister of Finance, Korekiyo Takahashi, and the government party, Seiyukai. The former attempted to achieve price stabilization through a contraction of currency by means of raising interest rates, but the latter were strongly opposed to any such raising of interest rates.

We can find yet another controversy in the latter half of the Taisho Era. This arose as a result of the sustained high level of the interest rate and the accompanying high level of prices. It led to a violent policy confrontation.

The Currency Principle supported the Fisher effect theory and argued that higher prices of some continuance would produce inflationary expectations, leading invariably a higher interest rate. Therefore it was strongly opposed to the lowering of the official discount rate and advocated a decisive action in the lifting of the gold embargo in order to lower prices bringing them into line with those prevalent in foreign countries at that time. On the other hand, the Banking Principle supported the theory of interest cost, and argued that the higher interest rates, which had been caused by a short supply against demand for currency, led to higher production costs, and thus to higher prices. Therefore it advocated the lowering of the official discount rate. It argued that the problem could be solved by lowering interest rates.

Thus if we take up the matter of "higher prices and higher interest rates," it can be seen that the Currency Principle explained them by the Fisher effect theory while on the other hand the Banking Principle explained them by the theory of interest cost.

We can find in this period (the late Taisho) yet another theory—albeit a minor one at the time. This was the theory of wage cost, which stressed the importance of wage cost rather than interest cost in the matter of production costs.

#### IV. *The Controversy over Disposition-Accumulation of Specie Held Abroad*

In 1916 or thereabouts, a controversy based on the accumulation of specie held both

at home and abroad arose concerning the disposition-accumulation of specie held abroad.

The disputants were:

- (i) Sen Kawazu [19] [20] [21] and Kajuro Miyake [32] [33] who advocated disposition by means of redeeming foreign debts;
- (ii) Masao Kobe [27] [28] who advocated disposition by means of productive use thereof;
- (iii) Gotaro Ogawa [34] [35] [36] [37] who advocated accumulation.

Kawazu recognized the significance of specie held abroad, saying:

“Specie reserve besides being the base on which international indebtedness stands, acts as a reserve of conversion in the present economic society, the base of settlements of international indebtedness being the more important function. Thus it is appropriate to place it (specie reserve) in the most suitable place available for attaining the desired results (as stated above).” ([19] p. 145)

And in relation to accumulation of specie held abroad, Kawazu declared:

“Though most of specie is placed in England, the Bank of Japan eventually will have to issue a lot of convertible notes on the basis of this specie. In Japan only the Bank of Japan can issue convertible notes, depending on the amount of specie held. We must take note of the increasing amount of convertible notes in circulation even though it is said that financial markets are easy. Not only have prices already shown a tendency to increase proportionately but speculations are also on the increase.” ([19] p. 141)

Therefore he advocated redeeming foreign debts by making use of the specie held abroad.

While Kobe, who advocated a similar disposition, agreed to using the specie held abroad to redeem foreign debts, he nevertheless argued that it was more important to use it (the specie) productively: “by using the specie to start domestic businesses, to expand them, and for their operation, and then by investing specie in businesses abroad particularly in China, the South Seas, etc.” ([27] p. 1081)

At the base of the theory of the disposition of specie held abroad by redeeming foreign debts or by investing abroad, we can find the automatic adjustment mechanism of the gold standard and the quantity theory of money. The automatic adjustment mechanism of the gold standard results in the following causal nexus: a current account surplus→an inflow of specie→an expansion of currency→a rise in prices→a current account equilibrium. The theory of disposition aimed to cut off the relation between an inflow of specie and an expansion of currency in the automatic adjustment mechanism by disposing the specie held abroad accumulated through “a current account surplus→an inflow of specie.” It follows that in such a case it will be possible to suppress an expansion of currency and thus a rise in prices if an attempt should be made an increase in the specie held abroad resulting from a current account surplus by disposing of the specie through redeeming foreign debts and by taking part in investments abroad. These theories of disposition are those which attempt to keep an equilibrium in the balance of payments as a whole by using the capital account deficit to offset the current account surplus while giving due recognition to the significance of the specie held abroad. These theories are in contrast to the theory of abolition of transferring specie held abroad into specie reserve, which will be mentioned later.

On the other hand, Ogawa refuted the theory of disposition of specie held abroad, and explained the need of the accumulation of specie to maintain the conversion system. He criticized the theory of disposition, posing three questions:



- 1) Does an increase in specie always lead to an expansion of currency or not?
- 2) Does an expansion of currency always lead to a rise in prices or not?
- 3) Does a rise in prices always lead to an increase in imports and to a decrease in exports or not?

By posing these three questions, Ogawa showed he had doubts about the automatic adjustment mechanism of the gold standard and also about the quantity theory of money both of which underlie the Currency Principle. As to a direct relation between specie and currency, he denied any such direct relation, saying:

"If specie held abroad increases in a tight money period, it will tend to lead to an increase in the issue of convertible notes. But even if specie held abroad increases during an easy money period, then the expansion of convertible notes will gradually disappear." ([36] p. 242)

From the standpoint of the Banking Principle, he furthermore said:

"Once prices rise as a result of the demand-supply relation of the actual goods, then the increase in prices will require a quantity of currency suitable for that purpose and this will stimulate an increase in the issue of convertible notes. Therefore, an increase in convertible issues is the result rather than the cause of a rise in prices." ([34] p. 329)

So it can be seen that whereas Kawazu and Miyake based their arguments on the Currency Principle (which was based on both a direct relation between specie and currency and the quantity theory of money) Ogawa argued from the standpoint of the Banking Principle.

Rising prices and the gold embargo, however, led to a theory of abolishing the transference of specie held abroad into specie reserve. This was advocated by:

Tokuzo Fukuda [6]

Ushisaburo Kobayashi [26]

Senjiro Takagi [44]

Kaiichi Toda [37], and others.

If we can regard international equilibrium as taking precedence, then we accept the theory of disposition by the redemption of foreign debts, as advocated by Kawazu; but if we regard domestic equilibrium as taking precedence, then we will accept the theory of abolishing the transference of specie held abroad into specie reserve.

Fukuda recognized from the standpoint of the Currency Principle that an increase in specie held at home and abroad led to an expansion of currency and thus to a rise in prices. And he proposed that a way to suppress a rise in prices was at first to abolish convertible notes (which require specie held abroad as a reserve) and then to control the quantity of currency by decreasing the issue of convertible notes (which require specie held at home as a reserve).

Fukuda stated, regarding the abolition of transferring specie held abroad into specie reserve:

"The specie held abroad is originally not actually specie but rather credit held abroad. The authorities define the specie held abroad as being funds held abroad which are capable of being converted into specie at any given time. However it is the specie which is held abroad that is capable of being converted into specie. . . . Even if it is capable of being converted into specie, it is wrong, when we hold no domestic specie at all, to issue convertible notes using the specie held abroad as a reserve." ([6] pp. 876-

877)

Moreover he stated that "this specie held abroad is not capable of being converted into specie at the present time" ([6] p. 877), a time at which is scarcely possible to transport specie from England to Japan. Thus, as defined by the authorities, there is no substance to the specie held abroad. He showed a negative attitude towards the significance of the specie held abroad.

On the other hand, Kawazu stated:

"When we interpret literally the specie held abroad, it can be said that despite requests by those who demand conversion specie held in reserve which is forbidden to be converted into standard money in 'on the spot' deals is devoid of meaning. Nevertheless, we should interpret the specie held abroad as having a dual role: that of acting as a reserve for the settlement of international indebtedness, and that of acting as a reserve for the meeting of demands for conversion." ([22] pp. 1823–1824)

And he recognized that the role of specie held in reserve in the settlement of international indebtedness was rather important in a country such as Japan, in which there was a complete lack of any circulating standard money. Therefore, he opposed the theory of abolishing the transference of specie held abroad into specie reserve, stating that "we should not reject from the standpoint of the national economy the idea of placing part of our specie reserve into the suitable foreign places." ([22] p. 1824)

If we compare these two theories, it is clear that the theory of abolishing the transference of specie held abroad into specie reserve attached importance to the convertibility function of specie reserve, while the argument against any such abolition attached importance to the function of specie reserve in the settlement of international indebtedness. The significance of specie reserve in the domestic economy was emphasized by proponents of the abolition theory. And it was stated that by weakening the direct relation between the expansion of specie and its subsequent expansion of currency one could suppress the rise in prices occurring as a result of an expansion of currency, thus helping to attain domestic equilibrium.

In the argument against abolition, it can be seen that primary importance was attached to the significance of specie reserve in the international economy. Taking this into consideration, along with the theory of the disposition of specie held abroad by the redeeming foreign debts (which Kawazu advocated), we can regard this theory being one which gives precedence to international equilibrium. In order to control the expansion of specie which had caused a rise in prices, it attempted to equilibrate the balance of payments as a whole by using the capital account deficit to offset the current account surplus.

So it can be seen that within the group advocating the Currency Principle there were two main factions:

- (i) that which gave precedence to international equilibrium (which was represented by the theory of disposition of specie held abroad),
- (ii) that which gave precedence to domestic equilibrium (which was represented by the theory of abolishing the transference of specie held abroad into specie reserve).

If we estimate these theories in the light of the present, the theory of disposition of specie held abroad (which Kawazu advocated) depended on the gold standard in the strict sense of the word. And the theory of abolishing the transference of specie held abroad into specie reserve (which Fukuda advocated) was actually very close to the present managed

currency system, in other words, it was a primitive form of the present system, with the big difference that it was based on the gold standard. In the present-day situation we can sterilize a change in official gold and foreign currency reserves as caused by a balance of payments disequilibrium, by means of domestic credits under the managed currency system. However, in those days, under the gold standard system, it became possible, by separating the supply of domestic money from specie held abroad, to provide a buffer against the effects on the domestic economy of any balance of payments disequilibrium and the subsequent accumulation of specie. Thereby, the direct relation between the international economy and a domestic economy under the gold standard system was loosened, and it became possible to have domestic equilibrium (especially in the matter of the control of inflation) take precedence over the international equilibrium. Therefore we can estimate the theory of abolishing the transference of specie held abroad into specie reserve (advocated by Fukuda) as being a buffer theory, which, while adhering to the gold standard system, gives domestic equilibrium precedence over the international one.

## V. *A Controversy over Price Stabilization*

*Rising Prices and Their Stabilization Policy*, a pamphlet issued in July, 1918, by the Ministry of Finance under Kazue Shoda, the then Minister of Finance, gave rise to a lengthy controversy over price stabilization. In this controversy, we can focus on two important arguing points related to the Currency Principle-Banking Principle Controversies. The first point was associated with the causes of a rise in prices, and the second point was associated with the causal relation between currency and prices. We should note that both problems are closely related to each other.

According to the Currency Principle, it is supposed that an expansion of currency will directly cause a rise in prices (within the causal nexus in the automatic adjustment mechanism of the gold standard). Therefore, of course, rising prices are seen to be a result of an expansion of currency, and the causal relation between currency and prices would seem obvious.

On the other hand, in the Banking Principle it is supposed that the quantity of currency will change, depending on the needs of transactions at that time: the states of prices, of production, and of actual transactions. Therefore, as for the causal relation between currency and prices, a rise in prices never results from an expansion of currency but is the main cause behind such an expansion. And the cause of rising prices will be able to be found in factors other than an expansion of currency, chiefly in the demand-supply relation of goods.

Thus the essence of the Currency Principle-Banking Principle Controversies in those days is found to lie in the causal relation between currency and prices. Here we should note that the concept of currency held at that time. Recent monetarism, which is descended from the Currency Principle, based on deposit currency as well as cash currency. On the other hand, the Currency Principle of those days was based on cash currency, so we can call it a "Cash Currency Principle." And also in those days, how to deal with the matters of cash currency and deposit currency was a much argued matter. In the Cash Currency Principle, cash currency alone was regarded as important, while, on the other hand, in a critical view against the Cash Currency Principle, it was supposed that the deposit currency

had originally the functions of money and that the deposit currency was therefore the true center of currency. We will consider the above-mentioned two arguing points:

- (i) the cause of rising prices,
- (ii) the causal relation between prices and currency,

taking into account the problem of cash currency vs. deposit currency.

First, as to the causes of rising prices: the Currency Principle saw them as lying within the causal nexus in the automatic adjustment mechanism of the gold standard. The causal nexus is as follows: excess exports→an inflow of specie→an expansion of currency→a rise in prices. Excess exports lead to an inflow of specie, which results in an expansion of currency, which therefore becomes the direct cause of a rise in prices. It was Tokuzo Fukuda [6], Kiichi Horie [9], Shiro Kawada [15] and others who advocated this “theory of currency inflation.”

Moreover, in the Currency Principle (as advocated by Kawada [15] and others) a distinction between general prices and individual prices was emphasized. General prices are determined by their relation to money, that is, by the purchasing power of money, while, on the other hand, individual prices are determined by both the demand-supply relations of the goods concerned, and their production costs. It follows that a rise in general prices should be attributed to money. And so Kawada et al. criticized the goods demand-supply theory on which the Banking Principle was based.

On the other hand, in the Banking Principle (Ogawa [37], Shiomi [38]), in which rising prices were supposed to be not a result of an expansion of currency but a cause of it, the causes of rising prices were seen as being in a demand-supply relation of goods. We can call this “the goods demand-supply theory.” The main causes of the rising prices during World War I were:

- (i) an increase in demand (caused by an increase in exports),
- (ii) a short supply (caused by a paralysis of imports),
- (iii) cost factors ((a) a rise in transaction costs, (b) rising prices of raw materials),
- (iv) reluctant selling,
- (v) cornering.

We can find few views which depended completely on either the theory of currency inflation or the goods demand-supply theory. Most people regarded the demand-supply relation of goods as well as the expansion of currency as being the results of rising prices (Senjiro Takagi [43], Kanju Kiga [25], Kiichi Horie [9] [10], Sen Kawazu [22] [23], Juichi Soeda [40], Ushisaburo Kobayashi [26] etc.).

Takagi said that both theories “are not fundamentally different, nor are they as irreconcilable as oil and water, but rather, each includes some aspect of truth and so there is no real antithesis between them.” ([43] p. 109) Moreover he said:

“We should point out an expansion of currency and of bank deposits, *or* an increase in demand for them, as being a cause of a rise in prices. We should not speak of them as if they were different causes: an expansion of currency and of bank deposits led to an increase in demand, causing a rise in prices, both factors therefore being involved.” ([43] p. 115)

Thus he attempted to synthesize the theory of currency inflation and the goods demand-supply theory.

Thus the confrontation between holders of the theory of currency inflation and holders

of the goods demand-supply theory is essentially of an ambiguous nature. In order to make opposing points of the controversy clear, we must take note of their connections with the causal relation between currency and prices.

Next, we consider the second arguing point, that is the causal relation between currency and prices. While prices are supposed to rise as a result of an expansion of currency according to the Currency Principle, currency is supposed to expand as a result of rising prices according to the Banking Principle, as mentioned before. However in the Currency Principle of those days (that is the Cash Currency Principle), it was supposed that the cause of rising prices was to be found in an expansion of cash currency. And, as it was supposed that there was a constant relation ratio between cash currency and deposit currency, cash currency rather than deposit currency was regarded as being the main cause of rising prices.

In connection with this, we can find the controversy conducted between Senjiro Takagi [41] [42] and Hajime Kawakami [17] [18] in interpreting Fischer [5]. Kawakami criticized Fischer's view and said that he couldn't accept the idea of stability in the constant ratio of cash currency/deposit currency, and that an expansion of cash currency led to an expansion of deposit currency. And he asserted that the cause of rising prices was not an expansion of cash currency, but an expansion of deposit currency. On the other hand, Takagi supported Fischer's view and refuted Kawakami's view. He asserted that there was a constant quantitative relation between cash currency and deposit currency, and that an expansion of cash currency led to an increase in the cash reserve of banks, resulting in an expansion of deposit currency through increased lending.

Kawakami's criticism against the Cash Currency Principle calls our attention to the importance of distinguishing between deposit currency and cash currency: the deposit currency had originally the functions of money and so an expansion of it can only lead to a rise in prices. Thus it was explicitly pointed out that the Currency Principle of those days was the Cash Currency Principle, which attached importance to the cash currency.

On the other hand, from the standpoint of the Banking Principle, Tanzan Ishibashi [14] stated that rising prices were "normally" a cause of an expansion in currency while rising prices were "anomalously" the result of it. And the anomaly was regarded as the situation in which the monetary authorities deliberately issued additional currency in order to finance war expenditures or to relieve a business depression.

An attempt was also made to prove statistically the causal relation between currency and prices. Tokuzo Fukuda supported the Currency Principle after adducing the evidence that pointed out that "prices rose in a period subsequent to an increase in the amount of convertible notes in circulation, and that this fact therefore indicates that rising prices are caused by an increase in the amount of convertible notes in circulation" ([6] p. 860). On the other hand, Saburo Shiomi [38] [39], who supported the Banking Principle views, attempted to show statistically that rising prices could be attributed to the demand-supply relation of goods, and that rising prices therefore led to an expansion of currency. But he was criticized by Fukuda [7] and Yoshikazu Minami [31].

Shiomi tried to prove the causal relation mentioned above by observing the changes in the width of the seasonal fluctuations of the currency and price index charts (that is to say, their leading and lagging relationship). But Fukuda and Minami criticized him, stating that "the width of fluctuation is one thing, and its causal relation another" ([7] p. 1212). And they produced counterevidence using the following statistical analysis:

"We *should* say that additional convertible notes will first begin to be issued beyond the normal state of seasonal fluctuation and that then it will not be until a few months later that there will be a rise in prices beyond the normal state of price fluctuation." ([31] p. 423)

So it can be seen that the proponents of the Currency Principle and of the Banking Principle asserted exactly the opposite causal relations in their discussions of the currency-prices relationship. On the other hand, theories which we should call compromises between both theories were advocated, too.

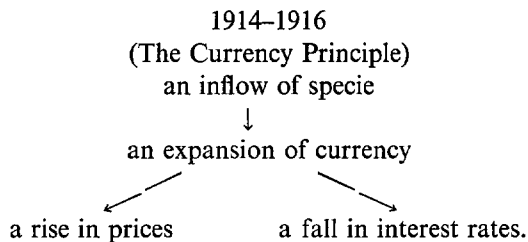
Senjiro Takagi said that neither theory was wrong, but that each was imperfect, and he showed the following sequence regarding a rise in prices:

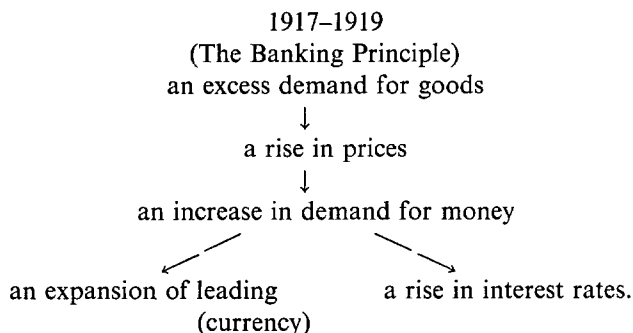
"An increase in the demand for a certain type of goods causes a rise in the prices of such goods. This rise in their prices, in turn, stimulates a rise in business. The rise in business causes banks to increase their lending. The increase in bank lending results in an expansion of currency, and then such an expansion of currency brings about a general rise in prices." ([44] p. 119)

"Therefore," he asserted, "an expansion of currency and a rise in prices are both, at one and the same time, the cause and the result of each other". ([44] p. 121)

Yuzaburo Takagi [45] explained the expansion of currency and the rise in prices of those days in the following manner. From 1914 to 1916, the expansion of currency which was caused by an inflow of specie led to both a rise in prices and a fall in interest rates. On the other hand, from 1917 to 1919, prices rose in accordance with the demand-supply relation of goods. And the rise in prices increased net profits, leading to speculative use of accommodation funds. In other words, as the demand for money (by which people sought to earn profits resulting from the rising prices) increased, lendings too increased, as did interest rates; and thus the currency expanded.

As to the expansion of currency and to the rise in prices: as has already been mentioned, the Currency Principle explains their causal relation by declaring that an expansion of currency leads to a rise in prices; whereas the Banking Principle explains this causal relation by declaring that a rise in prices leads to an expansion of currency. But as to the same phenomenon in the periods 1914 to 1916, and 1917 to 1919, Takagi pointed out that whereas interest rates were falling in the first period, they were rising in the latter period. He attempted to infer the causal relation between an expansion of currency and a rise in prices from the movements of interest rates as shown in the following shema:





This view of Takagi is regarded as being a compromise between the Currency Principle and the Banking Principle in the sense of explaining the phenomenon of the expansion of currency and the rise in prices by the Currency Principle in the one situation, and by the Banking Principle in the another. And whether this phenomenon should be explained according to the Currency Principle or according to the Banking Principle, depends on the movements of the interest rates of that particular time, as has been mentioned before.

And so now over and beyond the problems of prices and currency, the Currency Principle-Banking Principle Controversies were now involved with the additional problem of interest rates. However, it was not until a later stage that this problem of interest rates was given due consideration.

## VI. *A Controversy over Raising Interest Rates*

The third main controversy which concerns us is that of 1919 over the raising of interest rates. It was a policy controversy between Junnosuke Inoue, the Governor of the Bank of Japan who was aligned with a non-government party, Kenseikai and Korekiyo Takahashi, the Minister of Finance who was aligned with a government party, Seiyukai.<sup>3</sup> The former attempted, by means of the raising of interest rates, to stabilize prices through a contraction of currency. The latter, however, emphasized the adverse effects which the raising of interest rates would have on the economy, and opposed the raising of them.

Seiyukai emphasized the short supply of goods, and cost factors (such as transportation costs) resulting from World War I as being the main causes underlying the rise in prices of the particular time. Seiyukai, in taking cognizance of this phenomenon, supported the Banking Principle as it regarded the expansion of currency as being a result of the rise in prices rather than the cause of it. The argument is given as follows: Since many of the transactions of those days depended on selling and buying on credit, then, if one should aim at a contraction of currency, this meant that a contraction of credit currency as well

<sup>3</sup> Refer to [2] pp. 446-454. On September 5, 1919, Seiyukai issued a statement under the name of the Chairman of the Policy Affairs Research Council which made clear its view on the matter of price stabilization. Over and against this, Kenseikai issued its statement of contradiction under the name of the Chairman of the Policy Affairs Research Council on September 9. And the Minister of Finance, Takahashi, early in August, issued a statement [46] promoting his private view on the relation between price stabilization and the interest rate policy. Furthermore, Inoue, the Governor of the Bank of Japan, gave out his view on the matter of price stabilization in a statement handed to the Minister of Finance. This too, was in August.

as of cash currency was required. Thus, a drastic contraction of currency would have to be carried out in order to produce the desired results. However, if such a drastic contraction were to be carried out, then it would cause a shortage of money for transaction purposes. And this would result in industries collapsing and the economy going into a slump, which would result in an increase in unemployed workers. Therefore, Seiyukai opposed the rising of interest rates.

The Minister of Finance, Korekiyo Takahashi, emphasized the high ratio of credit currency over cash currency. And he stated his view that the effect of a contraction of currency on price stabilization would be trivial, and that if such a contraction of currency were carried out, it would require export restrictions as well, over and beyond any actual contraction of the currency itself. Such a situation would, he felt, bring about a depression which would be a much more adverse situation than would be a mere rise in prices.

On the other hand, the non-government party, Kenseikai, basing its argument on the Currency Principle, refuted Seiyukai's view of the means required to achieve price stabilization. It stated that it was surely obvious that an expansion of currency would only accelerate a rise in prices. It supposed, instead, that it was possible to contract both cash currency and credit currency just by raising interest rates.

Junnosuke Inoue, the Governor of the Bank of Japan, stated, in his view (which he presented to the Minister of Finance) that a necessary pre-requisite for achieving price stabilization was a contraction of currency, and he advised the adoption of such policies as the Bank of Japan's intended raising of interest rates, issuing public bonds so as to absorb private money, raising the interest rate on postal savings, bringing about a relaxation of the gold embargo, etc. This view obviously took the standpoint of the Currency Principle as it showed a clear understanding that an expansion of currency led to a rise in prices. Furthermore, Inoue's proposals implied a lifting of the gold embargo. This means that he placed his hopes in the automatic adjustment mechanism of the gold standard.

## VII. *A Controversy over Lowering Interest Rates in the Latter Half of the Taisho Era*

After World War I, both prices and interest rates remained at a higher level than they had been at before the war. And they were even at a higher level than were those in foreign countries. This state of the so-called "higher prices and higher interest rates" continued right throughout the latter half of the Taisho Era.

Explanations of the causes of this state of affairs show very clearly the differences between the Currency Principle and the Banking Principle. As for the phenomenon of "higher prices and higher interest rates," the causal relations supposed by both Principles are in the reverse direction from each other.

In the Currency Principle, it was explained that higher prices of some continuance produced inflationary expectations, leading to higher interest rates. This is the Fisher effect theory. Fisher stated:

"To offset a foreseen appreciation (of money), it would only be necessary that the rate of interest be correspondingly lower, and to offset a foreseen depreciation (of money),



that it be correspondingly higher.” ([4] p. 79)

On the other hand, the Banking Principle holds that higher interest rates increase production costs, leading to higher prices. We can call this the theory of interest cost. Tooke who was a representative advocate of the Banking Principle explained this theory of interest cost as follows:

“A general reduction in the rate of interest is equivalent to or rather constitutes a diminution of the cost of production. . . . The diminished cost of production hence arising would, by the competition of producers, inevitably cause a fall of prices of all the articles into the cost of which the interest of money entered as an ingredient.” ([49] p. 81)

Thus, since the differences between the Currency Principle and the Banking Principle are to be seen clearly in their explanations of the causes of “higher prices and higher interest rates,” it follows that both Principles advocated different policies. The Banking Principle advocated lowering the official discount rate since it attributed the situation of those days to higher interest rates, and in turn attributed the higher interest rates to a short supply of currency relative to demand. On the other hand, the Currency Principle pointed out the necessity of price stabilization policies from the viewpoint of the Fisher effect theory, and opposed lowering the official discount rate.

It was Kiichi Horie [11] [12] and Tatsuo Yamamoto [50] et al. who, from the standpoint of the Currency Principle, advocated the Fisher effect theory. According to Horie:

“It is a fact, not to be controverted, that prices in our country have followed the general trend since the European War, and still keep a higher level generally, though they sometimes rise and fall, and that the value of money will have a trend to depreciate still less in the future. If that is the case, it is reasonable that a rise in interest rates will be required, in order to cover the loss which a creditor suffers because he lends a currently valuable money to another, and then, after a period, he withdraws his loan with depreciating money.” ([11] p. 201)

He mentioned as a cause of higher interest rates that “prices are higher, as mentioned above, and will remain higher even in the future” ([12] p. 22). And he explained that a price level which remained higher would produce inflationary expectations through the Fisher effect, with the result that there would be an increase in interest rates. This point of view supposed a causal relation indicating that prices have an effect on interest rates, and also that there is a proportional relation between interest rates and prices. So it was that Horie and Yamamoto et al. opposed lowering the official discount rate and insisted on price stabilization.

However, according to their point of view, which regarded the price level (which continued to remain high) as being connected to inflationary expectations, the Fisher effect theory was misunderstood. Recently it is believed that a price level which continues to remain high should not be thought of as being connected to inflationary expectations. It is only when the price level is actually rising, or shows an upward tendency, that inflationary expectations will be formed. Therefore, it should have been impossible to quote the Fisher effect theory in such a case.

As for the causes of higher prices (which were attributed to the gold embargo):

“As this specie was acquired not by the productive power of Japan, but rather by a contingency of the war, it is impossible to maintain it as it is. Because we prevented the specie from flowing out, exchange rates depreciated. . . . This should have an adverse effect in both direction such as for instance: rises in prices and in interest rates, a depression in and a decay of industry, and also an adverse balance of trade.” ([50] p. 633)

Therefore, as things were at that time, lifting the gold embargo would result in an outflow of specie. “The outflow of specie would lead to a contraction of currency and thus to a fall in prices.” ([50] p. 633)

Thus, the gold embargo prevented the huge amount of specie which had been accumulated in World War I from flowing out, despite there being a trade deficit, and so it was that the currency remained at an expanded level. And thus it was that higher prices continued. It follows that for a price stabilization to be attained it would be necessary to have the gold embargo lifted.

Kaiichi Toda stated:

“Lifting the gold embargo will cause imports to increase and exports to decrease, leading to an outflow of specie and so to tight money. That will force both currency and credit to contract.” ([48] p. 2)

And he advocated that “once we have made up our minds to bring about a stabilization of prices, we must then carry out a lifting of the gold embargo.” ([48] p. 3)

On one hand, Shiro Kawada stated, in the following manner, his opinion of the effect the lifting of the gold embargo would have on prices:

“There is an opinion that the lifting of the gold embargo, if it decreases the stock of gold held in our country, will have welcome effect on the problem of price stabilization. If a decrease in specie held in our country should, in fact, come about as a result of lifting the gold embargo, then the lifting of the gold embargo could certainly bring about a fall in prices in its train.” ([16] pp. 565–566)

Thus he affirmed that lifting the gold embargo, leading in turn to excess imports, and then to a decrease in the total specie held, was a necessary process for achieving a fall in prices.

On the other hand, it was Shinkuro Inoue [13] and Kojiro Matsukata [29] et al. who advocated the theory of interest cost from the standpoint of the Banking Principle. According to Inoue:

“Prices should, in fact, fluctuate, dependent on all sorts of causes: both of demand, and of supply. Furthermore, the arguments which hitherto regard an increase in currency, or a fall in interest rates, as being the cause of rising prices express only the viewpoint of the demand side, and in particular that of consumption. However, a supply of cheaper currency implies a reduction in production costs from the viewpoint of the supply side. Thus, lowering interest rates should be able to bring about a fall in prices, if it should lead to cheaper and increased production, on the part of both the supply side and of the production side.” ([23] p. 526)

Inoue, it can be seen, supported the demand-supply of goods theory, which supposed that prices would be determined by the demand-supply relation of goods. Moreover, he em-

phasized the role interest rates play on the supply side, namely that of interest rates as being a main part of production costs.

On the other hand, according to Matsukata:

“Among the factors of production it is capital that has the most artificial color and has the greatest effect on production costs. . . . Interest rates are the greatest factor influencing the prices of a country. Because higher interest rates cause, both directly and indirectly, an increase in production costs, those industries competing with foreign goods will lose their competitiveness and will, therefore, reduce their business, or suspend it if the production costs rise beyond a certain point. And a decrease in supply will cause prices to rise or will cause foreign goods to dominate the market. We can say that today, in our country, the facts that prices don’t fall, and that there is no tendency towards a lessing of excess imports both may be attributed to our exorbitantly high interest rates.” ([29] p. 49)

He regarded interest rates as being a main part of production costs, and supposed that higher interest rates would cause production costs to increase, and that this would have an adverse effect on the supply of goods. It followed that prices would rise according to the goods demand-supply theory. Thus, it can be seen, the Banking Principle supposed both the proportional relation between interest rates and prices, and the causal relation in which higher interest rates are seen as being a cause of higher prices (in contrast to the Currency Principle).

As for the causes of higher interest rates, Matsukata ([29] p. 59) mentioned the hoarding of currency and a short supply, relative to demand, of currency, this being caused by an insufficient financial system. It follows that the cure for “higher prices and higher interest rates” required “adopting a policy of lowering interest according to the demand-supply relation of capital, and increasing moderately the currency that could be capitalized in financial markets” ([29] p. 64). Therefore, according to the Banking Principle, as opposed to the Currency Principle, a lowering of the official discount rate was advocated.

We can find a critical view against this argument for lowering interest rates in the book written by Hisashi Matsuzaki [30], even though he was a supporter of the goods demand-supply theory in the matter of determining prices. According to Matsuzaki, though interest rates could be regarded as one factor of production costs, “it is just not convincing, in the present state of our country, to regard interest rates as an important factor of production costs. We must regard raw materials and wages as being the more important factors” ([30] p. 410). Therefore, in order to strive for a reduction in production costs and thus bring about a fall in prices, “we should concentrate our efforts on lowering the prices of raw materials and wages, and so on, and it is quite inadequate to make light of these factors and emphasize only the lowering of interest rates” ([30] p. 410). Thus, we can suppose that the state in those days was of a cost inflation caused by a rise in wage cost — a state in which the theory of interest cost was refuted, and the theory of wage cost was supported. In such a state, unless there was a change in the demand for goods factor, prices would remain at a high level because wage costs would also be higher. And it was thought that interest rates would continue to be higher, because money wasn’t supplied in proportion to the increase in demand for money. As we have seen, the Currency Principle (supporting the Fisher effect theory), the theory of interest cost, and the theory of wage cost were op-

posed to each other regarding the phenomenon of "higher prices and higher interest rates." The latter two are considered as the successors of the Banking Principle.

### VIII. *Conclusion*

The problems of the specie held abroad, and of price stabilization were the major factors of the Currency Principle-Banking Principle Controversies of the *first half* of the Taisho Era. And the explication of the phenomenon of "higher prices and higher interest rates" was central to the Controversy of the *latter half* of the Taisho Era.

As for the problem of the specie held abroad, the Currency Principle which accepted the direct relation between specie and currency was divided into an International Currency Principle (which gave precedence to international equilibrium) and a Domestic Currency Principle (which gave precedence to domestic equilibrium). The former gave precedence to international equilibrium over domestic equilibrium, and advocated the theory of disposition; whereas the latter isolated the domestic economy from international relations, and advocated the theory of abolishing the transference of specie held abroad into specie reserve, giving domestic equilibrium priority over international equilibrium. On the other hand, the theory of accumulation, which denied the direct relation between specie and currency, was the standpoint taken by the Banking Principle.

As for the problem of price stabilization, we have been able to observe the fact that there was the coincidence of a rise in prices along with an expansion of currency in those days. The causes of the rise in prices, and the causal relations between prices and currency were the main arguing points in this problem of price stabilization. The Currency Principle supported the theory of currency inflation, which supposed that the expansion of currency was the cause of the rise in prices. Moreover, since the Currency Principle of those days attached importance to cash currency, we should call it the Cash Currency Principle. On the other hand, the Banking Principle supported the goods demand-supply theory regarding the causes of the rise in prices, supposing that the expansion of currency was not a cause of the rise in prices, but rather a result of it. Most views of the Currency Principle and the Banking Principle in the first half of the Taisho Era focused on the relation between prices and currency — although we can find a compromise between both these theories. We can scarcely, however, find evidence of the problem of interest rates being given any consideration in the Currency Principle-Banking Principle Controversies of the first of the Taisho Era.

However, in the latter half of the Taisho Era, the phenomenon of "higher prices and higher interest rates" resulted in the arguments over interest rates entering into the field of the Currency Principle-Banking Principle Controversies. The Currency Principle supported the Fisher effect theory. It held that higher prices of some continuance would produce inflationary expectations, leading to higher interest rates. On the other hand, the Banking Principle supported the theory of interest cost. It held that a short supply, relative to demand, of currency caused higher interest rates, and that higher interest rates being a main part of production costs had an effect on the supply of goods, leading to higher prices.

Next let's place these two phenomena: (i) "the rise in prices and the expansion of currency" of the first half of the Taisho Era and (ii) "the higher prices and the higher interest

rates" of the latter half of the Taisho Era into the frameworks of the Currency Principle and the Banking Principle, respectively. Moreover, we will examine them within such a framework as seen in the eyes of the people of the day.

Prices, according to the Currency Principle, are determined by the theory of currency inflation, while, on the other hand, interest rates are seen as being determined by the relation between savings and investments. When it comes to the relation between nominal interest rates and inflationary expectations, the Fisher effect theory is applicable. However, according to the view of the Currency Principle of those days, it was assumed that inflationary expectations would result from a higher level of prices of some continuance. As mentioned before, we must note that this assumption confuses the *level of prices* with the *rate of change of prices* in formulating the formation of inflationary expectations. We can formulate it thus:

$$\dot{p}^e = \Pi(P)$$

And so we can summarize the Currency Principle according to the following simple model:

$$(A.1) \quad M = k \cdot y \cdot P$$

$$(A.2) \quad I(r) = S(r)$$

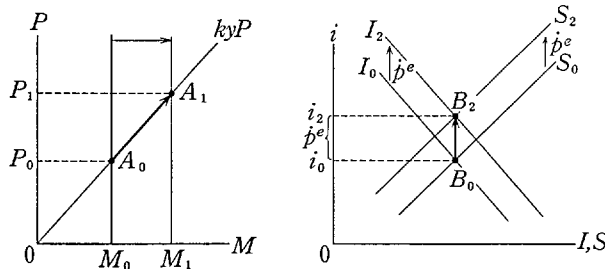
$$(A.3) \quad i = r + \dot{p}^e$$

where  $M$  is money supply,  $k$  is Marshallian  $k$ ,  $y$  is real income,  $P$  is the level of prices,  $I$  is investments,  $S$  is savings,  $r$  is the real rate of interest,  $i$  is the nominal rate of interest, and  $\dot{p}^e$  is the rate of inflationary expectations.

In the first half of the Taisho Era, an inflow of specie caused currency to expand from  $M_0$  to  $M_1$ . This resulted in prices rising from  $P_0$  to  $P_1$ . In the latter half of the Taisho Era, the volume of currency didn't decrease, and was kept at  $M_1$  because of the continuance of the gold embargo. And higher prices ( $P_1$ ) continued. In accordance with the fore-mentioned assumption, prices which remained higher produced inflationary expectations ( $\dot{p}^e$ ), raising the nominal rate of interest from  $i_0$  to  $i_2$  (Fig. A.).

On the other hand, regarding the determination of prices, the theory of interest cost supported the goods demand-supply theory. And an interest cost is included among the factors of the supply side of goods. Moreover, the rate of interest was determined by the demand-supply of currency. But it is assumed that currency is supplied in proportion to the demand for currency, insofar as it is not restricted by the supply of currency that is as-

FIG. A



sociated with the specie held. To be concrete, we suppose the following according to the theory of interest cost: In the first half of the Taisho Era, currency was supplied in proportion to the demand for currency, without it being restricted in any way by the supply of currency that was associated with the specie held. That is, in this period the supply of currency was infinitely elastic in relation to the rate of interest. However, in the latter half of the Taisho Era, being restricted by the supply of currency associated with the specie held, the supply of currency became inelastic in its relation to the rate of interest. Thus:

$$(B.1) \quad AD(P) = AS(P; i)$$

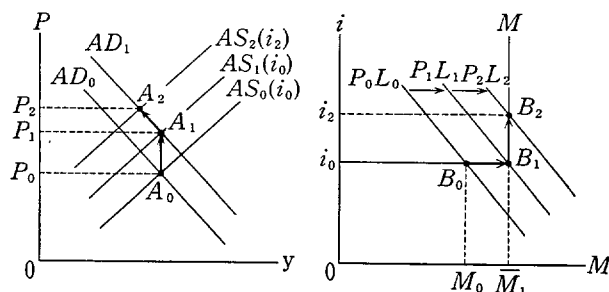
$$(B.2) \quad M(i) = P \cdot L(i) \quad \begin{array}{ll} \frac{\partial M}{\partial i} = \infty & \text{in the first half of the Taisho Era} \\ \frac{\partial M}{\partial i} = 0 & \text{in the latter half of the Taisho Era} \end{array}$$

where  $AD$  is an aggregate demand,  $AS$  is an aggregate supply, and  $L$  is real demand for money.

In the first half of the Taisho Era, an increase in exports, resulting from World War I, shifted the aggregate demand curve upward, and at the same time, a rise in transportation costs and in the prices of raw materials shifted the aggregate supply curve in an upward direction, too. Prices rose from  $P_0$  to  $P_1$  as a result of the upward shifting of these two aggregate curves. Thereby there was an increase in the nominal demand for currency, bringing about an expansion of currency. At the time, the supply of currency associated with the specie held was not restricted because of an inflow of specie. In the latter half of the Taisho Era, being restricted by the supply of currency associated with the specie held, an increased demand for currency caused the rate of interest to rise from  $i_0$  to  $i_2$ . And the increase in interest cost shifted the aggregate supply curve upward from  $AS_1$  to  $AS_2$ , which lead to higher prices ( $P_2$ ) (Fig. B).

In the model of the Banking Principle the interest cost was supposed to be a main part of production costs; however, we can regard the wage cost as being a main part of production costs (as Hisashi Matsuzaki pointed out). Moreover, let us suppose that the demand for goods is sensitive to the rate of interest, contrary to the assumption of the model of the Banking Principle. And in the model of the Currency Principle, it is assumed that higher prices of some continuance will produce inflationary expectations. But when we make allowance for the fact that there was a steep drop in prices early in the period of

FIG. B



the reaction recession of 1920, it is difficult for us to suppose that inflationary expectations could arise in such a period.

Now let's consider, from our present point of view, the phenomena of the Taisho Era, giving consideration to the Banking Principle which was based on the theory of wage cost as it stands opposed to the Banking Principle which was based on the theory of interest cost. We can show our model of this within the framework of *IS-LM* and *AD-AS*.

$$(C.1) \quad I(i) = S(y)$$

$$(C.2) \quad \frac{M}{P} = L(i, y)$$

$$(C.3) \quad y = AS(P, W)$$

where  $W$  is the money wage rate.

Here we assume the downward rigidity of the money wage rate. An aggregate demand curve,  $AD(P)$ , is derived from equations (C.1) and (C.2). ( $y = AD(P; M)$ )

Equation (C.1) represents an usual *IS* curve, and equation (C.2) represents an usual *LM* curve, whereas equation (C.3) represents an aggregate supply curve.

Fig. C-1 explains both the rise in prices and the expansion of currency in the first half of the Taisho Era. An increase in effective demand, caused by excess exports, shifted the *IS* curve to the right. On the other hand, the expansion of currency, which accommodated itself to an increase in effective demand, and was caused by an inflow of specie, shifted the *LM* curve also to the right. The shift of both the *IS* curve and the *LM* curve to the right implies an increase in aggregate demand, which means that the *AD* curve also shifted to the right. And at the same time the *AS* curve, being affected by World War I, shifted to the left. Thus we are also to explain that the rise in prices ( $P_0 \rightarrow P_1$ ) and the expansion of currency ( $M_0 \rightarrow M_1$ ) coincided with each other.

Fig. C-2 explains the higher prices and the higher interest rates of the latter half of the Taisho Era. During this period money wages and real wages remained higher than they had been. The increase in wage cost shifted the *AS* curve upward, leading to a rise in prices

FIG. C-1

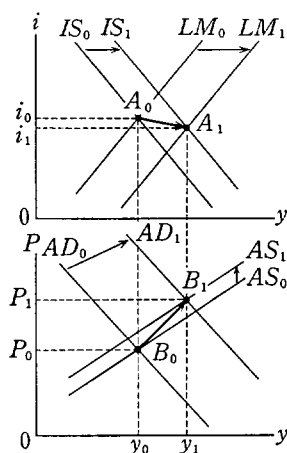
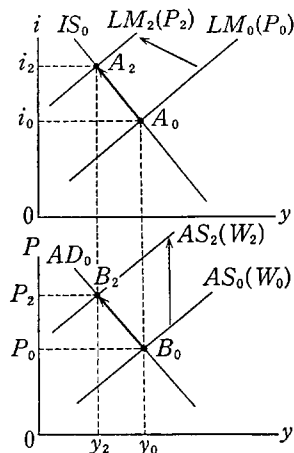


FIG. C-2



(to  $P_2$ ) as well as to a decrease in output. This rise in prices, if currency wasn't supplied in proportion to it, brought about a decrease in the real balance of currency. This decrease in the real balance shifted the  $LM$  curve to the left, leading to a rise in the rate of interest.

Thus, when we reinterpret the situations in the first half and in the latter half of the Taisho Era, we can come to the following conclusions regarding the policies of the time. In order to suppress both the rise in prices and the expansion of currency of the first half of the Taisho Era, policies which were capable of suppressing the aggregate demand, and which could influence the supply side were necessary. In Fig. C-1, we can shift the aggregate demand ( $AD$ ) curve downward by shifting the  $LM$  curve to the left (by means of a restrictive monetary policy) or by shifting the  $IS$  curve to the left (by means of tight fiscal policy). And thus we can suppress the rise in prices.

On the other hand, a discount rate policy within the frameworks of the Currency Principle and of the Banking Principle was insufficient to control both the higher prices and the higher interest rates of the latter half of the Taisho Era. If we support the theory of wage cost regarding the causes of the phenomenon of the higher prices and the higher interest rates of the latter half of the Taisho Era, which were in fact a kind of cost inflation, then we cannot accept the emphasis given during that period to the aggregated demand side. Policies that could influence the aggregate supply side were necessary. Though we may regard a policy to lower wages as being necessary, it was impossible to adopt such a policy, because such a policy is a factor which is negative to the aggregate demand (this idea is in agreement with the opinion of Keynes). We emphasize the necessity of a productivity growth policy. This means a policy that will be able to shift the  $AS$  curve downward as in Fig. C-2. In other words, the increase in productivity can offset the rise in wage cost. For this purpose we must lower interest rates to expand investments. Such a policy is in accord with lowering the official discount rate (as advocated by the traditional Banking Principle), though the processes by which both sides tried to achieve the same and were different.

## APPENDIX

We can show the view held by the Currency Principle during the first and the latter halves of the Taisho Era concerning the phenomena of those days, within the framework of present day Monetarists:

$$(D.1) \quad I(r) = S(y)$$

$$(D.2) \quad \frac{M}{P} = L(y, i, \dot{p}^e)$$

$$(D.3) \quad y = AS(P)$$

$$(D.4) \quad i = r + \dot{p}^e$$

where an aggregate demand ( $AD$ ) curve is derived from equations (D.1) and (D.2).

In the first half of the Taisho Era, the expansion of currency, which was caused by an inflow of specie, shifted the  $LM$  curve to the right. At the same time, it shifted the  $AD$  curve upward. These shifts resulted in an increase in prices from  $P_0$  to  $P_0'$ . Moreover,



FIG. D-1

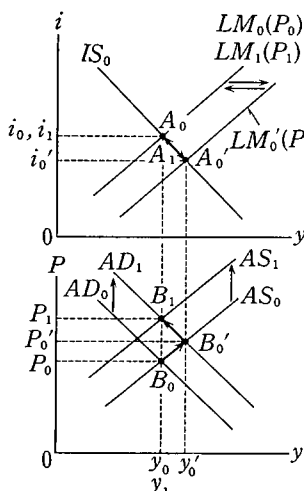
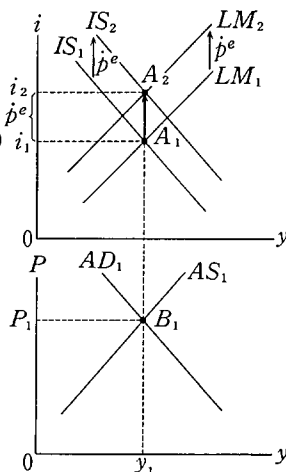


FIG. D-2



as people became disillusioned with the idea of a money illusion, the  $AS$  curve shifted upward, increasing prices to  $P_1$ . On the other hand, the rise in prices decreased the real supply of money, returning the  $LM$  curve to where it was initially (Fig. D-1). We can explain the expansion of currency and the rise in prices in the first half of the Taisho Era in this way.

However, as for the phenomenon of "higher prices and higher interest rates" in latter half of the Taisho Era, it is difficult to explain such a phenomenon, as long as one depends for the explanation thereof on just the Fisher effect. If higher prices ( $P_1$ ) of some continuance should produce inflationary expectations ( $\dot{p}^e$ ), this would shift both the  $IS$  curve and the  $LM$  curve upward, increasing the nominal rate of interest from  $i_1$  to  $i_2$  (Fig. D-2). But we should note that no inflationary expectations were formed, because in the state of affairs of those days no inflation actually occurred. Therefore, any explanation depending only on the Fisher effect is insufficient. Rather, we should focus on the real side, as opposed to monetary side, to explain the "higher prices and higher interest rates" of the latter half of the Taisho Era.

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