

# Restructuring of Foreign Exchange Theory

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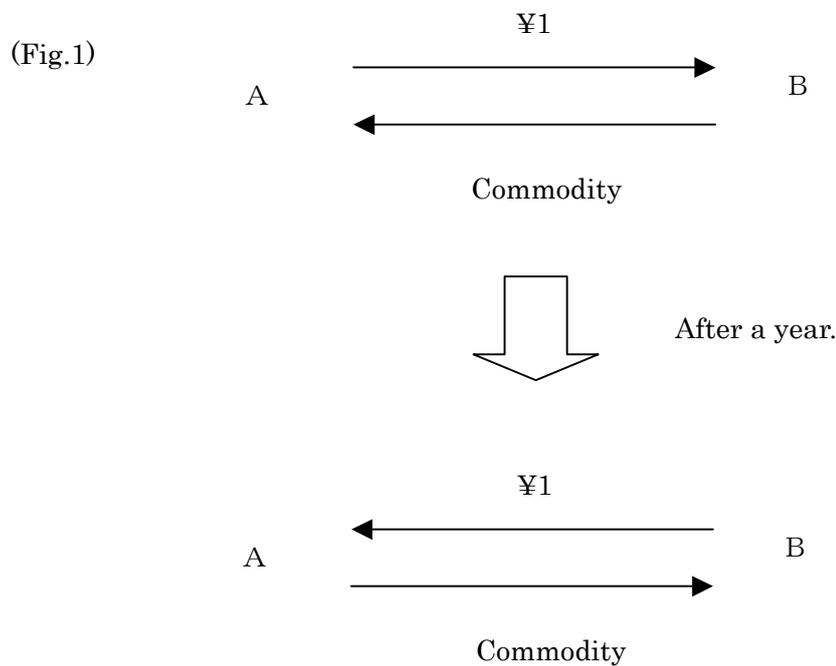
**Prior condition of body text**

1. Value of currency occurs only at the moment of making a deal.  
( It is called “Ideal situation of currency”. )
2. Money is managed in a bank.
3. Buyers of commodities / services borrow money from a bank. And suppliers deposit received money in a bank.

As described above, body text will be explained under the same condition as “Introduction of minus interest rate”.

**Relationship between economic growth and holding period of currency**

Suppose economic transaction of ¥1 is made once a year. Holding period of currency is one year, as economic transaction is made only once a year.



In the case of (Fig.1), transaction of ¥1 is made between A and B. B will buy ¥1 commodity from A one year after A buys commodity. Buying will be repeated alternately

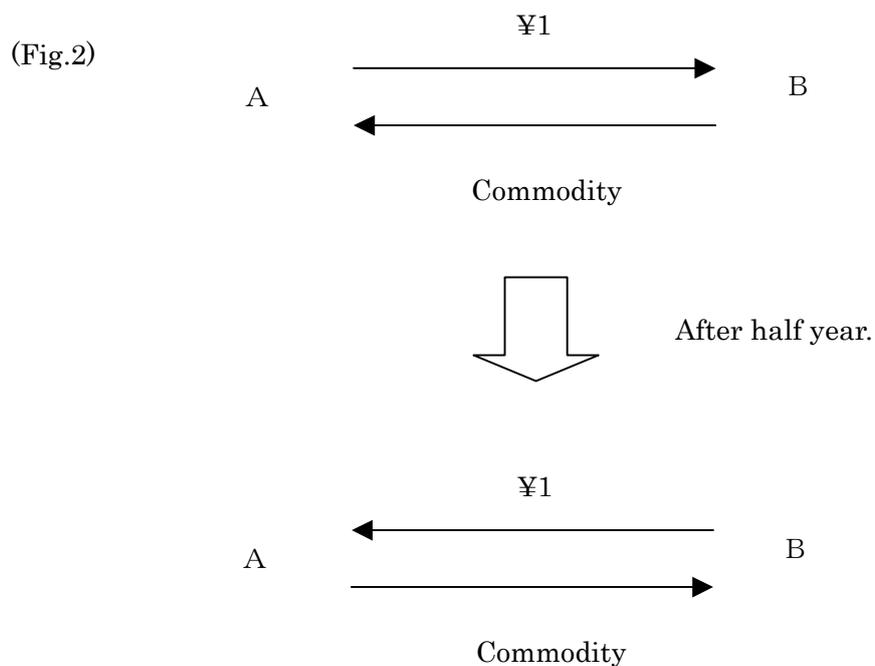
in this way.

In this case, amount of economic transaction  $G$  is as follows.

$$G = 1 \text{ ( Yen / year )}$$

Next, that economic transaction of ¥1 is half-yearly made will be considered. Holding period of currency is half year, as economic transaction is half-yearly made.

In the case of (Fig.2), transaction of ¥1 is made between A and B. B will buy ¥1 commodity from A half year after A buys commodity. Buying will be repeated alternately in this way.



In this case, amount of economic transaction  $G$  is as follows.

$$G = 2 \text{ ( Yen / year )}$$

Above explanations will be summed up as follows.

	Holding period of currency	Amount of economic transaction (G)
(Fig.1)	1 year	¥1
(Fig.2)	0.5 year	¥2

(Table1) Relationship between holding period of currency and amount of economic transaction

From the above, it can be understood that there is following relationship between holding period of currency and amount of economic transaction.

$$G = 1 / T$$

( G is amount of economic transaction (yen) , T is holding period of currency )

If holding period of currency becomes longer, amount of economic transaction decreases. On the other hand, if holding period of currency becomes shorter, amount of economic transaction increases. Amount of economic transaction and holding period of currency vary inversely.

This principle is nature completed certainly under prior condition “Value of currency occurs only at the moment of making a deal. ( It is called “Ideal situation of currency”. )”. It is fundamental principle forming the basis of economy.

(Let’s think of it in various patterns.)

### **Essential meaning of interest rate**

It has been explained in my book “Introduction of Minus Interest Rate” that essential meaning of interest rate is (nominal) economic growth rate. The grounds of it are written below. (These have been written in “Introduction of Option Concept to Money”.)

1. Value of currency occurs only at the moment of economic transaction. In this case, amount of economic transaction corresponds to amount of currency. (Same amount, reverse direction flow.)
2. Change ratio of scale of economic transaction corresponds to that of amount of currency perfectly. (It is obvious from the premise of 1). This means that (nominal) economic growth rate corresponds to interest rate perfectly.  
(Interest rate is change ratio of amount of currency.)

It was earlier explained that amount of economic transaction (G) and holding period of currency vary inversely. Here, F is defined as reciprocal of T. F means rotation number of currency, because it is reciprocal of term.

$$F = 1 / T = G \quad (\text{Unit of F is number / year})$$

According to this formula, amount of currency means rotation number of currency.

Above explanations is summed up as follows.

1. G is 1 / T. (Unit should be noted.)
2. G is F. (Unit should be noted.)
3. Change ratio of G is change ratio of 1 / T. (It is obvious from 1.)
4. Change ratio of G is change ratio of F. (It is obvious from 2.)
5. Change ratio of G corresponds to interest rate.  
(This has been explained in “Introduction of Minus Interest Rate.”)

From the above, interest rate means change ratio of rotation number of currency. (It can be thought to be change ratio of reciprocal of holding period of currency (1 / T).)

Calculation formula of it is as follows.

$$dG / dt = dF / dt \quad (t \text{ is time.})$$

This relationship is always completed under condition “Value of currency occurs only at the moment of making a deal.”

From the above, essential meaning of interest rate is change ratio of rotation number of currency

Holding period of currency	Rotation number of currency	Interest rate	Amount of economic transaction
shortening	increase	plus	increase
lengthening	decrease	minus	decrease

(Table2) Relationship among holding period of currency, Rotation number, Interest rate and amount of economic transaction

## **Relationship between interest rate and option**

From the explanations above, the higher interest rate becomes, the shorter holding period of currency becomes.

If holding of currency is regarded as holding of option, the smaller option becomes (the shorter holding period of currency becomes), the higher interest rate can become.

On the other hand, if option becomes bigger (if holding period of currency becomes longer), interest rate becomes minus.

From the above consideration, it can be understood that option (variation of holding period of currency) is different point of view of interest rate. Interest rate becomes plus and interest can be earned by shortening of holding period of currency. On the other hand, it is natural that interest rate becomes minus and interest should be paid by lengthening of holding period of currency.

It has been overlooked by conventional economic theory that value exists in holding period of currency. Holding of currency means holding of option. Shortening of period of option is source of plus interest rate. It is theoretically natural conclusion that interest rate becomes minus and interest should be paid by lengthening of holding period of currency.

It is thought to be natural that interest is earned by making a deposit for a long time under the present financial system, but it is theoretically wrong. In the case of not using money in economic transaction for a long time, option right is consumed, so principal should be decreased (by applying minus interest rate).

Long term deposit of plus interest rate is the concept to receive both of contradicting values, option and interest, so it is not theoretically established.

## **Essential meaning of currency**

$$G = 1 / T$$

(G is amount of economic transaction. T is holding period of currency.)

Above formula has been explained. This formula means that G becomes 0 when T becomes infinity.

G is both amount of economic transaction and amount of currency. Therefore, if holding period of currency becomes infinity, value of currency becomes 0. Currency (money) is lost.

Currency is concept realized by limiting holding period to be finite number. As holding period is limited, currency can exist. The shorter holding period becomes, the larger amount of money becomes. It is the source of interest (plus interest rate). On the other hand, if holding period becomes longer, amount of money decreases. If holding period is infinity, amount of money is 0.

This is essential nature of currency.

## **Restructuring of foreign exchange theory**

As there are differences of interest rates between yen and foreign currencies, profits of carry trades are viewed with suspicion.

Carry trade is investment method to earn higher profit by borrowing low interest rate currency and converting it into other currency.

As interest rate of yen is low at the moment, deals to earn profit by borrowing yen and investing it in foreign currency are viewed with suspicion.

Carry trade is the dealing to enjoy both interest and option right. Therefore, it is theoretically contradictory. It is resolvable by introducing option concept of currency to foreign exchange dealing.

As foreign exchange is dealing between other currencies, the following is consideration about dealing between yen and dollar.

### **Precondition**

Interest rate of yen is 0%, and interest rate of dollar is 100% (Annual rate). Foreign exchange rate is 100 yen per dollar at the time of purchasing dollar. Foreign exchange rate after one year will be the same. Various fees are ignored.

If 10,000 yen is borrowed and dollar is bought, it amounts to 100 dollar. If it is invested for a year, it will amount to 200 dollar. If yen will be bought for the money, it will amount to 20,000 yen. Profit of 10,000 yen will be made in a year.

Problem point of the dealing is that option concept is not introduced to currency. Plus interest rate can be realized by shortening of holding period. Therefore, value of 100 dollar at the time of buying dollar and value of 200 dollar after a year are the same. Holding period of dollar became half this year. Shortening of holding period (loss of option right) is changed to interest of 100 dollar..

On the other hand, as interest rate of yen is 0%, holding period is not changed. (option right is not changed.)

Therefore, value of 200 dollar one year after borrowing yen and value of 10,000 yen are the same. In this case, foreign exchange rate is 50 yen per dollar. As value of dollar reduced by loss of option right, foreign exchange rate became appreciation of the yen against the dollar.

As just described, if option right is introduced to currency, it is theoretically impossible to make profit from foreign exchange trading.

In the first place, it is something that shouldn't be to make profit by buying and selling of currency. Value of currency occurs only at the moment of making a deal. As contradiction exists in economic theory, it is possible to make profit by dealing between currencies without making a deal.

Concept of holding period (option concept) is necessary to currency.

### **Definition of currency by amount and period**

Value of currency has been defined by amount in conventional economic theory. Value of currency of ¥100 will be assured after a year or ten years.

But, if option concept (concept of holding period) is introduced to currency, condition is changed.

¥100 whose held period is 1 year have the same value as ¥50 whose held period is 2 years.

$$G = 1 / T \quad (G \text{ is amount of currency (yen), } T \text{ is holding period of currency (year)})$$

As just described, value of currency must be defined by set of amount and holding period. It is impossible to define value of currency by amount only.

There is a 10 times difference between value of ¥100 whose held period is 1 year and 10 years. ( Value of the latter is higher. )

### **Solution of issue of difference**

Economic disparity has become social problem. Main cause is contradiction of economic system, option concept is not introduced to money.

A source of interest based on plus interest rate is reduction of option right, shortening of holding period of currency. Therefore, it is correct economic system that those who use currency in a short time enjoy the merit.

But, the longer currency is held, the more interest is paid in the present system. Value (interest) that should be paid to those who use currency in a short time is robbed

of by those who hold currency for a long time.

Holders of much money grab value (interest based on waiver of option right) that should be received by holders of little money (their holding period of money is short) by holding excess money for a long time. Social injustice is generated.

As a result, rich people become richer and poor people become poorer. Income gap is expanded by contradiction of economic system.

Therefore, it is necessary to introduce concept of holding period (option concept) to currency. It can resolve income gap.

### **Relation between prices and holding period of currency**

It has been explained that a source of plus interest rate is shortening of holding period of currency. If many people continue to spend money in cooperation, what will happen?

There is a certain amount of limit to objects / services that can be bought. If demand increases more than that, the prices rise. Therefore, merits of plus interest rate (plus economic growth) are decreased by a rise in prices.

In short, there is a limit to merits caused by shortening of holding period of currency. It depends on a rate of increase of productivity of objects / services. It is impossible to enjoy a merit more than that.

In addition, increase of received services means increase of labor. There is a certain amount of limit to labor power. In that sense, there is a limit to merits caused by shortening of holding period of currency.

Therefore, it is necessary to set a certain amount of high limit to plus interest rate caused by shortening of holding period. Otherwise, extreme price rise will occur.

### **Equity is Double possession of value of money**

Value of currency occurs only at the moment of making a deal. Economic transaction is source of value of currency. Currency loses value without economic transaction.

Value of company that is making a deal is securitized and traded in equity market. Its

source of value is economic value created by the company. But company's economic transaction is a source of value of currency. To trade company (economic transaction itself) with this currency means the same as to buy currency with currency.

If financial asset is counted by adding value of equity and value of currency, one value (economic transaction) is double counted as currency and equity.

There are a lot of currency generated by theoretical contradiction of economy / finance. These currencies are used in stock market. As a lot of unnecessary currency is generated, asset value of stock market seems enormous.

## **Excessive currency is destructive factor of society**

As there are various contradictions in economic / financial systems, far more currency than real economic value exists.

If interest rate level is over nominal economic growth rate, excessive currency is generated. (Please refer to “Introduction of Minus Interest Rate”.)

It is possible to make profit by use of differences of interest rate levels of various currencies in foreign exchange. (Carry trade etc.). It means that currency which does not essentially exist is generated.

In addition, enormous financial asset exists in stock market. But, this is merely double count of value of currency.

Currency is composed of credits and debts. Excessive currency means generation of excessive debts. These debts certainly exist in some place.

If excessive debt is to be had, a problem of responsibility arises. It becomes debtor’s responsibility that excessive debt is to be had. Though excessive debt is actually generated by theoretical contradiction of economy / finance, organization (or individual) that has excessive debt is held responsible for the debt. It is buck-passing.

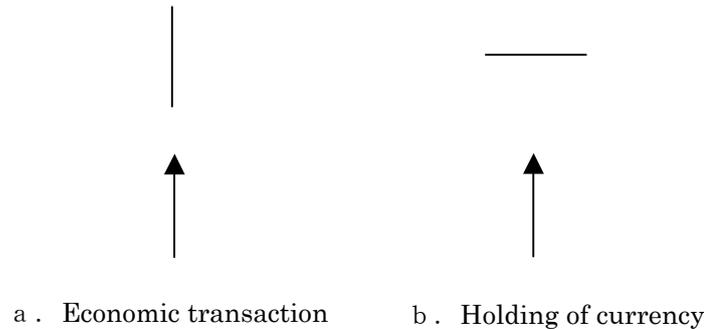
If excessive debt is to be had, the buck is passed, so disorganization begins. That is to say, Restructuring, staff reduction and industry consolidation. As a result, size of organization diminishes.

Excessive debt is not to be had without theoretical contradiction of finance / economy, so reduction of organization like this is not needed. Theoretical contradiction leads to destruction of society. As a result, productivity of the whole society is lowered. Scale of economy diminishes.

The more excessive currency caused by theoretical contradiction increases, the more scale of destruction expands. Therefore, it is necessary to clear contradiction of financial / economical theory as soon as possible.

## Structure of currency

Currency is roughly classified into two conditions.



Upper line indicates currency, arrow indicates line of sight. Left figure means condition used in economic transaction. Right figure is condition to hold currency. Value of currency is realized at the moment of economic transaction, but it can't be seen because it is infinitely small time. It is expressed in a. On the other hand, holding currency can be seen. It is expressed in b.

It can be understood that currency statuses a and b are perpendicular to each other. Currency is body of rotation. Function of currency is realized by rotation to realize both a and b.

It has been thought in conventional economic theory that value of currency exists only in status b.

But ground for value of currency doesn't exist without status a. It is impossible to define something, which is not known whether or not it is valuable, to be valuable. Value of currency is realized in a state of set of a and b.

The faster currency rotates, the more scale of currency expands. It is source of plus interest rate. Option right is diminished.

On the other hand, the slower currency rotates, the more scale of currency reduces. This situation means minus interest rate. Option right expands.

## **Requirement for coexistence of currencies**

If plural economic growth rates of each currency area are different from each other and this trend continues, stable development of economy is impossible.

Difference between holding period (option right) of currency (defined as A) of area in which high economic growth is kept and holding period of currency (defined as B) of area in which economic growth is low is increased as time passed.

Holding period of A becomes shorter.

If A is sold and B is bought, buyer can enjoy merit of holding period of currency. But, on the other hand, continuity of currency is lost.

Value of currency occurs at the moment of making a deal. The reason why it seems to have value all the time is that continuity of making a deal is guaranteed. This continuity is requirement for establishment of the currency system.

This continuity is not guaranteed between currencies whose holding periods are far different from each other. It means lost of continuity for holding period to become longer.

In the example described above, continuity of currency A is lost by change of A for B. Precondition for establishment of currency system is lost.

From the above, it is requirement for establishment of change between currencies that change ratios of holding periods of each currency agree.

Change ratios of holding periods (rotation numbers) of currencies used in each country should agree in order to make economic transaction among countries of the world smooth. In this case, economic growth rates of each country agree. Economy doesn't stabilize without agreement of economic growth rates.

Existence of economically developed and developing countries is obstructive factor for stable economic development. Economic development in developing countries is necessary for stability / development of the global economy as a whole.

## Career and Achievements of Akira Takizawa. (Writer)

Date	Career and Achievements
1985	He has started religious activity.
1989	He has graduated from the University of Tokyo, and started career in Mitsui Bank. (Now it is called Sumitomo Mitsui Banking Corporation.)
1994	He suggested to the bank. "Revolution in information will happen from now on. PC will be bank. System should be strategic division." After the suggestion, The Sakura Bank (Now it is called Sumitomo Mitsui Banking Corporation.) was far ahead of banking circles through IT strategy to establish Japan's first internet bank (Japan Net Bank) and so on. It led to IT introduction in every industrial circle and IT strategy in Japan. Suggestion described above made great contributions to IT strategy in Japan.
1995/06	He was assigned to General Planning and Policy Division. He was in charge of ALM.
1999/07	He surpassed both Buddha and Jesus in spiritual rank.
2000/06	He left the Bank to make a study on five dimension and so on.
2000/12/31	He accepted pyramid figure (Creation principle of all things, equipment for generation of magnetic field energy (Human activity energy)) from above. It was the advent.
2001/09	[The Day to Surpass Buddha] was published.
2003/02	[Five Dimension Theory] was published. It was theoretically explained in the book that world was fractal structure. (Space was involved in dot). Necessity to revise physics wholly by introduction of five dimension was advised in the book.
2003/06	[Introduction of Minus Interest rate] was released. Economic theory was restructured to revive economy in Japan. It was theoretically explained that interest rate and rate of nominal economic growth should agree. It was proved at the same time that the cause of depressed economy in Japan after the 1990s was much higher interest rate than rate of nominal economic growth. It was claimed that both business and financial recovery should be made by higher rate of nominal economic growth than level of interest rate. After delivery of this discourse to government and the Bank of Japan etc., it was spread in Japan that it was necessary for interest rate to be lowered, and it made great contributions to business recovery. It has been theoretical ground of low interest rate policy around the world after the Lehman crisis.
2004/01	Property to store electromagnetic wave was confirmed in fractal structure. (On the front page of The Asahi Shimbun.). A part of contents of [Five Dimension Theory] was confirmed academically.
2005	He began to write sequel of [Five Dimension Theory]. Fundamental structure was delivered to the Physical society of Japan etc..
2005	He has entered into heavenly world. (It is world of tutelary gods.).
2006/11	[Five Dimension Theory Vol. 2] was released. It was delivered to the Physical society of Japan etc..
2007	[Introduction of Option Concept to Money], [Restructuring of Foreign Exchange Theory] were released. It was delivered to various quarters.
2008/06	Kagayaki-No-Kai has been established to relieve humankind. [Fundamental Principle to Relieve Humankind] was released.
2008/10	[Wholly Revised Financial and Economic System] was released.
2009/08	[Fractal Economic Theory (this book)] was released. It succeeded in theoretical analysis of the cause of bubble economy.

2009/10 [Five Dimension Theory Vol. 3 principle of recognition] was released. Outline of five dimension was explained.

**2011/10 [Five Dimension Theory Vol. 4 principle of space creation] was released.**

2011/11 He has entered into creator world.

2011/12 Life-prolonging / Longevity Service has been started. Lifespan extension of humankind has been started.

2011/12 Equipment for generation of magnetic field energy (aura) was released.  
He succeeded in generation of magnetic field energy (aura) mechanically.

2012/7 He presented recommendation titled “Nuclear power must be abolished” to Prime Minister Noda. As a result, new energy policy named “Innovative energy / environmental strategy” aimed for “All nuclear power will be nonoperating in the 2030s” was announced from government on September 14, 2012.

**Present President of Kagayaki-No-Kai.**

Website <http://taki-zawa.net> (Written in Japanese.)

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