Structural Change of the Japanese Economy in view of National Economic Statistics:

The Second Sequel to "Toward Twenty Years after the Two "Lost Decades"

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1. Preface

I contributed to Number 6 of this journal a paper entitled "The Two "Lost Decades" and Thereafter — The Japanese Economy amid a Global Multi-Polar System—" (Takashima, 2012) (hereafter, indicated as the "Paper of Number 6"). I analyzed there the causes why the Japanese economy has fallen into a two-decade stagnation called the "Two Lost Decades": at first, the "Lost Decade" of its economic recession was caused by the burst of asset bubbles in the early 1990's and, after that, the recession dragged on actually for another decade until around 2010 through the Lehman Shock in the United States. Based on the analyses, I further made essential considerations mainly on the measures of making Japan's economic structure sound with a hope of its realization during twenty years from now, almost the same period of this prolonged economic recession, as problems are related to structural factors of domestic and foreign affairs.

The principal point that I discussed about the future of the Japanese economy in the "Paper of Number 6" is to ask the following problem. Various industrial characteristics taking a root in the specific nature of the Japanese society typically represented by the "group directivity (group reliance principle)" effectively acted on the post-war Japanese economy and contributed to its economic growth which was high enough to be called "As Number-One". After the 1990's, they have not worked for making the Japanese economy recover from the recession after the asset bubble burst and, on the contrary, have caused its long-term stagnation. According to the analyses, the basic reason was made clear by presenting the fundamental changes of inside and outside environmental and behavioral conditions surrounding the Japanese economy which have taken place over the period. That is, they are the following three points;

- ① a change in the total number of population and age structure concerning the population,
- ② a change in the economic development stage and the industrial structure represented by the trend of per capita GDP, and
- ③ globalization of economic activities and multi-polarization of the world economy due to the growth of developing countries.

And, in order to consider the Japanese economy after the "Two Lost Decades", we were required to investigate it further in detail in relation to these fundamental problems. That has brought us to go on with separate studies as "sequels" to "the Paper of Number 6". The first study was 'The Japanese Economy in the Midst of its Demographic Change - The First Sequel to the "Two Lost Decades" and Thereafter" carried in No. 8 of this Journal (Takashima, 2014) (hereafter, indicated as the "Paper of Number 8"). What is made clear in that paper is that the Japanese economy will have no future unless it alters its economic structure appropriately so as to promote economic efficiency and innovations whilst keeping up with the domestic and foreign changes in the fundamental conditions and unless it can carry on innovations under such a situation. In the domestic irreversible conditional change of a falling ratio of production age population amid the decreasing total population, what is needed to the Japanese economy from now on is to introduce capital which embodies new technology appropriate to the new industrial structure and to direct the reducing workforce towards the skill improvement which meets the changing demand structure. By doing so, growth of the total factor productivity will be realized by the cooperation of the production factors of capital and labor in the changes of various environmental conditions, and the rise of production results per labor will increase economic welfare per person. In this process, the Japanese economy ought to be able to leave from the "stagnation" long lasting until 2010 and thereafter.

The above was the conclusion of the "First Sequel", leaving the problems of the Japanese economy concerning a transition in economic development stages and an adaptation to the industrial structure changes to the "Second Sequel" and thereafter.

2. National Income Statistics that testify Changes in Economic Structure of a Country

On the 25th of January in 2012, almost four years ago, the Ministry of Finance announced the trade statistics of the year 2011, which made clear that the export of Japan fell short of the import. Taking this publication, every newspaper covered with the great headline that the Japanese economy has dropped to deficit in the balance of trade for the first time in 31 years.

With this as a start, there appeared, in economic journals and newspapers, many explanatory articles about "the theory on development stages" of a country based on statistics of international balance of payments. They explained a series of concepts that a country generally develops by stages from a "non-matured deficit nation" to a "deficit paying nation", then to a "matured creditor nation" and further to a "credit withdrawing nation". Japan has experienced a surplus economy in the trade balance on goods and services and the income balance. However, while the income balance is now in a growing tendency of surplus owing to the capital accumulation put in foreign countries, Japan is reaching to a crossroads from a "non-matured surplus country" to a "matured surplus country" by the fall to a deficit in the trade balance on goods and services. This is what these articles explained (see Note, below).

If the Japanese economy not only has a deficit in trade and services balances but also comes to a stop of growth in income balance, it might fall before long into a situation that a current balance itself makes up a deficit, as the development stage theory explains. If the Japanese economy faces such a situation, its national debt might become impossible to be absorbed in domestic market and then it might have to depend on the foreign funds for that absorption. As a matter of fact, Japan's national debt has already amounted to more than the double of its GDP, which is the ratio greatly

⁽Note) An analysis of the Japanese economy in view of the change in international balance of payments has already been made, based on the "Development Stages Theory" by G. Crowther(1957), in the Heisei 14 (2002) Edition of the White Paper on International Trade by the Japanese Ministry of Economy, Trade and Industry.

exceeding that of Greece when its financial situation triggered the Euro Crisis in 2009.

It has been already made clear in the "Paper of Number 6" that the structure of the Japanese economy has evidently been transformed during these 20 years or so, and this situation came to light in the International Balance of Payments Statistics with the announcement of the Ministry of Finance about the trade balance changing into a deficit. What this statistical fact means is that, behind it, there exists an actual situation that an irreversible tendency of change has taken place in the structure of forming income in the Japanese economy as a whole. Being confronted with this fact, we have an important problem of how we can maintain and increase economic welfare per person from now on in the Japanese economy already faced with a decrease in workforce under the falling birth rate and aging population. This is the very problem that has been indicated in the "First Sequel" and has been entrusted to our consideration in this paper of the "Second Sequel".

In order to cope with this problem, we are going to clarify below statistically the structural changes in the whole Japanese economy as the background of the changes appearing in the trade statistics and, through this process, to deduce the causality that the balance of trade on goods and services has come to a deficit. By doing so, we should be able to handle the remaining problems of ② and ③ among those problems shown in the previous section in relation to the changes in the economic environments.

The fundamental viewpoint of this paper lies in the problem of national economic welfare in the future Japanese society in the midst of the globalization of economic activities and the changes in its population structure, and then, what ought to be noticed is the facts on changes in income of the whole nation. Therefore, as a specific object of our analysis, "Gross National Income (GNI)" would fit for it better than GDP. GNI statistics handle the income received by the nation (domestic residents), while GDP has the statistical concept of figuring the production activities within the domestic region. GNI statistics ought to be understood to be more suitable for the consideration of the changes in economic welfare per person of a nation. In the following analysis, we try to understand statistically the mutual relations among various factors in the structure of the Japanese economy producing the gross national income and their links with economic transactions with foreign countries such as trade of goods and services by making use of the "Annual Report of National Accounts" published by the Economic and Social Research Institute of the Cabinet Office. Only after we do so, we should be able to gain the actual understanding of the structural changes in the Japanese economy after the "Two Lost Decades". This work ought not only to explain how the Japanese economy has resulted in a foreign trade deficit in the balance of trade on goods and services but also to reveal substantially, as statistical facts, the changes in industrial structure and the present development stage of the Japanese economy in the environmental changes such as the globalization of economic activities and the demographic changes. And, the very clarification of these issues would show us an evident prescription for what the Japanese society should do right now, in order to maintain and improve the national economic welfare under the present difficult conditions.

3. Gross National Income and Disposable Income

In the considerations from the "Paper of Number 6" to the "First Sequel", "Gross Domestic Product (GDP)" was used as the main concept for the scale of economy. In the work of this paper, we are going to use "Gross National Income (GNI)" as the main concept for the national economic welfare. First of all, we confirm here the relation between them that the latter (GNI) is figured out by adding the net amount of "incomes from abroad (the rest of the world)" to the former (GDP). (In the following description, there appear, in the parentheses, official statistical figures in nominal value concerning each of economic activities for one year of the 2013 fiscal year (from April 2013 to March 2014) based on the official reports for the latest year. The unit is one billion yen.)

Gross National Income (501,063.3)

= Gross Domestic Product (483,110.3)

+Incomes from the rest of the world (25,166.3)

-Incomes to the rest of the world (7,213.2) (A)

In this relation, "Incomes from the Rest of the World" is the sum of "Compensation of Employees" and "Property Income" which the Japanese people ("residents", the same in the following) received from abroad, and "Income to the Rest of the World" is conversely the sum of those items which they paid to abroad. (Attention must be paid to the practice that the "Rest of the World Accounts" (overseas transactions) in the "National Accounts" is constituted from a viewpoint of "Rest of the World". The amounts received from abroad by the residents in Japan are recorded to be "payable" and their overseas payments are written to be "receivable".)

This gross national income comes to be finally expensed home and abroad as the fruits of productive activities for one year by the residents, and its contents are made clear by the observation of factors constituting the gross domestic product contained in the equation (A) from the side of expenses. That is,

Gross National Income (501,063.3)

= [Private final consumption expenditure (296,538.8)

+Government final consumption expenditure (98,778.7)

+Gross fixed capital formation (107,566.2)

+Changes in inventories ($\triangle 3,866.4$)

+ [Exports of goods and services (79,998.1)

— Imports of goods and services (95,905.1)]

+ [Incomes from the rest of the world (25,166.3)

-Incomes to the rest of the world (7,213.2)] (B)

In this equation, the contents of "Incomes from the rest of the world" and "Incomes to the rest of the world" are receipt and payment of "Compensation of employees" and "Property income", respectively. These are the amount of receipt from abroad as the reward to the economic activities by labor and assets of the Japanese individuals and firms and the amount of payment to the foreigners for the same kind of activities. The addition of the balance between these items to the gross domestic product constitutes the gross national income.

"Exports of goods and services — Imports of goods and services" and "Incomes from the rest of the world — Incomes to the rest of the world" in the above equation are treated, respectively, as "Balance of trade and services" and "Balance of income" in the statistics of "Balance of International Payments", and the addition of these two items basically corresponds to "Current account balance". (Strictly speaking, addition of the net receipt of "Other current transfers" to this "Current account balance" makes "Current external balance" in the National Income Statistics.)

So then, while the above equation (B) of gross national income is derived from its relation with gross domestic product, what is called "primary income" is figured out for the actual contents which individual sectors such as households, firms and government obtain as workers. In the Report on National Accounts by the Cabinet Office of the Japanese government, the activities of the national economy are classified into those of five institutional sectors: "Non-financial Corporations", "Financial Corporations", "General Government", "Households (including Private Unincorporated Enterprises)", and "Private Non-profit Institutions Serving Households". From the purpose of analysis in this paper, we try to observe the actual situation of the economic activities by the whole nation based on the two-sector constitution of "Private" and "Government" sectors. Here, the "Private" sector is made up of four sectors except "General Government" in that Report and the "Government" sector here corresponds to "General Government" itself in the same Report. The actual situations of the national economy represented by these two sectors are shown in Table 1 with the latest official figures.

Items of income which the "Private Sector" (consisting of all sectors except government, the same as this in the following description) receives from production activities are widely divided into "Compensation of employees" and "Operating surplus and mixed income", and the income of "Government" is made up of "Taxes on production and imports". In this Table, "net" for the item "Operating surplus, mixed income" means the value obtained by excluding "Consumption of fixed capital" from the actual income for them. Each sector, Government too, everyday performs its productive activities using fixed capital such as machines and equipment, buildings and so on. Any sort of fixed capital has a life span and, in every year, there appear some items within it which are broken or abandoned. Therefore, in order to maintain a certain level of productive capacity, any economic organization needs to add up the costs for repair and/or replacement purchase for them. The expense for this need is "Consumption of fixed capital". This cost must be covered naturally by the use of gains from production activities. The indication of "net" in the Table means that the cost of maintaining productive capacity of fixed capital was paid by

Use	8		Resou	rces	
Private Sector	Government	Transactions /Balances	Government		
_	_	Operating surplus, mixed income; net	95,933.8	_	
_	—	Compensation of employees	248,296.0	_	
—	—	Taxes on production and imports	_	41,736.6	
—	—	(less) Subsidies	_	2,979.5	
69,074.6	10,288.3	Property income	89,810.5	7,377.7	
69,074.6	10,288.3	Total	434,040.3	46,134.8	
364,965.7	35,846.5	Balance of Primary Incomes, net	—	—	
79,362.9		Uses, Resources; total	480,1	75.1	
400,8	12.2	Balance of Primary Incomes, net total		_	
502,6	83.1	Balance of Primary Incomes, gross total		_	
480,1	75.1	Total Economy	480,175.1		
Use	es		Resou	rces	
Private Sector	Government	Transactions ,Balances	Private Sector	Government	
87,468.9	14,402.0	Consumption of fixed capital		_	
452,434.7	50,248.4	Balance of primary incomes, gross		_	
502,6	83.1	Balance of primary incomes, gross total		-	

 Table 1
 Allocation of Primary Income Account (fiscal 2013)

using the (gross) "Operating surplus and mixed income" actually obtained. The part of income which is actually used for consumption, capital investment, tax payments and so on is the amount left after the deduction of the "Consumption of fixed capital" from the total income. Compared with this, the "gross" amount of "Operating surplus and mixed income" includes the maintenance cost of fixed equipment capacity within it.

In Equation (B), "Gross fixed capital formation" which is a constituent of "Gross Domestic Product" (the part in parentheses []) includes "Consumption of fixed capital". This is part of the new investment in fixed capital of machines and equipment for preservation of productive capacity. Therefore, the "Balance of primary incomes, gross" in Table 1 substantially means Gross National Income. Concerning actual statistical figures, there appears some difference called "Statistical discrepancy" between them due to differences in the estimation procedures of these figures.

Use	es		Resou	rces
Private Sector	Government	Transactions, Balances	Private Sector	Government
_	_	Balance of primary income, net	364,965.7	35,846.5
44,463.3	_	Current taxes on income, wealth, etc.	_	44,463.3
74,052.3	_	Social contributions	11,350.9	62,701.4
14,339.9	68,866.4	Social benefits other than social transfers in kind	83,206.3	—
29,045.2	68,591.9	Other current transfers	33,926.4	62,495.9
161,900.7	137,458.3	Total	493,449.3	205,507.1
299,3	59.0	Total economy	698,9	56.4
331,548.6	68,048.8	Disposable income, net	_	_
399,5	97.4	Total economy		_
698,956.4		Sum	698,9	56.4

Table 2 Secondary Distribution of Income Account (fiscal 2013)

Gross National Income (501,063.3)

=Balance of primary incomes, gross total (502,683.1)

+ Statistical discrepancy $(\Delta 1, 619.8)$ (C)

In this way, Private Sector pays taxes to Government and also bears the expenses of social security systems such as pension funds and health insurance premiums from the gross income. The balance left after the payments under such systems becomes "disposable income" which can be used at the discretion of each institutional sector. The record on this part is what is called "Secondary Distribution of Income Account" shown in Table 2. Here, attention must be paid to the fact that the actual value of "Current taxes on income, wealth, etc." and the net value of "Social contributions" of the private sector are the payments to the government and that the net value of "Social benefits other than social transfers in kind" which is social security provision in cash is listed as payment to the private sector from the government. These are the relation of payments between the private sector and the government under the social system of a nation and thus, it does not naturally affect at all the total income of the nation's economy.

The item of "Other current transfers" listed as the accounts of "distribution" among various sectors includes what requires some care concerning its consistency with other relations in the accounts of national economy. As it is shown by the actual figures of that item listed in Table 2, the sum of "Uses" (payments) is not equal to that of "Resources" (receipts). The reason is that it includes transactions with foreign economies in addition to transactions between domestic sectors within the country. The sub-items included in this item are "(1)Net non-life insurance premiums, (2)Non-life insurance claims, (3)Current transfers within general government, (4)Current international cooperation, (5)Miscellaneous current transfers". The first three sub-items have the same figures for their resources and uses in the total economy, since they are just the transfers among the economic sectors within the nation. In the last two sub-items, the "receivable" figures are not equal to the "payable" ones for total economy due to grant-in-aids to foreign countries, contributions to international organizations and so on. All figures of these sub-items of "Other current transfers" including these unequal balance sub-items are added to "Balance of primary incomes" of the preceding Table 1 and then, it comes to constitute "Disposable income" of the whole nation. Table 3 shows the receipts and payments account (i.e. "Resources" and "Uses" in the Table) of the "Other current transfers" sub-items in the "Secondary Distribution of Income Account".

Use	es		Resources			
Private Sector	Government	Transaction Sub-Items	Private Sector	Government		
4,916.4	17.4	Net non-life insurance premiums	4,933.8	—		
4,933.8	_	Non-life insurance claims	4,919.3	14.5		
—	61,408.5	Current transfers within general government	—	61,408.5		
9,850.2	61,425.9	Total	9,853.1	61,423.0		
71,27	76.1	Total Economy	71,27	76.1		
_	412.0	Current International cooperation	—	0.0		
19,195.0	6,754.0	Miscellaneous current transfers	24,073.3	1,072.9		
19,195.0	7,166.0	Total	24,073.3	1,072.9		
26,36	31.0	Total Economy	25,146.2			
29,045.2	68,591.9	"Other current transfers"	33,926.4	62,495.9		
97,63	37.1	Total Economy	96,42	22.3		
—		Resources, net ^1,214.8				

Table 3	"Other	current transfers	" Account	(fiscal 2013)
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As explained above, the income which is the results of the nation's productive activities is what is represented by the "Primary Income" listed in Table 1. Payments of money are taken place as necessary among individual sub-sectors consisting of the Private sector and among each of them and the Government. Table 2 is the list of the amounts of payments concerning taxes and social securities between "General government" (central and local governments and governmental organizations) and "Private sector" (all the economic organizations except "General government"). Under this "Secondary Distribution of Income", the gross national income as a whole remains the same as that before the payments and receipts among the individual economic sectors. The item "Other current transfers" too basically records only the account of transfers between sectors, but within it, the net value of transfers with foreign countries and those not included in other items remains in the account as the value which is not counteracted in the transactions among the domestic economic sectors. With the addition of this part to the "Primary Income Account", the "Disposable income" of the nation is finally constituted. Table 2 shows the actual amount of that final disposable income for the latest 2013 fiscal year about the private sector and the government along with the contents of institutional transfers between these two sectors.

Concerning the relation between the "Disposable income" produced in this way by the nation and the "Gross national income" of equation (A) or (B) which gives birth to that disposable income, the gross national income is the outcome of productive activities and thus, it does not include a net amount of "Other current transfers from abroad" resulting only from the receipts and payments of such items as financial aids and donations which are not the fruits of overseas productive activities. On the other hand, the gross national income includes the amount corresponding to "Consumption of fixed capital" which is the expense for preserving the capacity of fixed capital such as productive equipment. Therefore, the relation between "Disposable income" and "Gross National Income" comes to be expressed by the following equation:

Gross National Income (501,063.3)

- = Disposable income, net (399,597.4)
 - Other current transfers from abroad, net ($^1,214.8$)
 - +Consumption of fixed capital (101,870.9)

+Statistical discrepancy (Δ 1,619.8)

- = Disposable income, gross (501,468.3)
 - Other current transfers from abroad, net (\$\alpha\$1,214.8)
 +Statistical discrepancy (\$\alpha\$1,619.8)

(D)

Inclusion of "Statistical discrepancy" in this equation is to adjust the discord of figures resulting from different estimation methods of statistics. While the figures of disposable income in Table 1 and Table 2 come from the estimation method for the series of production and distribution, the figures related to the gross national product in Equation (B) are based on the estimation method for the series of expenditure. In this way, statistical figures can become somewhat discrepant for the same economic object owing to the difference in side of estimation. The addition of this item, "Statistical discrepancy", is a way of securing the conceptual identity in terms of statistical figures by adjusting the discrepancy in figures caused by the different estimation methods for the same object.

4. Mutual Relations among Domestic Production, Finance, and Overseas Activities

The above has explained the actual procedures of how much income is brought about by the productive activities of the nation including its activities with foreign economies and how much disposable income is obtained by the private sector and the government respectively through the receipts and payments of taxes, social security contributions and so on between them.

Next to it, what we want to know is how each of these sectors actually "disposes" their disposable income. It will show how much they consume and how much they result in savings for themselves. By the way, the amount of consumption for each sector is already shown in Equation (B). Therefore, the "savings" of both of them are immediately derived from the "net disposable income" obtained in Table 2. The result is Table 4. "Saving, net" is the amount which does not include the replenishment cost for consumption of fixed capital as shown in the income item of Table 1, and "Saving, gross" is the amount which includes that amount.

Then, the "Gross National Income" of equation (D) is rewritten in the following way:

Use	es	Resources		
Private Sector	Government	Transaction and Balance Items	Private Sector	Government
	—	Disposable income, net	331,548.6	68,048.8
296,538.8	98,778.7	Final consumption expenditure	—	_
35,009.8	^30,729.9	Saving, net		—
87,468.9	14,402.0	Consumption of fixed capital —		—
101,8	70.9	Total economy	_	—
122,478.7	^16,327.9	Saving, gross	—	_
106,1	50.8	Total economy		_
_	_	Other current transfers from the rest of the world, net	△635.4	△579.4
	_	Total economy ^1,214.8		4.8

Table 4 Use of Disposable Income Account (fiscal 2013)

Gross National Income (501,063.3)

=Final consumption expenditure of Private sector (296,538.8)

+Saving of private sector, gross (122,478.7)

+Disposable income of government, gross (82,450.8)

—Other current transfers from the rest of the world $({\scriptstyle \vartriangle}1,214.8)$

+Statistical discrepancy ($^{1},619.8$) (E)

In this equation, "Disposable income of government" of the 3rd item of the right side mainly consists of the transfers to government such as "Current taxes on income, wealth, etc." and "Social contribution". In addition to these receipts, this item includes consumption of fixed capital (14,402.0) of general government sector and thus, a word "gross" is attached to the name of that 3rd item. As shown in Table 3, net receipts of "Other current transfers" in the 2013 fiscal year are listed 4,881.2 and -6,096.0 respectively for the private sector and government, and attention should be paid to the fact that it is included in "Saving, gross" for the private sector and that it is already added up in the "Disposable income, gross" for the government sector at the stage of calculation of the net total. In the total figure of this item for these two sectors, the parts concerning the formation of gross national income are counterbalanced by payments and receipts among domestic sectors and what remains is the figure concerning only the dealings with abroad. Therefore, the figure of minus 1,214.8 obtained by adding up the net receipts of the private sector and the government in the above equation corresponds to the "Other current transfers from the rest of the world" consisting of exchanges

of grant-in-aids with foreign countries, contributions to international organizations and so on. This part is excluded in the account of gross national income which is the results of productive activities of the nation for both accounts of the private sector and the government.

This equation (E) is constituted by paying attention to the disposable income of the nation except for the general government sector, that is, the private sector. When this equation is combined with the aforementioned Equation (B) concerning gross national income and then constituent items are properly arranged, the next relative expression is derived:

[Private saving, gross (122,478.7)

- [Private gross fixed capital formation (90,361.8)

+Private Changes in inventories ((3,890.5)]

- + [[Government Disposable income, gross] (82,450.8)
 - [Government final consumption expenditure (98,778.7)

+Government gross fixed capital formation (17,204.4)

+Government Changes in inventories (24.1)]

+ Statistical discrepancy (a1,619.8)

= [[Exports of goods and services (79,998.1)

- Imports of goods and services (95,905.1)]

+ [Incomes from the rest of the world (25,166.3)

-Incomes to the rest of the world (7,213.2)]

+Other current transfers from the rest of the world ($^1,214.8$)

= Current external balance (831.2)] (F)

In the above derivation, a next defining equation is used:

Current external balance (831.2)

 \equiv Balance of goods and services trade ($\triangle 15,907.0$)

+Balance of incomes with the rest of the world (17,953.1)

+Other current transfers $(\triangle 1, 214.8)$ (G)

In equation (F), depreciation of fixed capital for the private sector is listed in "private saving" and constitutes a part of the gross savings, and for the general government sector, it is included in the "Government Disposable income, gross".

So then, when attention is paid to the relation between saving and

investment put in brackets [] of the first item in the left side of equation (F), this was the subject theoretically analyzed early by Solow (1956) with the use of mathematical models and became one of the central research subjects of macro-economics. After that, this relation came to be analyzed empirically by Feldstein and Horioka (1980) and others. In this way, this is an important relation between variables that can determine the economic growth of a country and can induce it to take overseas economic activities. And the second item is the government disposable income, which is "transfers to government such as taxes", minus the total amount of expenditures used for governmental activities (including social security benefits in kind such as health insurance) containing government investment for fixed capital. This item comes to show plainly the government situation of income and expenditure. The Japanese economy is now situated in the decreasing process of population under a low birth rate and an aging population amid the rapid development of multi-polarization and globalization in the world economy. For the Japanese economy in this situation, those two large items in the left side of equation (F) can be said to be statistically the most important in order for us to inquire into its present and future movement and to probe guiding principles of improvement and progress of the national welfare.

Furthermore, what deserves close attention is that the total amount of those two big important items is perfectly connected to economic relations with abroad. In the right side of equation (F), the first item is "trade balance" itself and the second item together with the third one makes up "income balance". Therefore, the right side as a whole constitutes "current account balance" which is the net amount of income obtained by the current economic activities with abroad. As shown by equation (G), "Rest of the World Accounts" (overseas accounts) of the National Accounts lists "Current external balance" by adding "Other current transfers" (other external balance) being receipts and payments free of charge with foreign governments and international organizations to two large balance items of the right side. The contents of its receipts and payments for the latest year are as shown in Table 5. (As already referred to, in the "Annual Report on National Accounts" prepared by the Cabinet Office which is the official statistical material of our country's national income statistics, figures concerning "Rest of the World Accounts" are listed from an overseas point

Receipts, net		Payments
68,836.2 (△13,008.2)	Goods	81,844.4
11,161.9 (△2,898.8)	Services	14,060.7
79,998.1 (^15,907.0)	Goods and services (a)	95,905.1
145.1 (127.8)	Compensation of employees	17.3
25,021.2 (17,825.3)	Property income	7,195.9
25,166.3 (17,953.1)	Income from / to abroad (b)	7,213.2
2,467.0 (^1,214.8)	Other current transfers (c)	3,681.8
107,631.4 (831.2)	(a)+(b)+(c) (Current external balance)	106,800.1

Table 5Rest of the World Account (fiscal 2013)

of view. Therefore, attention must be paid to the practice that "receipts" and "payments" in the "Annual Report" are recorded in the opposite sides to those of Table 5.)

5. Structural Changes of the Japanese Economy appearing in Domestic Production, Finance, and Overseas Activities

In the preceding two sections, we have examined the mutual relations of the various activities constituting the national economy, being based on the actual statistical materials. At the result, what has been finally derived is a close connection between the saving and investment activities of the private sector and the financial activities of the government: the private sector proves to control basically the production activities of a country in the market economy and the government sector has been increasing the extent of its concern with private economic activities and the nation's welfare. What is more important is that the situation of domestic activities of these two sectors is closely connected to that of their economic activities with abroad. This shows clearly the factual relation that is extremely important to the national economy taking part in the world economy which has been rapidly increasing the degree of globalization today.

We can understand the basic structure of a national economy in the equation (F) derived in conclusion from the statistics of "National Accounts". That is the relation

Private Saving and Investment Balance + Government Finance Balance = Overseas Current Balance (H)

Then, the development stage of a country's macro economy comes to be described to have some different aspects depending on the mutual relations of economic activities among three sectors of private, government and overseas economies constituting this relation. The theories of economic development by Crowther, Kindleberger, Samuelcon and other economists were to explain a country's economy in several development stages in view of the aspect of international balance of payments by paying attention to the trends of overseas trade and services balance, income balance, and balance of capital transfers in addition. In Crowther's literature cited before, the starting first stage is "Immature debtor-borrowers". This is a state of a country's economy that both of its trade and services balance and its income balance are minus and that its balance of capital transfers too becomes an excess of receipts because of having no overseas activities of its business. After that, trade and services balance moves into the black at first. Then, capital movement abroad begins to expand and in course of time, the expansion of income balance is brought by the realization of fruits of its overseas direct investment and others. A country's economy goes through these four stages and reaches the fifth stage of a matured creditor nation. However, that developed and mature condition changes as time passes and the country's economy comes to have a situation that the income balance is still kept to be positive but that the capital balance changes to an excess of receipts due to withdrawal of overseas credits; the final sixth stage called "Creditor-borrowers". This is the Crowther's six-stage theory of the international balance of payments.

The beginning of Section 2 dealt with a media report covering that the Japanese economy has dropped to deficit in its trade balance for the first time in 31 years. In this connection, the situation of Japan's international balance of payments has changed until the present as follows. The basic development of the Japanese economy was led until recently by the domestic production activities of manufacturing industry, with the overseas transactions usually resulting in trade surplus by expansion of exports. As opposed to it, the overseas production activities by capital export and the expansion of income balance based on them did not become established. As the situation proceeded, although there occurred provisional events such as the great East Japan Earthquake, the balance of trade changed to deficit in some decades and after that, the trade and services balance is now in the situation that its surplus tends to decrease and furthermore that it heads toward having its deficit established. After the stage of economy being led by export based on domestic production, the Japanese economy can be said to be at present in the situation that it begins capital export for overseas production in order to meet the demand increase in local consumers including the developing countries. According to Crowther's development stage theory of international balance of payments, the Japanese economy is located at present in a transition state from the fourth stage of "Immature creditor-lenders" to the fifth stage of "Mature creditor-lenders".

The purpose of this paper is not to base the development stage of the Japanese economy upon the foreign accounts ("Rest of the World Accounts") of the statistics of the national economy ("National Accounts") but to analyze the internal structure of the nation's economy which has led its economic relations with abroad to that stage of international balance of payments and then to derive guiding principles to be followed from now on for the sake of national welfare. As mentioned above, during the period from the fourth stage to the fifth stage in the international balance of payments, the Japanese economy has experienced the "Two Lost Decades", and it continues to take a path under difficult conditions of the economic and industrial maturity and the aging population combined with the diminishing number of children. By letting our economy take its own course as time goes by, we cannot have the situation that it advances automatically to the "sixth stage" at the worst and that our lasting survival is secured. Even if it can proceed to that stage, there exists the danger that it would be turned back even to the "first stage" in the difficult conditions where it stays from now onward. In his theory of development stages, Crowther himself does not deny the possibility that the danger will actually happen under a country's lack of appropriate political and economic policies.

Fiscal year	1980	1985	1990	1995	2000	2005	2010	2013
Private savings, gross	75,568	91,253	113,487	131,040	138,484	132,775	138,141	122,478
Non-financial Corporations	33,346	42,423	49,891	62,789	82,013	88,888	96,827	96,364
Households	38,766	47,212	52,431	52,786	$41,\!657$	23,972	26,963	15,408
Private savings, net	44,566	47,666	48,686	44,342	48,517	44,630	49,179	35,010
Non-financial Corporations	13,827	14,028	6,416	3,111	18,364	26,118	32,220	32,624
Households	28,125	33,419	33,991	29,247	18,900	2,688	7,050	-3,747
Gross capital formation	64,215	78,809	126,825	110,651	102,559	95,875	80,719	85,468
Savings-Investment balance	11,353	12,444	-13,338	20,389	35,925	36,900	57,422	36,010

Table 6 Savings and Investment of Private Sector (nominal real number: unit, billion yen)

Sources: For statistical figures of the latest years, fiscal 1994 to fiscal 2013, "Annual Report on National Accounts for 2013" edited by the Department of National Accounts, Economic and Social Research Institute, Cabinet Office, Government of Japan; for those before them from fiscal 1980 to fiscal 1993, figure tables recorded in CD-ROM, an appendix of the same annual report, is used. (The same time-series data are available, too, in Home Page of the Cabinet Office.)

Notes: Figures for "Private" are those obtained by deducing the figures for "General Government" from the figures for "Total Economy".

"Private savings, gross" = "Private savings, net" + "Private Consumption of fixed capital" ,

"Private Gross capital formation" = "Private Gross fixed capital formation"

+ "Private Changes in inventories",

"Savings-Investment Balance" (Balance of Investment and Savings) = "Private savings, gross" - "Gross capital formation".

Therefore, the matter of concern of this paper does not lie in the right side of equation (F) or (H) but in the relative movements among the main factors which constitute the left side, in view of the equations finally derived in the analysis of the national income statistics. The movement of international balance is only the result of behaviors of the private sector and the government making up the left side of equation (F).

The trends of savings and investment along with those of balance of finance constituting the left side of equation (F) are as shown in Table 6 and Table 7. These two tables grasp in strict statistical figures the trends of the domestic economic activities which cover the relatively long-range situations from the year before the 1990's heading toward the "Two Lost Decades", and from them, we can observe some important tendencies seeming to show the structural changes in the Japanese economy during this period.

Table 7	Disposable Income and Expenditures
	of General Government Sector
(nom	inal real number: unit, billion yen)

Fiscal year	1980	1985	1990	1995	2000	2005	2010	2013
Disposable income, gross	42,685	59,451	97,654	92,160	88,997	90,364	69,320	82,451
Final consumption expd.	34,937	45,961	60,156	75,713	85,739	92,431	$95,\!541$	98,779
Gross capital formation	14,847	15,122	$21,\!626$	31,661	26,127	18,035	15,183	17,232
Balance of income and expd.	-7,099	-1,632	15,872	-16,448	-24,493	-20,103	-41,404	-33,559

Sources: The same as Table 6.

Notes: Figures of "Disposable income, gross" are net amounts of disposable income plus consumption of fixed capital. "Balance of income and expd. (expenditure)" is calculated for the general government account by "Disposable income, gross" – "Final consumption expenditure" – "Gross capital formation", and it corresponds to the second term of the left hand of equation (F). Here, "Gross capital formation" = "Gross fixed capital formation" + "Changes in inventories".

First of all, in the nation's economic sector mainly consisting of private companies without the general government sector, "Gross capital formation" had an increasing tendency until the beginning of the 1990's, but after 1992 entering the "Heisei depression" after the burst of the asset bubble, it has turned to decrease. After that, in the middle of the 2000's, the recovery from the financial crisis came to be expected and the outlook for the economy seemed to be bright. Capital investments showed a slight sign of recovery. At present in and after the year 2013, the outlook for the economy has become bright a little with a possible help of provisional monetary and financial policies to get rid of the deflation. However, from the long-term point of view, there has not been recognized at present such strength as shown until the 1990's corresponding to the transition period from the high growth to the maturity process. This means that, supposing that the productivity of capital as production equipment is kept constant, goods production ability of the whole Japanese economy is heading toward a declining condition. Furthermore, under the vital statistics of our country showing the falling population of working age group as examined in detail in "the First Sequel", this declining tendency of production ability means to be hastened from the side of labor factor too. Concerning the capacity of production facilities, it is appropriate to discuss the capacity of "corporate equipment" in private companies in view of the movements of their "Gross fixed capital formation", and then, by deletion of the part of "Consumption of fixed capital" from that "Gross fixed capital formation", the actual state of increase in production equipment is made clear. What proves this situation is the movements of statistical figures appearing in Table 8.

Table 8 Production Equipment of Private Sector (nominal real number: unit, billion yen)

Fiscal year	1985	1990	1995	2000	2005	2010	2013
Gross fixed capital formation	76,316	124,757	109,447	102,221	95,307	81,025	90,362
Consump. of fixed capital	43,587	64,801	86,698	89,967	88,145	88,962	87,469
Net fixed capital formation	32,729	59,956	22,749	12,254	7,163	-7,937	2,893
Machinery and equipment	95,256	147,009	177,739	182,253	168,278	161,362	158,917

Sources: The same as Table 6.

Notes: The existing amount of "Machinery and equipment" is "Other machinery and equipment" which is the total amount of "Tangible fixed asset" minus " Structures", "Transport equipment" and so on within the nation's assets at the end of each listed fiscal year.

The transition of these statistics shows clearly that the amount of capital as a production factor K mainly consisting of machinery and equipment in the macro production function of the Japanese economy has changed to decrease throughout the Two "Lost Decades" after the beginning of 1990's. If the existing amount of capacity AK taking unit production ability A in consideration too is already in a decreasing situation, the Japanese economy proves beyond doubt to stay at present in a declining condition together with the decreasing trend of the population of working age group (Takashima, 2011). Concerning the movement of productive capacity of capital equipment along with that of the productivity of labor as a factor of production in the production function, it is required to make a careful econometric examination in further detail with the materials relating to them. Under the structural changes of the Japanese economy that have appeared in the national income statistics, the main purpose of this paper is to inquire difficult problems which should take place in the near future amid these trends and to pursue the measures to be taken

under these conditions for the sake of the economic welfare of the nation.

Getting back to Table 6, when we look at the amount of savings as the source of capital formation by the private sector, this too turns to a decreasing situation at the start of this century and, even when it increases, such a strong trend of increase as seen in the past century has not been recognized. During the postwar high growth period, the investment funds were in a situation of shortage, but after 1980, the savings-investment balance (IS balance) has had a tendency of excess of savings except the bubble period of the end of the 1980's and, moreover, in the decreasing tendency of fixed capital formation as seen above, that excess amount has tended to expand. Concerning the future tendency, there are some different opinions. The general opinion is that the excess savings will tend to reduce by increase in withdrawal of savings mainly by old-age households as the population is rapidly aging, and there is another view indicating a tendency to increase a propensity for savings among a mature age group in the situation of declining standards of social welfare owing to the financial difficulty. In any case, it is difficult to have a definite theoretical inspection about the future trend of national savings and investment, but, when we consider that the Japanese economy cannot be expected in its present mature state to grow as highly as in the past and, moreover, that it has now the population change of a decreasing ratio of young people and an increasing ratio of elder population, the excess of savings is considered to turn toward reducing in the long-run, though some different situations might occur under a possible change in relationship with domestic capital formation (Ogawa, 2009, pp.320-328; Ogawa, 2007). In the near future of two or three decades from now on, the period of consideration in this paper, the IS balance (Savings minus Investment) is expected to have a reducing tendency in the progressing situation of maturity of the Japanese economy and globalization of the world economy.

Next, we move to the second term of the left side of the basic relation (F), government finance. That actual situation until now represented in the national economic statistics is as shown in Table 7. Figures listed in the table are those for the behavior of "General Government" as the sum of central and local governments (and, in addition, social security organizations dealing with accounting of medical care, pension and so on). Its financing has been always in deficit and, moreover, the amount of deficit has an

expanding tendency except the period of some years from 2005 when the economy slightly improved. This is due to a constant increasing tendency of "government final consumption expenditure" and to its great amount. Considering that the content of this item mainly consists of the grants of medical-care and long-term care insurances along with the related personnel expenses, it can be understood that the amount has increased every year without exception. Under temporary monetary and financial measures like the so-called "Abenomics", the "disposable income" could increase to a certain degree in a temporary return to an economic growth route for the time being. But, when it is considered that the tendency of an increase in aged population has not ceased in the trend of Japan's population, the deficit of financial balance in the whole government could further increase, and it is apparently difficult to reduce it in the near future without so drastic measures as not experienced in the past about the systems of tax, social securities and others (Tsuya and Higuchi, 2009, pp.229-239).

Equation (F) is the relation derived by summarizing the mutual relationship among the gross domestic product account, the disposable income account and the overseas account ("Rest of the World Accounts") as the components of the national income statistics, and the movements until the latest year of savings investment and financial balance composing the left side of that equation are as examined above. The savings-investment relation of Japan's domestic economy has been clearly in the situation of excess savings since the 1990's and the government finance has tended to strengthen the deficit. But, the whole amount of the left side of that equation still stays to be positive; that is, the Japanese economy still keeps the positive amount of current (external) balance at the right side of that equation. In the circumstances where the Japanese society has the diminishing trends of working-age population in addition to the aging population combined with the declining number of children, equipment investment activities mainly taken by the manufacturing industries are considered to become weakened amid the globalization of economy. On one hand, in that change in population of Japan, elderly people's attitude toward the withdrawal of savings is foreseen to strengthen. When this tendency will progress, the situation of excess savings at present in the savings-investment balance can be thought to change into that of minus

savings. On the other hand, it is taken for granted that the deficit of financial balance will keep increasing, because the demand of national welfare will tend to inevitably increase in the above mentioned conditions of population and because the increase of tax income will not be expected in the maturing society. In these circumstances, it is almost impossible for us to expect that the balance of government finances will improve in such a great degree as to take a turn toward reaching the surplus. In this situation, the Japanese economy would fall into the same condition as the so-called "twin deficits" in the age of the Reagan Administration of the United States, that is, the deficit of current balance under the deficit of financial balance. (The "twin deficits" in the age of the Reagan Administration was due to the financial deficit brought by the decrease in exports and the increase in imports at a strong dollar rate at the time under the high interest rate policy to check inflation and by the policy measures of strengthening defense capabilities and of reducing taxes.)

If such a situation becomes a reality, as long as the economy has to keep depending on the issue of government bonds for financial reasons, it will come to be obliged to rely on foreign funds owing to the decrease in the domestic savings, which is almost the same situation as the EU countries that fell into the Euro Crisis by suffering from the sovereign risks. Besides, in the case of Japan, its government debts have already amounted to the size of exceeding the double of its GDP, which is such a great burden that no advanced countries have ever had in the postwar world, and so, in case its economy falls into the twin deficits, that situation ought to affect seriously the domestic economy.

It is the subject of our works for this paper and after that to pursue the measures to be taken in order for our economy to keep away from falling into such a situation. Before considering actually that problem, we try to get an idea, in the light of statistical figures, of the present state of "Current external balance", the right side of Equation (F), and its past trend toward it. The "Rest of the World Accounts" (overseas account) of the national income statistics listed in Table 9 can be considered to be a reflection of domestic economic activities summarized in the left side of Equation (F) to the relations with overseas economies. In the development stages of an economy represented in overseas accounts, it starts to expand and strengthen the domestic production capacity of goods at the early stage of development as an immature economy, relying on the import of capital. In case of Japan, starting from the stage of receiving foreign aids for the postwar reconstruction, it entered the era of economic development with manufacturing industries as main players and, then, from the 1970's to the early 1990's, "goods and services trade balance" came to stay in surplus with export of goods as a leading part. This corresponds to the period from the second stage to the fourth stage in Crowther's development stages theory by international balance.

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Fiscal year	1981-85	1986-90	1991-95	1996-00	2001-05	2006-10	2011-13
Exports of goods and services	41,667	40,363	45,735	53,904	62,535	78,685	73,792
Imports of goods and services	35,633	32,021	36,794	47,308	55,395	74,248	84,655
Goods and services balance	6,034	8,342	8,941	6,596	7,141	4,436	-10,863
Income from abroad	4,598	11,739	17,694	13,041	14,508	21,942	22,473
Income to abroad	4,154	9,399	13,760	6,329	4,925	7,057	6,437
Income balance	444	2,340	3,924	6,712	9,583	14,885	16,035
Other current transfers	-241	-549	-373	-1,037	-724	-1,009	-902
Current external balance	6,237	10,133	12,492	12,271	15,999	18,312	4,270

Table 9 Current External Balance (nominal real number: unit, billion ven)

Sources: The same as Table 6.

Note 1: "Income from abroad" is the sum of "Income of employees" (from abroad) and "Property income" (from abroad). "Income to abroad" is obtained in a similar way.

Note 2: "Income balance" is the sum of "Compensation of employees" and "Property income" listed in Sources.

Note 3: Figures are annually average for each period of years.

During that period, there has increased the amount of payments to overseas services such as people's expenditure for foreign travel increasing with the growth of per capita GDP, besides the expenditures of insurance, transportation and the others relating to export. Table 10 shows this situation based on the national income statistics. The practice of taking statistics about import and export in the "Rest of the World Accounts" (overseas accounts) as a part of the "National Income Statistics" and in the "International Balance of Payments Statistics" prepared by the Ministry of Finance and the Bank of Japan is different from the practice in the "Trade Statistics" published by the Ministry of Finance. The former is prepared, following the IMF manual, and both amounts of exports and imports are calculated in "free on board price", that is, in F.O.B. As opposed to this, "Trade Statistics" of the latter is based on an internal rule of the Ministry of Finance, "Basic Notification on Statistics concerning Foreign Trade and the like" (Trade Statistics of Japan, Ministry of Finance), and the amount of imported goods is calculated in C.I.F. price including insurance and transportation fees, while F.O.B. price is used for exports "in principle". As usual, this is called "Customs Statistics", Statistics of "A Customs-Clearance Basis" and so on. Therefore, in the "Trade Statistics", the statistical figures of imports in particular become greater than those in the "National Income Statistics" and the "International Balance of Payments Statistics" and, thus, the amounts of trade balance are reduced to be smaller in that degree. In the latter two statistics, the amounts of transportation and insurance fees and the like related to trade of goods come to be listed separately as "imports and exports of services".

(nominal real number, unit, binon yen)									
Fiscal year	1981-85	1986-90	1991-95	1996-00	2001-05	2006-10	2011-13		
Exports of goods	37,228	36,065	40,540	47,777	54,734	68,468	64,349		
Imports of goods	29,167	23,820	26,344	35,251	43,540	61,183	72,139		
Goods trade balance	8,062	12,245	14,196	12,526	11,194	7,285	-7,790		
Exports of services	4,439	4,298	5,195	6,126	7,802	10,217	9,443		
Imports of services	6,466	8,201	10,450	12,056	11,855	13,065	12,516		
Services trade balance	-2,027	-3,903	-5,255	-5,930	-4,053	-2,848	-3,073		

Table 10 Services Trade Balance (nominal real number: unit, billion yen)

Sources: The same as Table 6.

Note 1: "Exports of services" is "Exports of goods and services" minus "Exports of goods (F.O.B.)" listed in Sources. "Imports of services" is the same as that.

Note 2: Figures are annually average for each period of years.

The news story stating "Japan's balance of trade has dropped to deficit for the first time in 31 years" taken up at the beginning of Section 2 was based on the Trade Statistics of "A Customs-Clearance Basis", and that downfall to trade deficit has become clear in the Overseas Accounts of the National Income Statistics and the International Balance of Payments Statistics, as well. However, in a long-term tendency of the overseas activities of the Japanese economy, while the balance has tended to decrease in goods and services trade (see Table 10), the income balance has been clearly increasing (see Table 9). This "income balance" consists of "Compensation of employees" and "Property income", both with abroad, and thus, it produces fruitful results only after the expansion of overseas productive activities accompanied by loaning and direct investment to abroad. Therefore, in general, the activities on the side of stock (total accumulated assets) mainly consisting of the overseas direct investments should expand before the increase in the income balance is realized. That is, according to the increase in international competitiveness with manufacturing as a central industry in the growing process of the domestic economy, goods and services balance comes to be surplus at first, and then, there occurs a trend of investing the increasing overseas purchasing power in productive activities in foreign markets. This process tends to increase the deficit of capital transactions as flow in the domestic economy but, as the stock of the net overseas assets increases, it gradually turns to the condition of increasing the surplus of income balance owing to the growth of investment earnings. This situation corresponds to the process from the fourth stage to the fifth stage in the theory of development stages of international balance of payments. The Japanese economy, as reported to have fallen into the deficit of its trade balance for the first time after 31 years, is considered to be just situated in this transition process. Japan's income balance tends to increase and more than half of that amount is occupied by interest revenue from overseas lending and issued bonds even in the stage of the year 2010. In more recent years, the revenue brought by the overseas productive activities begins to show an upward trend. However, the rate of profit still stays lower as compared with that of British and American overseas production and even with that of Japan's domestic businesses. This shows that Japan has not yet arrived at the situation where its companies can fully develop in foreign countries their technological and managerial abilities cultivated in the domestic economy. In such a situation, too, it may be possible to say from a structural point of view that the present Japanese economy is situated in a process of changeover to the "fifth stage" as a mature creditor nation. Amid the decreasing birth rate and aging population, it becomes the greatest problem from now on for the Japanese economy to make proper progress in this transitional process.

6. Concluding Remarks

In relation to the left side of structural equation (F), we have discussed the situation concerning the difference in savings and investment amounts of the private sector and concerning the income and expenditure account of the general government sector. When we take notice of this part in particular, we feel the possibility that the "current balance" of the Japanese economy might fall into a deficit, if the behavior of Japanese firms and the government's policy measures with its fiscal policy as a main subject are not going to head toward improvement. Concerning the savings-investment balance of the first item, the situation of its excess savings is considered to turn to have a tendency for them to reduce, along with the progress of the maturity of the economy and of the aging of the population. On the other hand, concerning the government fiscal balance of the second item as well, when we consider the necessity of expanding the social security policy in such a social and economic situation as stated above and also the difficulty of increasing the tax revenue, we cannot help saying that it would be difficult for the government finance to get rid of the deficit unless drastic measures are taken for its reform. If so, it may be said that the downfall into a deficit of the "current balance" at the right side of Equation (F) will actually happen in the near future.

Even in this situation, supposing that the Japanese economy is situated in a transitional process for the fifth stage, is it now taking a path shown by the development stages theory, that is, a path of maintaining and expanding the surplus of current balance by expansion of income balance centering around direct investment, or is it able to take such a path? In order for the Japanese economy to maintain the sound development in the fifth stage, it becomes necessary for the economy to keep a steady growth mainly supported by technical innovation and domestic investments. It would make it possible for the savings of the private sector to support equipment investment by suppressing their decreasing tendency in the progress of the advanced age of population and the government finance too would take a turn for a sound condition brought by the natural increase in tax revenues.

On the other hand, Japan's own innovations as the source of investmental activities will make the overseas investment active, and then,

while the deficit of capital balance may increase, it will expand the surplus of income balance. In other words, the active revival of the domestic economy brought by innovations will bear the fruits of the surplus expansion of trade and income balances of the Japanese economy in the midst of progress of globalization, and the revival will enable the economy to head toward the sound Fifth Stage of maturity in the aspect of capital balance too, by calling in investments from abroad.

In order to make this process possible for the Japanese economy, there seems no way but to investigate thoroughly the actual situation of structural changes presently facing the Japanese economy represented in the left side of the equation (F) and to carry out the structural reforms attaching importance to market functions with emphasis on steady technical innovations, excelling the provisional policy measures in the long term effects. With respect to how to work on these problems specifically, further considerations need preparing in another paper succeeding to this one, the "Third Sequel".

(This thesis is basically an English version of my paper published in the preceding No.9 of this Journal.)

References

- Crowther, G. (1957) : Balances and Imbalances of Payments, Harvard University
- Feldstein, M. and Horioka, C. (1980) : "Domestic Savings and International Capital Flows," *Economic Journal*, 90 (June), pp. 314-329.
- Ogawa, K. (2007) : "Why Did Japan's Household Savings Rate Fall in the 1990s?," Applied Economics, Vol. 39, No. 18, pp. 2341-2353.
- Ogawa K. (2009): "Ushinawareta 10 nen" no Shinjitsu (The Truth of the "Lost Decade")," Toyo Keizai Shimpo Sha.
- Solow, R. M. (1956) : "A Contribution to the Theory of Economic Growth," *Quarterly Journal of Economics*, 70 (February), pp.1-65-94.

Takashima, M. (2011): " "Ushinawareta 20 nen" go no 20 nen e Mukete – Guroh-barizeishon to Takyokuka no nakadeno Nihon Keizai – (Toward Twenty Years after the Two "Lost Decades" – Japanese Economy amid a Global Multi-Polar System –)," Annual Report of Ohara Graduate School of Accounting, No. 5, pp.15-58.

- Takashima, M. (2013): "Jinkou-kouzou Henka no nakadeno Nihon Keizai "Ushinawareta 20 nen" go no 20 nen e Mukete (zokuhen 1) – (The Japanese Economy in the Midst of its Demographic Change – The First Sequel to "Toward Twenty Years after the Two Lost Decades"–)," Annual Report of Ohara Graduate School of Accounting, No. 7, pp.33-66.
- Tsuya, N. and Higuchi, Y. (ed.) (2009) : "Jinkou-genshou to Nihon-Keizai (Decreasing Population and the Japanese Economy)," Nihon-Keizai-Shimbun Shuppan Sha.

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