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National Planning and Economic Development --  
A Critical Review of the Japanese Experience

by

Tsunehiko Watanabe

Economic planning has become a very familiar term in nearly every country of the world since the end of World War II, but its nature and impact on economic development may differ from country to country. In addition to this, the twenty years experience of national planning in many countries has produced some adverse or unexpected effects, especially with regard to the so-called trade-off relations among national priorities. Under these conditions, it may be worthwhile making a critical review of individual experience and supplying some basic proposals for further research in this field.

In the present paper, the existence of persistent over-fulfilled targets in the Japanese national planning experience will be discussed from the following view points; (i) has it been mainly due to deficiencies in the methodologies used in the plans, (ii) has there been any special reason to produce the persistent underestimations in the quantitative projections, and (iii) if so, how to evaluate the Japanese experience.

- 1 -

NATIONAL PLANNING AND ECONOMIC DEVELOPMENT \* --

A Critical Review of the Japanese Experience

by

Tsunehiko Watanabe

I. Introduction

"Economic planning" has become a very familiar term in nearly every country of the world since the end of World War II, but its nature and impact on economic development may differ from country to country. Japan, for example, differs significantly from a number of other nations in the multiplicity of her national plans associated with her relatively faster economic growth, especially in the latter half of the 1960's. During the last twenty years, the Japanese government has drafted eight national plans (not counting short-term or annual plans and regional development plans). Since, on the average, this means that a national plan is prepared

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\* The present paper is an extension of my previous work on the similar topic in a sense that the coverage of planning experiences has been extended into a more recent period from 1962, which was the terminal year in the previous investigation. (See my paper "National Planning and Economic Growth" published in Quantitative Planning of Economic Policy, ed. by B. Hickman, The Brookings Institution, 1965). It is, however, significantly revised and enlarged in order to include the discussions on some adverse effects created by mismanagement of economic planning during the rapidly growing period of the 1960's. The present work was supported by the Project for Quantitative Research in Economic Development, Harvard University.

almost every two and a half years,<sup>1/</sup> planners in other nations may well raise the following questions. (1) Why so many? (2) Have the plans been effective in promoting conceivable national priorities such as economic growth, price stability, satisfaction of social needs, etc. during the postwar period? And (3) -- if the answer to the preceding question is in the negative -- are there any alternatives to be examined, including significant modifications of planning methodologies, and also of institutional set-up?

Our discussion here is primarily concerned with the first and second questions, and some brief discussion also will be made of the third question. Eight main national plans have been selected for detailed discussion:

- I. "Economic Rehabilitation Plan" (authorized in May, 1949)
- II. "Economic Self-Support Plan" (January, 1951)
- III. "Five Year Plan for Economic Self-Support" (December, 1955)
- IV. "New Long-Range Economic Plan" (December, 1958)
- V. "Plan for Doubling National Income" (November, 1960)
- VI. "Medium-Term Economic Plan" (January, 1965)
- VII. "Economic and Social Development Plan" (March, 1967)
- VIII. "The Second Economic and Social Development Plan" (March, 1970)

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<sup>1/</sup>If we count national plans which had been drafted during 1946 and 1949, the number of plans would reach a dozen. Plans prior to 1948, however, were omitted here because most of them were prepared by agencies other than the Japanese government.

A comparison between actual rates of growth of GNP in real terms and the target rates assumed in the eight plans from 1949 to 1969 is shown in Table 1. As can be seen, the discrepancies between actual and planned rates of GNP growth have been significant, particularly in the direction of under-estimation. Except for the four recession years of 1954, 1958, 1962 and 1965, in the remaining sixteen years the planned targets were to a considerable degree exceeded by the actual growth rates. Furthermore, a notable feature found in this Table is that there have been almost no signs of improvement with regard to the systematic underestimations through possible effects of learning by doing.

From these rather superficial observations, one might conclude that national planning in Japan has been successful in assisting rapid growth, or in other words, national planners in Japan could be proud of their performances (although a reservation must be made about the skilfulness of the planning technique). This conclusion, however, would only follow if a mere maximization of GNP growth rate is a single national objective, regardless of having any adverse effects in other national priorities. The fact is that the Japanese economy is not now, and never has been, pursuing a single national objective, even though the relatively higher rate of economic growth is still, and has been, one of the important objectives.<sup>1/</sup>

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<sup>1/</sup>There had prevailed some strong arguments which supported the faster economic growth as almost only one national objective, i.e., during the recovery period, and also during some period after social and political confusions due to the establishment of the U.S.-Japan Security Pact in 1960. As is discussed below, in the latter period, political considerations had been much larger than economic considerations.

Table 1. Discrepancies Between the Planned and the Actual  
Rate of Growth (Real GNP)  
1949 - 1969

Year	Actual Rate	I	II	III	IV	V	VI	VII	VIII
1949	12.7	12.0							
1950	11.0	8.0							
1951	13.0	7.4	4.3						
1952	11.0	6.9	5.3						
1953	7.9	7.2	5.4						
1954	2.3								
1955	11.4			4.5					
1956	6.8			4.8					
1957	8.3			4.9	6.5				
1958	5.7			5.2	6.5				
1959	11.7			5.2	6.5				
1960	13.3				6.5	9.0			
1961	14.4				6.5	9.0			
1962	5.7					9.0			
1963	12.8					7.2			
1964	10.4					7.2	8.1		
1965	5.4					7.2	8.1		
1966	14.4					7.2	8.1	8.2	
1967	13.0					7.2	8.1	8.2	
1968	13.8					7.2	8.1	8.2	
1969	13.2					7.2		8.2	
1970	11.1							8.2	10.6

Note: After 1953, the actual growth rates are in terms of the constant price of 1965, and before 1952 they are in terms of 1960 price. The growth rate of 1970 is the official projection. (See Annual Report on National Income Statistics, Economic Planning Agency, Government of Japan). All planned rates are compiled from the report of each of the plans.

This being so, the above discrepancies must be interpreted in one of two ways: either national planning has not been of any importance in the pattern of economic development, or the underestimations have themselves been part of a planning policy. If the former interpretation becomes affirmative, the Japanese national plan can be termed as a "decorative" plan. On the other hand, if we postulate that the second interpretation will be more feasible, intensive examinations on the nature and effects of national planning would be worthwhile making. In what follows, we will mostly pursue the second line of interpretation, although some discussion will be made of the first one.

## II. A Brief History of National Plans

Before going into the detailed discussion, it may be useful to provide a brief summary of main features found in the eight national plans. "Economic Rehabilitation Plan", 1949-1953, was the only plan which was drafted by a Socialist government in the postwar history. Although this plan was not officially authorized because of the sudden shift of power from Socialist to Liberal Party in 1950,<sup>1/</sup> one of the

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<sup>1/</sup>The main reasons why Economic Rehabilitation Plan was not officially authorized by the Liberal Party government were said to be as follows: (i) as a politician's taste, the prime minister at that time very much disliked the word "Plan" due to his strong confidence in liberalism, and (ii) as economic policy problems, changes in the existing institutional set-up stated in the plan, i.e., the nationalization of key industries, were rejected by the conservative government.

basic philosophies implied in this plan was maintained even by the subsequent conservative government, i.e., in order to regain the 1930-1934 standard of living as quickly as possible, (the plan assumed the target date by the end of 1953), it would be most preferable to concentrate available amounts of resources into key manufacturing industries, like iron and steel, chemicals, shipbuilding, in addition to energy industries like coal mining and electric power industries. Furthermore, from the historical point of view, this plan could be said to be one of the most important plans in postwar Japan, since it stated explicitly that the prewar process of industrialization, excluding the military preparations, had to be pursued; in other words, the restoring of economic power based upon the high level of industrial activities was given the first priority among other national priorities in economic development to be sought by postwar Japan. It would therefore, be correct to say that both Socialist and Liberal parties had been in common agreement with a recognition of the importance of a rapid industrialization, even though the institutional set-up designed by these two parties might be considerably different.

During the process of implementation of this plan, however, a strong external pressure had made this plan obsolete. The Dodge Mission that came to Japan at the request of the Allied Forces in order to give a recommendation on inflation problems, which had not been overcome yet at that time,

had proposed the strict deflation and austerity policy measures. In contrast to these measures, the plan aimed at moderate deflation policies and the gradual removal of price subsidies to larger industrial firms, by assuming a considerable amount of foreign aids especially from the U.S. Due to the existing power configuration which was held by Allied Forces, the Dodge program was actually implemented instead of Economic Rehabilitation Plan at least until the time of the Korean War (June, 1950). The outbreak of the Korean War provided a kind of compromise solution, i.e., the strong deflationary policy implemented by the Dodge Mission was to a considerable extent weakened by the sudden expansion of export and special procurement, and also of related investment activities. Under these circumstances, "Economic Self-Support Plan" was drafted in January, 1951. This plan, however, became invalid shortly after its announcement, since the basic nature of this plan was biased toward the preparations of war-time economy, for example one of the targets of this plan was to increase import of basic commodities.

The first officially adopted plan was the "Five Year Plan for Economic Self-Support" in 1955. Two basic objectives of this plan were: economic self-support and full employment. In view of the decline of special procurements after the Korean armistice and the rather gloomy export outlook, the plan assumed an average of 5% growth rate of real GNP during 1955-1959. One of the basic economic considerations at that time was based upon the recognition

that the recovery period from the second World War was almost over and thus a conceivable long run path of economic development in the future in Japan would become the prewar path. Even though the prewar rate of economic growth in Japan had been relatively higher than that of other advanced countries, the assumption of returning to the prewar rate of economic growth might well miss one important aspect of the postwar economy, i.e., the economic growth without heavy commitments to military expenses. Due to this basic difficulty, two years after the preparation of the 1955-59 plan, the plan had to be replaced by another one.<sup>1/</sup>

The "New Long-Range Economic Plan" was drafted in late 1958 for the period of 1958-1962, in order to emphasize the role of the private economy as a driving force in economic growth and also to overcome deficiencies in the previous plan. It also stressed the importance of indirect controls through fiscal, monetary and foreign exchange policy, which implied that direct government controls so far used in the Japanese economic management would be gradually eliminated

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<sup>1/</sup>The fundamental defect of this plan can be seen in its determination of quantitative set-up. The projection technique used in this plan was the one which was proposed by Colm ([1]) in his study of the American economy in 1960. That is: the projected rate of GNP in real term is derived as the sum of the growth rate in total labor force with that in labor productivity. The growth rate of total labor force was assumed 2.0% per annum, while the growth rate of labor productivity was projected at 3.0% simply due to the assumption of returning to the prewar situation.

and thus the nature of national plan would shift from the directive type to the indicative one. Another special feature of this plan could be found in its formulation of quantitative projections. When the quantitative targets for 1962 were being formulated, a method called "Alternative Growth Rates Approach" was used. The method aims at selecting among several alternatives an optimal rate of economic growth consistent with the constraints of admissible levels of employment, domestic savings, and foreign exchange reserves. After experimenting with several rates of GNP growth, the 6.5% per annum was taken as the reasonable target, even though it was considered a little ambitious. The assumed export target of 10.5% growth annually was not seriously divergent from the actual performance of 12.0%, but serious under-estimation was made in the projection of investment growth, i.e., the 4.0% of the private investment projection was far off from the actual 17.4%. Although in this plan very detailed commodity balance had been built up for key products, specifying domestic output, imports exports, and domestic consumption, the failure to take sufficient account of the economic growth potential mostly due to new investments had made the detailed commodity balance almost meaningless.

In 1959, the Economic Planning Agency established a special committee of the Economic Deliberation Council to draw up unofficial long-term projection which could serve as an initial basis for the contemplated ten-year plan. The rates of 7.0% for 1961-70 and 5.0% for 1971-80 respectively were proposed by this committee. On the other hand, some

fundamental discussion on the nature and the role of economic plan in national economic management of Japan were made by the Council and Economic Planning Agency, since they thought that in the 1960's the basic characteristics of the Japanese economy had to be modified in the direction of a mixed type of economy rather than a strongly government-guided economy. From these discussions, first, the distinction between planning for the public sector and for the private sector was more clearly drawn; targets for various public sectors were more clearly specified, and "guide lines" for private industry were simplified. For example, cumulative investment funds for social needs in 1961-1970 were indicated and classified according to each purpose, while the projections of production, exports, and imports for private sectors were simplified. (No commodity balance was given, although industrial projections were made). In short, the plan intended to provide long-term information in accordance with the long-term government policy for the private activities.

Second, the need for long-term policy considerations was stressed much more than the previous plans.

Third, the needs for human capital, including the promotion of research and development were emphasized. In addition to these, the compilation of a regional plan was strongly recommended.

A social and political turmoil mostly due to the establishment of the U.S.-Japan Security Pact in 1960, (indicated by the sudden resignation of the prime minister), the government had to seek some strong slogan which should be of great help in shifting political uneasiness of the mass of the population into economic problems. The "Plan for Doubling National Income" was officially adopted by the government under these circumstances.<sup>1/</sup> The plan had the following five objectives in addition to the detailed quantitative projections. (i) To increase social overhead capital. Since 1955, the expansion of private activities had been quite rapid and much faster than the previous plans expected, and thus there had been revealed a serious shortage in such social overhead capital as roads, harbors, railways and water supply. It was, therefore, rather urgent for the government to restore a balance between private and public investment. According to the plan, the 1970 ratio of public investment to GNP for general government is 7.9%, compared to 5.6% in 1956-58, and that for public enterprise is 2.9%, compared to 2.6% in 1956-58. (ii) To provide strong stimulus which could induce a highly industrialized economic structure. The plan emphasized a faster growth

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<sup>1/</sup> Even though 7.2% of the growth rate was derived from some quantitative investigations initially, the nature of the doubling of GNP within the ten year span by this rate was much favored by the government and some extra growth was further given in the first three years in order to make this plan more challengeable.

in industrial sectors, like machinery and chemicals. For example, the average rate of growth assumed for the industrial sector as a whole is 11.0%, with 14.6% for machinery and 12.0% for chemicals. In accordance with these targets in industrial expansion, tax provisions, supplementary investment through government financial institutions, and special legal provisions to assist in developing new industrial site were explicitly stated in the plan. (iii) To promote exports and strengthen economic cooperation with developing countries. (iv) To aid the development of human capital and the advancement of science and technology. And (v) to mitigate effects of the dual economic structure and to increase social stability.

It was certainly true that the Plan for Doubling of National Income was the path-breaking one in almost every respect in the postwar record of the Japanese national plans, except in its actual performance. Almost immediately after the official announcement of the plan, two fundamental deficiencies were found in this plan, i.e., a serious underestimation of the level of private fixed investment (the 1970 level of investment was already achieved in 1961), and a lack of internal consistency between the national targets and the sectoral targets (which will be discussed in the next section). On the other hand, approximately from 1962, the rising trend in consumers prices had become apparent in the Japanese economy, which was assumed to be almost stable in the plan. In 1964, the government had to decide the preparation of a new plan, i.e., "Medium-Term

Economic Plan" in order to avoid further confusions mostly due to the above stated troubles.

The new plan was a path-breaker in its extensive uses of econometric techniques such as econometric model-building, input-output simulations, the rising political interventions in the formulation of the plan became also clearer. In addition to mis-uses of econometric techniques due to political interventions, the shift of the prime minister's chair had created a revision of this plan in 1966. In 1967, the "Economic and Social Development Plan" was authorized under the new prime minister's leadership. Although this plan emphasized social development literally, most of the quantitative projections were not significantly revised, as can be seen in the target rates of GNP growth between 8.1% and 8.2%. This again led to a quick revision of the plan in 1970, i.e., "The Second Economic and Social Development Plan."<sup>1/</sup>

### III. Deficiencies in Quantitative Projections

As is often mentioned by many planning economists, the indicative type of national economic plan, which has been generally followed in the Japanese planning experience, must be equipped with good quantitative projections, otherwise, especially under a decentralized system, the

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<sup>1/</sup>Detailed examinations of these recent plans will be seen in the next section.

government's intentions will not be properly met by the private sectors. For example, some significant imbalance between the public and private activities will emerge. The Japanese experience could supply one of typical cases with regard to this warning, i.e., the desired balance between the public and private activities in the indicative national planning has been distorted by mis-management in the quantitative projections.

Even under the present level of economic science, particularly of econometrics, it is hardly possible to supply perfect projections of important economic variables in the sense that there are no errors of biases and zero variances in the projected values. As a weaker criterion of goodness of the projections, therefore, almost no errors of biases with reasonably small amounts of variance may have to be accepted in the actual planning process. The discrepancies between the planned and actual rates of GNP growth shown in Table 1, however, are far from the acceptance of this weak criterion in goodness of the projections, since the underestimations have been continuously repeated for the last twenty years.

Even though a possible interpretation of these discrepancies would lead to a hypothesis that the underestimations have themselves been part of planning policy, as was suggested in section I, it may be worthwhile investigating possible causes of the underestimations from a viewpoint of methodology used in the actual plans as a point of

departure of our discussions. In general, it would not be difficult for economists to trace possible causes of errors in the projections, if there exist any quantitative models which have been used in the stage of preparation of national plans. Possible errors appeared in the quantitative projections derived from any quantitative models could be decomposed into three elements, i.e., the errors due to imperfections in basic statistical information such as those in the national income statistics, the errors due to incorrect determinations of exogenous variables (data and policy variables), and the errors due to mis-specifications of economic relations in the model, or the errors due to structural changes in the economy. Among these three kinds of errors, the third one depends heavily upon the stage of development in economic science. On the other hand, the former two errors come usually from a broadly defined ability and power of the planning body.

Let us start our discussion by examining a relatively simpler case. The model used in the "New Long-Range Economic Plan" (1958) was the Harrodian type of growth model, i.e., the basic quantitative relation was derived from the equation of:  $g = s/k$ , where  $g$ ,  $s$ , and  $k$  represented the warranted rate of growth, the ratio of saving to national income, and the capital output ratio respectively. Even though the official report of the plan had not stated explicitly the values of  $s$  and  $k$ , by collecting the officially adopted rate of growth, i.e., 6.5%, and the average total gross savings

ratio to GNP during 1952-1957, i.e., about 27%, in addition to some literally stated discussions on these variables, it may be possible to formulate the following conjecture. First of all, this plan assumed approximately the value of 4.0 to the capital-output ratio, since there were no indications of expecting the rise of the savings ratio to be more than 27%, in the report. Although the savings ratio in 1956 and 1957 gave higher values, i.e., 29% and 31% respectively, the discussion in the report said that the savings ratio in Japan had been much higher than that in other industrialized countries even in the prewar period and thus under the existence of a strong demonstration effects in the consumption expenditure, which have become clearer during the first half of the 1950's, it might be correct to expect a declining tendency in the savings ratio, especially in personal saving. Following this justification,<sup>1/</sup> the values of 29% and 31% were rejected as irregular patterns. On the other hand, the capital-output ratio in a national economy was certainly difficult to estimate at that time, since the available statistical information on capital stock was very scarce. (For example, the first national wealth survey was conducted in 1956, but it was not available during the preparation period of the plan). According to the report, most sources used in estimating the capital-output ratio were obtained from either the pre-war information or

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<sup>1/</sup>The realized value of the average savings ratio for 1957-61 had been approximately 22% instead of 27%.

international studies. Particularly, the latter information was favored by the planning staff mainly because of the level of industrialization realized during the first half of the 1950's. The reported figures on the capital-output ratio among various countries were ranged from 3.0 to 5.0. (See, for example, Goldsmith and Saunders ( [2] ). Here the planning staff at that time again made a very conservative justification in determining the higher capital-output ratio, i.e., they discussed that even though the actual estimate of the capital-output ratio during 1951-1956 was reported around 2.0, the quality of this estimate was quite dubious simply because of the scarcity of information, and furthermore, a rapid industrialization expected in the plan would require a relatively larger amount of capital than in the past. A common and fundamental difficulty in these discussions on the savings ratio and also on the capital-output coefficient could be ascribed to the mis-understanding of structural changes which had been occurring in the Japanese economy at that time.<sup>1/</sup>

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<sup>1/</sup>As one of the backstage conditions in the under-estimations of economic growth during the postwar period, especially during the 1950's, it has to be emphasized here that most of the education in economics which the planning staff at that period had received were of a classical type of the Marxian economics and thus they might not be able to understand the dynamic growth of the mixed type of economy like Japan.

The same sort of error in its fundamental nature can also be found in the "Plan for Doubling National Income" in 1960, although the model in this plan is elaborately specific on the basis of national accounts. For example, the planned level of the private fixed investment in 1970 had already been exceeded by the actual investment in 1962, and one of the planning staff had to state that "it is difficult to make long-term projections for a fast-growing country like Japan, where rapid structural changes are always taking place." (See Shishido ( [4] ), p. 231).

After fifteen years of the planning experience, which had been mostly a history of the failure at least from the methodological point of view, Economic Planning Agency has started to use the techniques of econometric model-building, including input-output model in 1964. The "Medium-Term Economic Plan" in 1965 and the subsequent two plans have been equipped with an econometric model based on the semi-annual observations for the quantitative projections on macro-economic variables and an input-output model on industrial variables. The introduction of these econometric techniques, however, has not provided any significant improvements in the quantitative projections so far, as can be seen easily from Table 1. There may be ample possibility that the present stage of econometric model-building could not trace sufficiently structural changes in recent Japanese economic growth. On the other hand, there may also be ample possibility of having the errors due to incorrect determination of exogenous variables. Even though the observation period

in providing a decisive answer to this problem may not be sufficiently long, some tentative suggestions can be obtained from the following investigations. (This has been carried out by the Economic Planning Agency).<sup>1/</sup>

As mentioned in the earlier part of this section, the errors of the projections based on an econometric model have to be decomposed into three sources, i.e., imperfections of statistical information, incorrect determination of exogenous variables and structural changes. After the "Economic and Social Development Plan" had been prepared in 1965, the national income statistics had been to a considerable degree revised in December, 1966.<sup>2/</sup> Since the econometric model used in this plan had been estimated by using the semi-annual data of national income

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<sup>1/</sup>The purpose of this experiment implied by the Economic Planning Agency was primarily to educate the planning staff who have not been familiar with econometric techniques. Critical discussions, therefore, had not been found in the report. Furthermore it might be quite doubtful whether this type of experiment would be continued and be published in the immediate future, since the results of this experiment, as discussed in the text, have been unfavorable to the government. (This point will be mentioned again in the later section).

<sup>2/</sup>According to the Japanese system of compilation of national accounts statistics, the annual estimates of national income account have to be adjusted every five years with the estimates derived from the interindustry account, and also with those from Census of Population, National Wealth Survey whenever they become available. Adjustments by the interindustry account are usually significant especially with regards to the private fixed investment and consumption.

accounts from 1954 to 1965,<sup>1/</sup> the revision of data could produce some effects to the projected values. In order to take care of this problem, all structural equations had been reestimated by newly revised data with the same specifications in the original model. By using this reestimated econometric model, two types of simulation experiments were made, i.e. (i) by inserting the same values of exogenous variables used in the plan, and (ii) by inserting the actual values of exogenous variables for 1966 and 1967 which had become available. From these two simulations together with the original projections and the actual values for all economic variables, we may be able to define the three errors as follows:

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<sup>1/</sup>The econometric model used in the "Economic and Social Development Plan" is a revised version of the econometric model adopted in the "Medium-Term Economic Plan" (1965). The original econometric model consists of 24 structural equations, 19 identities and 19 exogenous variables with non-linear specifications among endogenous variables, and is intended to satisfy the following three requested objectives; (i) to make a quantitative prediction in the form of national accounts concerning a desirable state of the economy in 1968 under a set of given external conditions and of policy instruments, (ii) to present an explanation of the behavior of price and wage levels, consistent with the estimates in the accounts as projected in (i) above, and (iii) to make necessary checks on any discrepancies between planned objectives and actual performance which may develop while carrying out the plan. (Detailed formulation of the model and discussions can be found in Tatemoto, Uchida and Watanabe ( [5] ). The extension of the observation period from 1954-1962 to 1954-1965 and also some revisions and additions of structural equations have been made in the preparation of the Economic and Social Development Plan, but fundamental characteristics of the model have not been changed. (The revised model consists of 30 structural equations, 30 identities and 29 exogenous variables).

- (A) The errors due to imperfections in information:  
derived from comparisons between the original  
projections and the projections by using the re-  
estimated model with the planned levels of exo-  
genous variables,
- (B) The errors due to incorrect determination of exo-  
genous variables: derived from comparisons between  
the projections based on the re-estimated model  
with the originally planned exogenous variables and  
those with the actual levels of exogenous variables,  
and
- (C) The errors due to structural changes: derived  
from the projections based on the reestimated  
model with the actual exogenous variables and the  
actual levels of endogenous variables.

Decomposition of errors in the projections of main economic variables are shown in Table 2 (1966), and Table 3 (1967).

Let us make a list of some of the major findings in these two Tables. Firstly, the discrepancies between the planned and actual levels of main economic variables are generally in the direction of the underestimations both for 1966 and 1967. The underestimations are especially remarkable in the levels of the private fixed investment, and of the corporation income. Secondly, the degree of the underestimations becomes larger in 1967, which may imply that this

TABLE 2. Decomposition of Errors in the Projections, 1966

	(1)	(2)	(3)	(4)	(2)-(1)	(3)-(2)	(4)-(3)	(5)	(6)
(I) GNP	27,129.1	27,080.1	27,790.5	27,691.7	-49.0	710.4	-98.8	562.6	2.03
Priv.Cons.	14,427.5	14,340.8	14,511.9	14,497.6	-86.7	171.1	-14.3	70.1	.48
Priv.Inv.	4,796.9	5,004.5	5,291.1	5,141.3	207.6	286.6	-149.8	344.4	6.69
Changes in Inventory	1,025.0	987.1	1,222.9	1,187.2	-37.9	235.8	-35.7	162.2	13.66
Export	4,291.0	4,118.8	4,229.3	4,331.3	-172.2	110.5	102.0	40.3	.93
Import	3,653.0	3,613.1	3,724.1	3,725.6	-39.9	111.0	1.5	72.6	1.94
Mfs. Prod. Index	199.1	198.3	207.4	204.7	-0.8	9.1	-2.7	5.6	2.73
(II) GNP	36,012.4	35,994.9	36,898.3	36,661.4	-17.5	903.4	-236.9	649.0	1.77
Priv.Cons.	19,984.0	19,897.1	19,960.3	19,790.3	-86.9	63.2	-170.0	-193.7	-0.07
Priv.Inv.	5,202.4	5,397.4	5,814.4	5,646.6	195.0	417.0	-167.8	444.2	7.86
Export	4,203.0	4,086.4	4,206.0	4,246.6	-116.6	119.6	40.0	43.6	1.02
Import	3,800.7	3,759.7	3,829.3	3,831.1	-41.0	69.6	1.8	30.4	.79
National Income	28,786.8	28,750.2	29,442.4	29,211.5	-36.6	692.2	-230.9	424.7	1.45
Wage Income	16,418.8	16,380.2	16,592.8	16,413.6	-38.6	212.6	-179.2	-5.2	-0.03
Corp. Income	3,115.7	3,192.3	3,505.9	3,536.9	76.6	313.6	31.0	421.2	11.90
Pers. Disp. Income	24,426.8	24,315.7	24,514.7	24,263.8	-111.1	199.0	-250.9	-163.0	-6.67
Bal. of Payments	346.0	270.3	318.9	346.0	-75.7	48.6	27.1	0	0
(III) GNP Deflator	132.7	132.9	132.8	132.1	0.2	-0.1	-0.7	-0.6	-4.54
Cons. Deflator	138.5	138.7	137.5	136.4	0.2	-1.2	-1.1	-2.1	-1.53
Inv. Deflator	106.3	106.1	106.3	106.5	-0.2	0.2	0.2	0.2	.18
Wage Rate	563.3	563.3	564.6	561.2	0.0	1.3	-3.4	-2.1	-3.7
Tot. Lab. Force	48,558.6	48,591.4	48,635.6	48,650.0	32.8	44.2	14.4	91.4	.18
Employees	29,151.4	29,398.8	29,240.4	29,240.0	247.4	-158.4	-0.4	88.6	.30

Note: Variables in (I) are in terms of 1965 price, except the manufacturing index (based on 1965 = 100). Variables in (II) are all in current prices. Indices of prices in (III) are based on 1965 (= 100). Wage rate is 1,000 yen/per employee, labor figures are in 1,000. All other figures are in a billion yen. Columns (1), (2), (3) and (4) correspond to the original projection, the projections based on the re-estimated model with the planned exogenous variables, the projections based on the reestimated model with the actual exogenous variables, and the actual values respectively. Columns (2)-(1), (3)-(2), and (4)-(3) correspond to the errors of (A), (B), and (C) in the text respectively. Columns (5) and (6) are unit ( (5)/(4) ).

TABLE 3. Decomposition of Errors in the Projections, 1967

	(1)	(2)	(3)	(4)	(2)-(1)	(3)-(2)	(4)-(3)	(5)	(6)
(I) GNP	29,542.1	29,337.1	31,465.6	31,346.1	-205.0	2,128.5	-119.5	1,804.0	5.75
Priv. Cons.	15,519.3	15,333.4	15,853.1	15,882.1	-185.9	519.7	29.0	362.8	2.28
Priv. Inv.	5,569.6	5,712.4	6,918.5	6,572.5	142.8	1,206.1	-346.0	1,002.9	10.63
Changes in Inventory	980.0	911.0	1,566.8	1,642.3	-69.0	655.8	75.5	662.3	40.32
Export	4,756.1	4,585.0	4,701.4	4,644.8	-171.1	116.4	-56.6	-111.3	-2.39
Import	4,079.9	4,001.6	4,519.8	4,538.0	-78.3	518.2	18.2	458.1	10.09
Mfs. Prod. Index	220.6	217.9	241.7	241.0	-2.7	23.8	-0.7	20.4	8.46
(II) GNP	40,536.3	40,230.9	43,393.0	43,263.7	-305.4	3,162.1	-129.3	2,727.4	6.30
Priv. Cons.	22,438.8	22,172.4	22,677.3	22,568.4	-266.4	504.9	-108.9	129.6	.57
Priv. Inv.	6,118.7	6,240.3	7,715.5	7,486.1	121.6	1,475.2	-229.4	1,367.4	19.70
Export	4,630.5	4,511.1	4,627.0	4,616.9	-119.4	115.9	-10.1	-13.6	-.29
Import	4,292.1	4,210.8	4,644.9	4,665.1	-81.3	434.1	20.2	373.0	7.99
National Income	32,559.9	32,230.7	34,360.3	34,427.3	-329.2	2,129.6	67.0	1,867.4	5.42
Wage Income	18,468.9	18,252.4	19,292.1	19,064.7	-216.5	1,039.7	-227.4	595.8	3.12
Corp. Income	3,115.7	3,714.1	4,602.6	4,579.5	598.4	888.5	-23.1	1,463.8	30.96
Pers. Disp. Income	27,499.7	27,127.8	28,211.6	28,288.6	-371.9	1,083.8	77.0	788.9	2.78
Bal. of Payments	289.2	251.0	-86.3	-113.2	-38.2	337.3	-26.9	-402.4	-355.47
(III) GNP Deflator	137.2	137.1	137.9	138.0	-0.1	0.8	0.1	0.8	5.79
Cons. Deflator	144.6	144.6	143.5	142.1	0.0	-1.1	-1.4	-2.5	-1.75
Inv. Deflator	106.3	106.0	107.0	109.1	-0.3	1.0	-2.1	2.8	2.56
Wage Rate	617.6	614.8	623.4	625.4	-2.8	13.6	-3.0	7.8	1.24
Tot. Lab. Force	49,281.3	49,258.8	49,600.2	49,665.0	-22.5	341.4	64.0	383.7	.77
Employees	29,927.7	29,710.8	30,708.2	30,481.7	-216.9	997.4	-226.5	554.0	1.81

Note: See Table 2.

plan would have to be replaced by a new plan within a couple of years simply because of its underestimations.<sup>1/</sup> Lastly, among three kinds of errors, the errors due to incorrect determinations in exogenous variables, shown in the column (3)-(2), are significantly larger than other errors. On the other hand, the errors due to possible structural changes, shown in the column (4)-(5) are quite small. Furthermore, with respect to this kind of error, it has to be stressed here that the underestimations have not been a built-in property of the model; on the contrary, the model itself may produce the overestimations.<sup>2/</sup>

From these findings, it may be possible to draw the following tentative conclusions, i.e., the underestimations experienced in the quantitative projections which have been included in the Japanese national plans, have been mostly originated from the errors due to incorrect determinations of exogenous variables. If we accept this tentative conclusion, the next question to be examined here will be which

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<sup>1/</sup>Actually, this plan was replaced by the "Second Economic and Social Development Plan" in early 1970, mostly due to this difficulty of underestimations.

<sup>2/</sup>The same type of experiment, i.e., decomposition of the projection errors was also done to the projections in the "Medium-Term Economic Plan" by using the econometric model used in the plan. Major findings stated in the text have been retained.

exogenous variables do have stronger effects on the underestimations since there are thirty exogenous variables included in the model. In order to test the effects of the underestimations caused by each exogenous variable, the set of simulation experiments will be needed. First, the simulation will be computed by using the re-estimated model<sup>1/</sup> and the actual levels of exogenous variables, except by the planned level in the first exogenous variable, say the government consumption expenditure. This simulation may be regarded as a multiplier analysis of the government consumption expenditure in the usual linear model, since an autonomous shift is assumed only in one of exogenous variable. Second, the same type of simulation will be made by replacing only the government consumption expenditure with the second exogenous variable, say the government investment. This simulation will be continued one by one by replacing a specific exogenous variable with a new one, and the total number of simulations will be equal to that of exogenous variables, thirty in this case.<sup>2/</sup> The computed results are summarized in Table 4, where some strategically

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<sup>1/</sup>The term of the "re-estimated model" means the model estimated by revised series of national income accounts with the same specifications in the original version of the model.

<sup>2/</sup>Due to the non-linearity in the econometric model used here, the additivity of the multiplier effects may be maintained only as an approximation.

TABLE 4. Discrepancies due to Deviations in Exogenous Variables

Exogenous Var.	Endogenous Var.	GNP (Real)	Priv. Fixed Invest. (Real)	Priv. Cons. (Current)	Nat'l Income (Current)	Corp. Income (Current)	Cons. Price Index	Wage Rate
Corp. Tax Rate		0.72 3.46	2.96 13.98	0.34 1.43	0.91 3.80	3.15 13.85	0.07 0.70	0.40 1.69
Gov. Investment		-0.66 -1.84	0.56 -2.06	-0.42 -1.79	-0.89 -2.92	-1.01 -4.41	-0.07 -0.63	-0.28 -1.80
World Trade		0.59 0.61	0.22 1.14	0.32 0.60	0.67 0.84	1.19 1.37	0.07 0.21	0.33 0.60
Ave. Interest Rate on Loans		0.11 1.30	0.36 4.98	0.10 1.14	0.20 2.00	0.40 7.01	0.07 0.56	0.08 1.05
Inventory Inv. by Gov.		0.50 1.32	0.07 1.01	0.34 1.01	0.67 1.94	0.96 2.46	0.07 0.35	0.32 1.15
All Exogenous Variables (Total)		2.57 6.79	5.57 18.35	0.32 2.24	2.37 6.18	8.86 19.40	-0.88 -0.77	0.23 2.17

Note: In each category of exogenous variables, the upper figures correspond to 1966, and the lower to 1967. Discrepancies due to deviations in other exogenous variables are insignificant, compared with those listed in the above. Discrepancies are defined here as the actual minus the simulated values. All figures are in the percentage unit.

important exogenous variables are chosen together with major endogenous variables. In this Table, the positive sign corresponds generally to the negative deviation or underestimations in the corresponding exogenous variable and vice versa in the negative sign. For example, the discrepancy of GNP (real) due to a deviation in the level of world trade (defined as the actual minus the planned levels) means that the planned level of real GNP is underestimated by 0.59% in 1966, and 0.61% in 1967 due to incorrect determinations of underestimations of the levels of world trade. In short, therefore, the positive sign in each cell represents the underestimations in the endogenous variable.

By carrying out thirty simulations, only two cases have been found to be negative signs, i.e., the overestimations in the endogenous variables.<sup>1/</sup> These two exogenous variables are government investment and surplus in the government enterprises. In other words, all exogenous variables except these two have been the causes of the underestimations in the planned projections. Among those exogenous variables, the larger effects toward the underestimations of

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<sup>1/</sup>Needless to say, the endogenous variables which should move to the opposite direction theoretically by the given change in the corresponding exogenous variable, (for example, the level of GNP will be affected in the adverse direction by the change in the tax rate, i.e., the rise in tax led the decline of GNP), are treated here as positive.

the projected real GNP in 1966 came from the over-estimation in corporation tax rate, and the under-estimations in the level of world trade, and government inventory investment, (each of these three exogenous variables have contributed 28%, 23% and 20% out of total underestimation in real GNP) while the government investment has added some 26% of overestimation in the projected level of real GNP. The almost same pattern of under-estimations in the projected real GNP in 1967 has been found, except that the deviation in the average interest rate on loans has become the third largest cause.

Let us consider the implications of this finding from an economist's point of view. Among those troubled exogenous variables, it may be very hard to supply a proper forecast of the level of the world trade under the present stage of econometric researches. (See, for example, the annual forecast of OECD, and compare it with the actual performance). It may, however, hardly be possible to extend this difficulty into other exogenous variables, i.e., the corporation tax rate, the government investment, the inventory investment by the government, and the average rate on loans, since all these exogenous variables belong to the set of important fiscal-monetary measures which the government can control their size by its power.<sup>1/</sup>

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<sup>1/</sup>The control of the rate of corporation tax may be a little difficult compared with others, since it usually needs the consent of Congress. Minor changes, however, may easily be done by using administrative adjustments, say in the exemptions.

In other words, there should be very small amounts of deviation in these exogenous variables under normal circumstances, otherwise the authorization of the plan by the government does not carry any meaning, or the plan will be a "decorative" one.

From these observations and considerations, it may be certainly natural to raise such an interpretation that the underestimations have themselves been part of the planning policy, since the underestimations have been produced mostly from the government policy measures. Before going into the detailed discussions on this interpretation, another important deficiency in the quantitative projections will be discussed in what follows. That is the lack of internal consistencies between the national and sectoral projections, which may also have some significant implications in evaluating the Japanese planning experiences.

Although the quantitative projections on the national aggregates may provide a useful guideline for the private sectors, it could be more desirable if the national plan could also supply the sectoral information, simply because of the ease in utilization of this information by individual economic units. This statement has become quite realistic after the individual economic unit like a firm becomes aware of the importance of relationships between its activities and the government policy. It has been especially true in the Japanese manufacturing industries, since the controlling power of the Ministry of International Trade and Industry (MITI) to the private enterprise has been

quite strong even after the trade liberalization policy had taken place.<sup>1/</sup> (It has been gradually declining, though, during the last couple of years mainly due to the emergence of giant firms.) When the "Plan for Doubling National Income" was officially released in 1960, the plan provided the so-called "Industrialization Plan", which gave the sectoral targets in addition to the national targets. Furthermore, those sectoral targets were prepared under the strong influence of MITI. The Industrialization Plan had also envisaged a rapid growth of industrialization with a special emphasis on heavy industries. Even though the announcement of the sectoral targets is considered to be quite useful as the guideline for the private sectors from a theoretical point of view, it has to satisfy one important condition, i.e., the sectoral targets have to be internally consistent with the national targets. Otherwise there will be two guidelines for the private sectors.

As can be seen from the figures in the first and the second columns in Table 5, the Industrialization Plan

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<sup>1/</sup>Until some time in the early 1960's, external transactions like importation of raw materials, machinery and foreign technological patents and know-how had been strongly controlled by MITI. Since those external transactions had been so vital to private activities in the manufacturing industries, the guideline could easily become the directive if it had been prepared by MITI, or strongly promoted by MITI. And thus the cumulated power configuration during the 1950's by MITI has been transferred to the 1960's.

TABLE 5. Sectoral Projections in 1970

Industry	Planned Increase (%)	Actual Increase (%)	Planned Projection (billion yen)	Consistent Estimates (billion yen)
1. Agric.	137	119	3,943	4,770
2. Mining	141	111	432	496
3. Proc. Food	185	201	3,674	3,785
4. Textile	213	184	4,228	4,381
5. Chemicals	310	275	4,062	3,320
6. Iron & Steel	258	302	7,155	5,828
7. Nonferrous Metal	223	266	1,206	1,141
8. Machinery	352	376	12,808	6,705
9. Nonmetallic Minerals	239	228	1,149	939
10. Misc. Mfg.	277	320	6,970	6,327
11. Construction	270	220*	6,008	4,956
12. Public Utilities	263	195	1,256	1,247
13. Transport & Trade	245	300	8,866	8,200
14. Services	238	182*	11,212	12,108

Note: Planned increases are compiled from the official report of the Plan, and actual increases come from Production Index (MITI, 1969), 1961-1968, except that the figures with \* for 1961-1967. Planned projections are derived from the official report on the Industrialization Plan, while consistent estimates are computed by the input-output matrix together with the projected levels of final demand in the national projection.

has disclosed a moderate pattern of industrialization in most of the sectors. The important question, however, is the relationship between supply and demand, as given in the national account. In order to test this relationship, the modified input-output matrix with regards to possible technological changes in individual sectors<sup>1/</sup> was used to compute the consistent sectoral estimates with the given national projections in the main text of the Plan for Doubling National Income. And those figures are listed in the fourth column of Table 5 under the heading of Consistent Estimates. In short, comparisons of the levels of the sectoral production in the third column with the fourth one will give us an answer to the above question, i.e., are the sectoral supplies indicated in the Industrialization Plan met by the corresponding sectoral demands derived from the National Income Plan. As can be seen from the results in this Table, most sectors may to some extent satisfy the requirement of internal consistency. Some significant exceptions, however, can be found in the key industries like Agriculture,

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<sup>1/</sup>For the detailed computation procedures and their feasibility in the actual application, see Watanabe and Shishido ([6]).

Iron and Steel, Machinery and Construction industries. Except Agriculture, the rest of the three industries are strongly connected with the capital formations, which implies that there may be a series underestimation in the macro-level of investment. The detailed check on this point has told us that the total fixed capital formation in 1970 may have to be at least two times larger than the projected level of investment in the National Income Doubling Plan.<sup>1/</sup> Otherwise these three investment-oriented industries may have serious troubles in their sales.

Although the real impact due to this lack of internal consistency has not produced such serious damages to the Japanese economy,<sup>2/</sup> since both of these two plans were

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<sup>1/</sup>This ratio was computed by the following procedures: (i) to compute the levels of intermediate demands by using the input-output model together with the planned levels of production (the figures in the third column in Table ), (ii) to compute the needed amount of investment by assuming the given level in the other final demand components derived from the Income Plan, and (iii) to compute the ratio of this computed amount of investment to the planned level of investment given in Income Plan (7,428 billion yen in the plan). Needless to say there may be some difference also in the projected amount of the final demand, e.g., in steel export. The actual investment figure, however, in 1970 has been estimated as 17,300 billion yen in terms of 1958 price by the Economic Planning Agency. Thus the ratio of two would be a good approximation.

<sup>2/</sup>Though there may be a slight possibility of acceptance of the national targets by the private enterprises as their guidelines, the acceptance of the sectoral projections is almost certain since the sectoral figures are much easier to use than the national totals. This being so, the private enterprises, especially those in investment-oriented industries, would begin to increase their production significantly, together with almost proportional increases in imported raw materials; as a consequence a distortion in the balance of payments may appear much faster than the national plan expected.

discarded in 1965. It is certainly true to say, however, that this inconsistency between the national and the sectoral targets may become a crucial disturbance in an indicative type of national planning, since a credibility gap between the government and the private sectors may well be induced and distort the applicability of the guideline.<sup>1/</sup>

As a tentative summary of the discussions in the present section, it may be possible to say that there should be some special reasons or interpretations with regard to the deficiencies in the quantitative projections in the Japanese national planning, since those deficiencies have repeatedly appeared for the last twenty years in spite of their well-known adverse effects, at least for the planners and the planning body (in this case, the Economic Planning Agency).

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(continued from p. 33)

The adoption of the tight-money policy, which was introduced in September, 1961, and continued until October, 1962, can, in fact, be partly explained by the consequence of the plan's inconsistencies. The driving forces to a faster economic growth at that time, however, had been strong enough to overcome this difficulty before it did serious damage.

<sup>1/</sup>There have been some discussions made about this problem in the period of preparation of the recent plans. Three alternatives have been suggested, i.e., (i) improvement of the projection techniques, (ii) complete elimination of the sectoral projections from the plan, and (iii) classified treatment of the sectoral projections with the government agencies. Under the present circumstances, unfortunately, the last alternative may become dominant.

#### IV. Relationship Between Fiscal-Monetary Policy and National Planning

Let us now discuss the relationship between fiscal-monetary policy and the national planning, in order to clarify the nature of the national planning from a different point of view than that analysed in the previous section. Even though the national plan could provide a solid list of means which the government may have to follow (for example the standard national plan indicates a set of cumulative amounts of the government investments towards several public projects during a specified planning period), it may also be necessary to have some kinds of fine tunings in fiscal-monetary policy measures,<sup>1/</sup> mainly because of the difficulties in forecasting a precise path of cyclical fluctuations and also sudden changes in external conditions. On the other hand, if the national plan would become decorative as is suggested in the previous section, then fiscal-monetary policy measures must take care of the policy objectives.<sup>2/</sup> It has to be noticed

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<sup>1/</sup>Although there have been some discussions which are favourable to use a fully automated policy measure such as a fixed rate of growth in the money supply even in Japan, all government agencies, including the Bank of Japan, have been much favoured to use fine tunings or discretionary policies.

<sup>2/</sup>The policy objectives included in the national plans are usually stated only literally. Thus, even the quantitative aspects of the plans may become obsolete, the objectives may still be alive. Furthermore, very frequently, there have been no indications about the correspondence between policy objectives and means.

here that there would be two ways of emerging a decorative plan, i.e., (i) the plan would become decorative by its own deficiencies such as those discussed in the previous section, and (ii) the plan would become decorative by lacking proper abilities of implementations or by being ignored by the governmental agencies which should carry implementations and also by the private sectors.<sup>1/</sup> From these reasonings, therefore, it may be highly desirable to examine fundamental principles in fiscal-monetary policies pursued in the postwar Japan.<sup>2/</sup>

In the postwar Japan, it may be hardly possible to say that there has been an established principle of economic policy since 1946. For example, the first ten years after

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<sup>1/</sup>As a matter of fact, in the Japanese planning experiences both of these two elements have existed. The Economic Planning Agency has been one of the weakest agencies within the government of Japan with regards to its power configuration, mostly due to the shortage in qualified staff. In addition to this weaker administrative power, a history of failures in the quantitative projections has produced the name of "decorative" plans to the recent national plans.

<sup>2/</sup>One question, however, must be clarified with regard to the term of "principle". The usual usage of this term implies that principles of economic policy should bear the correspondence with economic theories (of course not necessarily only with the neo-classical theory), but very frequently within government agencies the traditional rules of behavior, for example, the balanced budget, have been regarded as one of the most important principles of economic policy regardless of any economic theories and actual conditions. In what follows, those rules of behavior will be named as "disciplines."

the end of the Second World War had been the period of amalgamation of all conceivable principles of economic policy and disciplines, although the direct controls by the government agencies had been a common measure of implementations and also the regaining of the level of living standards in 1934-36 through a rapid industrialization had been a sole policy objective. (In other words, a policy objective had been pursued by a large number of policy means with almost no consistent coordination.)<sup>1/</sup> One important feature with regard to the present discussion on economic policy, however, has emerged from this ten years experience, i.e., the relatively stronger power configurations by the Ministry of Finance and MITI, and the relatively weaker one by the Economic Planning Agency with respect to economic management of the Japanese economy.<sup>2/</sup>

When the majority of people had become confident with the fact that the recovery period was over (around 1955-56), the principle of economic policy had been seriously sought, especially by the Ministry of Finance with respect to

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<sup>1/</sup>Needless to say, some coordinations in the level of administration had been made. For example, the establishment of the Economic Planning Agency and also its preparation of the national plans came from this consideration. A consistent coordination based on some principle of economic policy, however, had not been seriously tried until some time in the later 1950's, when the work of preparation of the Plan for Doubling National Income had started.

<sup>2/</sup>Here the Ministry of Finance is considered together with the Bank of Japan.

stabilization policies primarily, and by the Economic Planning Agency with respect to long-term growth policies. (MITI, at that time was concerned mostly with micro-level policy problems.) As was mentioned in Section II, the Plan for Doubling National Income had been prepared under this circumstance.

The basic principle in fiscal-monetary policy adopted by the Ministry of Finance and the Bank of Japan has been "easy money with surplus budget by limiting the supply of money." Although the principle of easy money with surplus budget in fiscal-monetary policy has been stressed by Samuelson ([3]) as one of the effective growth policies in his framework of the neo-classical synthesis, the Japanese version of easy money with surplus budget has been different from the version proposed by Samuelson at least in three aspects.

First, the Japanese version has not been derived only from theoretical considerations in economic policy, rather it has been a mixture of theoretical principles with disciplines. Easy money in terms of "low interest rate" may be a strong stimulus for investment decision-making theoretically, while "surplus budget" has originated from the rule of behavior, i.e., "sound public finance", which has been firmly maintained by the Japanese Ministry of Finance, regardless of any economic conditions.<sup>1/</sup>

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<sup>1/</sup>A favorable interpretation of the adoption of "sound public finance" or "the balanced budget", which has been con-  
(continued on p. 39)

Second, easy money, together with "by limiting the supply of money" is another special feature of the Japanese version. This has also not been formulated only from theoretical considerations, rather it comes from a strong desire of the Bank of Japan with respect to its power configuration.<sup>1/</sup> Third, the Japanese version of easy money with surplus budget has been understood by the policy authority as a powerful tool of the short-term stabilization policy together with its nature of growth policy in the long-run. It has been especially useful in controlling the level of investment activity in the private sector, since the major part of the investment funds in the private sector have been financed indirectly, i.e., in terms of bank loans.<sup>2/</sup>

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(continued from p. 38)

sistently adhered to by the Ministry of Finance, may be found in the existence of many pressure groups, i.e., if the rule of sound public finance is discarded, there may be no safeguards to control sharp increases in undesirable expenses like militaristic expense, as was well witnessed in the pre-war history. This interpretation may imply that even though the Ministry of Finance could agree with an economic interpretation of sound public finance, i.e., no need to maintain the balanced budget consistently, regardless of any economic conditions, political and social disturbances may well become dominant under the present institutional set-up.

<sup>1/</sup>Needless to say that the strong belief held by the Bank of Japan about the relationship between increases in the money supply and accelerations of inflationary tendency has been one of the most important reasons why the restriction to the money supply has been added to the easy money principle. On the other hand, it is certainly correct to say that when the "lower interest policy" was introduced as an official principle of fiscal-monetary policy, the Bank of Japan has made a strong resistance and as a compromised solution, the Bank has retained the restriction on the money supply.

<sup>2/</sup>In addition to its effectiveness in controlling the level of total demand, the principle of easy money with surplus budget by limiting the supply of money has been

(continued on p. 40)

Even though we need some reservations with regards to the real nature of the principle of easy money with surplus budget by limiting the supply of money, this policy device has been quite powerful in the national management, and, in general, has been a much stronger measure than the national planning, especially in the stage of implementations during the last fifteen years. (Needless to say, one of the most important reasons for its powerfulness in the national management came from the fact that this policy device has been undertaken by the Ministry of Finance, which has been the most powerful governmental agency in its administrative operations.)

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(continued from p. 39)

also a quite desirable tool for the present establishment. Assuming an existence of strong potential incentives in economic growth and also the importance of the private investment in economic growth, (it has been rather safe to make these assumptions in the Japanese economy), the low interest rate policy coupled with restrictions in the money supply may produce the following results in a national economy. According to the assumptions, the strong demands for investment funds would emerge eventually and thus the rate of interest should have risen, if we were to follow the laws of supply and demand in the loanable fund market. The interest rate, however, has been maintained by the government artificially at a level considerably lower than that which would have been realized under the perfect supply-demand mechanism in the market. Consequently, there would emerge a large number of unsatisfied borrowers together with some number of firms with sufficient funds acquired from externally at a lower interest rate. The latter firms have usually been selected by the government policy, for example, by considering the export promotions, the public needs. (As a matter of fact, the government and the Bank of Japan have provided some guidelines with respect to this procedure of selections.) As a well-known risk element in this kind of discriminating policy measure, the criterion in selecting firms may well become a politically biased one toward the present establishment.

The next important question to be examined here concerns an actual procedure of maintaining surplus budget. Although it may be quite feasible to formulate a surplus budget in a specific year only, the above stated fiscal-monetary measure requires much more than that, i.e., under this measure surplus budgets have to be maintained continuously for a rather longer period. In order to make this requirement feasible, some special device would have to be developed with special emphasis on the following points. That is: (i) the device may have to be a kind of a built-in mechanism,<sup>1/</sup> (ii) the crucial factor in this device may have to be equipped in the revenue side instead of the expenditure side,<sup>2/</sup> and (iii) at least some part of this device may have to be operated by other governmental agencies than the Ministry of Finance.<sup>3/</sup> The underestimations in the government revenue, especially in tax revenues, have been formulated as a suitable device which could satisfy these requirements.<sup>4/</sup>

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<sup>1/</sup> Significant fluctuations in annual amount of surpluses mostly due to ad hoc decisions, say by the Minister of Finance, may produce administrative confusion, while the fluctuations proportional to business cycles may be defensible.

<sup>2/</sup> Due to the existence of many powerful pressure groups, it may be very hard to conceal a crucial device in the expenditure side.

<sup>3/</sup> As an administrative arrangement in practice, the basic part of this device has been prepared by the Economic Planning Agency as will be discussed below.

<sup>4/</sup> The underestimations in tax revenues had started much earlier, in order to justify the passive behavior  
(continued on p. 42)

The underestimations in the government revenues have been made under the following scheme, (i) the underestimated projections of the growth rate of GNP and of other important key variables will be made annually by the Economic Planning Agency while paying some consideration to the national planning. (ii) the estimation of tax revenues which correspond to the above projections will be made by the Tax Agency and also by the Budget Bureau in the Ministry of Finance, and (iii) the balanced budget will be strongly upheld by the Ministry of Finance. Under this scheme, even if the balanced budget may not be sufficiently maintained, the surplus in the budget ex post may well be achieved, except the periods of recession. Furthermore, if the underestimations in the national plans and the annual projections are made in a consistent fashion, the government may have some defensible justification. Needless to say, the surplus created through this scheme in the government revenues may have to be managed very properly, otherwise the Ministry of Finance may have to face the very difficult problem. As a matter of fact, the major part of this surplus has been used in the reduction of income tax.<sup>1/</sup> (Almost every year the Ministry of Finance

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(continued from p. 41)

of the Tax Agency during the first ten years after 1946, since at that time it was quite difficult to collect the exactly projected amount of taxes simply due to social confusions emerging from the defeat in the war.

<sup>1/</sup> It may be possible to say that this almost continuous reduction in income tax could be one of the most important factors in explaining the stability of political leadership by the conservative party in Japan. It may have been useful also to justify the lagging in the government expenditures.

has proudly stated the income tax reduction due to the natural increase<sup>1/</sup> in the government revenues during the last fifteen years.)

Even if we can agree with the effectiveness of the principle of easy money with surplus budget as policy measures in stabilization and economic growth it is hardly possible to justify the above stated scheme of the underestimations. The most serious damage due to this underestimation, or a mis-application of the principle of easy money with surplus budget can be found in the shortage of social overhead capital, since the government consumption expenditures could not be reduced so easily. (A major part of the government consumption expenditures has been the wages and salaries of government employees and also some fundamental administrative costs, and thus it has been hardly possible to reduce these budgets.)<sup>2/</sup> Of course, if the long-term national economic plan has been operated in the opposite direction to this fiscal-monetary measure, the damages in the social overhead capital must be less than expected. As is discussed in the previous section, the underestimations in the national planning have been, however, dominant. In other words, the national planning and the fiscal-monetary policy have been managed quite consistently by the Ministry of Finance.

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<sup>1/</sup>The phrase "natural increase" has been invented by the Ministry of Finance in order to conceal this scheme. It implies that, under a rapidly growing economy like Japan, it may be a rather natural matter to have extra collections of income tax since the elasticity of tax to national income is larger than unity.

<sup>2/</sup>The only possible budget item would be the defense expenditure, but, as a matter of fact, the defense expenditure has been well-treated since the ratio of the defense expenditure to GNP has been fixed.

## V. Conclusions

Let us now summarize our findings briefly in order to provide a basis for further investigations in the present problem. (i) The number of revisions experienced in the postwar national planning of Japan has been larger than that in any other country, simply because of their deficiencies in the quantitative projections, (ii) The underestimations in the quantitative projections, however, have themselves been part of the national economic policy in the sense that the national plans have been formulated consistently with the fiscal-monetary measure. (iii) The national planning and the fiscal-monetary measure might have been effective only in stabilization and economic growth, but certainly not in other policy objectives. (iv) The most serious adverse effects due to deficiencies in the national planning can be found in the shortage of social overhead capital. And (v) due to the nature of national planning, the credibility gap with respect to the national plans and also to the planning body may have become stronger, although this may not imply the immediate abolition of the national planning in Japan.

As concluding remarks in the present paper, some further discussions will be made here with special reference to the last two points above. Paying attention first to the proportion of public expenditure in GNP, the planned ratio of public expenditure was without exception to a considerable extent higher than the realized one. For example, the

realized public expenditure to GNP (percent in current prices) had been 16.5, 16.7, 18.5 and 17.1 in 1955, 1961, 1965, and 1968 respectively, while the planned ratio had been 17.0, 21.0, 21.0 and 24.7 in the corresponding years. Those discrepancies have been especially apparent in the government capital formation. On the other hand, the growth rates and the levels of the private fixed capital formation have been persistently lower in the projected figures compared with the realized ones. Almost the same pattern as is found in the government capital formation has also been found in the private residential construction. It may be possible to draw the following conclusion as a tentative one from those findings, i.e., as a rather natural consequence of the planned pattern of economic development, the Japanese society may have to face serious difficulties in the shortage or the congestion of public goods and services, especially in terms of assets. In other words, it may be possible to say that the environmental destruction which has been extensively observed during the last couple of years could mostly be due to mismanagement in the national planning and national economic policy. This being so, the national planning has not been only decorative, but also destructive at least in some of its economic objectives.

Another difficulty due to the mis-management in the national planning can be found in the credibility gap of the plan. As is well-known, the Japanese economy

has not been an exception to the strong inflationary tendency experienced in almost all advanced countries since some time in the early 1960's. (The average rate of increase in consumer price index has been around 5.0% per annum during the last ten years.) Although it is still quite controversial, the adoption of "incomes policy" may be strongly suggested even in the Japanese case.<sup>1/</sup> The credibility gap, however, would easily destroy the desirable national concensus which should be an important sufficient condition for this incomes policy. This credibility gap may also be extended to other areas of policy measures, for example, the use of revaluation in the foreign exchange rate.

The last, and the most important but unsolved question would be how to improve the existing situation. This question can be divided, in principle, into two different fields, i.e., how to improve the methodological deficiencies in the national planning and how to modify the existing institutional set-up. As to the first question, we may be able to propose several suggestions, for example, a use of multi-sectoral dynamic model with some target functions to be optimized may be a useful tool in the future planning. As has been discussed so far, the rationality which can be derived from any economic theory may not be able to retain its true nature without the properly established power configurations, especially in the field of economic policy. Under these circumstances, therefore, an

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<sup>1/</sup>The government has already started the preparation of introducing incomes policy in 1968, but so far there have been no strong supporters found except some conservative business  
(continued on p.47)

intensive study of organizational aspects in conceivable institutional set-up may become a rather urgent topic than that in the methodological aspects of the national planning.

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(continued from p. 46)

group, mainly due to the lack of credibility in economic policy as a whole.

48

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