INTERPRETATION OF DEVIATIONS BETWEEN NATIONAL BUDGETS AND NATIONAL ACCOUNTS FOR NORWAY[1]

by

PETTER JAKOB BJERVE

I

In Norway a so-called national budget is each year in January submitted to the Storting (the Norwegian Parliament) in the form of a parliamentary message.[2] This budget, which pertains to the entire economy of the nation, is applied by the government for purposes similar to those for which modern enterprises prepare their internal budgets, viz. as a tool for design of policy, as a means of promoting administrative communication and coordination, and as an aid in controlling subordinate administrative bodies. Communication and coordination are promoted not only in the period when the policy of the national budget is executed, but also during the preparation of the budget, which takes place in a decentralized manner so that a large number of government bodies take part. Moreover, the national budget serves as an important source of public information on economic policy, and furthers understanding of economic problems. Politically, it is presented by the Cabinet as a program for its economic policy. Administratively, the national budget represents a set of quantitative directives to subordinate government bodies, directives which are mandatory as long as the assumptions upon which they are based continue to be valid.

From an accounting point of view the national budget is practically identical with the national accounts. In both systems the entries are so defined that after the expiry of the calendar-year for which they are prepared, the projections of the former can be compared with the *ex post* estimates in the latter. The Government's fiscal budget converted to a calendar-year basis is included in the national budget in an aggregated form. In addition to the entries which are similar to those of traditional national accounts, the national budget includes several special sub-budgets. One of these

[1] I am indebted to Mr. Arne Amundsen and to Mr. Per Sevaldson, both of the Central Bureau of Statistics of Norway, for constructive criticism.

[2] A more detailed description of the purpose of this budget, its bookkeeping form, the method by which it is prepared, and its use as a tool for economic policy, is given in: Petter Jakob Bjerve: "National accounts and national budgets in Norway", *Bulletin of the International Statistical Institute*, Vol. XXXIII, Part III, pp. 95–114.

indicates the volume of building licences and another the volume of import licences to be issued in the plan year. There is also a sub-budget for the amount of credit to be granted by government banks. Furthermore, the national budget includes projections for the supply of man-power and the demand for man-power broken down by industries.

Statistical testing of national economic projections and programs that are of the nature described above, present a number of problems that can be solved only on the basis of a consistent theoretical approach. In Part II some of these problems are indicated, and in Part III I shall suggest an approach for interpretation of deviations between national budgets and accounts. In Part IV this approach is applied in an analysis of numerical data for the ten-year period 1947–1956.

II

In current discussions deviations between the national budget and the corresponding national accounts are frequently interpreted as indicators of success or lack of success of national budgeting, and sometimes these indicators are even aggregated in a manner which must be characterized as double counting. If a comparison between national budget and accounts is to have any relevance, the deviations must in my opinion be given different interpretations for different groups of budget entries, and the logical and empirical relationships prevailing between the deviations must be clarified. In other words, one must attempt to explain the causes of the deviations.

In such an analysis it is fruitful to distinguish between three groups of economic variables, viz. data variables, government variables and private variables. Data variables are the variables that are determined exogenously, so that the government cannot influence their size either directly or indirectly. As an example of such variables the prices on the world market may be mentioned. Government variables are those variables whose magnitude can be set directly by a government agency, e.g. grants of building licences, tax rates, and the amount of government expenditures on goods and services. Variables that are neither data nor government variables, are regarded as private. The private variables cannot be directly determined by the government, but may indirectly be more or less influenced by the size chosen for government variables.

Some of the national budget projections for private variables are considered to be targets for the economic policy of the Cabinet. The achievement of these targets is expected to follow when the sizes of the government variables are set as shown in the national budget. The rest of the private variables we term indifferent variables.

The budget entries for government variables represent a program for the Cabinet's application of its various tools of economic policy. Inasmuch as these entries are presented to the Storting and the electorate as statements on prospective government action, and to government agencies as directives for their prospective decision making, one should think that the political and administrative implications of these entries would be clear enough. However, in practice the Cabinet has not always regarded

and obviously *cannot* always regard the national budget as its final statements and directives. Neither have subordinate government bodies always conceived of the directives as mandatory even when they have been intended as such.

The budget entries which may be characterized as private target variables also represent a program in the sense that they indicate the end results which the Cabinet will attempt to achieve by the means of policy (government variables) at its disposal. However, their character of program is frequently vague, partly because the distinction between target variables and indifferent variables has not always been made sufficiently clear, and partly because the government may exert a relatively weak control over some of the private variables which are considered to be targets. Neither does the opposition in the Storting always accept the demarcation line between target variables and indifferent variables which the Cabinet has drawn, and consequently the debate on the matter becomes more or less confused.

Under the preparation of the national budget the various government bodies taking part first estimate the magnitude of the data variables. The results of these estimates are in principle decisive for the magnitude of all other budget entries. Deviations between budget entries and *ex post* accounts for data variables indicate that the numerical basis for the projections of other national budget entries has not been as satisfactory as could be desired. Thus, in respect of data variables deviations between projections and facts indicate in a sense the degree of success (or lack of success) of the budgeting. For instance, the more the actual terms of trade deviate from anticipations, the greater is the risk that policy does not turn out as successfully, as it would have done had anticipations been correct. In addition to deviations for data variables, incorrect conceptions of behaviour relationships or deduction of erroneous conclusions on the basis of given premises, may cause deviations for government variables and private variables, and this of course may signify weaknesses of budgeting. However, deviations for government and private variables may also be due to modifications of policy as a consequence of shifts of social welfare preferences in the course of the plan period, e.g. the Cabinet may have changed views because of criticism from the opposition or from the public in general. Budget entries may even by intention have been published more or less different from the magnitudes that were in fact anticipated This procedure may be termed conjectural budgeting, which means that these budget entries do not represent the real anticipation of the Cabinet, but are intended to motivate behaviour of non-governmental groups that will contribute to the achievement of the political ends aimed at. In such cases, deviations between projections and facts do not indicate the quality of budgeting. Finally, government and private variables may differ from projections because subordinate government agencies have not exactly executed the policy of the Cabinet as directed, or because the program of the national budget may be more or less superseded by the individual members of the Cabinet who are responsible for its execution. In such cases deviations do not indicate poor projections, but may indicate weaknesses in the execution of policy.

Summing up, deviations for government and private variables may be due to

five different primary causes, viz. (1) erroneous projections of (or unrealistic assumptions on) data, (2) incorrect information on behaviour relationships or errors of logic, (3) shifts of social welfare preferences, (4) conjectural budgeting, and (5) unsuccessful execution. Deviations due to causes (1) and (2) may be regarded as indicators of the quality of the projection method, but an evaluation of this method cannot be made except by comparisons with results obtained by alternative methods. Furthermore, the implications of such deviations for economic policy depend upon how early in the plan period the deviations are observed and how quickly policy is accordingly modified. Deviations due to causes (3) to (5) may to some degree indicate the usefulness of the national budget as a means of communication and coordination. For example, conjectural budgeting may make the national budget less useful for administrative purposes than it otherwise would have been.

Private variables may in fact differ from projections as a consequence of primary causes (1) and (2) even if the policy indicated by the budgets for government variables has been executed without modifications. Moreover, if the original national budget satisfied the conditions for maximum welfare and if errors of types (1) and (2) were discovered, it would be bad policy to avoid deviations for government variables. This would be bad policy also if (3) occurred since it would mean that deviations for private variables would be prevented even though shifts of social preferences would motivate a policy contributing to such deviations.

III

It will be understood that there exists a rather involved inter-relationship between the deviations for the three groups of economic variables mentioned above, and the same applies to different variables within the two groups which we have termed government variables and private variables. These inter-relationships may be mathematically described partly by definitional equations and partly by behaviour relations of various kinds.

For each definitional equation between entries in the national budget we have a corresponding equation for the possible deviations between these entries and the corresponding *ex post* entries of the national accounts. To the extent that behaviour relationships exist between the entries of the budget, we also have behaviour relations between the deviations. Moreover, since relations between deviations are integrated within a model, deviations in one relation are of course indirectly related to deviations in other relations. Thus, even if deviations correctly indicated the quality of budgeting, they could obviously not be aggregated by simple summation.

Had it been possible to prepare the national budget by means of a determinated, non stochastic model in which both the behaviour relationships and the social preference function of the Cabinet were numerically and correctly described for the entire plan period, this model would also have explained possible deviations between the national budget and the national accounts. Deviations for endogenous variables

would under these assumptions occur only if there were deviations between projected and actual magnitudes of exogenous variables. In this case we might simply have explained deviations for endogenous variables as consequences of deviations for exogenous variables. However, an explanation of the latter deviations would even in this case have required information outside the model.

When the national budget, as is the case in Norway, is prepared by successive approximations within a system of definitional relations so that the possible existence and implications of behaviour relations are only intuitively taken into account, a comparison between projections and facts is far more difficult, and cannot by any means be as thorough and accurate as it could have been had a determinated model been applied.[1] In the first place we neither know the actual behaviour relationships nor those implicitly assumed in the budget, and of course, we do not know the numerical form of the Cabinet's preference function either. Consequently, it is not easy to determine whether and to what extent deviations between projected and actual government variables or private variables may be ascribed to errors which government bodies taking part in the budgeting may have committed in their intuitive deductions from given premises as regards welfare preferences, economic behaviour, and data. In particular it is difficult to determine qualitatively the consequences which possible shifts in the Cabinet's preference function may imply for government variables and private variables. Secondly, as is known, we must take into account margins of error even in the case of the *ex post* national accounts, and deviations between projections and facts must be interpreted in the light of a rather incomplete knowledge of these margins of error. Thirdly, it is not always easy to know, at least not without inside information, whether and to what degree the national budget has been set up conjecturally or to what extent the accounts differ from the budget for purely administrative reasons, i.e. because subordinate government bodies have lacked ability or will to adhere to the budget. Thus, an explanation of deviations between the national budget, as it is prepared and applied in Norway, and the corresponding *ex post* national accounts, must to a fairly high degree be based on intuition and subjective judgement. Furthermore, it is often difficult, if not impossible, to measure the quantitative significance of the various causes, and one must frequently be content with making a qualitative clarification of the interdependence between different deviations and with a mere enumeration of the primary causes that have contributed to deviations.

Nevertheless, a comparison between national budgets and accounts may yield some interesting results provided that an appropriate approach is chosen. It is my opinion that this approach must in principle be the same as that which would have been chosen had the national budget been prepared by means of a determinated numerical model.

First of all it is necessary to determine the magnitudes of the deviations between projections and facts and to clarify the definitional relations between them. As regards the main entries in the national budget we know for example that the sum of the deviations for gross national product and for imports must be equal to the sum

[1] *Op. cit.*, pp. 107–112.

of the deviations for consumption, gross investment and exports. We may already at this stage find an explanation of some deviations. For instance, we may find deviations for some private variables to follow from definitional equations and (*a*) knowledge of deviations for data variables, or (*b*) knowledge of both deviations for data variables and deviations for government variables. However, frequently deviations cannot be explained on the basis of a mere knowledge of definitional relations and exogenous variables. Degrees of freedom usually remain and must be taken care of.

This could be done by means of a sufficient number of numerical behaviour relations (and eventually a numerical social preference function) provided that (1) completely realistic numerical relations could be found and (2) the same relations had been intuitively taken correctly into account in the preparation of the national budget. If these conditions were satisfied, we could find deviations for private variables expressed as functions of deviations for particular data variables and government variables (or for data variables only if a numerical social preference function was introduced). If condition (1) only could be satisfied, we could find deviations for private variables expressed as a function of deviations for exogenous variables and a set of parameters describing the extent to which the numerical relations have been erroneously taken into account in national budgeting. In fact, not even condition (1) can as a rule be satisfied, and for this reason additional errors are introduced.

Nevertheless, if fairly realistic numerical behaviour relations can be found, it may be illuminating to apply them for the purpose of explaining deviations between national budgets and national accounts. At the first stage we may assume that these relations satisfy both conditions (1) and (2). Having found general solutions for the deviations for private variables expressed by deviations for data variables and/or government variables, we may under these assumptions insert into these solutions the actual figures for the latter and compute corresponding hypothetical figures for the former. These hypothetical figures may illustrate the numerical implications for private variables of actual deviations for data variables and/or government variables. If these hypothetical figures differ from the corresponding actual figures for the deviations for private variables, this may be interpreted as an indication of the fact that conditions (1) and (2) have not been satisfied, but we cannot, of course, draw the conclusion that (1) and (2) have been satisfied if the hypothetical figures happen to be equal to the actual figures. In spite of this difficulty, we may on the basis of information outside the model analyse to what extent the hypothetical figures should possibly be modified because condition (1) has not been satisfied in the various years. Thereby we may also get further insight into the possible errors that may have been committed in national budgeting.

Along these lines I have made an attempt to explain deviations for the main entries of the national budget by means of the definitional relation:

$$\text{gross national product} + \text{imports} = \text{total consumption} + \text{gross investment} + \text{exports},$$

and two numerical behaviour relations that have been estimated by Mr. Arne Amundsen,[1] viz. one relation between gross national product and consumption, and another relation describing total imports as a function of total consumption, gross investment, and total exports. Both behaviour relations are found by regression analysis on the basis of national accounts for the inter-war period (1920–1939). This gives a system of three equations in five variables. If two of these variables are determined outside the system we can by means of this model, which I shall refer to as Amundsen's model, determine the magnitude of the remaining three variables.

At the first stage of our analysis it appears warranted to regard exports as a datum variable. Secondly, we may regard gross investment as a government variable, which also is determined outside the model. This appears to be quite realistic, at least for the first part of the post war period when most investments were controlled by licensing of building and imports. Given the magnitudes of exports and gross investment we may determine the magnitude of gross national product, imports and consumption (the endogenous variables). Correspondingly, at given deviations between budget and accounts for exports and gross investment hypothetical deviations for gross national product, imports, and consumption are determined. If Amundsen's model had been completely realistic, and if this model had been applied in national budgeting, the hypothetical deviations would have been equal to the actual deviations for the endogenous variables. Thus, these deviations would have been explained by the fact that exports and gross investment had turned out otherwise than anticipated. Since these assumptions can never be entirely valid, uncertainties remain, but by computations in accordance with the principles outlined above, we may, I believe, be able to indicate the order of magnitude of the deviations for gross national product, imports and consumptions, resulting as a consequence of actual deviations for exports and gross investment.

Applying Amundsen's model I have computed (1) hypothetical budget figures for gross national product, imports, and consumption, on the assumption that exports and investment are as indicated in the national budgets for the years 1947–1956, and (2) hypothetical accounts figures for gross national product, imports, and consumption under the assumption that the exogenous variables are as indicated in the actual national accounts for the same years. The difference between the hypothetical budget figures and the corresponding hypothetical accounts figures I shall term hypothetical deviations. These deviations indicate the repercussions (within Amundsen's model) on gross national product, imports and consumption which are exerted by an increase or decrease of exports and investment as compared with the national budget figures for these variables. Unfortunately, we do not know for certain to what degree the hypothetical deviations may contribute to an explanation of the actual deviations between budget and accounts for national product, imports, and consumptions. For reasons explained above this depends upon how well Amundsen's model describes reality and how similar it is to the "model" which is implicitly applied in national budgeting. Tests made by Mr. Amundsen appear

[1] Consultant of the Central Bureau of Statistics of Norway, Oslo.

to show that his model explains remarkably well post war development of gross national product, imports, and total consumption.[1] Furthermore, it is known by experience that in the preparation of the national budget, relationships between gross national product and consumption as well as between gross national product and imports are intuitively taken into account in a manner similar to the mechanism of Amundsen's model, even though these relationships are not numerically formulated. We get a confirmation of this general knowledge by comparing projections of the national budget with corresponding projections made by means of Amundsen's model. Some conclusions arrived at by such a comparison may appropriately be mentioned at this point, see Table 1.

For the years 1954 through 1956 the hypothetical budget figures for the relative increase of gross national product and total consumption are about equal to the corresponding national budget figures. In other words, for these years projections by means of Amundsen's model give practically the same figures for gross national product, and total consumption as those arrived at by the administrative budgeting method, when the same assumptions are made on the increase of exports and the increase of gross investment. For 1956 the two kinds of projections are practically equal for imports too. Even for 1954 and 1955 the projections of imports made by the two methods do not differ more than 2.7 and 1.9 per cent points respectively. Thus we may conclude that if the increase of exports and the increase of gross investment had been assumed equal to the increases indicated in the national budgets, it would for practical purposes have made no or very little difference whether the projections of gross national product, imports, and total consumption in the period 1954 through 1956 had been prepared by means of Amundsen's model or by the administrative method.

For the years 1949 through 1953 the hypothetical budget figures indicate a smaller prospective relative increase of gross national product, imports, and total consumption than that which is indicated in the administrative budgets for the same years. The only exceptions are represented by the increase of total consumption from 1949 to 1950 and by the increase of gross national product from 1948 to 1949, which according to the hypothetical budget figures are both slightly larger than indicated in the national budgets for these years. The results arrived at by the two methods do not differ much even for the years 1949–1953. The maximum difference is largest for imports (8.6 per cent points) and smallest for gross national product (1.7 per cent points).

For 1947 and 1948 the projections arrived at by the two methods differ significantly more, which *a priori* could be expected since in these years both imports and consumption were strongly restricted by quantitative controls. For 1947 Amundsen's model generates much larger hypothetical increases of gross national product and total consumption than the corresponding increases indicated in the national budgets,

[1] Arne Amundsen: "Vekst og sammenhenger i den norske økonomi 1920–1955", *Statsøkonomisk Tidsskrift*, hefte 2, Oslo, June 1957.

while the projections of imports are about equal. For 1948 the two methods give about the same projections for the increase of total consumption, but Amundsen's model generates a much larger increase of imports and a significantly smaller increase of gross national product than indicated in the national budget. Thus, while the national budgets for the years 1949 through 1956 as a rule indicate increases of gross national product, imports and total consumption which are either larger than or about equal to those arrived at by means of Amundsen's model, the national budgets for 1947 and 1948 tend to indicate smaller increases.

For most post war years the actual increase of gross national product, imports, and total consumption have been larger than the projected increases indicated in the national budgets. Since the latter as a rule have been larger than the hypothetical increases arrived at by means of Amundsen's model, we may conclude that the underestimations of the supply of resources would have been larger than it actually turned out to be, had Amundsen's model been applied in post-war national budgeting instead of the administrative budgeting method.

These comparisons between hypothetical budget figures and the corresponding projections of the national budgets suggest the conclusion that the macro-model intuitively applied in administrative national budgeting may well be similar to Amundsen's model. Furthermore, for the period 1949–1956, and particularly for the period 1954–1956, both models seem to describe reality fairly well. Consequently, we may conclude that Amundsen's model can presumably be applied for the purpose of explaining deviations between projected and actual endogenous variables without too great risks of making serious mistakes. Computations by means of this model may at least illustrate the order of magnitude of the hypothetical multiplier effects generated by deviations for exports and gross investment.

Moreover, by comparisons between the hypothetical and the actual deviations we may get indications as to whether the latter may be more or less due to erroneous information on behaviour relationships or errors of logic, but an exhaustive investigation of this problem requires information outside Amundsen's model. Neither can we by means of this model study the role of possible conjectural budgeting. Deviations for exports and investment must also be explained outside Amundsen's model. For instance, this model cannot explain to what extent deviations for gross investment (and corresponding deviations for the endogenous variables) are due to shifts of social welfare preferences, conjectural budgeting or unsuccessful execution. This model cannot either explain how deviations for exports possibly may affect gross national product, imports and total consumption via investment.

Finally, the role of direct government control over imports, and to some extent even over consumption, particularly in the first post-war years, must be mentioned. One might *a priori* expect that both behaviour relations in Amundsen's model would to some degree be superseded by these direct controls.

The national budget includes a large number of less aggregated entries than those discussed above. Deviations between such entries and the corresponding *ex post*

figures may be more or less exhaustively explained by application of the same kind of technique as that just described, i.e. by introduction of behaviour relations (that are either explicitly or implicitly applied in the preparation of the national budget) in order to eliminate degrees of freedom. However, instead of giving additional examples of this technique, we shall proceed to a discussion of the manner in which the influence of primary causes (2) to (5) may be studied.

Some of the behaviour relations that have been taken into account in the preparation of the national budget are specified numerically. Incomplete qualitative and quantitative information on other behaviour relations may be available to such a degree that their numerical form may be approximately inferred. To the degree that behaviour relations applied in national budgeting can be specified, these relations may be tested against experience gained in the period of time that has elapsed since the respective budgets were prepared. For instance, new experience may show that time lags differ from the assumptions of such lags that were originally made and this information may more or less explain deviations between projections and facts. By substitution of correct for incorrect behaviour relations into models of the type described above, e.g. in Amundsen's model, we may study quantitatively the implications of erroneous information on behaviour relationships.

Possible errors of logic are difficult to discover. However, a careful study of the verbal analysis presented in the national budget publications and other government documents may unveil such errors. Possible shifts of social welfare preferences, conjectural budgeting, and unsuccessful execution of the national budget, may also be studied on the basis of such information. Furthermore, interviews with those who have taken part in preparation and execution of the various budgets may often be illuminating. Examples of information obtained in this manner will be given in Part IV.

Deviations for data variables may in some cases be explained by unexpected economic trends abroad, abnormal weather conditions, and other information. However, the possibilities of finding a quantitative explanation on such deviations are rather limited.

Further improvement of our insight into economic behaviour, in particular further advancements in construction of econometric models, may improve the possibilities of explaining deviations between projections and facts, even for the period under discussion in this paper.

IV

We shall now compare the annual national budgets for the ten-year period 1947–1956 with the corresponding *ex post* national accounts for these years, and in accordance with the approach outlined above make an attempt at explaining the causes of deviations between these two sets of estimates. In this analysis we must confine ourselves to the main entries of the national budget and to the causes that probably are most important. Furthermore, discussion is limited to the volume of the respective variables, i.e. problems of price deviations are not dealt with.

Practically all national budgets that have been published so far are characterized by a tendency to underestimate the prospective supply of resources. In total, gross national product and imports have increased more than projected in 8 out of 10 years. Per definition this must also be the case for the sum of consumption, gross investment, and exports. This is in itself an interesting conclusion, but we want to explain the deviations for each of these five national budget entries.

In making attempts at such an explanation, we first assume the deviations for exports and gross investment to be given and investigate to what extent these deviations imply deviations for gross national product, imports, and total consumption. Exports and gross investment increased about as much as projected from 1948 to 1949 and from 1951 to 1952, and somewhat more than projected from 1952 to 1953. These years will be analyzed separately for gross national product, imports and total consumption respectively. In the 7 other years both exports and gross investment increased more than projected, and excepting 1956, the underestimation was in all years large for at least one of the two variables. When analysing the implications of these deviations for gross national product, imports, and total consumption respectively, we shall to some degree, on the basis of information outside Amundsen's model discuss the role that other primary causes not working through investment and exports, may have played as well. Finally, we shall make attempts at explaining the deviations for exports and gross investment. However since an exhaustive explanation of these deviations requires disaggregation and separate analysis of several components of exports and gross investment respectively, we must in this paper confine ourselves to making a few and rather general remarks on this problem. In particular, we must abstain from dealing with the question whether or to what degree deviations for gross investment are due to shifts of social welfare preferences, conjectural budgeting and unsuccessful execution.

The figures in Table 1 show without further comments that the deviations for the gross national product are related to the deviations for exports and gross investment. As was the case with exports and gross investment, gross national product too increased less than projected from 1952 to 1953, and practically as projected from 1948 to 1949. Furthermore, for all other years the national budgets have underestimated the increase in gross national product, but least for 1952 and 1956 (respectively 1.1 and 0.7 per cent points). The underestimation is largest for 1947 and 1948 (respectively 6.4 and 4.2 per cent points).

The existence of a relationship between the deviations for gross national product and the deviations for exports and gross investment becomes still more clear if we study the figures for hypothetical deviations which have been computed by means of Amundsen's model. These computations indicate for 1953 a hypothetical overestimation of the increase of gross national product which is slightly less than the actual overestimation, and for 1949 the hypothetical deviation is negligible. The computations for 1952 indicate that the deviations for exports and gross investment imply a slight hypothetical overestimation of the increase of gross national product for this

TABLE 1. *Actual and hypothetical budgets and accounts for 1947–1956.*

Preceding year = 100.

	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956
					Gross national product					
Actual budget	106.4	100.1	103.5	102.3	102.5	103.0	103.1	102.8	102.0	103.8
Actual account	112.8	104.3	103.5	104.5	103.8	104.1	101.6	105.4	103.4	104.5
Deviation	−6.4	−4.2	—	−2.2	−1.3	−1.1	1.5	−2.6	−1.4	−0.7
Hypothetical budget	114.0	96.9	104.2	102.2	100.9	101.3	102.4	103.3	101.9	103.0
Hypothetical account	119.5	105.2	103.9	106.0	106.0	100.5	101.3	106.0	103.6	105.2
Deviation	−5.5	−8.3	0.3	−3.8	−5.1	0.8	1.1	−2.7	−1.7	−2.2
					Imports					
Actual budget	118.9	81.6	111.0	98.4	100.0	105.3	104.8	104.8	102.0	102.8
Actual account	128.7	93.0	115.4	104.6	108.8	99.5	104.1	112.6	105.3	106.5
Deviation	−9.8	−11.4	−4.4	−6.2	−8.8	5.8	0.7	−7.8	−3.3	−3.7
Hypothetical budget	117.7	88.5	102.4	96.1	97.4	100.5	101.6	102.1	100.1	102.6
Hypothetical account	121.2	101.7	102.6	100.1	108.9	100.4	99.5	106.3	103.7	104.9
Deviation	−3.5	−13.2	−0.2	−4.0	−11.5	0.1	2.1	−4.2	−3.6	−2.3
					Total consumption					
Actual budget	101.4	96.4	105.7	100.9	102.4	105.6	103.7	102.2	101.8	102.5
Actual account	107.8	100.3	106.1	104.0	100.9	105.1	102.8	105.2	102.5	102.9
Deviation	−6.4	−3.9	−0.4	−3.1	1.5	0.5	0.9	−3.0	−0.7	−0.4
Hypothetical budget	109.9	97.7	103.0	101.6	100.6	101.0	101.7	102.4	101.4	102.2
Hypothetical account	113.7	103.8	102.8	104.3	104.3	100.1	100.9	104.3	102.6	103.7
Deviation	−3.8	−6.1	0.2	−2.7	−3.7	0.9	0.8	−1.9	−1.2	−1.5
					Exports					
Actual budget	121.4	105.3	109.8	112.0	105.8	103.4	105.3	107.5	105.6	106.0
Actual account	135.0	114.3	108.7	118.8	107.6	101.0	104.4	110.4	106.4	109.9
Deviation	−13.6	−9.0	1.1	−6.8	−1.8	2.4	0.9	−2.9	−0.8	−3.9
					Gross investment					
Actual budget	124.4	80.6	101.5	90.8	94.4	100.0	101.2	101.6	98.8	102.7
Actual account	126.9	99.2	102.1	95.7	113.0	100.5	98.1	107.7	104.6	105.5
Deviation	−2.5	−18.6	−0.6	−4.9	−18.6	−0.5	3.1	−6.1	−5.8	−2.8

year. Actually the increase of gross national product was underestimated by 1.1 per cent point. However, this underestimation originates in a large underestimation of the increase of production in forestry which was exceptionally high in 1952, primarily due to favourable weather conditions, and in a considerable underestimation of the increase of building and construction, which in 1952 was exceptionally large relative to other types of investment.

For the remaining 7 years the computations by means of Amundsen's model indicate hypothetical underestimations of the gross national product which with one exception are larger than the actual underestimations. Thus, for these years the actual deviations for exports and investment appear to have generated smaller increases of gross national product than the corresponding multiplier effects indicated by Amundsen's model. This might *a priori* have been expected since most post war years have been characterized by excess demand and full employment and since full employment probably would have been maintained even if exports and gross investment had turned out as projected. Under such circumstances a given increase of exports and gross investment is not likely to generate as large an increase of gross national product and consumption as indicated by the figures for the hypothetical deviations, while imports are likely to increase more than indicated by these hypothetical figures, which are derived from a model based on experience in pre-war years when there was considerable unemployment. Actually, the figures for imports and total consumption do not refute this hypothesis.

The hypothetical and the actual underestimation of the gross national product differ most for the years 1948, 1950 and 1951. In these years we know that excess demand was particularly large. Furthermore, in 1951 an unexpected redistribution of incomes at the expense of the consumers took place, and this may in fact have caused a smaller multiplier effect on production than indicated by the hypothetical deviation for this year. In 1947 when excess demand was very large too, the hypothetical deviation is somewhat smaller than the actual deviation, but in the beginning of 1947 capacity was in many fields of production not nearly as well utilized as in subsequent years.

The underestimation of production has been particularly pronounced for manufacturing. In many years production has also increased more than projected in building and construction, in internal trade, and in various industries where multiplier effects of an increase of exports and investment might be expected. In respect to production in agriculture, forestry, fishing, and whaling there are many examples of deviations which to a large extent are due to abnormal weather conditions, but for these industries no general tendency of underestimation appears to have prevailed.

The underestimation of exports and gross investment and the corresponding underestimation of production may, of course, well be due to joint underlying causes, which means that, strictly speaking, we cannot interpret the deviations for exports and gross investment as causes and the deviations for gross national product as effects. A number of such causes may easily be enumerated.

Thus, the underestimation of the prospective increase of manufacturing production

may be partly due to the fact that the monthly production index for manufacturing tends to underrate the increase of production in the iron and metal industry in periods when productivity is increasing. This may easily have contributed to an underestimation of prospective production since projections of manufacturing production are partly based upon extrapolations of current trends. Furthermore, the civil servants who are responsible for projections of production presumably prefer to be too pessimistic rather than too optimistic, believing that the former kind of bias may not cause consequences as detrimental as the latter. Conjectural considerations may also have motivated the publishing of too low figures for the increase of production, *inter alia* in order to prevent excessive wage claims and pressure for increased government expenditures. Finally, it is not surprising that in the immediate post-war years, at a time when the increase of production was particularly large, those who prepared the national budget, on the background of their pre-war experience, could not imagine that production would increase as much as it actually did. There was lacking at that time the experience which we now possess as to the effects of a strong excess demand on production.

Unfortunately, it appears to be very difficult, if not impossible, to measure the quantitative significance of each of the circumstances mentioned above. Neither is it clear in which manner these circumstances possibly have affected each of the projections for respectively production, exports and investment (and consequently even the projections for imports and consumption) directly and indirectly.

The computations by means of Amundsen's model show, as could be expected, negligible hypothetical deviations for imports in 1949 and 1952 and a small hypothetical overestimation of imports for 1953. In fact imports increased from 1948 to 1949 at a substantially higher rate (4.4 per cent points) and from 1951 to 1952 at a substantially lower rate (5.8 per cent points) than indicated in the national budgets for these years. In 1949 licensing of imports was less restrictive than in 1948 when restrictions were stronger than in any other post-war year. This may explain why imports increased so much more than planned from 1948 to 1949, even though exports and gross investment turned out practically as anticipated. The relatively large overestimation of imports in 1952 may be explained by the fact that an unexpected fall of prices abroad motivated smaller purchases by importers than they could have effectuated at the volume of import licences that was granted. This was the main reason why inventories accumulated at a smaller rate than anticipated. Since inventories have a relatively large import content and since building and construction, which we have seen was exceptionally large in 1952, has a small import content, gross investment in 1952 required relatively less imports than anticipated. The national budget for 1953 too overestimated the increase of imports, but the overestimation is for this year smaller than indicated by the corresponding hypothetical deviation.

For 4 out of the 7 remaining years of the ten-year period the hypothetical deviations for the increase of imports are significantly smaller than the actual deviations, and

for 3 years the hypothetical deviations are equal to (1955) or somewhat larger than (1948 and 1951) the actual deviation. In general, when imports are restricted by licensing at a relatively low level, a given absolute increase of imports is of course larger relative to this level than it would have been relative to the higher level that would have materialized had imports been completely liberalized. Furthermore, even the absolute increase of imports which importers are exerting pressure for, is likely to be larger at a low level of imports than it would have been at a higher level. In 1947 the periods of delivery for imported goods became shorter and consequently the lag between licensing and delivery of imports was unexpectedly reduced so that deliveries turned out much larger than projected. This may explain why the actual underestimation for this year is as large as 9.8 per cent points as compared with a hypothetical deviation of 3.5 per cent points. For 1950, 1954 and 1956 liberalization of imports may well explain why the actual deviation is somewhat higher than the hypothetical deviation. However, for 1950 and 1956 capacity limits in production may also have contributed to a larger increase of imports than warranted by the deviations for exports and gross investment, since for these years the hypothetical underestimation of the increase of gross national product was substantially larger than the actual underestimation. A special explanation of the difference between actual and hypothetical deviations for imports as regards 1954 is more difficult to find, but the redistribution of income in favour of consumers which took place in 1953 and 1954 may have contributed to an unexpected increase in demand for imports.

The hypothetical underestimations for the increase of imports from 1947 to 1948 and from 1950 to 1951 are larger than the actual underestimations in spite of the fact that for production too the hypothetical underestimations are larger than the actual underestimations. This appears to have occurred for different reasons in the two years. For 1948 the most important reason presumably is the strong quantitative restriction of imports. For 1951 the redistribution of incomes at the expense of the consumers seems to have been decisive.

The prospective increase of imports has been underestimated both for commodities and services. The licensing budget for commodity imports was revised upwards one or more times in all of the years when imports turned out larger than projected. One of the most important motives for granting import licences in excess of the licensing budget appears to be that the supply of currency has turned out better than anticipated. New foreign trade agreements have played an important role too. When larger imports than planned have been agreed upon for some commodities, it has proved difficult to cut down correspondingly the grants of import licences for other commodities. Thus, on the surface, it may appear as if deviations for imports have been directly determined by the government. Of course, the government has in fact exerted quite a strong direct influence on imports. In particular, imports of consumption goods have been very strictly limited. But the figures for hypothetical deviations seem to indicate that deviations for exports and gross investment, capacity limits in internal production, unexpected shifts in income distribution, and exo-

genously determined price anticipations have been more decisive than might be expected.

Naturally, for total consumption the hypothetical deviations are small for 1949, 1952 and 1953, such as for gross national product and imports. Furthermore, these deviations differ relatively little from the corresponding actual deviations. The small difference between the hypothetical and the actual deviation for 1952 may appear surprising since in this year gross national product increased at a higher rate than projected, apparently as a consequence of favourable weather conditions for forestry and a structural change of investment. Similarly, in 1953 a redistribution of income in favour of consumers took place. For these reasons one might expect that the slight contractive effects on consumption caused by the deviations for exports and gross investment, would have been more than neutralized. The reason why this did not occur is as we shall see, the fact that government consumption increased less than planned in these years.

The hypothetical deviations for total consumption differ substantially from actual deviations only as regards three years, viz. for 1947, 1948 and 1951.

From 1946 to 1947 total consumption increased by about 6 per cent more than projected, and from 1947 to 1948 by about 4 per cent more. According to Amundsen's model the deviations for exports and gross investment imply a hypothetical deviation of about 4 per cent for the increase of consumption from 1946 to 1947, and about 6 per cent for the increase of consumption from 1947 to 1948. Thus, compared with the budget, consumption increased more than indicated by Amundsen's model from 1946 to 1947, and less from 1947 to 1948. This is related to the fact previously pointed out that in 1947 both production and imports increased more, and in 1948 less in excess of the budget than the corresponding hypothetical deviations for these years, which again was explained by a shortening of delivery lags and the existence of excess capacity in 1947 and by the very restrictive import policy in 1948.

From 1950 to 1951 total consumption increased less than indicated in the national budget. This is partly due to the conceptual inclusion in the budget figure of an increase of inventories which is excluded from the *ex post* figure. If the figures had been strictly comparable the deviation between projected and actual increase of consumption would probably have been negligible. The hypothetical account figure indicates an increase of consumption which is as much as 3.7 per cent points higher than the hypothetical budget figure. This expansive effect, implied in the deviations for exports and investment, must have been neutralized by the strong contractive effects on consumption exerted by the redistribution of incomes in 1951.

For 1954 the actual underestimation of consumption was in fact 1.1 per cent points larger than the hypothetical underestimation, and for 1956 1.1 per cent points smaller. The explanation may be the redistribution of incomes in favour of consumers in 1954, and a possible redistribution at the expense of the consumers in 1956.

In Amundsen's model no distinction is made between public and private consumption.

Public consumption has turned out less than planned in most post-war years, and in every year since 1951 inclusive. In the last period defence was unable to spend the large funds, which in accordance with decisions by NATO, had been granted for military purposes. Presumably, this underestimation is to some extent due to conjectural budgeting motivated by foreign policy.

Private consumption has increased more than projected in all years except in 1951. The rate of increase in this year was overestimated by 1.0 per cent points, i.e. slightly less than total consumption. The rate of increase was slightly underestimated both for 1952 and 1953 for reasons mentioned above. Furthermore, private consumption was more underestimated than total consumption for 1954, which seems reasonable on the basis of the analysis presented above. For the remaining years the actual deviations for private consumption differ insignificantly from the deviations for total consumption.

The deviations between budget and accounts for the increase of exports and gross investment have already been briefly described, but it remains to discuss the question why these deviations have occurred.

In respect of the budgets for commodity exports it may in general be observed that total commodity exports as a rule have increased more than projected when foreign demand has been high, and less than projected when foreign demand has been low. Furthermore, it appears that the underestimation of prospective exports to some degree is due to the fact that too much attention has been paid to the largest commodity groups. The underestimation is significantly larger for the smaller than for the larger commodity groups in the export budget. Moreover, the bias of pessimism has presumably affected the projections of exports too. In the national budget publication for 1948 it is even explicitly stated that the figures in the export budget include a "safety margin". Finally, in the period 1948 to 1951 the possibilities of obtaining American aid presumably motivated conjectural budgeting of exports, since a pessimistic projection of exports might be used as a means of encouraging such an aid. Moreover, there were also economic justifications for giving cautious estimates as long as it was not known how much aid Norway was going to receive, since exports in this period depended to a certain extent on how large this aid would be.

The deviations between projected and actual gross investment are particularly large as regards investment in buildings and constructions. On the average over the past 6–7 years about 60 per cent of the underestimations may be ascribed to this type of capital formation. This is closely connected with the manner in which the program for building licensing has been executed.

In all years of the period 1947–1956 building licensing has turned out larger than planned. In 1947 and biannually afterwards until and including 1953, licensing has been strongly expanded, and biannually from 1948 to 1954 inclusive licensing has

been less than in the preceding year. Every time there has been an expansion of licensing, this has after a few months caused such a shortage of building materials and manpower that a contraction of licensing was unavoidable. It is equally interesting to note that in the years of expansion, licences have been granted to a far larger degree than indicated in the national budget. In the years of contraction, licensing has been larger than planned too, but the deviations for these years have been relatively small, even in years when the planned grants of building licences have been sharply reduced as compared with the grants in the preceding year. In other words the deviations between planned and actual licensing fluctuate biannually too.

In attempting to explain these cyclical movements it is worth while noting that by and large the peak years of licensing and of deviations between planned and actual licensing coincide with the post-war election years and that the trough years coincide with non-election years[1]. The largest deviations between planned and actual licensing occurred in the election years 1949, 1951 and 1953, when in the spring, after a lengthy debate on housing policy, the Storting voted for a partial liberalization of building. This more or less automatically led to an expansion of licensing and to much more licensing than originally planned. The year 1955 represents the only election year since the war when building licences have been issued for a smaller floor space than the year before. It is also the only election year when the deviation between planned and actual licensing has not been larger than in a non-election year. In fact for 1955 the deviation is less than for both 1950 and 1954.

Even though the relationship between the licensing cycle and the biannual elections is apparent enough, this is probably not an exhaustive explanation. Part of the explanation presumably lies in the system of licensing and the manner in which it has been operated. Since there is a lag between licensing and the use of building materials and manpower, the effects of decisions on licensing policy cannot be entirely foreseen. Furthermore, those who make decisions may have been misled by the increase in stocks of building materials in the spring, or by other circumstances. It is a simple matter to construct a dynamic model generating biannual licensing cycles under certain assumptions on the lag between licensing and use of building materials, and on the behaviour of those who grant licences. The influence of elections may also be built into this model.

A model of this kind may contribute to an explanation of government behaviour as regards actual licensing, and it may to some degree clarify why the government has acted otherwise than indicated in the licensing budgets. However, since these budgets represent directives of the Cabinet to subordinate government bodies, an explanation of deviations from these directives also requires, *inter alia*, an investigation of whether and to what extent subordinate government bodies have acted otherwise than directed, which means that the administrative interrelationships between different government bodies must be studied.

At this point we must leave the question why building licensing has deviated from

[1] General elections are held biannually for the Storting and for the Municipal Councils respectively.

plans, and return to the explanation of deviations between projected and actual gross investment. These deviations are also related to the fact that import licensing has deviated from plans. In this field too cyclical movements have occurred although less pronounced than is the case as regards licensing of buildings. Finally, unexpectedly large or small accumulation of inventories, and larger or smaller net imports of ships than that which was anticipated, have in some years contributed significantly to deviations for gross investment.

Our preliminary assumption that gross investment (and the deviation between planned and actual gross investment) is a government variable is fairly realistic at least as regards the first post-war years when the magnitude of this variable was determined primarily by licensing of building and of imports (including ships). However, as already suggested in the preceding paragraphs, this variable is also to some degree behaviouristically related to gross national product, to imports and perhaps even to consumption in ways that are not taken into account by Amundsen's model and cannot be studied further in this paper either.

Since our comparisons between national budgets and accounts have been focussed on the main budget entries, the existing relationships between deviations for components of these entries have been almost entirely disregarded. In a more exhaustive analysis the latter deviations, the interrelationships between them, and their possible relationships with the main entries discussed above must be thoroughly investigated. Such an analysis of the less aggregated entries of the national budget opens possibilities for a further investigation of the manner in which shifts of social welfare preferences, conjectural budgeting, and weaknesses in administrative execution have contributed to deviations between budgets and accounts.

However, in spite of the fact that our numerical analysis has been far from exhaustive, it appears justified to conclude that deviations between the main entries of the national budget and the corresponding *ex post* figures are to a large degree directly or indirectly due to an unexpected development of data variables and to a modification of policy as compared with the program indicated in the national budgets. It appears equally clear that some of the deviations observed for government and private variables are partly due to erroneous anticipations of behaviour or possibly errors of logic, but except for the years 1947, 1948, and 1951 such methodological errors have apparently not played an important role as a primary cause of deviations for the main national budget entries.

The question whether methodological errors or a development of data different from anticipations have been detected in time for a modification of policy as compared with the program indicated in the national budget, and if so, whether policy in fact has been accordingly modified, has practically not been dealt with in the preceding paragraphs. Neither has it been possible to discuss to what degree policy has been modified as a consequence of shifts in the Cabinet's welfare preferences, conjectural budgeting or unsuccessful execution of the national budgets.

V

The problems pointed at in Part II, the theoretical approach for solving these problems which was outlined in Part III, and the numerical analysis in Part IV, have, I hope, shown that comparisons between national budgets of the type applied in Norway, and the corresponding *ex post* national accounts, are by no means a simple matter. If such comparisons are meant to be more than descriptive, they must as much as possible be based upon a consistent and determinated theory, upon a thorough knowledge of the concrete background as regards both economic structure and policy, and preferably even upon inside information on motives for government decision making. Since these requirements, of course, can be met only to a limited degree, there are, unfortunately, corresponding limitations on how far we may get in explaining quantitatively deviations between national budgets and accounts.

To the degree that such an explanation can be made, a comparison between national budgets and accounts may contribute to a better understanding of the mechanism of economic policy and to a clarification of the role that national budgeting plays in economic policy. Possibly, it may also contribute to an improvement of prospective national budgeting and policy making.

RÉSUMÉ

En Norvège il est présenté chaque année, au mois de janvier, au Storting (le Parlament norvégien) un soi-disant budget national. C'est un budget pour toute l'économie de la nation et qui, en bien des points, correspond aux budgets internes que les entreprises modernes établissent comme base de leur exploitation pour une période définie. Ces deux budgets indiquent pour ainsi dire la ligne politique à suivre, et donnent le moyen pour favoriser une communication et une coordination administrative et aussi un moyen de contrôle des organes subordonnés. Le budget national est en outre une source importante d'information sur l'économie politique.

Le budget national est présenté sous forme d'un programme pour l'économie politique du gouvernement pour l'année civile à venir. Il va cependant de soi qu'il peut être apporté des modifications à ce programme si les prévisions sur lesquelles il a été fondé subissaient des modifications.

Au point de vue technique comptable le budget est établi de façon qu'il puisse être comparé « ex-post » avec les comptes nationaux. Les divergences entre les prognoses dans le budget national et les résultats que font ressortir les comptes nationaux ne peuvent pas, sans plus, être interprêtées comme étant des indicatrices de la qualité des prognoses. De telles divergences doivent être interprêtées différemment pour les différents groupes de postes figurant au budget national et il faut tirer au clair les relations logiques et empiriques qui existent entre les divergences, c'est-à-dire qu'il faut essayer d'expliquer les causes de ces divergences.

Pour faire cela, il est utile de discerner entre trois groupes de variables, notamment la variable exogène, la variable d'état et la variable privée. Entre les divergences pour ces variables il peut exister à la fois des relations de définition et des relations de comportement économique. Les prognoses pour les groupes vari-

ables d'état expriment de quelle manière le gouvernement pratiquera les moyens économiques-politiques dont il dispose, en même temps qu'elles représentent des directives quantitatives aux organes subordonnés de l'état. Une partie des prognoses pour les groupes variables privés sont interprêtées comme but pour l'économie politique. Les divergences entre le budget et les comptes pour les groupes variables d'état et les groupes variables privés peuvent avoir cinq causes primaires, à savoir:

1) fausses prognoses pour variables exogènes;
2) mal-jugé des relations de comportement économique ou fausses conclusions logiques;
3) modifications dans la priorité réservée aux affaires concernant le bien-être social;
4) établissement d'un budget conjectural, c'est-à-dire que le budget n'est pas établi selon l'évolution à laquelle croit ou espère le gouvernement, mais ainsi que l'on estime qu'il doit être établi pour que les politiciens et autres agissent comme ils le doivent pour que le résultat soit tel que le désire le gouvernement; et
5) le budget établi ne se laisse pas réaliser en tous points.

Les divergences causées par (1) et (2) peuvent être signe que le budget a été mal établi, ce qui n'est pas le cas pour les divergences causées par (3)–(5).

L'explication des divergences entre le budget national et les comptes nationaux doit être basée autant que possible sur des modèles numériques déterminés. La difficulté est cependant que le budget national n'est pas établi à l'aide d'un modèle numérique mais par un processus de rapprochement dans un système de relations de définition. Intuitivement, on prend égard aux relations de comportement, mais en général elles ne sont pas formulées explicitement ou numériquement. Si l'on veut essayer d'expliquer les divergences, il faut, malgré cela, procéder autant que possible de la même manière que l'on le ferait si le budget national avait été établi à l'aide d'un modèle numérique déterminé.

Il s'agit avant tout de tirer au clair les relations de définition entre les divergences. En certains cas on pourra, en se basant sur la connaissance que l'on a de telles relations et de la connaissance que l'on a de l'importance des divergences en ce qui concerne les variables exogènes (éventuellement divergences en ce qui concerne à la fois les variables exogènes et les variables d'état) expliquer les divergences en ce qui concerne les variables privées. Mais souvent il restera des degrés de liberté qu'il faut conserver. Cela peut se faire en trouvant encore plus de relations entre les variables, relations qui décrivent la réalité le mieux possible. S'il était possible de trouver des relations numériques qui soient tout à fait réalistes et si l'on avait bien pris égard à ces mêmes relations lors de l'élaboration du budget national, l'introduction de chaque nouvelle relation éliminerait un degré de liberté. En réalité, aucune de ces conditions ne se trouve remplie, mais des approximations peuvent être faites.

Il a été donné un exemple de la manière dont on peut expliquer les divergences pour le produit national brut, importation et consommation totale, à l'aide de la relation de définition :

produit national brut + importation
= consommation + investissement brut + exportation,

et deux relations de comportement numériques, notamment une relation de consommation et une relation d'importation.

On se figure les divergences pour l'exportation (qu'il faut comprendre comme étant variable exogène) et l'investissement brut (qu'il faut comprendre comme variable d'état) comme données et égales aux divergences que l'on trouve pour ces variables en comparant le budget établi pour ces dernières avec les comptes et l'on prévoit les divergences hypothétiques pour le produit national brut, importation et consommation qui, selon le modèle, correspondent aux divergences réelles pour

l'exportation et l'investissement brut. L'importance de ces divergences hypothétiques peut être prise comme exprimant approximativement quel a été l'effet produit sur le produit national brut, sur l'importation et sur la consommation par le fait que l'exportation et l'investissement brut ont pris une autre évolution que celle avec laquelle il a été tenu compte dans le budget national.

Une analyse numérique selon ces données fait ressortir que les divergences hypothétiques pour le produit national brut, pour l'importation et pour la consommation prévues pour la période décennale 1947–1956 vont dans le même sens que les divergences réelles entre le budget et les comptes pour ces variables et dans de nombreux cas, les divergences hypothétiques ne sont pas loin d'atteindre la même importance que les divergences réelles.

Outre qu'ainsi on a pu illustrer le rôle important qu'ont probablement joué les divergences pour l'exportation et l'investissement brut en tant que causes primaires des divergences pour le produit national brut, pour l'importation et pour la consommation, on s'est aussi penché sur les autres causes primaires possibles de ces dernières divergences. De plus on a essayé d'expliquer les causes des divergences pour l'exportation et l'investissement brut à l'aide des renseignements qui n'entrent pas dans le cadre du modèle esquissé ci-dessus.

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