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Plans and reality

1 The need for testing

A plan is prepared partly as a result of forecasts made. Forecasting is a scientific technique, based on assumptions about the operation of an economy. Scientific thought is continuously developing and it is always possible for the techniques of science to be improved. There is a need to improve the technique used in economic planning by testing the assumptions made, in other words, by comparing the forecast development with the real development. It is partly because tests of this kind have been systematically applied that progress has been made in the most successful sciences. Far greater use has been made of accurate testing in the natural sciences than in social science. Economics can be said to fall between the two extremes. In the last ten years or so, however, more accurate methods have been increasingly applied to economics, and these can also be tested more and more, as a result of the great increase in statistical material. In this chapter, I shall discuss the comparison of plans and reality. This comparison is an example of a test of scientific methods, in this case, of planning methods.

The scientific importance of testing is, however, not the only reason why regular comparisons should be made between planning and reality. These comparisons also have a great practical value, and it is because of this that testing is of fundamental importance in planning. Insofar as the scientific method used is assumed to be correct, comparing the plan with reality also provides the means of appraising the efficiency of the development policy followed. In this respect, the same applies here as in the administration of any industry – by comparing the setting and the discharge of various jobs, the efficiency of individual persons, groups of persons and methods of working can be appraised, with the aim of increasing efficiency.

There is also a second important practical reason why the plan should be compared with reality. If the development policy is to be continued, new plans have to be prepared from time to time, and before this can be done, the starting-point of the new plan must be known. It is possible to regard this simply as a statistical

technique, but it is not entirely without importance to know whether or not the real situation is lagging behind the target one had hoped to achieve in the earlier plan. If it does in fact lag behind the planned target, this can be taken into account in the new plan. A decision either to aim at increased development or else to adapt the plans to the existing reality will, of course, depend on the reasons for the failure to reach the target and on the nature of the authorities concerned.

2 The testing of one-year plans in developed countries

At present, however, there has been very little material collected, with the result that it is difficult to obtain an overall picture of the difference between plans and reality. The Soviet authorities, who first pioneered economic planning, were far too concerned, especially in the early days, with defending their planning to publish any objective facts about their more serious failures. The plans were – and still are – repeatedly adjusted to fit in with the real situation in the case of any great difference between the two. Western research workers who have studied the Soviet economy have again and again been presented with conflicting intentions and have only very gradually succeeded in pursuing more objective research. Even so, a comparison between plans and reality is far less usual than a comparison between the Russian calculation of the total growth figures and the Western calculation.

A. Szász has recently written a paper on the extent to which Soviet economic planning has been realised in fact, and Table 13 (page 202) was prepared by him.[18] The most important conclusions that all the experts who have studied Szász' figures have come to are that it is in the field of agriculture that a serious problem exists in the Soviet Union and that this problem far transcends the fluctuations that are always likely to occur in agriculture as a result of weather conditions.

In this chapter, however, it seems preferable to compare plan and reality in the non-communist countries, although the Western

Table 13. Planning and reality in recent years in the Soviet Union (average annual growth-rate).

	Net national income	Industry				Agriculture
		Total	Producer goods	Consumer goods	Productivity	
1963: Plan	7	8	8·5	6·3	5·6	
1963: Reality	3[1]	8·5	10	5	5	
Seven-year Plan (1959 up to and including 1965)	7–7·5	8·6	9·3	7·3	5·5–6	8
Reality (1959 up to and including 1963)	6·2[1]	9·6	10·8	7·2	5·4	1·7[2]
Ten-year program (1961–70)	9·6	9·6			7·2	9·6
Reality 1961–3	5·3[1]	9·0	10·3	6·3	5·0	2·0[3]

[1] Calculated from an article in Pravda, 13 January 1964
[2] 1959–62
[3] 1961–62

experience of planning is considerably shorter than in the Soviet Union, since planning did not begin in the West until after the Second World War. It is, of course, short-term or one-year planning that provides the best basis for a comparison of this kind. The most accurate analyses that have been made are those relating to certain developed countries in north-west Europe.

A detailed and very thorough study of the accuracy of the forecasts made in the Scandinavian countries and in the Netherlands has been published by H. Theil.[19] Some of his results, in a very abbreviated form, are given here. The Scandinavian forecasts are for the years 1949–52 and the Dutch forecasts for 1949–53.

A first characteristic of these forecasts was that the changes were in general underestimated quantitatively. On an average, 70 per cent of the real changes were forecast in the case of the Dutch economic variables and 55 per cent in the case of the Scandinavian variables. In the case of changes of direction in the trend, which can never be forecast by extrapolation and are thus a criterion for more sophisticated forecasts, thirteen out of fourteen changes were correctly forecast for Holland, although five others, which did not occur, were incorrectly forecast. For the Scandinavian countries, fifteen of the twenty-one turning-points were correctly forecast, but three others were incorrectly forecast.

A third criterion was found in the number of cases of an accelerated or retarded development that had been correctly forecast. A total of ninety-one cases was considered in the Netherlands. Of these, seventy-one were correctly forecast, whether the development had been accelerated or retarded. In the Scandinavian countries, sixty-two correct forecasts were made out of seventy-four cases.

C. van de Panne, in another study,[14] gives figures for a number of variables showing the measure of success achieved. This is expressed as a 'disparity' coefficient which becomes 0 if the forecasts are completely correct, and 1 if there is a negative correlation between the forecast and the real changes in the series. Van de Panne gives the following figures for the disparity coefficient (table 14):

Table 14. Disparity coefficients for the forecasts of a number of economic variables in the Central Economic Plans of the Netherlands, 1949–55.

Price index of goods imported	0·07
Indirect taxation less subsidies	0·12
Employment by the State	0·15
Value of goods exported	0·18
Price index of consumption	0·21
Value of consumption	0·22
Price index of goods exported	0·24
Production in the building industry	0·24
Value of goods imported	0·24
Employed population	0·26
Volume of goods exported	0·29
Volume of goods imported	0·30
Employment in industries	0·31
Industrial production	0·31
Volume of consumption	0·32
Material government expenses	0·33
Value added in business	0·35
Government salaries and wages	0·38
Net investments	0·38
Production per worker in industries	0·38
Surplus on the balance of invisibles	0·40
Value of invisibles exported	0·51
Value of invisibles imported	0·68

From this table, it can be seen that the Dutch planners achieved a good result in their forecasts of most of the price indices, employment by the state, consumption, indirect taxation, the imports and exports of goods and production in the building industry. Their results were bad in the imports and exports of invisibles and the balance of invisibles, productivity, investment and government salaries. This can partly be explained by the nature of the movements in these variables. Prices are determined by the prices prevailing for some time previously abroad, employment by the state, production in the building industry and consumption by delayed reactions to the variables on which they depend. Freights in tramp shipping are, on the other hand, a very sensitive and fluctuating variable and, like investment, determined by 'expectations' that are difficult to measure.

In section 4, I shall consider further the conclusions that can be drawn from a comparison between planning figures and reality.

3 The testing of long-term plans in developing countries

Although it is advisable to make an annual comparison between the planning figures for the developing countries and the actual situation, no real conclusion can be drawn from such a comparison until after a number of years. Developing countries are influenced to a far greater extent by chance fluctuations in the harvest than developed countries. The carrying out of a plan or program is also far more subject in these countries to retarding factors – this applies especially to the essential factor of 'learning' in so many less developed areas.

Most developing countries have been engaged on their plans for too short a time for us to be able to come to any real conclusions. Colin Clark broke new ground with his remarkable attempt to forecast the development of the whole world in his book *The Economics of 1960*, published as long ago as 1942. Sufficient time has elapsed for his forecasts to be checked – and he himself has undertaken much of this work – but in view of the fact that the

war had scarcely begun when he published his figures, he can hardly be blamed for the marked differences that exist between his prognosis and reality.

India was the first of the larger developing countries to undertake serious planning and is already working on a Fourth Five-year Plan. The First Five-year Plan came into operation in 1951. Three plans have already been completed and the Fourth Five-year Plan for 1966–71 is now being carried out. The plans are regularly tested by the Indian government. Similar tests are carried out by several other countries, such as Venezuela, which has had a good plan for some time. A very interesting test of the plans in the area covered by the Economic Committee for Asia and the Far East (ECAFE) was published in the *Economic Bulletin for Asia and the Far East XII* (Dec. 1961). Table 15 was taken from this article, which was entitled 'Economic Development and Planning in Asia and the Far East'. It provides one of the most extensive surveys that has hitherto been published.

It is clear from this table that Japan shows up particularly well, having constantly exceeded the planning figures in reality, and that India, Pakistan and Indonesia have been rather less fortunate. Economists are by no means unanimous in their verdict on the Japanese 'economic miracle'. It is somewhat easier to judge some of the set-backs experienced by the other countries.

One of the most important factors that have played a part in the poor showing of these countries is an increase in population far exceeding initial expectations. Secondly, the fact that the target set by India's First Five-year Plan was surpassed, but that the target set by the Second was not achieved can be attributed to good harvests in the case of the first period and to bad harvests in the second. The harvests also had a favourable influence on savings in the first five-year period and an unfavourable influence in the period of the Second Five-year Plan. Finally, India received far less foreign aid during the Second Five-year Plan than she had hoped for. During the period of the Third Five-year Plan, this factor has been far more favourable. Despite this, however, the

Table 15. Average annual increase, expressed as a percentage, of the national income (in constant prices) *Y* and the income per head (idem) *y*, according to the plans and in reality, in a number of Asian countries.

		Plans		Reality		
Country	**Period**	*Y*	*y*	*y*	*Y*	**Period**
Burma	1952/3–1959/60	7·4	6·2	3·6	4·6	1952/3–1959/60
Taiwan	1957–60	7·4	3·7	3·0	6·4	1957–59
India	1951/2–1955/6	2·1	0·9	1·6	3·4	1951/2–1955/6
	1956/7–1960/1	4·6	3·3	1·5	3·7	1956/7–1960/1
Indonesia	1956–60	3·0	1·3	−0·6	2·1	1956–59
Japan	1953/4–1959/60	4·5	3·7	6·7	7·8	1953/4–1959/60
	1955/6–1961/2	6·5	5·7	8·2	9·2	1955/6–1959/60
Pakistan	1955/6–1959/60	2·8	1·4	0·2	2·1	1955/6–1959/60
Philippines	1956/7–1960/1	6·0		1·8	5·0	1956–59

production figures have still lagged behind the planning figures, both in agriculture and in heavy industry. Industrial production rose by about 8 per cent between 1962 and 1963, instead of by 11 per cent, which was the planned increase.

4 A more precise analysis of the differences between planning figures and real figures

As I have already briefly indicated, it is obvious that the primary purpose of any comparison between planning and reality is to

check the carrying out of the plan. In addition, it is also important to know to what extent the scientific methods used in planning can be improved. I propose, in this section, to consider the inter-relationship of these two questions in rather more detail.

The figures that play a part in the calculation of an economic variable such as the national income fall into three categories: 1 Certain figures relating to the so-called uninfluenceable data, such as the increase in population, technical development and the growth of the world market, are used as a basis, to which are added 2 the values of the instruments of economic policy, such as tax-rates, import duties and government investment. 3 Finally, with the help of certain coefficients, such as the elasticity of demand and the propensity to import, which give an indication of the structure of the economy, the variable that is to be forecast is calculated – in the example that I have taken, this is the national income.

The 'errors', in other words, the differences between the planning and the real figures, can similarly be classified under three different headings. 1 There may be errors in the forecast made of the values of the data. These are purely forecasting errors, but not in principle errors in the national model that has been used. 2 There may be differences between the values of the variables which the planning office has recommended as instruments of policy and the values of the instruments actually chosen. If the policy recommended by the office was the correct one, these may be 'errors' in government policy. They may, however, also be the result of a difference of opinion between the office and the government. 3 Finally, there may also be errors in the value of the coefficients. These must be regarded as errors in the method of planning used, and there may consequently be a need to improve the method.

It is possible to divide part of the first kind of error between the second and third categories of error, that is, differences between the policy assumed by the planning office and the real policy (but in that case by foreign authorities) and differences in the values of the coefficients (but in that case for models for abroad or

for subjects other than economic ones). Another part of the error may be due to erroneous observation, for example, faulty figures concerning the increase in population. As we have already seen in section 3, some of the disappointments in the economic development of Asian countries can be ascribed to too low figures for the increase in population.