

Planning and International Integration in Soviet Germany

I

For the past ten years, the so-called German Democratic Republic has developed into an increasingly powerful member of the Soviet bloc. Yet remarkably little attention has been paid to it, and a remarkable amount of misinformation and, as a result, misinterpretation is current about both achievements and failures. Communist propaganda, on the one hand, pictures development in East Germany as a triumph of socialist planning over inherited backwardness from "feudal" prewar days and the damage of war and partition. The free economists play into the hands of the communist propagandists by accepting without question either premise, and by either seeing in every achievement the result of planning, or in every failure the proof of collapse.

Reality is more complicated and much more fascinating. The fact that the economy has not collapsed and is producing goods in increasing quantities, hardly proves anything one way or another. The area of the German Democratic Republic was an highly industrialized advanced area before the war, but of course part of a highly integrated larger area. The planners could build on inherited know-how, work with a disciplined and highly skilled labour force, build on a productive diversified agriculture, and they controlled an area endowed abundantly with lignite and potash, and some copper. It is also clear that, technically, electric power or sulphuric acid is produced by methods which depend as much on technology as on social organization. Provided there is a skilled labour force and technical know-how, production will proceed, even if the social organization — read planning — makes economic input-output relations (as distinct from the technical ones) relatively inefficient.

The East German case is interesting in yet another respect. Bombing and war damage, and particularly post-war dismantling, were severe, and the economy had to be rehabilitated before it could develop. Yet it is interesting to note that the planners tried originally to impose a pattern of industry upon East Germany which, understandably enough, wrenched it away from its prewar structure but which less understandably tried to copy the Soviet pattern of preference for heavy industry and, within heavy industry, for iron and steel and heavy machinery.

Yet the resource endowment of East Germany hardly makes it a good location for these industries compared with the traditional heavy chemicals and the lighter machinery output of the electrical and fine mechanical industries, which were only recently increasingly pushed. It is easy enough to understand why the growth conscious ideology of communist planning should slight consumer goods industries in favour of development goods: it is after all dogma that growth requires the faster development of producer goods over consumer goods industries. But the bias in favour of the heavy metallurgical industries in the absence of the necessary raw materials is another matter. This, I believe, can only be explained by the fact that the East German planners had to learn how to plan; that while learning they copied the Russian pattern; and that the development of socialism in one country had made the planners neglect the problems of planning the international trade among socialist countries. The Leninist doctrine that international trade meant exploitation was hardly conducive to the development of a socialist theory of international trade.

Obviously when it is stated, quite correctly, that planning has an autarkic bias, it does not mean that trade did not exist, or even that trade did not increase. To make the point, it is good to recall what classical international trade theory — whether of the Ricardian or modern kind — does. Given the resource endowment and technology as well as the pattern of demand, the market will lead *simultaneously* to an optimal pattern of trade *and* of production. Until recently, in the socialist system of planning the pattern of production was planned independently of the pattern of international trade, and the pattern of trade was then adjusted as well as could be. Only recently have planners become aware of the problem of planning production in an international context and some of the

recent decisions can only be understood in this context. Thus the expansion of the chemical industry in East Germany, the fact that the steel and heavy metallurgical industries are not to expand very much further, or that the production of precision machinery, of fine mechanics and the like, is to expand, makes perfectly good sense both for East Germany and the Soviet bloc as a whole even though it raises political difficulties within areas which for years and decades have been told that it was a mark of imperialist exploitation not to have a *full* complement of industries.

II

What has been the actual development in East Germany, and how are we to interpret it? In my recent book (1) I have given a detailed account of the methodology employed in calculating the gross output of the East German economy, with the results for the years 1936, and 1950-1958, and I do not wish to repeat myself here. I present however some results for 1959, calculated by the same methods and in the same prices as the earlier calculations. The Gross National Product of East Germany in 1936 prices and with East German coverage in 1959 reached a level of 137.8 per cent of 1936, and of 184.2 per cent of 1950 when the first Five-Year Plan was launched. In 1950 prices the percentages are 130.5 per cent and 183.4 per cent, respectively. This respectable achievement becomes even more so when it is remembered that the East German labour force has been substantially stable since 1954.

The achievement however is best put into perspective by several comparisons. In the first place, the East German population is declining because of a steady stream of migrants to the West. In the first half of the last decade this has primarily meant that the East German economy could shift the burden of unemployment to the West German economy. In more recent years as unemployment has vanished, the flight of people has increasingly become a limit to possible achievements. Still, there are economic compensations to what is the most severe political indictment of the regime: more

(1) *The Structure of the East German Economy*. Wolfgang F. Stolper, assisted by Karl W. Roskamp, Harvard University Press, Cambridge, Mass., 1960.

capital than with a growing population is available to raise productivity, less is needed for social overhead or just for creating employment. Housing has been badly neglected in East Germany, in common with the practice in other communist countries. A declining population makes the lack of housing somewhat less serious than it would be otherwise. But the shortage of labour which has developed is undoubtedly one of the most powerful factors that have induced the East German planners, and perhaps the bloc planners, to modify their methods.

Secondly, while the East German achievements are impressive, those of the West German economy built on a pattern of a free economy modified by a social conscience are even more so. The West German economy has grown even faster. To be sure, the West German economy benefited from a larger labour force, and the continuing flight of East Germans to the West which, in the early years, had been a burden has now, with the approach of full employment, become a boon. Still, it would be a serious mistake to see the comparative developments in the two economies merely as the result of differential movements in the respective labour forces.

Thirdly, there are similarities and differences in the patterns of growth of the two economies which are interesting and which shed some light on the efficiency of East German development. In both economies, industry has grown more rapidly than most other sectors; I omit from the comparison the service sector because data for East Germany are relatively less abundant and hence less easy to interpret. Nevertheless, even in East Germany, so-called non-productive employment has grown and in 1959 was, absolutely and percentage-wise, bigger than in 1936 when the labour force had been larger.

In both economies construction has increased, but in the East the increase compared to prewar was about 50 per cent, whereas in the West it was about 100 per cent, mainly because of the substantially different development in housing. In both economies the transport sector grew substantially. But only in West Germany has the volume of agricultural production increased over 1936, while in East Germany it is still below the prewar level.

A similar characteristic difference in the development of the two economies can also be detected in the change of the structure of the manufacturing sector alone. Electricity generation has more

than doubled in East Germany, but it is almost five times the prewar level in West Germany. To be sure, East Germany before the war had the highest per capita electricity consumption in Europe, and its heavy chemical industries as well as its aluminium and magnesium capacities were exceedingly heavy power consumers. But West Germany has caught up in per capita consumption and, unlike in East Germany, plant is not run as intensively and consumers are not kept short.

Only in mining and gas production has East Germany grown as much as West Germany in the aggregate, and faster on a per capita basis. But this reflects as much the emphasis on the heavy industry base as it does the fact that West Germany can import freely cheaper sources of fuel which in East Germany must be produced at home. In other words, the very performance of this sector is a sign of a relatively inefficient international integration of the East German economy. Just the same, the sector has grown significantly and at least one output — potash — is an important foreign exchange earner.

In both economies, the investment goods industries have grown vigorously but, again, West German growth has been faster. In the growth of manufactured consumer goods we find again the typical communist pattern: a decline below the prewar level compared with a substantial increase in West German output.

It would be tedious to go into further details which any interested reader can find in my book. Suffice it to say that, we find in East Germany a vigorous advanced communist economy which, nevertheless, is out-produced by the comparable West German economy, and whose achievements along some lines are purchased by a very disappointing performance in other lines.

III

One way of getting at the efficiency of the West and East German economies is to compare their distributions of the labour force among the major economic sectors with the corresponding distributions of their Gross National Product; albeit such comparisons can only be rough they do tell us an interesting story in which both the similarities and the differences are of equal interest. First,

compare the percentage distribution of the labour force in 1950, 1957 and 1958 or 1959 in West and East Germany:

TABLE I
PERCENTAGE DISTRIBUTION OF THE LABOUR FORCE AMONG MAJOR SECTIONS OF WEST AND EAST GERMANY, 1950, 1957 AND 1958

| | 1950 | | 1957 | | 1958 | |
|---------------------------------------------------|------|------|------|------|------|------|
| | W.G. | E.G. | W.G. | E.G. | W.G. | E.G. |
| Agriculture | 25.5 | 26.6 | 16.9 | 19.1 | 15.9 | 18.1 |
| Industry (including producing artisans) | 31.6 | 38.2 | 40.5 | 42.4 | 46.2 | 41.9 |
| Construction | 7.7 | 5.3 | 7.0 | 6.1 | 6.1 | 6.1 |
| Transport and Communications | 15.4 | 6.1 | 19.5 | 6.5 | 19.3 | 6.5 |
| Trade | | 8.5 | | 11.3 | | 11.6 |
| Other | 16.8 | 15.2 | 16.1 | 14.5 | 18.6 | 16.2 |
| | | 14.6 | | 17.8 | | 18.1 |

Sources: Statistical Yearbooks of the Federal German Republic, and of the German Democratic Republic.

Contrast this distribution with the corresponding distribution of the Gross National Product:

TABLE 2
PERCENTAGE DISTRIBUTION OF GROSS NATIONAL PRODUCT BY MAJOR SECTORS OF WEST AND EAST GERMANY, 1950 AND 1958-59

| | 1950 | | 1958-59 | |
|---------------------------------------------------|-------|--------|---------|--------|
| | W.G.* | E.G.** | W.G.* | E.G.** |
| Agriculture | 9.3 | 11.6 | 6.7 | 12.6 |
| Industry (including producing artisans) | 43.2 | 44.0 | 49.0 | 53.5 |
| Construction | 5.4 | 3.4 | 5.3 | 6.4 |
| Trade | 14.0 | 12.9 | 13.8 | 9.8 |
| Transport and Communications | 7.4 | 7.7 | 6.7 | 8.4 |
| Other | 20.7 | 14.4 | 18.5 | 9.3 |

* In 1954 prices. ** In 1950 West German prices.

Sources: Statistical Abstract of the Federal German Republic, 1960. STOLPER-ROSKAMP, *The Structure of the East German Economy*, Table 163, p. 418.

Industry, agriculture and transportation contribute relatively more to the Gross National Product in East than in West Germany.

In both East and West Germany the percentage contribution of agriculture to Gross National Product has fallen as the labour force has declined. We can measure the relative improvement in the output per man in the various sectors by dividing the percentages in Table 2 by the corresponding percentages in Table 1. (See Table 3).

TABLE 3
RELATIVE CHANGE IN THE OUTPUT PER MAN IN MAJOR SECTORS
OF WEST AND EAST GERMANY 1950 AND 1958

| | 1950 | | 1958 | |
|-----------------------------------------------------------------------|-------|-------|-------|-------|
| | % | % | % | % |
| | W.G. | E.G. | W.G. | E.G. |
| Agriculture | 36.3 | 71.5 | 41.5 | 70.0 |
| Industry (including producing artisans) and Construction | 124.0 | 109.0 | 118.0 | 125.0 |

There has been a substantial improvement in the relative productivity of agriculture in West Germany with virtually no change in the East. The *relative* productivity of industry, on the other hand, has improved considerably in the East, while in the West it has declined a little. It is also remarkable that output per man in agriculture and industry are much closer to each other in East than in West Germany.

The interpretation of these figures becomes clearer when we compare output per man. (Lack of data for East Germany makes a comparison per man-hour unfortunately impossible). Gross National Product per man in industry can be estimated to have been about DM. 14,000 in West Germany in 1958, and about DM. 7,000 in East Germany, both measured in the same 1950 West German prices (2). In 1950, a West German output of about DM 10,000 compared with an East German output of about DM 4,600. Thus, while productivity in the sense of output per man has increased in East Germany relative to West German achievements, it is still only half the West German level. The contrast would probably be greater if output per man-hour were used. In agriculture, the

(2) See STOLPER-ROSKAMP, *op. cit.*, pp. 272-273.

contrast between the output of an East German and a West German farmer is not as great: East German efficiency may be estimated at about 75 per cent of West German efficiency.

The figures indicate therefore that the efficiency of the East German economy is noticeably below that of the West German economy. One reason for the difference in performance has been undoubtedly that the investment ratios have for many years been higher in West than in East Germany. But this cannot be the whole story, for the ratios of Gross Fixed Investment to Gross National Product have been of the same order of magnitude since about 1953 or 1954 when reparations were abolished. The answer must lie, at least in part, in the inefficiencies of planning, in the less efficient distribution of investments which, in turn, appear to be connected with the less efficient international integration of East Germany into the Soviet bloc.

IV

Admittedly this is not the whole story, and admittedly our knowledge of the distribution of investments is very scant. Professor Roskamp and I have made some estimates of the import and export structure of East Germany for 1956 and 1959, and we have also made some estimates of the distribution of investments (3). For the present context, it is relevant to state that the distribution of imports and exports has changed in recent years as the performance of the economy has improved. (See Table 4).

Metallurgical imports have increased relatively, as the metallurgical base of East Germany has ceased to expand at a great rate; imports of mining products have increased relatively, as production has shifted more to the traditional labour intensive products. This is most startlingly shown by the sharp increase in the relative importance of the exports of light industries, for which East Germany was a traditional location, while the other traditional exports — machinery and electrical goods as well as chemicals — have maintained their relative importance.

(3) WOLFGANG F. STOLPER and KARL W. ROSKAMP. An Input-Output Table for East Germany with Applications to Foreign Trade, unpublished. A few copies are available in dittoed form from Prof. Roskamp, Department of Economics, Wayne State University, Detroit, Michigan, U.S.A.

Despite this shift toward the traditional more labour intensive industries, the international integration of East Germany into the Soviet bloc continues to cause trouble. This obviously does not mean that the East German economy is near collapse. People who talk continuously of crises and breakdown interpret the undoubted sign of creaking and inefficiencies in what has come to be known as a

TABLE 4

PERCENTAGE DISTRIBUTION OF IMPORTS AND EXPORTS
FOR EAST GERMANY, 1956 AND 1959

| Category | 1956 | | 1959 | |
|---------------------------------|---------|---------|---------|---------|
| | Imports | Exports | Imports | Exports |
| Mining products | 11.8 | 6.4 | 9.6 | 6.3 |
| Metallurgy | 12.0 | 0.9 | 4.6 | 0.9 |
| Chemicals | 5.3 | 14.8 | 5.8 | 13.8 |
| Building materials | 2.3 | 0.7 | 3.1 | 0.2 |
| Light industry | 16.4 | 14.1 | 17.4 | 20.1 |
| Food, drink, tobacco | 23.1 | 0.9 | 22.9 | 4.0 |
| Agricultural products | 16.9 | 1.2 | 17.1 | 0.4 |
| Engineering products | 0.9 | 44.2 | 2.1 | 43.2 |
| Fine mechanics | — | 11.7 | — | 6.2 |
| Electrical goods | — | 5.7 | — | 5.1 |

“high pressure economy” in the manner of a market economy. The fact that consumer goods are in short supply is unpleasant for the population, but not of major concern to the planners. In truth, if I may be permitted an obiter dictum, the consumer is the safety valve which enables the planned economy to work without proper planning. One would think that planning could not proceed without the systematic setting up and solving of a great number of input-output equations to ensure that not only individual projects are properly planned but that the plan, as a whole, is consistent and does not run into “unplanned” snags. This is apparently not the case. The planners have however two important methods of correction. One is the revision of the plan and the working out of annual and even shorter-period plans. This may be interpreted — perhaps somewhat charitably — as the solution of a system of planning equations by successive approximation. The other method is to adjust what is available for consumers according to the performance

of the economy. Although consumption is on principle as much as “planned” as the rest of the economy, it is the sector which bears the brunt of any shortfall. This is, perhaps, mathematically equivalent to introducing another degree of freedom into the system of equations.

International trade and the implied national distribution of investments and production cause, of course, particular trouble. This has been recently emphasized by the fact that the economic plan for 1961 was once more late in being formulated. “*Neues Deutschland*” of March 1961, published a speech by Bruno Leuschner on the “Sketch of the Economic Plan for 1961”. This speech explicitly stated that the plan was being discussed “later than usual. The reason is that a number of questions, particularly the deliveries of important raw materials and questions of foreign trade, could not be resolved before the end of 1960”.

This remarkably frank statement is followed by another sober recital of difficulties. That the East German economy has absorbed all its available manpower is well known. Yet the manner in which the problem posed by full employment is to be solved omits two important methods used as a matter of course in a market economy. The one would be to improve the performance of agriculture so that more of the considerable number of workers still employed in this sector can be released for other employment. Table 2 shows that East Germany employs about twice the percentage of the labour force in agriculture than West Germany. The 1961 plan as described by Leuschner is silent on this point. We may guess that this is not unrelated to difficulties of planning additional “unessential” food imports. While total investments are stated to be DM. 1.5 billion bigger than in 1960, not one word is said about the allocation to agriculture.

A second method which a market economy uses would be, of course, a shift in the structure of manufacturing output toward less raw material intensive products. Such a shift is undoubtedly taking place, as Table 4 indicates. The plan for 1961 is however silent on this point. It states frankly: “Our raw material needs increase rapidly. We have no basis of our own of crucial industrial raw materials. Thus we were in the last years unable to solve satisfactorily the problem of adequate supplies of certain high grade rolled steels for our engineering industries. This caused complications and

prevented the continuous flow of work.... We have in the last two years built much more than ever before. Yet our construction industry has not developed as quickly as would have been necessary in order to expand important industrial capacities and reconstruct our cities and housing.... The shortfalls in construction during the past few years have been caused, among other reasons, by the fact that we have as yet been unable to make sufficient machinery and construction steel available”.

The solutions to these frankly stated problems are all sensible, but they do not go to the heart of the problem. It is obviously sensible to raise labour productivity by introducing new techniques; it is obviously sensible to standardize as much as possible. The inventories kept in the East German (as in the Russian) economy are enormous by Western standards, and it is obviously rational to try and save raw materials and spare parts by reducing inventories. (Leuschner gives a particularly horrendous example of the case of one firm which ordered 1,500 spiral drills of a particular size although it used only 91 in eight months. He did not add that that firm probably expected to get only 150!). It is also sensible to try and rationalize investment activity, a field which is stated to be particularly backward. It is sensible to try and utilize existing capacities more efficiently. It is even sensible, though it must hurt to make this decision, to scrap the whole aircraft industry — started with great fanfare only a few years ago — in order to free essential machinery for other uses. It is inevitable and sensible from the standpoint of the planners to reduce the planned imports of cocoa, coffee and oranges below the originally envisaged levels in order to save foreign exchange for the higher priority special steels.

But the crucial problem is evidently how to utilize the available resources best in an international context. The problem of the East German economy is, in this respect, not unlike that of many an underdeveloped country which is trying to increase its production beyond its capacities and is running into balance of payments troubles. But the problem in East Germany is aggravated by the fact that, despite partially successful attempts at international co-ordination of planning within the bloc, no successful substitute for even a poorly working world market has been found. The international integration within the bloc has remained essentially on a “project” basis: a series of agreements state specifically that certain

members of the bloc will produce certain outputs. Now obviously, any plan ultimately must be resolved into specific projects and items — this is true in a market economy as much as in a planned economy. But even adding up all “projects” does not make a whole plan, nor does it give a consistent picture because of the many indirect repercussions and adjustment processes within an economy which a market takes care of — not very efficiently to be sure — but which the planned economy has not solved even as well.

V

It is absurd to assert that the continuous crises of the planned economy spell its collapse. The East German economy works, but it works much less efficiently than the planners wish us to believe. The growth rates are impressive, but they are surpassed by West Germany or Japan. Output per worker is poorer than in the comparable West German economy, and it is likely that a comparison of output per man-hour would be even less favourable to the planned economy. Most of the excuses for the poorer performance will however not stand up upon analysis. The tightness of the labour situation in East Germany is matched by the West German employment record, where open positions exceed registered unemployed and foreign workers fill vital gaps. But whereas the West German economy has been integrated into an expanding world economy, the East German economy suffers from the fact that the growth of the member nations of the bloc has not led *pari passu* to an equal improvement in its international integration. Finally, planning itself is not all it is supposed to be in the text book. Russia recently had to crack down on its “capitalists”. Leuschner in his report stated that investments in East Germany were limited by the capacity of the construction industry, adding that too much construction took place outside the plan.

The East German economy is a fascinating example of a successful planned economy. The fascination stems from the fact that it is to such an enormous extent comparable to the West German economy. It has a common history and culture; it started from a similar economic structure; its factor endowment was broadly similar except for soft coal of metallurgical quality. Its investment ratios since 1955 have become similar to those in West Germany;

its employment record is similar. The degree of literacy, of education and research are similar. Yet the impressive East German per capita growth rates are less than in West Germany; the standard of living is noticeably lower; the output per man is significantly less. The reasons for the differences in the performance of the East and the West German economies must be due to the fact that planning works poorly for adaptive processes — “continuous changes in the plan hinder the initiative” as Mr. Leuschner has put it — and it works no better than the market for motive processes and that, in particular, no efficient plan substitute has yet been found for a world market.

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