SECRET

No 78

50X1

Economic Intelligence Report

EAST GERMAN ECONOMIC PROSPECTS AND POLICIES THROUGH 1965

CIA/RR ER 62-10

April 1962

CENTRAL INTELLIGENCE AGENCY

Office of Research and Reports

50X1

SECRET

SECRET

50X1

Economic Intelligence Report

EAST GERMAN ECONOMIC PROSPECTS AND POLICIES THROUGH 1965

CIA/RR ER 62-10

WARNING

This material contains information affecting the National Defense of the United States within the meaning of the espionage laws, Title 18, USC, Secs. 793 and 794, the transmission or revelation of which in any manner to an unauthorized person is prohibited by law.

CENTRAL INTELLIGENCE AGENCY

Office of Research and Reports

50X1

SECRET

50X1

CONTENTS

Page

Appendix

Tables

Charts

EAST GERMAN ECONOMIC PROSPECTS AND POLICIES THROUGH 1965*

Summary and Conclusions

The object of East German economic policy in the early 1960's, as formulated 2-1/2 years ago in the Seven Year Plan (1959-65), was to "demonstrate the superiority of socialism" by "overtaking and surpassing" West Germany in output and consumption per capita. This object, which has long been an obsession with Walter Ulbricht, the head of the East German Communist Party, is far beyond the reach of East Germany. During the first 3 years of the plan period (1959-61), output per capita has actually grown more slowly in East Germany than in West Germany. On the average the total output rose by more than 7 percent per year in West Germany as against about 4 percent in East Germany, and even on a per capita basis the difference is still significant (about 4.5 percent for East Germany as against about 6 percent for West Germany).

Although Ulbricht was in dead earnest about catching up with West Germany, he saw this objective only as part of the over-all objective of "demonstrating the superiority of socialism," which also calls for the creation of a full-fledged "socialist state." He was equally impatient to achieve this aim, and the steps taken to achieve it -- in particular, the abrupt decision of early 1960 to force all private peasants into cooperatives -- have interfered with economic growth. Probably the most serious disagreements within the regime have arisen over Ulbricht's refusal to acknowledge or perhaps even to realize the economic costs of his social and political program.

Ulbricht is not likely to acknowledge his mistakes in economic policy, least of all during the Berlin crisis. But a general reconsideration of the plans for the next few years can hardly be avoided. Some reductions have already been made in the goals for 1965. Other reductions will be made, although the regime doubtless will do its best to minimize and explain away the divergence between actual economic growth and that projected in the Seven Year Plan.

During the years 1961-65 the economic growth of East Germany will be slower, perhaps considerably slower, than during the years 1956-60, when gross national product (GNP) increased at an average annual rate

* The estimates and conclusions contained in this report represent the best judgment of this Office as of 1 March 1962.

of about 5 percent. East Germany is capable of maintaining an annual rate of growth of about 4 percent in the next few years. The actual rate is rather more likely to be below than above this figure, given the political and social difficulties resulting from collectivization and the Berlin crisis. The rate will not fall below 3 percent unless East Germany, contrary to expectations, has to bear the main cost of a long Western embargo. Even if there is no Western embargo, however, the rate will not rise above 5 percent unless the USSR, as is always possible, extends credits to East Germany on an unprecedentedly large scale.

In the Seven Year Plan, on the other hand, a rate of growth of about 7 percent (in Western terms*) was projected. Output in industry and handicrafts was to increase at about 9 percent per year as against an actual average rate of about 7 percent during the years 1956-60 and an estimated prospective rate of about 6 percent for the years 1961-65. The relation between the actual growth of industry and GNP in 1956-60, the actual West German growth in the same period, the prospective East German growth in 1961-65, and the growth projected in the Seven Year Plan are shown in the chart, Figure 1.**

The growth of the East German economy since 1955 has been greatly stimulated by the ending of Soviet exploitation (still fairly heavy in 1955) and the extension of considerable Soviet credits. The effect was an abnormal increase both in the availability of basic materials and in allocations to investment, which were more than doubled during the 5-year period. The increase in availability of materials had a more immediate effect on economic growth (though somewhat delayed by the disruption of trade with Poland and Hungary in 1956). Not only in manufacturing but also in construction and agriculture, a rapid addition to material inputs resulted in a fuller use of capital and labor. This increase in efficiency, together with the rising rate of additions to fixed capital, accounts for the spurt in output during the years 1957-59, which represented a last delayed burst of recovery from the effects of World War II and postwar occupation and partition.

The economic situation of East Germany is less favorable to economic growth in the early 1960's than it was in the latter 1950's. Even if the East Germans do not have to settle their indebtedness to the USSR by 1965, Soviet aid is unlikely to provide a stimulus to growth comparable with the lifting of the burden of Soviet exploitation in the latter 1950's. The rate of additions to fixed capital will be

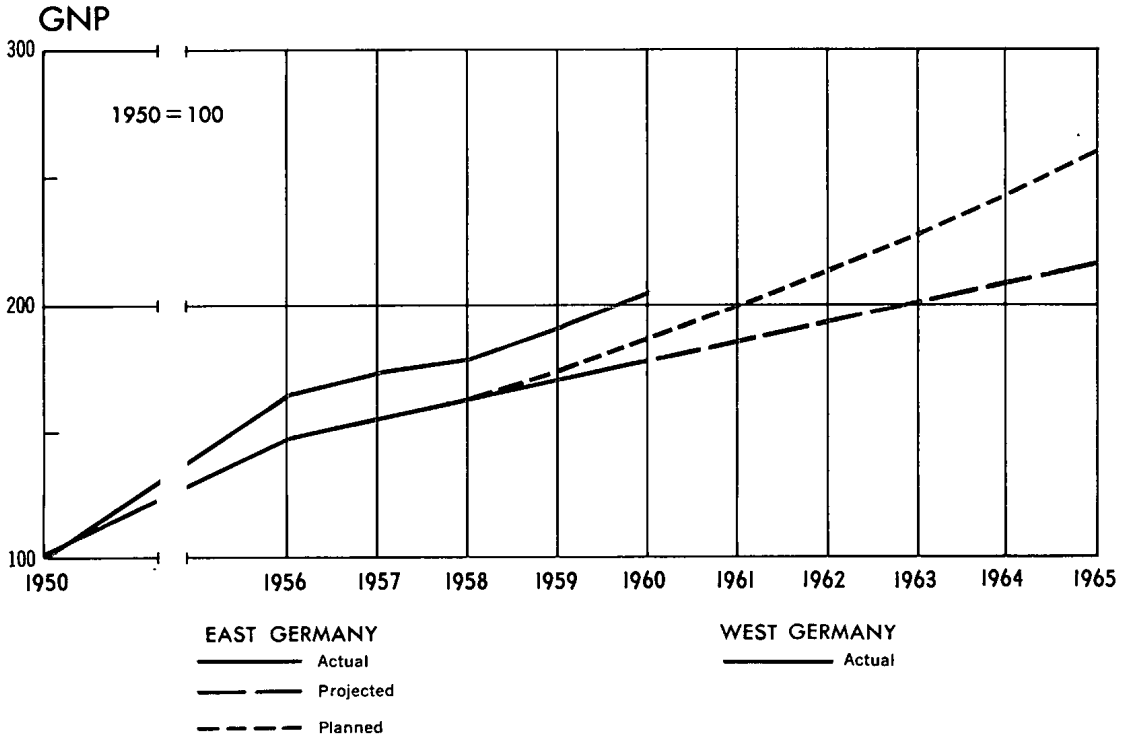
* Western concepts of national accounts are used throughout this report unless otherwise indicated.

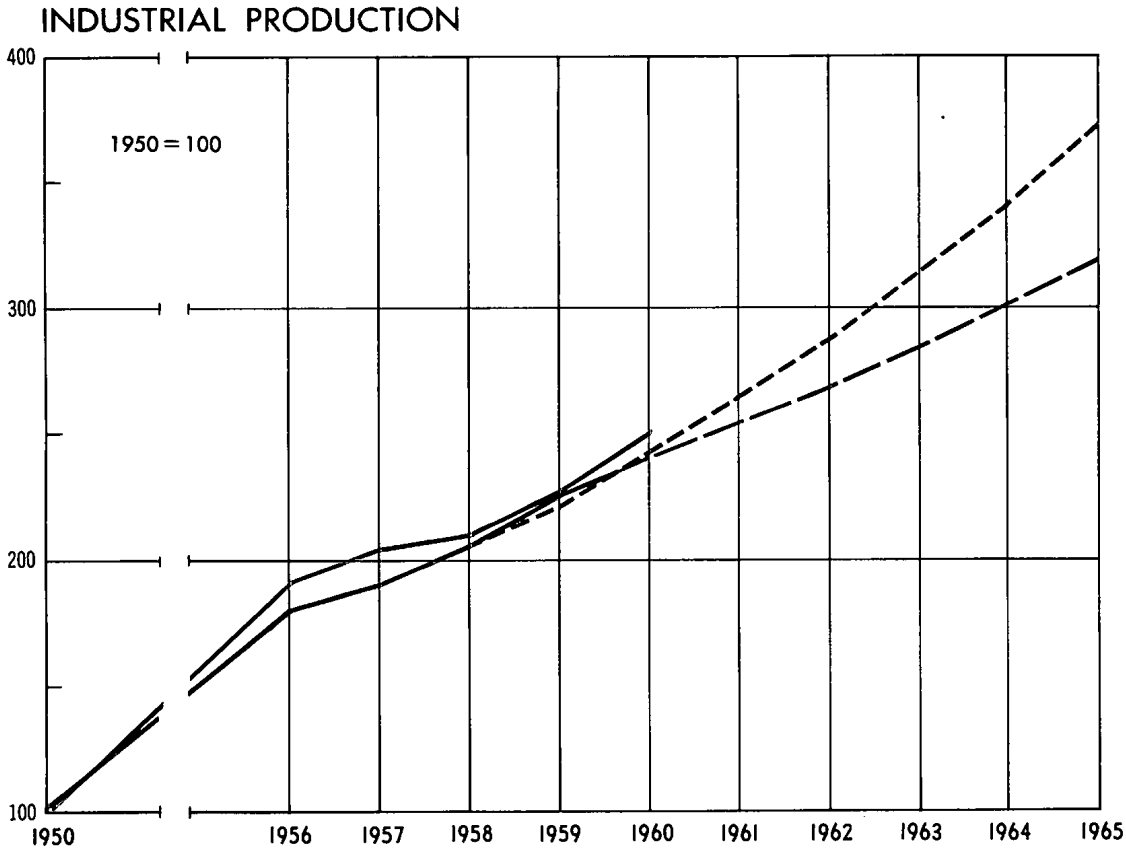
** Following p. 2.

SECRET

Figure 1

EAST AND WEST GERMANY
INDEXES OF GNP AND INDUSTRIAL PRODUCTION, 1956-60 AND EAST GERMANY: PLANS AND PROJECTIONS, THROUGH 1965





36044 4-62

SECRET

higher than in the latter 1950's. Excess capacity has been greatly reduced, however, and opportunities for further increases in efficiency, without significant technological changes, no longer represent an important source of possible growth. Finally, employment is declining and will continue to decline until the mid-1960's.

The decline in the labor force is the most unfavorable feature of the East German economy during the early 1960's. From 1955 to 1960, East German employment declined hardly at all: the effects of continued flight to West Germany and the unfavorable age structure of the population were being offset by the use of labor reserves still existing. Presumably, there will be little further loss of population (after 13 August 1961) from flight to West Germany, but there will be a loss of about 0.7 percent per year in the population of working age as a result of the unfavorable age structure. There also will be a decline in participation by young people of school age, which probably will not be offset by the additions that can be obtained from raising the participation of women and of workers eligible for retirement.

The Seven Year Plan was based on the idea that the trend in employment and the exhaustion of the nonrecurrent factors in the growth of the late 1950's could be more than offset by improving the quality of the human inputs. A sudden increase in the skill and energy of workers, management, and planners was to be obtained through reorganization, intensive propaganda, more technical training, and added incentives. This improvement was expected to result in raising greatly the efficiency of existing production processes and in maximizing the gains from investments in new technology. The improvement was not to be obtained without cost -- fairly heavy costs would be involved in expanding technical training, and the rapid increase planned in consumption to provide greater incentives also may be thought of as a cost. Even so, the plan rested finally on Ulbricht's faith that Communist leadership and "socialist" institutions were uniquely capable of drawing on ordinarily unused reserves of human ability.

By these means, Ulbricht proposed to make up, during a 7-year period, a lag of 20 percent in East German output per capita. Outside industry, East German labor productivity in the late 1950's was not greatly below the West German level, but output per worker in industry was only about two-thirds of that in West Germany. To "overtake and surpass" West Germany, even on the assumption of a decline in the rate of West German growth, obviously called for a high rate of growth.

Ulbricht's faith in reorganization, indoctrination, training, and added incentives had its most striking effect on plans for finished goods industries, for construction, and for agriculture. The Seven

Year Plan was balanced mainly by overstating what these branches could produce with the factors of production allocated. Plans for other sectors, however, were not greatly distorted in this respect, although they were certainly tight. The plans for the basic materials industries in particular were on the whole quite reasonable internally, given the investments and the inputs projected. The rates of growth projected for the several sectors are shown in Table 1.

Table 1

East Germany: Average Annual Rates of Planned Economic Growth a/ 1959-65

Percent

	Plan for 1959-65
Industry (excluding handicrafts)	9.4
Metalworking	11.8
Industrial handicrafts (excluding repairs)	2.2
Construction (including handicrafts)	10 to 11
Agriculture	4.5
Retail trade	7.6
Transport	3.8
Communications	3.4
Handicrafts services (excluding construction)	
Repair services	7.3
Other services	4.3

a. These projected rates of increase, together with the relatively slow increase in "unproductive" services (see Table 13, p. 43, below), imply an increase of about 7 percent in national income or GNP (Western concept). The implied increase projected in "national income produced" (Soviet concept), which excludes "unproductive services," was about 7.5 percent. See the first footnote on p. 21, below.

The technical and organizational characteristics of the producing sectors account for the way in which the Seven Year Plan was distorted. The sectors in which plans were most reasonable, including basic industries and transport and communications, are capital-intensive. Moreover, products of basic industries -- the electric power industry,

metallurgy, and much of the chemical industry -- are relatively few and technically complementary. In these sectors the capacity assumed to be available and the state of the art set rather definite limits to increases in production and economies in the use of materials, and economic plans are therefore based fairly directly on engineering studies. The East Germans are experienced and competent in this kind of planning, and the political leaders accept this kind of reasoning, the more readily because the management of these sectors is the most capable and cohesive in East Germany.

The finished goods industries, construction, and agriculture present in general a striking contrast. These sectors are generally labor-intensive and extremely decentralized. Because they are labor-intensive, the leadership is far more doctrinaire about what can be done through added training and better supervision. Because these sectors are decentralized, there is much less effective resistance to such ideas by enterprise management and by staffs at the ministry level which in any case contain proportionally fewer technically competent people and many more Party hacks than management and staffs in basic industry.

Moreover, in many branches of the finished goods industries -- the machinery and equipment industries and parts of light industry -- and in construction, there is another obstacle to realistic planning. In these branches of the economy, there is a great variety of products, with a broad range of substitutability, and plans cannot be worked out mainly on the basis of technical studies as they are in most basic materials industries. As a result, planning must be done with aggregative techniques that are very imprecise and can easily be made to conform to the desires of the political leadership.

The most serious error in the Seven Year Plan affecting the finished goods industries probably was in estimating excess capacity. Plans for agriculture and construction were thrown off also by the assumption that the elimination of private ownership and the consolidation of enterprises would at once bring about increases in efficiency, although it is hard to imagine that anyone could seriously expect such a result. It is true that investments were to be increased rapidly in these sectors. Indeed, capital-output ratios were even due to rise somewhat, but the expected effects of these investments were much exaggerated.

Ulbricht's insistence on competition with West Germany, although resulting in exaggeration and distortions, also had some positive results, forcing the planners and management to work out a program for modernizing the East German economy, modeled on recent developments in Western Europe and the USSR. Under Ulbricht's prodding the East Germans began to lay increasing emphasis on technological change: research and development, standardization and mass production, and

comparisons with "world" standards of efficiency and quality. The Seven Year Plan provided for large increases in the supply of those basic materials in which East Germany has lagged behind Western Europe: gasoline, diesel fuel, and fuel oil to be produced chiefly from imports of Soviet crude oil; plastics and synthetic fibers, partly earmarked for export to the USSR; high-grade steels, both from imports and from domestic production; and building materials needed to industrialize construction, especially prestressed concrete and fiberboard. The plan also provided for the redesigning of finished goods, especially machinery, to "world" standards, with the aim of making East German export goods comparable with those of Western competitors and of making East German investments far more productive. The work done on these problems will by no means be lost, even though the Seven Year Plan as a whole is quite unrealistic.

If at all possible, Ulbricht will avoid a general revision or formal abandonment of the Seven Year Plan. The lag in economic growth, however, with GNP rising by an average of only 4 percent per year during the first 3 years of the plan period instead of 7 percent as planned, has already forced ad hoc readjustments. Especially important has been the lag in investments, which during the first 3 years of the plan have run about 10 percent below the originally planned levels, although running more or less on schedule for priority projects in the steel and chemical industries. Moreover, it is generally recognized within the regime that more rapid growth cannot be expected during the next few years. There is still occasional brave talk about reaching the originally planned rate of industrial growth in 1963, but the adoption of more realistic goals for the next few years can hardly be avoided. All the present leadership can do is to make the most of its explanations -- the loss of labor to West Germany through mid-1961 and the difficulties arising out of the Berlin crisis, especially those involved in reducing vulnerability to a Western embargo. To some extent, of course, it is possible to exaggerate actual achievements, but even such exaggeration will hardly cover up the extent of the change in expectations or in the final underfulfillment of the Seven Year Plan.

I. Introduction

The theme of East German economic planning since 1958 has been competition with West Germany. The West German "economic miracle" has stood as a challenge to the East German regime throughout its existence. In 1955, with growing confidence and sudden impatience, Walter Ulbricht, the head of the East German Communist Party (Sozialistische Einheitspartei Deutschlands -- SED), took up the challenge, boasting that East Germany would in a few years "prove the superiority of socialism."

To make good this boast was the goal set forth in the directives for the Second Five Year Plan (1956-60) issued in April 1956. In the year of uneasiness that followed the Polish riots and the Hungarian revolt, Ulbricht acceded to the drafting of a more modest plan, but in the winter of 1957-58 he finally was given the authority to carry out his ideas on economic growth. The Seven Year Plan (1959-65), which quietly superseded the Second Five Year Plan, embodies these ideas, summarized in the goal of "overtaking and surpassing" West Germany in per capita output and consumption by 1965.

The Seven Year Plan provides the starting point for the present study of East German economic policies and prospects through 1965. The main body of this report begins with an examination of the plan itself (see II, below); the major weaknesses brought out by this examination then are traced in the ad hoc revisions that the East Germans have already made (see III*); and, finally, an independent assessment is made of East German economic capabilities, based on both East and West German experience, leading to an estimate of economic developments in East Germany through 1965 (see IV**).

II. Long-Term Plans

Present East German policies on economic growth may be traced back to the winter of 1955-56, when the original directives for the Second Five Year Plan (1956-60) were being drafted. In October 1955, Walter Ulbricht gave to a large working group of the SED Central Committee, made up of senior economic functionaries, the job of outlining a plan under which East Germany would match West German per capita output of

---

* P. 55, below.
** P. 60, below.

the "most important products" by 1960.* With the appointment of this working group, Ulbricht brought into the open an unresolved conflict over the Second Five Year Plan, and especially over its goals for industry. He must have concluded that "business as usual" attitudes had so permeated the Party and state apparatus that he would have to make a clear break.

Although Ulbricht succeeded in getting his views incorporated in the directives for the Second Five Year Plan adopted by the Third Party Conference in March 1956, he lost the initiative later on in the year as a result of the Polish crisis and the Hungarian revolt, and it was not until early in 1958 that he finally gained the Soviet support that he had to have to reestablish his control. After reorganizing the economy to make both the planners and management responsive to his direction, Ulbricht quickly succeeded in enacting his program for "proving the superiority of socialism," which in the form of the Seven Year Plan (1959-65) was formally approved in October 1959.**

The views of Ulbricht, as reflected in the Seven Year Plan, had changed little since 1955 in the main lines of reasoning and on the principal rates of growth. In these respects the Seven Year Plan bears a close resemblance to the original directives for the Second Five Year Plan. It is no less ambitious. Indeed, the principal rates of growth are slightly higher, as shown by the following tabulation (annual average increases in percent):

	Directives for the Second Five Year Plan	Law of the Seven Year Plan
Industry	9.2	9.4
Construction	9.5	10 to 11
Agriculture	4.0	4.5

* The establishment of this working group and the statement of its mission are described by a defector, Fritz Schenk, who was then a senior official in the East German State Planning Commission. The goal of matching West Germany in output per capita was not stated in the published draft of the directives for the Second Five Year Plan, nor was it emphasized in official propaganda, although it was mentioned occasionally.

** Planning in 1958 took the form of an upward revision of the goals for the last 2 years of the Second Five Year Plan (that is, 1959-60) and the drafting of a Third Five Year Plan (1961-65). It was only in March 1959 that the East Germans began to refer to a single 7-year plan for the period, on the Soviet model.

The following sections are devoted to an analysis of Ulbricht's ambitious plan, which falls naturally into two parts -- one to suggest the reasons for fixing on these particular rates of growth, the other to examine the changes in economic structure projected to fit them.

A. Rates of Growth

The first consideration in setting the goals for the East German Seven Year Plan was that of "demonstrating the superiority of socialism." This consideration was the main factor in fixing the overall rate of growth of industry, the most important single decision in planning the growth of the economy. The point of departure for the entire industrial plan was the requirement of "overtaking and surpassing" industrial output per capita in West Germany by 1965. Even more ambitious goals were set for construction and agriculture, in part, at least, on the expectation that "productive relationships" in these sectors especially would be transformed by "socialization." The construction program was based on Soviet models. Beginning with lower productivity, the East Germans hoped to match by 1965 the high level of productivity planned for the USSR. The goal for agriculture was to approach the highest actual yields in comparable agricultural areas in Western Europe and thus to equal or exceed probable West German levels.

Because of the downward bias of the East German regime in estimating future West German growth, even the fulfillment of the industrial plan was not likely in fact to result in catching up with West Germany in output per capita during the period. In construction, however, the projected rate of growth was evidently high enough to offer the prospect of "overtaking and surpassing" West German output per capita, and, in agriculture, output per capita was already higher in East Germany. In general, therefore, the goals that were set justify the description of the plan as one designed to make the East German economy competitive with that of West Germany.

1. Industry

East German studies of West German industry were begun at the time of the drafting of the directives for the Second Five Year Plan in order to obtain comparisons of industrial output per capita and projections of West German industrial growth and thus a measure of the growth required to catch up with and pass West German industry.*

* The first studies were done by a large working group (Kommission) of the SED Central Committee in the winter of 1955-56. According to Fritz Schenk, Western economic and technical publications previously had been forbidden, except to elements in the Ministries of State Security and Defense and to the research institute (Deutsches Wirtschaftsinstitut) specializing in the study of current economic developments in the West.

The approach that was followed and the over-all results that were obtained can at least be suggested.

The comparative studies of industrial output that were used in drawing up the Seven Year Plan are presumably reflected in the figures given out by Heinrich Rau, the Minister of Foreign Trade at that time, a few months after the publication of the plan. According to Rau the value of industrial output per capita in East Germany in 1958 was slightly more than 3,000 DME as against about 4,000 DME in West Germany,* giving a relationship differing little from Western estimates. On this basis, output per worker in East Germany was about two-thirds the West German level.**

There is no direct evidence of the specific assumptions and methods used in projecting the rate of growth of West German industry. Because of the many differences in structure and product mix between East German and West German industry, however, it is probable that the main target of the East German plan was an aggregative projection of industrial output per capita in West Germany. The rates of growth allowed in the East German plan for West German industrial output, about 4.5 percent a year in total and 4 percent a year per capita, were considerably lower than the average rates achieved in preceding years and somewhat lower than Western projections made at that time, but they were not inconsistent with selected historical trends. A growth rate of 4 to 5 percent a year in output could have been obtained by projecting trends during 1956-58 in industrial employment, hours worked, and output per man-hour.*** Thus, although the East German

---

* For industrial products the value of the DME (Deutsche Mark East -- East German mark) is roughly US $0.25. These data, however, are not exactly comparable to statistics for US industry. The data for East Germany represent the value of commodity production by industrial enterprises at factory prices. The West German values probably were computed from physical data using the same prices. Western estimates, which include industrial handicrafts, show East German per capita output in 1958 to be slightly lower in relation to West German per capita output.

** The data on employment used here for East Germany are those that match Rau's data on output -- workers and salaried employees in "industrial enterprises," which exclude, inter alia, employment in military production, uranium mining, and handicrafts.

*** Increases in industrial employment in West Germany had declined steadily from 8 percent in 1955 to less than 1 percent in 1958, and it was an accepted view in West Germany that further increases in industrial employment would be small. (In fact, industrial employment increased sharply in 1959 and 1960.) The number of hours worked had increased in 1955, though less rapidly than [footnote continued on p. 11]

projections were on the conservative side -- for example, the 1955-58 period was affected by the 1958 recession -- these projections were not without foundation, and they are high enough to indicate that Ulbricht really was thinking in terms of competition with West Germany. West German growth in 1959-60, of course, turned out to be much higher than the East German projections, but this development surprised Western observers as well.

The official projections of rate of increase for West Germany, together with the over-all comparison for industrial output given above, yielded the average increase in East German industrial output required to "overtake" West Germany within a given period. According to Rau, the aim was to match West German per capita output by 1963-64. This aim could be achieved with the planned rate of increase of 9.4 percent in industrial production, given the expectation of a negligible net change in the East German population.*

The implied relationship between East German and West German growth during the plan period is approximately the same as the historical relationship in labor productivity. In East Germany, according to official statistics (which somewhat exaggerate industrial growth), output per worker had been increasing at an average rate of more than 8 percent per year since 1950; in West Germany, at less than 5 percent.** Since 1954 the rates had been 7 and 3 percent, respectively. Thus the projections must have seemed reasonable, given the expectation of a very gradual increase on either side in industrial employment. Ulbricht's belief that East German industry could catch up, however, was not based only on historical relationships. He realized that the growth of industry in East Germany and West Germany alike depended above all on developments in the great economic blocs to which they belonged. Ulbricht expected these external factors to change greatly in favor of East Germany, with the result that West Germany would gradually cease to make full use of its natural resources, capital, and experience, while East Germany, by making fuller use of all three, would overcome the handicaps of isolation and backwardness in a few years.

---

the number of workers, and had fallen by about 3 percent in 1957 and about 1 percent in 1958. (They fell again in 1959 by slightly more than 1 percent and remained the same in 1960.) Output per man-hour had grown at an average annual rate of 5 percent during 1955-58.

* The population was expected to increase by about 250,000, or 1.4 percent, during the 7-year period, on the implicit assumption of no further emigration.

** For East Germany, what is measured in the official index is output per "production worker"; in West Germany, output per worker.

On the one hand, Ulbricht looked hopefully for an "economic crisis" in the West. His first hopes, stimulated by the US recession of 1954, had been disappointed, and the steady growth of the Western European economies in 1955-57 had helped weaken the case for the original Second Five Year Plan. In 1958, however, there was again a recession, this time not only in the US but also in Western Europe, renewing the expectation that West German growth would slow down.

In the Soviet Bloc, on the other hand, Ulbricht expected not only steady economic growth but also better integration, bringing a rapid improvement in East German foreign trade. Although very disturbed by the Polish crisis and the Hungarian rebellion of 1956, which had caused him for a time to acquiesce in a more modest economic program, Ulbricht was greatly encouraged by the Soviet reaction to the crisis, especially by Soviet willingness to support East German economic development.

For, in the end, Ulbricht counted on Soviet support. In 1955 he had anticipated the early end of Soviet exploitation, and the USSR had largely made good on this expectation. In 1958, besides the political support that he had needed to carry out his ideas, Ulbricht received a guarantee of a large increase in supplies of raw materials from the USSR. With such evidence, even if he had no other specific commitments, Ulbricht had reason to believe that the USSR would give further support as needed to make East Germany the "show window"* of the "peoples democracies."

In regard to most changes in structure of output the "final" industrial plan for 1959-65 resembled both the plan for 1956-60 and the actual expansion of West Germany during 1954-58, as shown in Tables 2 and 3.**

In the Seven Year Plan, as in Ulbricht's original proposal, the most rapid growth was planned in production of finished goods, especially for export and investment, and in output of building materials. The planned growth of mining was much slower and that of metallurgy somewhat slower, mainly as a result of planned savings in the use of these materials but also because some further increase was expected in the already great share of requirements to be furnished by imports.

---

* According to Fritz Schenk, Khrushchev had promised the East Germans in October 1955 that East Germany must become the "show window" of the Soviet Bloc.

** Tables 2 and 3 follow on p. 13.

Table 2

East Germany: Comparison of the Average Annual Rates of Growth for Industry in the Original Directives for 1956-60 and in Those Approved for 1959-65

Percent

	Directives for the Second Five Year Plan	Law of the Seven Year Plan
Industry (excluding handicrafts)	9.2	9.4
Power (public net only)	13.6	11.2
Mining	6.3	3.2
Metallurgy	8.6	9.2
Chemicals	10.5	10.8
Building materials	11.8	12.9
Metalworking	11.8	11.8
Light	7.4	9.1
Food	5.5	4.8
Industrial handicrafts (excluding repairs)	3.6	2.2

Table 3

Comparison of the Average Annual Rates of Growth for Industry Planned for East Germany in 1959-65 and Those Achieved in West Germany in 1954-58

Percent

	East Germany Plan for 1959-65	West Germany Actual 1954-58
Industry (excluding handicrafts)	9.4	8.6
Power (public net only)	11.2	9.6
Mining	3.2	3.6
Metallurgy	9.2	7.9
Chemicals	10.8	11.0
Building materials	12.9	5.8
Metalworking	11.8	12.0
Light	9.1	6.5
Food	4.8	7.3
Industrial handicrafts (excluding repairs)	2.2	2.5

In many ways the relations among the actual West German rates of growth are much the same as those among the projected East German rates. The relation between the rates for the basic industries -- power, mining, and metallurgy -- and those for the other branches of industry is similar. In both countries, chemicals and metalworking lead and dominate the growth of manufacturing. The principal differences in the pattern of development are attributable to obvious differences in the distribution of the national income between consumption and investment. Thus the higher West German rates of increase for food processing and the very much lower rates for output of building materials indicate a somewhat faster growth for personal consumption in West Germany than that projected for East Germany* and a substantially lower rate of increase for investments in West Germany.

It does not follow, however, that the Seven Year Plan was adapted mechanically from the earlier plans or from West German experience. On the contrary, a great deal of additional work had to be done at every level, from the State Planning Commission -- the economic general staff -- down to the enterprises -- the tactical units.

A branch-by-branch survey of the production plans offers a more detailed view of the Seven Year Plan. Data are shown in Table 4** for the main branches and in Table 5*** for selected products.

Production of electric power (including power generated by industrial plants) was to rise by almost 9 percent per year, a little more rapidly than in the early 1950's, but the increase planned in output of electric power was still not enough to take care of the demand projected by the planners. It was estimated that the gap would be 10 percent in 1965. The main limiting factor here unquestionably was the high cost of investment in electric power, which even as planned was to take close to 10 percent of the total investment.

The rate projected for mining is lower than in the original plan for 1956-60 mainly because of provision for a gradual decline in the rate of increase for mining of brown coal. This decline reflects the desire to use the East German reserves more advantageously by gradually abandoning the uneconomical conversion of coal to liquid fuels. Increasing amounts of imported crude oil were to be used to supply the larger quantities of petroleum products planned for 1965. This shift

---

* On a per capita basis the projected trend for East German consumption would be somewhat higher than the actual trend in West Germany.

** Table 4 follows on p. 15.

*** Table 5 follows on p. 16.

Table 4

East Germany: Indexes of Planned Industrial Production
1965

	1958 = 100
Industry (excluding handicrafts)	188
Power (public net only)	210 a/
Mining	125 a/
Metallurgy	185
Chemicals	205
Building materials	234
Heavy engineering	210
General engineering	248
Transport equipment	175 a/
Shipbuilding	148
Aircraft	210
Forgings and castings	160
Metal products	236 a/
Electrotechnical	266
Precision mechanics and optics	211
Wood products	188
Textile	182
Clothing	200
Leather	172
Cellulose and paper	155 a/
Printing	165 a/
Glass and ceramics	200
Food	139
Industrial handicrafts (excluding repairs)	116

a. Estimated.

in the pattern of consumption of energy was to differ from the shift that is occurring in West Germany, where oil is being substituted directly for coal, causing production of coal to level off and exports of coal to decline. In contrast, East Germany planned to increase production of brown coal, although at a lower rate than accomplished in the past. Coal and oil in East Germany were to complement each other, not compete, as the total consumption of energy increased.

The planned growth of metallurgy was higher than that projected in the original plan for 1956-60 because of the additional

Table 5

East Germany: Goals for Output of Selected Industrial Products 1965

Commodity	Unit	Output	Index (1958 = 100)
Electric power	Billion kilowatt-hours	63	181
Mining			
Brown coal	Million metric tons	278	129
Hard coal	Thousand metric tons	2,831	98
Metallurgy			
Pig iron	Thousand metric tons	2,150	121
Rolled steel	Thousand metric tons	3,500	155
Chemicals			
Sulfuric acid	Thousand metric tons SO_3	1,005	189
Caustic soda	Thousand metric tons NaOH	440	148
Soda ash	Thousand metric tons Na_2CO_3	730	132
Calcium carbide	Thousand metric tons	1,180	142
Nitrogen fertilizers	Thousand metric tons N	386	121
Phosphorus fertilizers	Thousand metric tons P_2O_5	284	208
Rayon filaments	Thousand metric tons	19.4	77
Rayon staple fibers	Thousand metric tons	106	95
Synthetic fibers	Thousand metric tons	38.9	581
Building materials			
Cement	Thousand metric tons	7,975	224
Bricks	Million units	2,700	123
Concrete products	Thousand metric tons	15,635	356
Light industry			
Yarn	Thousand metric tons	369	147
Leather shoes	Million pairs	34	172
Paper of all kinds	Thousand metric tons	755	155
Wood products a/			177
Food processing			
Meat and meat products	Thousand metric tons	874	124
Flour	Thousand metric tons	1,250	98
Margarine	Thousand metric tons	184	101
Butter	Thousand metric tons	241	153
Sugar	Thousand metric tons	1,022	130
Beer	Thousand hectoliters	14,300	111
Cigarettes	Million units	18,450	108
Metalworking b/			218
Calculated index of industrial production c/			179
Official planned index of industrial production			188
Official planned index of industrial handicrafts (excluding repairs)			116

a. Plan data were not available for wood products. Therefore, an estimate was made to represent the growth of sample commodities within the industry.
b. The index for metalworking is unavoidably the official index.
c. This calculated index of 179 for 1965 is considerably lower than the official index of 188 for industry. The official index is inflated in two respects. Because the Seven Year Plan was not formally approved until the fall of 1959, an actual (anticipated) rather than a planned increase was included for 1959, accounting for a slight inflation of the official index. In addition, handicrafts were excluded, resulting in an inflation of about four points in the official index. The calculated index is weighted for the major sectors by a gross-value-added series in 1950 West German prices.

emphasis put on production of high-quality steels and more highly finished steel products. Whereas output of pig iron was to increase by only 21 percent between 1958 and 1965, that of crude steel by 52 percent, and that of rolled steel by only 55 percent, output of cold-rolled and other special finish steel products was to increase by 211 percent -- mainly in the form of tubes (150 percent), cold strip (350 percent), and cold-drawn steel (158 percent). Similarly for nonferrous metallurgy, whereas output of primary aluminum was to increase by 65 percent and that of copper ore by only 47 percent, output of rolled nonferrous metal products was to increase by more than 100 percent (including an increase of 150 percent in aluminum products).

In the other branches of manufacturing -- chemicals, machine building, building materials, and light industry -- and in construction the planned increases in output were very closely related to the planned end uses and consequently were most directly influenced by political motives. The feasibility of large increases in output of these branches, which produce mainly finished goods for exports, investment, and consumption, continued to be disputed case by case even after the general question of their rate of growth was settled at the political level. There were repeated requests for labor and capital much above the planned allocations. By the same token the greatest effort to improve planning and management was made in this area. In particular, planning for exports was founded on more complete knowledge of demand by East Germany's principal trading partners in the Soviet Bloc, and more systematic use was made of Western and Soviet technology to plan changes in process and in product design. The importance of both these aspects of planning had been emphasized by Ulbricht in urging his proposals for both the Second Five Year Plan and the Seven Year Plan.

2. Construction

East German plans for the construction sector looked to the USSR rather than to West Germany. In the early and middle 1950's, many East German officials had been sent to Moscow to study the Soviet construction industry, and their views prevailed from the start in planning for the period 1956-60.

The goal of the East German, as of the Soviet, plans was the rapid "industrialization" of the entire sector: the transfer of processes from the building site to the factory and the introduction of mass production techniques on the site, with the great changes implied in the use of materials and in economic organization and correspondingly great increases in output per worker. In housing, for example, it was estimated that the use of assembly-line techniques would increase output per worker on the site to two and one-half times

the level reached with traditional methods. The projected growth of construction was far more rapid than was expected in West Germany or elsewhere in Western Europe. The East German plans indeed projected an even more rapid increase in output and productivity than that planned in the USSR. Under the East German Seven Year Plan, both output and productivity in 1965 were to be somewhat more than double the level of 1958. For the same period the USSR provided for an increase of only 60 to 65 percent in output and productivity.

The most likely explanation of the adoption of more ambitious goals by East Germany is suggested by a comparison of the construction industries in the two economies in 1958. The level of mechanization and probably of skill as well was significantly higher in East Germany than in the USSR, whereas output per worker was 10 to 20 percent below the Soviet level.*

As for comparisons with West Germany, the lag in East German construction had already been made up in great part. Output per capita in East German construction, to be sure, was still well below the West German level, especially in housing. There is no East German comparison available, but it is estimated that per capita output was only about two-thirds of the West German level, and housing construction per capita had as yet risen only to little more than one-half of the West German level. In this instance, however, the difference does not reflect an enormous difference in productivity. Since 1955, although productivity had been increasing rapidly in East Germany, there had been almost no increase in West Germany. As a result, East German productivity had reached about seven-eighths of the West German level. The East German plans for the 1960's obviously meant that productivity in East German industry was expected to rise well above that in West Germany, which had been changing very slowly for several years.

The great increase projected in output in East German construction evidently implied also the expectation of "overtaking," if not "surpassing," West Germany in per capita output. On the basis of the planned doubling of output by 1965, construction per capita would be about one-third above the West German level of 1958. With the assumed slowdown in the West German economic boom, the East Germans doubtless expected that construction would rise very slowly in West Germany. Even at the per capita rate of the previous 5 years, it would rise by somewhat less than one-third by 1965.

---

* The information available on mechanization is rather limited but indicates a great advantage to East Germany. The estimate on output per worker is based on a comparison of the main inputs per worker of construction materials -- cement, bricks, wood, and steel.

3. Agriculture

In all that pertained to the organization of agriculture, Ulbricht looked to the USSR, and he was even prepared to insist on the introduction of Soviet agricultural practices over the opposition of East German experts. In setting particular goals for output in East German agriculture, however, the main criterion was the best experience in Western Europe, in particular, the actual yields in Denmark, the Netherlands, and Belgium -- the most productive areas comparable with the main agricultural area of East Germany. Published comparisons related specifically to Denmark, the Netherlands, and Belgium -- and of course to West Germany, where the yields are considerably lower.* The crop yields planned for both potatoes and sugar beets were close to those in the Netherlands in 1958, the highest in the area. The average yields projected for grains were still below the yields in Denmark, the Netherlands, and Belgium, though much above the actual West German yield. Production of meat, in relation to the total agricultural area, was planned at not far below the level in Belgium and Denmark, though still well below that in the Netherlands. Production of milk per cow, which was still extremely low in East Germany, was to be increased enormously, even though it was to fall a little short of the average for Denmark and well below the averages for the Netherlands and Belgium.

Comparisons of the same kind with West Germany show that the goals adopted were far enough above the West German levels in 1958 to indicate that East German agriculture was expected to be slightly ahead of West German agriculture in these respects in 1965. The conclusion is consistent with over-all figures for agriculture. In 1958 the value of output per hectare of agricultural land in East Germany ran at nearly nine-tenths of the West German level and the increase planned for the total agricultural output was some 36 percent, substantially more than would occur in West Germany if recent trends continued. The projections in the Seven Year Plan probably also would bring East German output per worker in agriculture, which in 1958 was about the same as in West Germany, somewhat above the West German level by 1965.

In per capita agricultural output, East Germany was already well ahead of West Germany, for as a result of the contrasting trends in East and West German population in the 1950's, there was about one-third more agricultural land per capita in East Germany than in West Germany by 1958.

The goal of agricultural policy, adopted in the early 1950's, was to make East Germany self-sufficient in meat and dairy

* These comparisons are given not in the main presentation of the Seven Year Plan but in other speeches and articles issued at about the same time.

products during the period. Indeed, after reviewing the Seven Year Plan, the regime decided that this goal must be very nearly met by 1963. Ulbricht's plans for increasing output were based on the expectation that great increases in efficiency would be obtained by conversion to large-scale production, which meant socialization and at least a considerable consolidation of collective holdings. The risks of collectivizing the independent "old" peasant, who was still the mainstay of East German agriculture in 1958, thus were added to the uncertainties of any agricultural program. The costs, however, cannot be estimated with any exactness, and political factors doubtless led to their being minimized in the East German plan.

4. National Income

The planned growth of industry, construction, and agriculture very largely determined the growth of trade and of transport and communications and thus of aggregate "material production," or national income, Soviet style. The goal of "overtaking and surpassing" West German output per capita in industry, construction, and agriculture evidently implied the expectation that East German national income per capita also would be higher in 1965.

The expectations of the leadership are suggested by a projection of labor productivity for both the East German and West German economies, made by the East German theorist Fritz Behrens. Behrens estimated East German labor productivity in 1958 at about 80 percent of the West German level (as against a ratio of about 67 to 75 percent in 1955).* Using these relationships -- which are consistent with Western estimates -- he projected the growth of West German output per worker at 3 percent per year and that of East German output per worker at two alternative rates of 6 and 9 percent. According to Behrens' projection, East Germany thus would overtake West Germany at some point between 1962 and 1966, as he pointed out in the following tabulation on growth in output per worker (West German output per worker in 1958 = 100):

		East Germany	
	West Germany (at a Rate of 3 Percent)	At a Rate of 6 Percent	At a Rate of 9 Percent
1958	100	80	80
1962	112	100	113
1965	121	118	
1966	124	124	

* This estimate is the only known East German estimate involving a comparison of East German output as a whole (in effect, the national product) with that of West Germany. The [footnote continued on p. 21]

If Behrens' projection reflects the staff work done in preparation for the Seven Year Plan, then Ulbricht literally meant to "overtake and surpass" West Germany by 1965, for the average annual increase in labor productivity projected in the plan was almost 9 percent.* It is very likely that Ulbricht himself believed that the difference between East German and West German output per worker was somewhat less than that estimated by Behrens.** Thus Ulbricht may well have felt that he had an excellent chance of achieving his stated aims, and he must have been confident that the economic gains would at least be great enough to constitute a political success.

B. Factors in Growth

The changes in economic structure involved in Ulbricht's program for transforming the East German economy appear clearly in an examination of the plans made for foreign trade, input-output relations, the allocation of labor, additions to capacity, and improvements in technology. Each of these plans show careful study, but there also is evidence of forced balancing and, to some extent, of imbalances not reconciled.

The plan for foreign trade rested on fairly dependable assurances that calculated import requirements of major commodities would be met as a result of Soviet commitments and negotiations under way with other countries of the Soviet Bloc. Nevertheless, imports and exports apparently were balanced without making sufficient allowance for imports, which, though of relatively small value individually, are

---

estimate may represent the results of a preliminary study by the Central Statistical Administration (of which Behrens was the chief until late in 1957). It probably has been disputed by other East German economists, as such estimates often are.

* This estimate relates only to "material production" -- that is, the part of GNP included in national income, Soviet style. The announced increase in national income was about 60 percent, or just less than 7 percent per year, but the announcement related to national income available for domestic use. The planned growth of national income produced, however, was about 66 percent, or 7.5 percent per year. The difference represents a change in the foreign trade balance -- a net increase in exports (see pp. 24-26, below). The growth of labor productivity was planned at about 8.8 percent, for employment was to decline by about 0.9 percent per year (excluding any effect of further population movement to West Germany) (see pp. 41-43, below).

** Ulbricht in fact quoted an estimate of the Deutsches Wirtschaftsinstitut, the East German group specializing in the study of Western economies, which indicated that the East German industrial output per capita in 1958 was only 13 percent lower than the West German.

collectively of substantial importance to the economy. Moreover, it is not unlikely that calculations of import requirements and export capabilities were modified themselves to make the foreign trade plans balance.

Whether or not such modifications were made, there were to be major shifts in input-output relations during the period of the plan, and some of these shifts were at best optimistic guesses. The changes projected in the energy sector, chiefly as a result of large increases in output of petroleum products based on imported crude oil, reflected careful technical planning. Much the same was true of changes in efficiency in the use of inputs in electric power, metallurgy, and the chemical industry. In other instances, however, notably in the use of rolled steel by machinery and equipment industries, major reductions were projected in inputs per unit of output on much less firm grounds.

In calculating changes in the supply and efficiency of labor, the planners started with a carefully worked out projection of the decline in the population of working age, inevitable as a result of the unfavorable age structure. They failed to project any further movement to West Germany, but the effects of this error were limited by the closing of the Berlin sector border on 13 August 1961. Scarcely less arbitrary were the decisions made as to increases in the efficiency of labor. Rapid increases in labor productivity were projected in every sector, and to a great, if uncertain, extent they reflected nothing more than Ulbricht's unbounded confidence in the efficacy of proper organization and aggressive management ("socialist working methods").

Additions to fixed capital also were, of course, to contribute to increased labor productivity. The end of Soviet exploitation had permitted a rapid increase since 1955 in capital investments, which had already been reflected in a large rise in the rate of additions to fixed capital. Some further rise was projected in the Seven Year Plan. The greater part of these additions were in capital-intensive branches of the economy -- electric power, coal mining, petroleum refining, chemical production, metallurgy, and transportation -- and it seems likely that in these branches the fixed capital to be made available was closely related to the projected increases in output. In other branches, however, and especially in agriculture and construction, the additions, though larger than in the past, generally were still too small to bring about the increases planned in output and labor productivity.

To accelerate the introduction of new technology into East Germany, Ulbricht counted especially on aggressive management. He was justified in prodding East German management to benefit from Western and Soviet experience in exploiting new technology. He was quite wrong, however, to believe that unpopular social and political programs actually would speed up the effort to modernize the economy and "catch up" with West Germany.

1. Foreign Trade

The foreign trade prospects of East Germany for the period 1959-65 were in a sense less favorable than in earlier periods. Because the USSR finally had relieved East Germany of the burden of exploitation, no further windfall gains could be expected from Soviet concessions. On the contrary, East Germany was expected to repay its debts to the USSR, to cease running an import surplus with the West, and to advance additional credits to the other European Satellites and to underdeveloped countries. As a result, imports were to increase more slowly than in the early and mid-1950's, and exports were to increase more rapidly than imports. To be sure, the Seven Year Plan, unlike earlier plans, rested on firm commitments by the countries of the Soviet Bloc, especially the USSR, but the long-term trade agreements negotiated for the period ending in 1965 by no means covered the exports and imports projected in the Seven Year Plan.

Official apologists, in explaining the slow recovery of the East German economy, have always placed first the fact that trade with West Germany was restored only in small part after the defeat and partition of Germany. The argument is well founded. The East German economy, which had accounted for only a little more than one-quarter of the total output of prewar Germany, had been highly specialized. Because of size and limited natural endowment East Germany would have had more trouble than West Germany in adjusting to a separate existence even as a Western European economy. The primitive organization of international trade within the Soviet Bloc represented a far greater obstacle to recovery and growth. The consequences were, first, that resources, particularly plant capacity and skills, were not fully employed for lack of inputs and markets and, second, that the allocation of resources among users was less efficient than it would have been if wider opportunities for foreign trade had been available.

Recovery also was held up, though official apologists have not emphasized this aspect, by Soviet exploitation of the East German economy, which in effect compelled East Germany to export considerably more than it imported. Soviet exploitation continued to be substantial through 1955, although reparations deliveries ostensibly had been concluded at the end of 1953.

Beginning in 1956, the over-all East German position on foreign account improved greatly. East German reparations deliveries to the USSR dropped to a very low level, and, by the late 1950's, Soviet exploitation had been eliminated except for such losses as East Germany may have been forced to bear in uranium mining. The USSR also extended some medium-term commercial credits to the East Germans in 1957. As a result, East Germany, instead of having to export far

more than it imported, as in the early 1950's, was able in the latter 1950's to run a small import surplus, when invisibles are taken into account. The increase in imports during the period is shown in Table 6. This increase was fairly rapid -- in the years 1956-58, for example, it averaged 14 percent per year (measured in constant prices). Total deliveries on foreign account, however, dropped sharply in 1956 -- though commercial exports, of course, increased -- and did not even regain the level of 1955 until 1957-58.

Table 6

East Germany: Average Annual Rates of Growth in Imports a/
1956-58

	Percent
	1956-58
Food and unprocessed agricultural products	8
Industrial raw materials	7
Manufactured goods	26
Total	14

a. This table is based on commodity data (with 1958 foreign trade price weights), except that finished goods (which account for about half the weight given to manufactured goods) are included on the basis of unadjusted values at current prices.

In the period of the Seven Year Plan the East Germans expected imports to continue to increase fairly rapidly for another 3 years -- through 1961 -- and thereafter to increase more slowly. Exports, on the other hand, were to increase more rapidly in the latter years of the period. East German indebtedness thus was to rise during the first 3 years, and this indebtedness was to be repaid during the last 4 years. The East Germans also planned to accumulate some foreign exchange reserves and to extend credits to other European Satellites and to underdeveloped countries.

These plans explain the large export surpluses in commodity trade expected in 1965, as shown in Tables 7,* 8,* and 9,** which break

* Tables 7 and 8 follow on p. 25.
** Table 9 follows on p. 26.

Table 7

East Germany: Breakdown of Imports by Major Category
1958 and 1965 Plan

	1958		1965 Plan		
	Billion DME [a]	Percent	Billion DME [a]	Percent	Index (1958 = 100)
Coal and power, ores, and building materials	1.1	16	1.5	13	136
Metals	1.4	20	2.6	22	186
Petroleum and chemicals	0.4	6	0.9	8	225
Metal products, machinery, and equipment	0.8	12	2.0	18	250
Textile manufactures and clothing	0.4	5	0.5	4	125
Other products of light industry	0.4	5	0.8	7	200
Food, drink, and tobacco	1.8	25	2.1	18	117
Other products of agriculture (including textile fibers) and forestry	0.8	11	1.2	10	150
Total	7.1	100	11.6	100	163

a. Both actual and planned values are converted from 1958 (old) rubles at a rate of 1.05 DME to 1 ruble. The nominal value of the old ruble was US $0.25.

Table 8

East Germany: Breakdown of Exports by Major Category
1958 and 1965 Plan

	1958		1965 Plan		
	Billion DME [a]	Percent	Billion DME [a]	Percent	Index (1958 = 100)
Coal and power, ores (including uranium ores), and building materials	1.3	17	1.9	13	146
Metals	Negl.	Negl.	Negl.	Negl.	
Petroleum and chemicals	1.1	14	2.2	15	200
Metal products, machinery, and equipment	4.1	52	8.0	54	195
Textile manufactures and clothing	0.5	6	0.9	6	180
Other products of light industry	0.6	7	1.2	8	200
Food, drink, and tobacco	0.2	3	0.4	3	200
Other products of agriculture and forestry	0.1	1	0.2	1	200
Total	7.9	100	14.8	100	187

a. Both actual and planned values are converted from 1958 (old) rubles at a rate of 1.05 DME to 1 ruble. The nominal value of the old ruble was US $0.25.

Table 9

East Germany: Breakdown of Foreign Trade Between the Sino-Soviet Bloc and the Free World 1958 and 1965 Plan

Billion DME a/

	1958			1965 Plan		
	Imports	Exports	Turnover	Imports	Exports	Turnover
Sino-Soviet Bloc	5.0	6.1	11.1	9.0	11.0	20.0
Free World	2.1	1.8	3.9	2.6	3.8	6.4
Total	7.1	7.9	15.0	11.6	14.8	26.4

a. Both actual and planned values are converted from 1958 (old) rubles at a rate of 1.05 DME to 1 ruble. The nominal value of the old ruble was US $0.25.

down planned exports and imports by product groups (Tables 7 and 8) and between trade with the Soviet Bloc and the Free World (Table 9). There is, of course, an export surplus shown for 1958, approximately enough to cover the usual unfavorable balance of East Germany on invisibles (chiefly transport charges). Because the East Germans were planning to carry a greater proportion of their overseas exports and imports in their own bottoms by 1965 and to expand their own port facilities to handle most of the East German traffic then being handled through Hamburg, expenditures on invisibles were to increase less rapidly than the volume of imports. Such expenditures were expected to be less, and probably a good deal less, than one-third of the gross export surplus planned for 1965. The remainder thus represents a planned net surplus.

The export surplus shown on the commodity account with the Free World (see Table 9) reflects mainly the East German expectation of having to cover a net import of services from the Free World (previously covered, along with some net import of commodities as well, by Soviet credits) together with the extension of some small credits to underdeveloped countries and perhaps the accumulation of some foreign currency reserves. A substantial export surplus on commodity account is necessary simply to balance accounts with the Free World, for the greater part of the total unfavorable balance on invisible account represents charges for shipping and harbor fees paid to countries of the Free World. Part of the export surplus on commodity account with the Soviet Bloc may represent an unfavorable balance on invisible account,

but most of it probably represents a net favorable balance of trade planned for 1965. This balance was intended to cover the final installment of debt repayments to the USSR and some extension of new credits to other European Satellites.

These projections reflect the estimates of the foreign trade organizations, which were not fully reconciled with other East German plans. The foreign trade organizations, for example, projected a steady rise in exports of textile machinery throughout the period, but production plans indicated that exports would begin to rise only in the last half of the period. Again, the value of exports of chemicals for 1965 was estimated by the chemical industry at about 20 percent less than the figure projected by the foreign trade organizations. Similarly, projected imports of food and agricultural products were well below those required to balance domestic production and consumption plans, at least until late in the period -- an inconsistency that was later resolved by further inflating plans for agricultural production to provide for greater increases during the early 1960's.

Apparently the over-all projections of foreign trade in terms of value were not even consistent with the plans made for specific commodities. In the first place, the targets for total exports and imports were minimum figures, which were to be exceeded by 10 percent or more. In the second place, only about two-thirds of the total value of exports and imports was covered by specific commodity goals, according to one author. The result was that the target figures for imports did not include realistic allowances for the value of commodities not specifically projected in the plan, as can be shown by specific comparisons. The total of fuels, ores and metals, foods, and other raw materials, as given in the foreign trade plan (see Table 7*), was to increase by only 50 percent. The value of the major imports of these products, on the other hand, as estimated on the basis of physical data, was to increase by more than 75 percent (see Table 10**). When it is considered that these major imports account for about 70 percent of the total value of imports of goods in these categories in 1958, the difference in these trends strongly suggests a downward bias or actual omissions in the projection of other commodities, in particular, as suggested above, those that were not specifically projected in the import plan. Imports of these commodities, taken together, were not to increase at all. Such a result could have been produced by estimating the value of imports of these commodities as a residual -- the difference between the total value of imports permitted by the export plan and the value of major imports projected specifically (allowance being made for changes in the balance on invisibles and on capital account).

---

* P. 25, above.

** Table 10 follows on p. 28.

Table 10

East Germany: Projected Increases in Imports of Selected Commodities 1958-65

	1958		1965		
	Quantity (Thousand Metric Tons a/)	Value b/ (Million Rubles)	Quantity (Thousand Metric Tons a/)	Value b/ (Million Rubles)	Index (1958 = 100)
Industrial raw materials					
Hard coal	7,397	451.2	8,850	540.0	120
Hard coal coke	2,452	263.1	3,450	370.2	141
Crude oil	1,127	89.6	5,300	421.4	470
Iron ore (Fe content)	910	73.5	1,310	105.8	144
Apatite concentrates	398	27.9	800	56.1	201
Crude rubber	17	42.3	29	72.2	171
Timber (thousand solid cubic meters)	785	57.1	1,440	104.7	183
Sawn lumber (thousand solid cubic meters)	737	123.8	1,545	259.5	210
Cellulose	43	24.9	122	70.6	284
Cotton fiber	88	275.8	147	460.6	167
Wool (washed)	12.5	94.5	34.4	260.2	275
Oilseeds	314.3	61.7	349.5	68.6	111
Hides	17.2	50.5	31.2	91.7	181
Metals					
Pig iron	557	154.8	1,435	398.9	258
Rolled steel	1,155	815.3	2,265	1,598.9	196
Copper	19.5	46.7	43.4	104.0	223
Zinc	26.8	25.1	51.6	48.3	193
Lead	36.5	39.2	50	53.8	137
Aluminum (including rolled)	31.8	70.2	91	200.9	286
Food and unprocessed agricultural products					
Meat and meat products	63.1	126.6	38	76.2	60
Grain	1,860	520.2	1,716	480.1	92
Raw coffee	15.8	45.3	50	143.1	316
Cocoa beans	9.2	29.8	35	113.3	380
Tropical fruits and nuts	99	59.2	300	179.3	303
Fresh fruit	50	13.2	89	23.6	178
Total		3,581.5		6,302.0	176

a. Unless otherwise indicated.
b. The nominal value of the old ruble was US $0.25. At West European market prices the value of these imports generally would be somewhat less.

Although the over-all plan apparently was distorted in this respect and in other respects, it was a fairly realistic plan in terms of the major commodities to be imported and exported. It had already been recognized in 1955-56 that the more efficient use of resources by the European Satellites would require the coordination of all Satellite economic plans. The result had been a renewal of interest in the Council for Mutual Economic Assistance (CEMA), which had attempted to coordinate the plans for 1956-60. This first effort had been unsuccessful. By 1958, however, when coordination of the plans for 1965 began, the CEMA committees were able to test the consistency of the collective expectations of the Satellites in the field of foreign trade and to arrive at useful, if very limited, agreements for specialization in manufacturing, chiefly in production of machinery and equipment.

Of special importance to East Germany, moreover, was the growing concern of the USSR, with which East Germany conducts some 45 percent of its trade, with economic growth in the European Satellites. This concern resulted in a widening of the scope of bilateral negotiations between the USSR and the individual Satellite regimes -- the East German in particular. As early as 1956 the Soviet government had been willing to explore in great detail the long-term East German requirements for iron and steel. By 1958, Khrushchev was prepared to go much further, for the first time making commitments to Ulbricht for the most important materials for which East Germany was mainly dependent on the USSR. Ulbricht's commitments, together with the statement of Soviet requirements for major East German exports -- especially chemicals -- went far to provide the East Germans with a basis for planning.

Although these commitments gave some solidity to the East German plans for foreign trade through 1965, many details necessarily remained tentative. Not only was the work of CEMA limited in scope, but also the recommendations of CEMA were frequently disregarded, as is occasionally noted by East German writers themselves. The long-term agreements were more dependable, but they were far from covering the requirements for foreign trade. Even the agreements with the USSR and the other countries of the Soviet Bloc were incomplete. Those agreements negotiated through the first half of 1960 covered only 78.5 percent of the total trade with these countries projected in the plan, leaving a substantial remainder to be included in supplementary annual agreements. And trade with the West continued to represent an important element of uncertainty.

Even firm commitments, moreover, were contingent on the underlying plans for production and investment -- those of the Soviet Bloc trading partners of East Germany -- which would in any case require adjustments, and, of course, those of East Germany itself, which, as already suggested, were in some respects quite unrealistic.

The main changes in the composition of imports under the Seven Year Plan are shown in Table 7.* This breakdown reflects only the planned transactions, which called for an over-all increase of 63 percent, without the additional allowance mentioned above. What is particularly interesting is the large increase shown in imports of metal products, machinery, and equipment, which were to increase to about 2.5 times the level of 1958. This projection continues at a somewhat slower rate a trend that was begun in 1956 (see Table 6**), reflecting a rise in the rate of growth of East German investments and improved coordination of intra-Bloc trade ("specialization"). About one-half of such imports have been investment goods; about one-half, inputs into the machinery and equipment industries. Increases in imports of other manufactured goods were to be much less. Imports of textiles and clothing were to increase by about one-fourth, and those of other products of light industry (mostly cellulose, paper, leather, and shoes) were approximately to double the level of 1958. Imports of chemicals (excluding crude oil) were to increase very little.

The principal imports of raw and semifinished materials -- fuels, metals, and food and agricultural products -- which constituted about three-fourths of the total East German imports in 1958, were to account for a slightly lower proportion of the total imports in 1965, increasing by only 50 percent, as shown in Table 7. Among these imports the projections range from a very large increase for crude oil to a small increase for coal and to decreases for grain and for meat and meat products.

The very large increase projected in imports of crude oil and the substantial increases in imports of metals and textile fibers matched the import requirements for these commodities in the industrial plan, and the same situation apparently holds for the smaller increases projected for coal and coke. For many other important commodities, however, including fertilizers, alumina, wood, grains, and meat, the supply plans either were left unbalanced or were balanced forcibly.

The East German plan for exports, as shown in Table 8,*** reflects no great change in policy. The Ministry of Foreign Trade planned on minimizing exports of "material-intensive," especially "import-intensive," goods and on maximizing exports of "labor-intensive" goods. This policy had become established in the early 1950's, when a lack of raw materials had left East Germany with unused labor and capacity. The policy happened to coincide roughly with the obvious interest of East Germany in developing the long-established industries in which it was

* P. 25, above.
** P. 24, above.
*** P. 25, above.

already relatively efficient and which also were those that had the best reputation among the main trading partners of East Germany. Exports of metal products, machinery, and equipment would continue to account for more than one-half of all exports. Most of the specific choices among products, however, depended mainly on the desires of these trading partners -- above all, of course, the USSR -- and on the frequently close relation between what they wanted to import and what they would agree to export.

The composition of East German exports by major commodity groups was not to change greatly during the period of the Seven Year Plan. Within the major commodity groups, however, there were to be important changes in composition. Within the machinery and equipment industries the increase in exports during the period was to be largest in branches in which East Germany had already been a leading producer before World War II, such as machine tools (an increase of nearly 100 percent in exports), textile machinery (250 percent), refrigerator cars (500 percent), chemical equipment (200 percent), equipment for mining brown coal (250 percent), and optical equipment (more than 100 percent). Established East German competence in such lines was recognized by the twelfth session of CEMA at Sofia, Bulgaria, in December 1959. In chemicals the main aim was to increase exports of highly processed chemicals, especially synthetics, such as, for example, polyvinyl chloride (a 140-percent increase) and polystyrol (a 449-percent increase). There also were to be large increases in other chemicals such as nitrogen fertilizers and in photographic film under mutually advantageous specialization agreements within CEMA (East German imports of phosphorus fertilizers also were to increase greatly). In light industry, large increases were projected in traditional fields such as toys and musical instruments (210 percent) and furniture (206 percent), and substantial increases also were planned for textiles (86 percent), of which East Germany had not long been a major exporter, and for readymade clothing (122 percent), which East Germany was just beginning to export in significant amounts.

Limitations in raw materials and capacity and, generally, high costs were important factors holding down future exports of other commodities and particularly of basic materials. Relatively small increases were to be made in exports of potash (40 percent), liquid fuels (about 35 percent), and synthetic rubber (8 percent), and exports of building materials were to be reduced (exports of cement were to be discontinued). Exports of all kinds of merchant ships were to be cut back sharply. Exports of these commodities alone had accounted for about one-eighth of the total value of exports in 1958. In each of these instances, exports had already been leveling off in the mid-1950's. Deliveries of uranium to the USSR, however, were to increase substantially in value as a result both of increases in output and of shipping the uranium in a more highly concentrated form.

2. Input-Output Relations

One of the ways used in the East German Seven Year Plan to balance the main goals for production with the available supplies of materials was to change the input-output relations. Improvements in management, the adoption of new processes, the installation of new equipment, the development of new products, and changes in product mix all were involved, and every branch of the economy was affected. The most attention was directed to changes planned in the consumption of fuels and metals.

a. Fuels and Power

The most striking feature of the plans for fuels and power was an increase in the share of crude oil and natural gas in the total supply of energy. Plans for imports and output of coal and petroleum were as shown in Table 11.* In terms of primary energy, petroleum would increase only from 2 to 6 percent of the supply, but the economic implications of the change are much greater than these figures suggest. The explanation lies in the economic importance of gasoline, diesel oil, and fuel oil and the fact that crude oil can be converted to these products far more efficiently than can brown coal, which was still the main source of energy used in East Germany in 1958. Important reductions in operating costs would be obtained from the increased use of liquid fuels -- in the development of motor transport, the shift from steam to diesel locomotives, the mechanization of agriculture and construction, and the increased use of fuel oil for heating. Very large amounts of brown coal would be needed if these requirements were to be met by production of synthetic fuels. The official estimate was that some 90 million tons** of brown coal would be needed for this purpose to substitute for 5 million tons of crude oil, the amount to be imported from the USSR in 1965, and that the additional investments involved for mining, briquetting, and synthesizing would cost some 12 billion DME. These capital costs were a compelling reason to shift to petroleum, being much higher than those required to pay the East German share of the cost of the Eastern European pipeline by which the greater part of the Soviet petroleum imports was to be transported.

Although capital costs are very high in production of synthetic fuel, labor costs, including those in brown coal, and the cost of other materials are low relative to most other industries. At current foreign trade prices, 5 million tons of crude oil could be purchased by exporting some 30 million tons of brown coal (mainly in the

* Table 11 follows on p. 33.

** Tonnages are given in metric tons throughout this report unless otherwise indicated.

Table 11

East Germany: Projected Change in Production and Imports of Coal, Petroleum, and Natural Gas 1958-65

	Thousand Metric Tons		
	1958	1965	Percentage Change 1958-65
Brown coal			
Production	214,970	278,000	29.3
Hard coal			
Production	2,903	2,831	-2.5
Imports a/	7,397	8,850	19.6
Total supply	10,300	11,681	13.4
Crude oil			
Production	Negl.	1,000	
Imports b/	1,127	5,300	370
Total supply	1,127	6,300	459
	Million Cubic Meters		
	1958	1965	
Natural gas			
Production	23	200	770

a. Not including imports of coke, which were to increase by 41 percent.
b. Imports of refined products are very small and are more or less offset by exports.

form of briquettes), thus saving some 60 million tons of brown coal that would otherwise have to be used to produce synthetic fuel. The trouble is, however, that East Germany could not sell much larger amounts of brown coal abroad at anywhere near the current export price to West Germany.* Without the opportunity to expand exports of brown coal, it makes some sense to continue processing brown coal in synthetic fuel plants until those wear out, for only a relatively small amount of current inputs could be released for other purposes by an earlier shift to crude oil.

Thus the shift to crude oil was to be gradual. By 1965 the consumption of crude oil was to increase to more than 5 times the level of 1958, and the liquid fuels produced from crude oil were to rise from 37.8 percent to 75.2 percent of the total output of liquid fuels. The use of brown coal products in production of liquid fuel, however, was not to phase out until the later 1960's (during the period 1959-65 this production actually was to be raised by 6.8 percent), but the proportion of tar and light oil to crude oil was to drop from 62.2 percent to 24.8 percent.

With little increase being planned in the use of brown coal to produce synthetic fuels, most of the remaining increase in output could be allocated to the generation of electric power, which is the major use of brown coal, accounting for about three-eighths of output in 1958. Brown coal, in fact, was to be the basis for the entire increase in output of power during the plan period. Some economies were expected from the installation of new capacity for generating electric power in the public power net. Whereas the average specific heat consumption in the public net in 1958 was 4,553 kilocalories per kilowatt-hour (kcal per kwh), the new 100-megawatt units to be installed were to have a specific heat consumption of 2,400 to 2,500 kcal per kwh. As a result, the average for the public network by 1965 was to drop to about 3,400 kcal per kwh (slightly below the Western European average in the late 1950's), permitting an increase of 118 percent in generation by the public network with an increase of only about 63 percent in fuel inputs. For the industrial powerplants, which still accounted for 54 percent of output in 1958 and were still to account for 46 percent in 1965, however, there was little improvement planned in efficiency, with both output and inputs increasing by about 50 percent.

In the early stages of planning for the period through 1965 the regime was planning on some shifting from brown coal to atomic

* In recent attempts to shift exports from West Germany to other Western European countries, East Germany has had difficulty placing even small amounts of brown coal briquettes at one-third the price paid by West Germany.

energy in the generation of electric power. The original East German program provided for the completion of the first commercial atomic powerplant in 1960, followed by other larger units in succeeding years until atomic plants accounted for 12 percent of the total capacity of powerplants by 1965. Following a reevaluation of the Soviet program in which it was decided that the costs were still too high, the East German plans for industrial application of atomic energy were suspended except for the construction of a first unit with a capacity of 70 megawatts (or less than 1 percent of total capacity), mainly for experimental purposes. This single unit originally was scheduled to be placed in operation in 1961, but revised plans now provide for initial operation by mid-1963.

In addition to the planned changes in the share of the two major components (coal and petroleum) in the total supply of primary energy, there were to be substantial shifts in their utilization by conversion and processing to other forms (secondary and tertiary). Coal was not to be used extensively in its raw form but was to be converted to other forms of energy such as electric power, coke, and manufactured gas. Similarly, crude oil was to be processed primarily to produce gasoline, diesel fuel, and fuel oil. This intensive processing of both coal and petroleum was to yield increased quantities of valuable byproducts for use by the chemical industry.

Outside the fuels and power industries there was to be a fairly rapid increase in the use of hard coal in metallurgy, and a steady increase was unavoidable in rail transport, for dieselization and electrification were to begin only during the plan period. Almost no increase was expected in the use of coal for heat, as a result of conversion to the use of fuel oil in industry and the increase in the supply of gas intended for household heating and cooking. The chief increase in the supply of coke was to be in grades usable for production of electric power and gas and in the chemical industry. Very little increase was required in metallurgical coke, given the projected improvements in efficiency.

For the other forms of energy that were widely consumed in the economy, the projected increases in supply were about as follows (percentage increase compared with 1958):

Electric power	81
Gas (including natural gas)	94
Gasoline	151
Diesel fuel	135
Fuel oil	904

These figures reflect large projected increases in demand in all sectors of the economy, including final demand.

The major consumer of electric power would continue to be industry, which in 1958 consumed 74 percent of the total output. Within industry the chemical and metallurgical branches (excluding powerplants) consumed 46 percent, the power-producing plants 14 percent, mining 16 percent, and the rest of industry about 24 percent. The planned requirements of industry (including electric powerplants) were to grow by only 72 percent, less rapidly than the supply of electric power or output of industry. The main reason for this slower growth was the relatively slow increase planned in output of products using large amounts of electric power -- aluminum (an increase of 65 percent), calcium carbide (42 percent), caustic soda (48 percent), nitrogen fertilizers (21 percent), and synthetic rubber (25 percent). In 1958 these products together accounted for nearly 29 percent of the total consumption of electric power by industry (including consumption in the fuels and power industries). If specific consumption requirements for these products are assumed to remain the same during the period, their share in the total industrial consumption of power drops to 23 percent by 1965. Given these changes in structure and such others as the relatively slow growth of mining (25 percent) and production of synthetic fuel (7 percent), it is evident that allocations to the finished goods industries were to increase more rapidly than output in the basic materials industries. The following tabulation gives an estimated breakdown of the increase in power allocations, together with the planned increase in production (1958 = 100).

	Allocations of Electric Power	Planned Output
Power (public net only)	210	210*
Mining (except uranium mining)	146	125*
Uranium mining	120	120*
Metallurgy	170	185
Chemical industry	155	205
Other industry	224	190

Among the sectors consuming relatively small amounts of electric power, two -- agriculture and transport -- were to increase their requirements significantly more rapidly than their output. A relatively large increase (155 percent) was planned in the use of electric power in agriculture, which, however, would still account for only 4 percent of the total consumption of power. Requirements of

* Estimated.

transportation were to grow by 65 percent but would still amount to less than 2 percent of the gross consumption. Household consumption also was to increase rapidly (approximately to double the level of 1958), but the adjustment of supply and demand finally resulted in some reduction in the planned allocation to households. Plans for production of electric appliances (and the design of new housing for their use) were cut back accordingly in 1959.

It is not possible to determine analytically whether or not these allocations were in fact in keeping with production plans. The available statistics on past consumption are inconclusive. Trends in industrial consumption had been changing since 1955, with a sharp drop in the rate of growth of the major power-intensive products mentioned above. For the chemical industry and for metallurgy, planned requirements rested on projected changes in specific coefficients of consumption, which had been calculated for every product. Otherwise, such detailed calculations were still to be made, but it may be inferred that insufficient allowance was made to cover requirements resulting from increased mechanization, for the East Germans themselves concluded that their over-all requirements for electric power were substantially greater than originally planned. The gap was especially serious for the early years of the period, but even by 1965 it was about 10 percent of over-all requirements -- equivalent to about 15 percent of industrial requirements. The greater part of the shortage could be met simply by continuing to use capacity as intensively as in the latter 1950's, but it could not fully be covered without either some further investment or the elimination of the planned increases in household consumption.

The increased supply of liquid fuels was allocated mainly to industry, construction, motor transport, and agriculture. The huge increase in domestic consumption of fuel oil (by 904 percent) was mainly for industry (metallurgy, chemicals, and the machinery and equipment industry). The greater part of the increase in consumption of diesel oil (by 135 percent) also was for industry and construction, but allocations were almost doubled for transport and agriculture, which together were to account for slightly more than one-half of consumption in 1965. Most of the large increase in supplies of gasoline, however, was to be directed not to transport and agriculture but rather to retail trade, and households were to receive much larger allocations of natural and manufactured gas.

b. Metals

The use of metals also was expected to change greatly during the course of the Seven Year Plan period. The most striking change was in the use of rolled steel in the manufacture of machinery

and equipment. In centrally controlled state enterprises the supply of rolled steel was to increase by about two-thirds in tonnage as against an increase of 123 percent in the value of output of machinery. This very large planned increase in the value of output per ton of rolled steel was to some extent the effect of a change in the branch structure of the metalworking industries, but it also reflected planned changes in the use of materials and the development of more complex models, particularly in heavy engineering. As a result of the use of higher quality steel and the substitution of nonferrous metals for steel, the planned reductions in material costs were considerably smaller than the projected "savings" in rolled steel tonnages. The value of materials consumed in the centrally controlled metalworking industries was to increase by about three-fourths, whereas the tonnage of iron and steel consumed was to increase by about two-thirds. Nevertheless, the extent of the technical changes called for in the Seven Year Plan is clearly indicated by data on tonnages of steel, such as those for projected changes in consumption of rolled steel shown in Table 12.

Table 12

East Germany: Projected Change in the Relation of Inputs of Rolled Steel to the Value of Output in Metalworking a/ 1958-65

	Value of Output (Billion 1958 DME)		Consumption of Rolled Steel b/ (Thousand Metric Tons)		
				1965	
	1958	1965 Plan	1958	With 1958 Coefficients c/	Planned
Heavy engineering d/	4.4	9.4	915	1,960	1,370
Shipbuilding	0.9	1.4	125	190	125
General engineering d/	5.0	10.3	600	1,240	1,115
Electrical engineering	3.7	10.1	160	440	400
Total	14.0	31.2	1,800	3,830	3,010
Index (1958 = 100)	100	223	100	213	167
Consumption of rolled steel as a percent of supply			51		50

a. Centrally controlled enterprises only, excluding foundries and the aircraft industry. In 1958 the coverage is about three-fourths of the output of the metalworking industries (except for handicrafts) and about four-fifths of their consumption of rolled steel.
b. Consumption of rolled steel here includes, as normally in East German statistics on rolled steel, semifinished steel for forgings.
c. The hypothetical consumption of rolled steel for 1965 with 1958 "coefficients" is calculated by multiplying consumption in 1958 in each branch by the ratio of planned output for 1965 in that branch to output in 1958.
d. The classification of industries in this table is different from that in the usual East German statistics. In the underlying statistics, enterprises are grouped by VVB (Associations of State Enterprises) rather than by branch of industry. Besides industrial machinery and equipment, heavy engineering here includes the manufacture of railroad equipment, and general engineering includes the manufacture of automobiles and tractors, precision machinery and optical equipment, and metal products.

The effect of changes in branch structure, the first factor mentioned above, is suggested by the data shown in Table 12. If the value of output per ton of rolled steel consumed in each branch is assumed to remain the same in 1965 as in 1958, consumption of rolled steel in centrally controlled metalworking enterprises rises less rapidly than the value of output: the factor "tons of rolled steel per billion DME of output" drops by 5 percent. This statistical effect results entirely from the fact that the growth planned for electrical engineering, the branch with the lowest factor, is considerably more rapid than that for the rest of the industry. With a finer breakdown by branch the decline in consumption of steel resulting from changes in branch structure might be shown to be somewhat greater.

A second important way of "saving" rolled steel was a planned reduction in the waste factor from 22.5 percent in 1958 to 13 percent in 1965, to be obtained especially by the greater use of metalforming machines. This means of "saving" rolled steel probably was the most important one for branches in which the value of output is high relative to consumption of rolled steel. Such savings are not net, however, for less metal scrap is recovered as a result.

A third factor was a trend toward lighter construction of machines, which were to be redesigned for the use of higher strength steels and the increased use of aluminum and magnesium. Production of the low-alloy, high-strength steel and the light structural steel to be used in reducing the weight of machinery was to grow rapidly (by 150 percent), although it was only a small part of the total supply of rolled steel. Inputs of rolled and cast light metals were to increase from about 3 percent of metal inputs, by weight, in 1958 to 6 percent in 1965. The substitution of plastics for steel, much talked about, was still a negligible factor, although the use of plastics in the industry was to increase by 250 percent by 1965. Lighter construction was an especially important factor in plans for lines of heavy machinery and equipment, and the justification of many of the changes planned was at least as much a matter of improving the characteristics of the product as of reducing the costs.

A fourth factor accounting for the more rapid increase planned in the value of output in comparison with the weight of inputs was the introduction of new, more complex products and models -- again, especially in heavy machinery lines. In production of machine tools, for example, which was to increase in value by 154 percent, output of automatic and semiautomatic types was to increase by 202 percent; that of precision machines, 275 percent; and that of special machines, 370 percent. This factor probably was of considerable importance in plans for reducing steel inputs per unit of value, but it is not possible to isolate the effect of such planned increases in "complexity."

For other iron and steel products as for rolled steel, reductions were planned in the tonnages to be consumed per million DME of output. In the centrally controlled engineering industries the ratios were to decline as follows (in percent):

Rolled steel	25
Steel castings	36
Cast iron	22
Drop forgings	18
Other forgings	36

The planned growth of the total supply and of consumption by these enterprises are compared as follows (the percentage increase planned for 1965 compared with 1958):

	Supply	Consumption in Centrally Controlled Engineering
Rolled steel (including semifinished steel for forgings)	70	67
Cast iron	63	74
Steel castings	38	43

As these figures also indicate, there was to be a significant shift from the use of steel castings to the use of cast iron.

The construction sector, the other major user of steel, also was to reduce greatly the consumption of steel in relation to the value of output. The use of structural steel in building was to increase by only about one-half while construction was doubling -- a decline of about one-fourth in the ratio of steel inputs to the value of construction. This decline reflected the great planned increase (by 216 percent) in the use of prestressed and reinforced concrete (with a steadily increasing share of the total consumption of steel going to the manufacture of reinforced concrete).

The large planned "savings" of steel -- as they are called in East German publications -- are not without precedent. The planned increase of about 4 percent per year in the value of machinery and equipment produced per ton of rolled steel apparently can be matched in several European countries, including West Germany

and some of the Satellites, during periods of several years. International comparisons, however, are inconclusive. The available statistics* indicate a wide variation among such ratios for different countries and at different times and indicate only that the East German plans were certainly very ambitious. It was unquestionably possible and desirable to reduce the weight of many items of East German heavy equipment. What is uncertain is not only the extent of the possible "savings" but the rate at which the East Germans could deal with the engineering and production problems involved.

3. Supply and Efficiency of Labor

The most important economic policies affecting the utilization of labor during the Seven Year Plan were, first, the acceleration of technical development, which required the expansion of technical education, extensive retraining and reassignment of workers, and the general revision of work norms and wage scales, and, second, the completion of "socialization," which would affect more than one-fourth of the labor force. The difficulty of carrying out such sweeping changes was aggravated by the scarcity of labor. Labor was already scarce, and employment at best would drop somewhat during the period. There also remained open to every one until August 1961 the alternative of crossing over to West Germany. The regime recognized that the collaboration of labor could be obtained only with the skillful use of "persuasion" and by maintaining the expectation of steady increases in the supply of goods and services.

a. Employment

Plans for employment through 1965 were based on the expectation that the population of working age would continue to decline as a result of the unfavorable population structure in 1958. Because of the low birth rate during and just after World War II, the numbers to reach working age would continue to decline until 1963 and would be lower throughout the period than the numbers reaching retirement age, which represented the age group least affected by the wars and crises of the past 40 years. According to official projections, the result would be a decline of 613,000 (or 5.6 percent) in the population of working age during the period, together with a further increase in the average age.

In this official estimate, no allowance was made for further emigration to West Germany. The first results of the drastic law forbidding "flight from the republic," which had been issued in

* Chiefly data on the apparent consumption of crude steel by the economy. More detailed information is not generally available.

late 1957, doubtless encouraged the regime to expect a steady decline in such losses. The net migration to West Germany dropped from 274,000 in 1957 to 161,000 in 1958 and 81,000 in 1959 -- about 0.5 percent of the population.

Some increase was expected in the participation rates for women (then 56 percent of the women of working age) and for workers past retirement age (then 19 percent).* Because women represent the largest remaining manpower reserve, great efforts were to be made to free them for full-time or part-time work. One of the reasons for the introduction in 1960 of the 8-hour schoolday was to provide day care for children, thereby permitting mothers to work full time. Working mothers also were to receive special benefits, such as time during working hours to care for sick children. Retired workers in many cases had been rehired, and it was already common practice for those who had reached retirement age to continue working.

Any gains to be obtained from higher participation rates, however, would be more than offset by the extension of obligatory schooling to 10 years and further increases in the numbers of students to receive higher education. According to law, beginning in the fall of 1954, all children were obliged to complete the 10-year general polytechnic schools. It was not actually intended to make the changeover so rapidly (according to the State Planning Commission, some 20 percent would still be leaving school earlier in 1965). But the extension of obligatory schooling, together with the increase of more than one-half in university enrollments, was expected to result in the withdrawal of nearly 90,000 additional young people from the labor force.

The only known East German calculation of employment for the period 1959-65 gives the decline at 530,000, an estimate that is consistent with the above figures. Average employment in 1958, including those not counted in reported employment, was about 8,650,000. The projected decline thus amounted to about 0.9 percent per year.

From the minimum of information given out about employment in the Seven Year Plan, it may be inferred that this deficit was to be assigned mainly to agriculture and handicrafts. There were to be very small increases in employment in industry, construction, and transport, and very small reductions in employment in trade and communications. In general, labor was to be shifted to branches where output per worker was higher than the average for the economy. This situation was true on the whole not only of the shifts from agriculture and handicrafts to other sectors but also of shifts within sectors. In industry, for example, it was reflected in an increase in employment for centrally controlled enterprises as a group.

* Estimates comparable with Western data rather than official figures.

When the projected employment figures are put alongside the planned figures for output, as in Table 13, it is evident that very large increases were expected in output per worker -- "labor productivity." Various means were to be used to achieve these increases, such as improved training of workers, fuller use of productive capacity, additions to capital, and introduction of new techniques.

Table 13

East Germany: Indexes of Planned Production, Production per Worker, and Employment a/
1965

1958 = 100

	Production	Production per Worker	Employment
Industry (excluding handicrafts)	188	186	101
Power (public net only)	210	170	124
Mining	125	145	86
Metallurgy	185	164	113
Chemicals	205	195	105
Building materials	234	200	117
Metalworking	218	221	99
Light and food	166	163	102
Industrial handicrafts (including repairs)	125	179	70
Construction	208	221	94
Agriculture	136	192	71
Transport	130	116	112
Communications	126	126	100
Trade	160	160	100
"Material production" b/	166	180	92
"Unproductive" services c/	115	105	110
Total d/	159	169	94

a. Excluding uranium mining, certain defense plants, the SED apparatus, and military and security forces.
b. The subtotal includes all "material production" and thus covers national income, Soviet concept (except uranium mining and certain defense plants, which are excluded from East German national income).
c. The increase in output of "unproductive" services is an imputation. The value of these services is not included in East German production statistics.
d. The total, covering most "unproductive" services, includes all GNP except as indicated in footnote a, above.

When all these are taken into account, however, it is clear that the East Germans were making ambitious plans. The rates of increase planned were even greater than those achieved during the recovery period from 1950 to 1958. This condition is startlingly true for agriculture and construction and in general is true for industry. The rates shown in the table are estimated rates of increase made comparable with Western data. The differences between these rates and past performances are less if the East Germans' own figures are used.

b. Education and Training

The developments in technology and the improvements in efficiency implied in such increases in output per worker could be obtained only by a broad upgrading of technical knowledge and skills. Enrollments were to continue growing at both the secondary and the university level at such a rate that there were to be twice as many qualified technicians and twice as many graduate engineers employed in 1965 as in 1958. In 1958, there were relatively fewer academically trained engineers and technicians in East Germany than in West Germany, presumably as a result of defections to West Germany. By 1965, according to the regime, East Germany would have relatively more technicians with a secondary education, although it was conceded that to catch up in university-trained scientists and engineers would take 2 or 3 years longer.

Plans also were made for greatly increasing the number of apprentices, which had been falling in every branch of the economy for 5 years. There were only about three-fourths as many apprentices in 1958 as in 1952. In both industry and transport, which had been the most affected, there were only three-fifths as many. The decline in the number of school graduates entering the labor force, which had been a contributing factor since the mid-1950's, was to continue until almost the end of the plan period because of the extension of mandatory schooling. The regime, however, planned to bring the number of apprentices generally back to about the level of 1952. In manufacturing, for example, the number of apprentices was to be increased by 82 percent in the electrical engineering industry and by 62 percent in the chemical industry.

On a still wider basis, enrollment also was to be increased greatly in correspondence courses and evening classes at technical schools, specialized short courses at industrial schools, and on-the-job training. Such wide participation was necessary to teach the application of new techniques and to retain workers displaced by mechanization.

c. Work Norms and Wage Rates

The high, widely varying rates of increase in output per worker projected in the Seven Year Plan also called for widespread changes in work norms and wage rates. Work norms and wage rates had in fact been distorted by the growth in labor productivity that had already taken place. No satisfactory basis had been found, however, for introducing timely changes in the face of the resistance of management and the workers. This resistance hardened in 1958-59 as Party intervention in economic affairs increased.

Work norms were especially in need of revision in manufacturing. Overfulfillment of norms had been increasing since the early 1950's. In 1959, for example, about 10 percent of the workers earning piece wages in centrally controlled industry fulfilled their norms by 200 percent, and in heavy machine building more than 60 percent fulfilled their norms by at least 160 percent. Similarly unsatisfactory was the proportion of norms based on time-and-motion studies, which in mid-1960 had been introduced only into the shipbuilding industry. As such data indicate, the regime had proceeded cautiously in revising norms, for enterprise management and trade union officials were reluctant to risk open opposition by the workers.

The same kind of opposition also made it difficult to control the use of wage incentives by enterprises, as indicated by the failure to keep wage payments within the limits set in the economic plans. In 1960, for example, the average wage increased by 5.4 percent in comparison with 1959, whereas the plan called for an increase of only 3.7 percent. The only aspect of wage policy effectively controlled at the national level was the granting of selective wage increases for large groups of workers, whether for reasons of social policy or for purposes of reallocating labor.

d. "Socialization" and Efficiency

No less far-reaching than the projected modernization of East German technology was the program for completing the "socialization" of the economy -- the absorption of independent peasants and handicraft workers into cooperatives and the conversion of other private enterprises (in industry, construction, transport, trade, and services) into state enterprises. At the beginning of 1958, as shown in Table 14,* the private sector still employed slightly more than 3 million workers, or more than one-third of the total employment (including military and security forces). It was the official view that the modernization of the economy and the accompanying increases in efficiency could not be obtained without "socialization."

A great many Party and state officials were skeptical as to whether or not such profound changes, however productive in the long run, could be completed quickly and at little cost. Above all they feared the results in agriculture: first, a further loss of labor to West Germany; second, a decline in family labor in agriculture; and, third, a reduction in efficiency through weakened incentives and the disorganization consequent to socialization. They feared not only that these effects would be more severe and would last longer than was implicit in the plan but also that the projected economies resulting from

* Table 14 follows on p. 46.

Table 14

East Germany: Employment in the Private Sector as of the End of 1957

	Persons
Industry (excluding handicrafts)	484,135
Industrial handicrafts	635,699
Construction (including handicrafts)	255,971
Agriculture and forestry	1,075,262
Transport and communications	36,991
Trade	301,251
Services	289,899
Total	3,079,208

the consolidation of holdings and the modernization of agricultural technology would be realized only slowly. There were similar doubts as to the wisdom of forcing the consolidation of handicrafts into cooperatives. These misgivings probably were more widespread than any others relating to the major economic policies governing the Seven Year Plan.

e. Increased Consumption and the Supply and Efficiency of Labor

To counteract the effects of revising work norms and the wage structure and of proceeding with "socialization," the regime counted heavily on increases in consumption. The emphasis in official propaganda on "overtaking and surpassing" West Germany in consumption was backed up in detailed planning, and it was given a high priority.

The greatest increases in consumption were planned for workers in industry, construction, and transport and communications, for the regime depended above all on their acquiescence and support and the rapid pace of technological development would make the heaviest demands on them. Other groups also were to benefit, but less so. Peasant proprietors and independent handicrafts workers were to benefit least, on the ground that they had enjoyed the main benefit of previous increases in consumption.

The major increases in consumption were in those goods and services in which Western European consumption had been increasing most rapidly in the mid-1950's, which also were those in which East German consumption lagged most conspicuously. Thus the consumption of

basic foods in general was to rise only slowly in relation to total consumption. The rapid increases were to be in textiles and shoes -- above all, improvements in quality, design, and assortment, in which much of East German output was unacceptable; such commodities as coffee and tea and tropical fruits, the shortage of which was particularly resented by the population; consumer durables, chiefly television sets, furniture, refrigerators, motor bikes, and motor scooters; and, in particular, repair services and the handicraft services. The projected increases are summarized in Table 15.

Table 15

East Germany: Planned Increases in Per Capita Consumption of Selected Commodities 1958-65

	Unit	1958	1965
Coffee, roasted	Kilograms	0.712	2.0
Tropical fruits	Kilograms	5.7	16.5
Leather shoes	Pairs	1.2	2.1
Wool cloth	Square meters	2.0	4.5
Cotton and cotton types of cloth	Square meters	20.0	33.0
Television sets per 100 households	Units	6.2	77.0
Refrigerators per 100 households	Units	2.0	27.4
Motor bicycles per 100 inhabitants	Units	3.5	5.3
Motor scooters per 100 inhabitants	Units	1.8	5.5

In addition to the promises of more consumer goods and handicrafts services, the regime also dwelt on prospective improvements in housing, education, welfare, and public health. Investments in all these fields were to be increased considerably, and public services were to be expanded greatly. Most of these measures were directly related to planned economic development. Much of the investment in housing, about one-half, was intended for rapidly expanding industrial areas, in which there were already housing deficits. The relation of education to the production program was even more direct, as explained in b.* Public welfare programs were intended not only to tie the employee's activities more closely to the enterprise in which he worked -- an aspect of socialization -- but to increase employment, particularly among married women and workers past retirement age. Finally the public health

* P. 44, above.

programs were designed, above all, to reduce the frequency and length of absences for illness.

The increases in consumption promised in the Seven Year Plan were designed not only to serve these specific aims but also to provide propaganda with which to influence the East German population as a whole and, to some extent at least, West German and world opinion as well. The demands of propaganda somewhat distorted the plans for consumption and promised to interfere with the achievement of the specific aims. Ulbricht's preoccupation with comparisons resulted in the subordination of goods and services not directly involved in the program for "overtaking and surpassing" West Germany.

One serious weakness was the premature decision to end the rationing of meat, butter, and sugar, a political decision taken in May 1958 after repeated Soviet urging. It was evidently unwise, for the social policies of the regime as well as its propaganda requirements did not permit setting prices high enough to balance supply and demand. As a result, these foods would have to be rationed, in effect, by controlling supplies to retailers, as vexatious a form of rationing as can be devised. Other recognized weaknesses were a lack of storage and undependable transport service, as a result of which perishable foods were wasted on a large scale. Some relief was planned for the lack of storage, but admittedly it was insufficient. From 1955 to 1958, warehouse storage space, presumably in cubic meters, had increased by about 17 percent, whereas centrally controlled retail trade turnover rose by 41 percent. By 1965 the former was to increase by only 6 percent more and the latter by 55 percent. The increases in truck transport promised some improvement in the movement of perishable goods, but in this respect, likewise, East German plans were far from aiming at parity with West Germany.

Services to the population also were threatened by Ulbricht's insistence on socialization. The regime had begun modernizing its retail distribution system with the introduction of consumer credit for consumer durables and mail-order selling (both in 1956) and with the development of self-service outlets (beginning in 1958). The prospective disruption of private agriculture, handicrafts, and retail trade, which continued to supply directly a large part of the demand for goods and services, however, was likely to disrupt the distribution system, especially in rural areas.

Nevertheless, even though the plans for consumption were distorted in some ways and were internally inconsistent, a large real improvement in living conditions was projected. Roughly one-half of the total increase in output during the plan period was to be allocated directly to consumption. The planned increase in personal and

public consumption was conceived at once as a condition of the success of the Seven Year Plan and as a consequence of its realization. Ulbricht's promises in effect were intended to create among the population a self-fulfilling will to believe in "overtaking and surpassing" West Germany. The extent of what he expected to accomplish in this way is indicated by the goals for labor productivity, as discussed above, and the associated capital efficiencies and changes in technology, as analyzed in the rest of this section.

4. Capital Requirements

The ambitious production goals set up for the Seven Year Plan resulted in enormous demands for new capital by representatives of enterprises and individual branches of the economy, and the problem of planning capital requirements was one of cutting back this demand to the general limits indicated by the over-all plans for investment. For capital-intensive branches of industry -- such as electric power and the mining of brown coal -- the study of capital requirements had greatly influenced the production goals themselves, and the estimates developed in the course of long, detailed investigations were not subject to extensive revision. The main problem of the State Planning Commission lay rather in trying to estimate the capital needs of the rest of the economy, including labor-intensive industries. Physical measures of capacity, on which rational decisions could be based for capital-intensive industries, also were used extensively in trying to make estimates for the rest of the economy. No one was satisfied with the result, however, and the experience led, as elsewhere in the Soviet Bloc, to renewed interest in the development of value data for fixed assets that could be used for planning purposes.

From what is known about the estimates made in connection with the Seven Year Plan, the value of fixed capital in the sectors of "material production" was to increase at an average annual rate of about 5 percent. Available information does not actually include any such over-all estimate, but one article gives a rate of 5.4 percent per year as the average rate of increase indicated for the value of fixed capital in nationalized enterprises in these sectors. The over-all rate would be somewhat lower, for little growth was expected in the fixed capital of private and cooperative enterprises, which still accounted in 1958 for about one-tenth of the total value of "productive" fixed capital.

The most rapid growth in fixed capital was projected for industry. According to the article quoted above, the implied rate of

growth for nationalized industry was only 6.1 percent,* which would indicate a rate of somewhat less than 6 percent for the sector as a whole. The growth of fixed capital in agriculture also was expected to be rapid, as is indicated by plans to double the value of the agricultural machinery park by 1965. In trade and in transport and communications, however, the projected growth of fixed capital was to be slow during the period.

In industry as a whole the projected increase in fixed capital clearly involved a substantial decline in capital-output ratios. The trend was to vary, however, from branch to branch. Among the basic materials industries, there was to be a rise in the ratios for electric power and mining, perhaps a slight decline for chemicals, and a substantial decline for metallurgy. In these branches, there had been carefully worked out engineering plans, based on changes in processes, in equipment, and in product mix, and the investment plans were more or less in accord with production plans. On the other hand, all the available evidence suggests that capital-output ratios in the finished goods industries, which were in some cases to decline and in some to rise, were for the most part unrealistic, given the enormous increases planned in output per worker. These industries are, on the whole, labor-intensive, and even large increases in planned capital-output ratios probably would not have justified the hope of raising labor productivity so rapidly in most of them.

The regime was counting far too much on the "inner reserves" of these industries, the gains in efficiency that could be obtained by removing bottlenecks in supplies, equipment, and skills. Such gains had been the chief source of increases in output of the finished goods industries during the early and mid-1950's, but by the latter 1950's, when pre-World War II (1939) levels of productivity had been regained, it could be assumed that future gains would be relatively small. Ulbricht, however, persisted in believing that it was possible to continue such gains as rapidly as ever.

A comparison with West German experience in the mid-1950's gives some idea of the extent to which the projected additions to fixed capital in East German industry fell short of what was needed to carry out the production plans. By the time that West German industry had reached prewar levels of output per worker -- in 1953 for industry as a whole -- the over-all trend in capital-output ratios had already stabilized. The subsequent fluctuations are explained by the business

* The rate is almost certainly understated, chiefly because the value of capital assets in 1958 at current prices was overestimated. The estimate was obtained by applying to data entered at "original cost" a simple price adjustment based on sample studies.

cycle. From 1953 to 1960, West German industry achieved a much lower rate of increase in output than projected in the East German Seven Year Plan, but the rate of additions to fixed capital was higher, and the rate of increase in employment much higher in West German industry during the 7-year period than what had been expected in East Germany from 1958 through 1965.

In agriculture the planned increase in fixed capital probably involved some actual rise in capital-output ratios, as well as the most rapid rate of increase in fixed capital per worker projected for the whole economy during the period. The principal feature of the plan, as already mentioned, was the doubling of the agricultural machinery park by 1965 -- the main condition of the substantial reduction projected in agricultural employment and the extremely rapid increase in output per worker. Substantial outlays, however, also were planned for new buildings needed for the collectivization of livestock holdings. Outlays for agricultural construction were to represent as large an investment as gross outlays for machinery (including capital repairs), even though the rate of additions to structures and installations was to be much lower than the rate of additions to the machinery park. The construction program was much less likely to be fulfilled than the mechanization program, and the goals for converting animal husbandry to large-scale production were less likely to be realized than those for large-scale cultivation of crops.

The relatively small planned additions to fixed capital in transport and communications allowed very little for simple replacement of old equipment, already being used very intensively. Maintenance costs were therefore likely to remain high or even to rise, and service was likely to remain poor throughout much of the sector. The investment program was concentrated on certain priority objectives. Among the important objectives in the transport investment plan were the beginning of the dieselization and some further electrification of the railroads; a large increase in the merchant shipping fleet; the expansion of Rostock harbor and of inland transport to serve the harbor (including a Berlin-Rostock autobahn); and the development of short-haul trucking, with a substantial increase in the truck park and an improvement of the local highway net serving the principal cities. Among the chief objects of the plan for investment in communications were the attainment of military and security requirements, the expansion of television broadcasting, and an increase in capacity for long-distance telephone traffic. Several of the projects listed above were considered urgent for reasons other than to support industry and agriculture -- the increase in merchant shipping; the expansion of Rostock harbor and the related investments in inland transport; and the construction of facilities for military and security use, together with expanded television services.

The relatively small additions to capacity in trade reflected in part the relatively low priority given to improving retail trade service. The main investment in retail trade was the conversion of outlets to self-service as fast as possible in order to cut labor costs. There also was reflected, however, a reluctance to make adequate investment in storage capacity that was related to the persistently unreal view of the regime as to inventory requirements.

5. Technology

Ulbricht's insistence on competition with West Germany was constructive in one respect, that of calling attention to East German backwardness in technology. The result was a broad study of foreign plants, processes, and products and many international comparisons of productivity, mechanization, input coefficients, costs, and the characteristics (including quality) of output. The propaganda for the Seven Year Plan included such comparisons, some of them dealing with the most important industries in East Germany. Output per worker, for example, was said to be lower than in Western Europe by about one-half in production of iron and steel castings and between one-fifth and one-third in production of cement. In the machine tool industry, output per worker was estimated at 45 percent of that in West Germany. Output per worker in the automobile industry was said to be a great deal lower than in Czechoslovakia or West Germany: indeed, 400 man-hours were required to make a Wartburg compared with 260 man-hours to make a Skoda-440 in Czechoslovakia and 68 man-hours to make a Volkswagen in West Germany. One of the most revealing statements on plant and equipment was that the proportion of machine tools 20 or more years old was 38 percent of the total in East Germany as against 18 percent in the USSR and 15 percent in Czechoslovakia.

Many comparisons were made of differences in technology, as, for example, the much greater use of steel castings in East Germany, in which they represented 20 percent of all castings used as against less than 10 percent in Western industrial countries. Another example was the inefficient use of capacity in the iron and steel industry. It was stressed that output per cubic meter of capacity was only about two-thirds of that in the USSR -- both for daily output of pig iron per cubic meter of blast furnace and for output of steel per cubic meter of open-hearth furnace. For still another example, consumption of coke per ton of pig iron output was 50 percent greater than in the USSR and substantially greater than in Poland and Czechoslovakia.

As for quality of product, very unflattering opinions were published. Ulbricht himself said that if he were a factory manager he would not buy the "old machines" any longer but would make do with those he had until he could get "new machines" even if it got him into difficulties in the meantime. The following estimates appeared as to the

proportion of output of East German machinery that could be considered up to world standards -- one-half of the machine tools, one-fourth of all the heavy machinery, and 30 percent of the textile machinery being produced. Even more serious was the charge that only about one-half of the machine tools selected to be offered at the Leipzig fair in the spring of 1960 met the "highest world standards." Again, the textile machinery to be produced and installed during the Seven Year Plan period was described as obsolete (a spinning mill, for example, was said to be of 1925 design). The maximum strength of East German cement was given as well below the normal strength of cement produced abroad. It also was acknowledged that the synthetic rubber used in East German tires wore out more quickly and broke down more readily than the rubber used generally in the West and in the USSR and that the tensile break-point of the viscose tire cord used was 30 percent below that of foreign cord.

The achievements of Western technology, particularly in Western Europe, were applied especially in redesigning machinery and equipment, both for domestic investments and for export. The exercise was without doubt salutary. There are already indications that recent additions to capacity in heavy industry have resulted in substantial reductions in cost and that East German exports of machinery have been competing more successfully in Western markets.

The technological changes most carefully planned and most likely to be carried out are in the metallurgical and chemical industries. Improvements planned in metallurgy are the introduction of oxygen into existing open-hearth and electric furnaces, the introduction of semicontinuous and continuous rolling mills, and the use of vacuum and continuous casting processes. In chemicals a start is to be made toward establishing a petrochemical industry to provide the basis for an eventual shift from calcium carbide to crude oil as a source for many of the organic intermediates used in production of synthetics and plastics. Least likely to be carried out on schedule are the changes for the finished goods industries, although progress will be made in improving material handling, in developing series production, and in introducing assembly lines, measures that were stressed in the plan.

The projected technological changes in the machinery and equipment industries and in construction, to be sure, were much more rapid than justified by the level of planned investment. Apart from this distortion, however, the detailed studies represented a major advance in East German planning for the introduction of large-scale standardized production using specialized machinery and assembly lines. The technical information contained and the greater knowledge of comparative costs and efficiency should permit intelligent reconsideration

of the Seven Year Plan, when it is politically feasible, and indeed probably has contributed to the ad hoc revisions already carried out.

6. Defects of the Seven Year Plan

The imposition of overambitious goals on planning for 1959-65, as described in II, A,* most directly affected the rates of growth projected for the machinery and equipment industries, the consumer goods industries, construction, and agriculture. The inflation of the rates of growth in these branches of the economy was the chief means of raising output fast enough to "overtake and surpass" West Germany during the plan period. The Seven Year Plan was brought into balance both by overstating what these branches could produce with the factors of production allocated and by understating the material inputs that would be required for the planned level of production. Plans for the other sectors of the economy, on the other hand, were on the whole internally reasonable.

Technical and organizational characteristics account for the fact that the plans for electric power, metallurgy, and much of the chemical industry were internally consistent, whereas those of most other industries were not. The branches mentioned are all capital-intensive, and their products either are few or are technically complementary. In these branches the capacity assumed to be available and the state of the art together set rather definite limits to increases in production and economies in the use of materials. Economic plans are therefore based fairly directly on engineering studies, and the leadership tends to accept them. This tendency is reinforced by the cohesiveness and ability of management in these key branches, which are strongly centralized and have attracted the most capable staffs. In branches such as machine building, light industry, and construction, on the other hand, capacity and technical limitations are more difficult to define because labor inputs play a large role and products are numerous and often technically substitutable. As a result, plans depend mainly on approximative and aggregative techniques of economic analysis. This field is one in which the East Germans are backward and in which the political leadership has little respect for the opinions of management. To make the contrast complete, these branches are in general extremely decentralized, management is dominated by Party hacks, and the level of technical competence is characteristically low. Furthermore, in agriculture the problem is compounded by the doctrinaire optimism of Party leaders concerning the effects of collectivization.

* P. 9, above.

The main defects of the Seven Year Plan are readily enough identified, but the distortions involved cannot be measured directly. The only available evidence of how far the proposals of the lower levels of management diverged from the directives of the State Planning Commission -- probably the best direct evidence of distortions in the plan -- is for branches such as the chemical industry, metallurgy, and electric power -- that is, branches with the most reasonable plans. The plans for the machinery and equipment industry, the consumer goods industry, construction, and agriculture can be evaluated only by examining the difficulties that have already arisen and the reaction of the regime, as in the analysis that follows in III, below, and, finally, by comparing them with the independent estimates of capabilities given in IV.*

III. Plan Revisions and Economic Policy

When the Seven Year Plan was finally approved in the fall of 1959, the regime was full of confidence, based on the growth of the preceding 2 years. It was expected, indeed, that the growth in 1959 would be more rapid than planned. The official statistics at the end of the year showed an annual increase of 9 percent in national income. The result reflected a considerable statistical bias, but even when allowance is made for this bias, it appears that the over-all growth was in fact not far from the planned rate for the period 1959-65. In terms of GNP, that is, the growth was somewhat more than 6 percent, the highest rate since 1954. Although investments were already lagging and although agricultural production fell slightly below the level of 1958, confidence was maintained by the encouraging results obtained in industry for the second year in a row.

Since 1959, however, actual economic developments have diverged widely from the projections contained in the Seven Year Plan. Agricultural production increased in 1960 but dropped in 1961. The rate of increase in industrial production fell in 1960 and again in 1961. The lag in investments has become steadily greater.

Officially the regime has explained these disappointments as a result of a decline in employment and the measures required to protect the economy against a Western embargo. Both these factors have indeed contributed to the economic difficulties of East Germany. The sudden decision of early 1960 to force all peasants into cooperatives also has had an effect. These three factors have reduced the average annual rate of growth in the years 1960-61 by at least 1 percentage point. The average rate achieved, however, has been about 3 points below that planned -- less than 4 percent as against 7 percent -- indicating quite

* P. 60, below.

clearly that the planned goals were in any event beyond the capabilities of East Germany.

The regime not only has failed to acknowledge the discrepancy between the original goals and East German capabilities but has recently expressed the hope of regaining in 1963 the rate of growth planned for the period 1959-65. During the Berlin crisis the regime is unlikely to admit that the Seven Year Plan was unrealistic to begin with, because the prestige of Ulbricht and the regime is involved.

In practice, however, the ad hoc decisions on investments and industrial production forced on the regime in 1960-61 must have led to forward planning of a more realistic kind, especially in connection with the almost continuous negotiations in Moscow relating to East German economic development. All of the decisions mentioned below presumably were reviewed in Moscow, and it is quite possible that they were initiated there.

A. Lag in Investments

The need for a revision of investment schedules became evident very early in the Seven Year Plan period. At the end of 1959, when the plan had just been approved, there was already a lag in investments, and the lag became more serious in 1960. The planned growth of investments for the period and the actual growth of investments in 1959 and 1960 are shown in Table 16.* Investments in the first 2 years of the plan were about 7 percent less than planned, and the value of unfinished investment projects, which had been growing very rapidly during the investment drive of 1956-58, continued to grow. During 1960, the average value of these unfinished investment projects was greater than that of the year's additions to capital assets.

The widespread failure to meet schedules for investment projects resulted in large part, of course, from the underfulfillment of plans for production of machinery and equipment and for construction. It also resulted, however, from weaknesses in management, reflected in the familiar tendency to start too many projects at the beginning of a plan period and the partiality of Communist leaders for "big" projects. The symptoms were familiar, and Ulbricht himself in presenting the Seven Year Plan gave out statistics to show that it took nearly twice as long in East Germany as in the USSR to build comparable industrial plants. Ulbricht's own policies, however, contributed to the difficulty, especially his unreconstructed fondness for grandiose projects like the Schwarze Pumpe coal combine, the Stalinstadt (now Eisenhuettenstadt) steel combine, and the Rostock port expansion.

* Table 16 follows on p. 57.

Table 16

East Germany: Index of Gross Fixed Capital Investment a/
1955, 1958-60, and Plans for 1959-61 and 1965

1958 = 100

			1959		1960		1961		1965
	1955	1958	Seven Year Plan	Actual	Seven Year Plan	Actual	Seven Year Plan	Annual Plan	Seven Year Plan
Industry and construction	59	100	124	120	148	136	173	152	206
Basic materials industries	57	100	124	121	142	132	166	146	207
Chemical industry	52	100	141	142	172	160	228	201	301
Metalworking industries	68	100	117	123	153	156	172	162	179
Light industry	94	100	155	138	203	187	267	213	283
Other industry	49	100	123	107	153	122	173	150	202
Construction	47	100	118	123	145		157		196
Agriculture and forestry	83	100	125	127	137	142	141	146	179
Transport and communications	73	100	108	121	119	123	136	138	203
Housing	70	100	128	114	150	117	157	126	183
Other	59	100	110	92	120	106	130	112	241
Total investment	65	100	120	114	137	126	153	137	207

a. The index numbers for planned and actual investment are based on data as nearly as possible comparable. Any lack of comparability is reflected mainly in the index numbers for the residual categories "Other industry" and "Other."

By the summer of 1960 the lag in major investment projects had become serious enough to lead the State Planning Commission to reschedule a number of projects and to warn against major difficulties in holding to the original investment schedules in 1961. Apparently in the hope of forestalling a general cutback in plans for 1961, the regime appealed to the USSR for a very large loan, 1.5 billion DME, for 1961. When the USSR refused to advance aid on any such scale, the State Planning Commission at once ordered a reduction of about the same magnitude, 1.4 billion DME, in planned investment for 1961. This proposal was accepted and approved with apparently little or no debate in October 1960. The cutbacks in investments, about 1 billion DME in construction and 400 million DME in machinery and equipment, were distributed to all sectors in roughly the same proportion to the planned investments. Cutbacks ranged from 5 to 10 percent, running on the average about 7 percent of the original plan goals. During the later stages of planning for 1961, further cuts of some 600 million DME were made, chiefly, it would appear, in construction work, resulting in an over-all reduction of nearly 11 percent.

It became evident during 1961 that even this reduction was not drastic enough. From the latest information it appears that investments for the year ran well below the annual plan and very little above the level of 1960. If this provisional estimate is used, investments during the first 3 years of the Seven Year Plan ran about 10 percent below the planned level (45 billion DME instead of 50 billion DME).

B. Changes in Plans

The lag in investments and the resulting changes in investment schedules have been followed by changes in annual production plans and by some changes in specific goals for 1965. Over-all revisions in the Seven Year Plan also have been discussed at the staff level. In each case the judgments that were made imply the same estimate of how much the planned rate of growth for industry should be cut back -- from about 9 percent, as originally planned, to about 7 percent.

The most general reflection of East German planning since the Seven Year Plan is furnished by the economic plan for 1961, the first annual plan to differ from the original design. In 1960 the increase in industrial production (8.2 percent) had fallen short of the plan of 9.1 percent for that year. A substantially lower rate of increase in gross production, only 7.2 percent, was planned for 1961, chiefly, it is presumed, because of the cumulative lag in investments and the flat refusal of Soviet aid in September 1960.

The increases in production planned for the individual branches of industry in 1961 do not at all suggest, however, a basic reconsideration of problems. In the machinery and equipment industries, with the

notable exceptions of shipbuilding and production of aircraft, the percentage increases planned were slightly greater than those actually achieved in 1960 -- the easiest position for the planners to take. In other industries the planned increases were smaller than the actual increases in 1960 except for a rise projected in the rate of increase in output of clothing. In effect the plan took account of lags in investment and shortages of some imported materials but not of the causes for the appearance of these lags and shortages. Serious imbalances remained between the projected output of the finished goods industries, construction, and agriculture, on the one hand, and the supply of capital and labor and the allocation of material inputs to these sectors, on the other.

There nevertheless were indications that the leadership was aware of serious difficulties in the offing, particularly in the actions taken in regard to the shipbuilding and aircraft industries. In the shipbuilding industry, production was to be cut back (from an increase of 12.2 percent in 1960 to a decline of 9.5 percent), and in the aircraft industry (in which output had dropped in 1960) production was to be discontinued. Both these industries were unprofitable (the aircraft industry was heavily subsidized) and partly dependent on imports of steel and components from the West (chiefly West Germany). The decision on the shipbuilding industry apparently was made in the normal course of planning, and production was in any case to increase very slowly after 1960. The decision on the aircraft industry, however, involved East German prestige and probably would not have been taken except at the insistence of the USSR, which had for some time shown a marked lack of enthusiasm for production of aircraft in East Germany.

Some evidence is already available on the consideration of plan goals for 1962 and the rest of the Seven Year Plan period. There are various indications that staff planners do not believe that it is possible to raise the rate of growth of industry during the rest of the period much above the results of 1960 and 1961, in which the estimated average increase in industrial production (adjusted for comparability with Western data) was somewhat less than 6 percent. These views are in line with earlier East German staff thinking. The leadership continues to hope for better results. In October 1961, Karl Mewis, the new head of the State Planning Commission, intimated that in spite of the prospective underfulfillment of the 1961 plan the regime was expected to raise the rate of growth of industry in 1962 and to return to the original Seven Year Plan rate of 9 percent by 1963.* Similar, and perhaps even more serious, differences exist in relation to the growth of agriculture and construction.

* The East German economic plan for 1962, announced since the completion of this report, reveals that the view of the planners won out, presumably because of Soviet insistence.

Under the present political circumstances a basic revision of the goals for 1965 and thereafter is hardly possible, but further divergence from the Seven Year Plan is unavoidable, and some ad hoc adjustments must be made, especially for purposes of planning investments. The differences between the views of Ulbricht, on the one hand, and the "realists," on the other, make the process of adjustment extremely difficult -- indeed, without Soviet influence and intervention, almost impossible. The process, however, is continuing, and the results should be plain to see in the East German plans of the next few years.

IV. Capabilities for Economic Growth

This section is devoted to the assessment of East German economic capabilities during the early 1960's in the most important sectors: industry, construction, and agriculture. The assessment rests mainly on the recent growth of output, employment, and capital assets in these sectors in East and West Germany, considered in relation to probable changes in the supply of capital and labor through 1965. The assessment is followed by an estimate of the probable rate of growth of the economy as a whole through 1965.

A. Industry

The growth of East German industry in the years 1956-60 offers a fairly good indication of East German capabilities for industrial growth through 1965. The growth in employment in the years 1956-60 was negligible, and industrial employment will at best remain stable in the years 1961-65. Capital assets will grow more rapidly, but unused capacity, which was considerable in 1955, has largely disappeared. The estimated rate of increase in industrial production (including handicrafts) during the years 1956-60, which was about 7 percent, probably is about the highest rate of increase in industrial production the East German regime can maintain during the next few years.

The record of East German industry for the years 1956-60 offers a reminder that in some ways official statistics may be quite misleading. The East German statistics show that the gross output of industry rose over the 5 years by 55 percent, or at an average annual rate of 9.2 percent. Now this rate of increase is exactly the rate proposed in Ulbricht's original plan. At the same time, however, the original goals for all but one or two of the most important commodities were underfulfilled by significant margins, as shown in Table 17.* Evidently the index of the value of gross production must be inflated. The inflation does not result from changes in the branch structure of industry,

* Table 17 follows on p. 61.

Table 17

East Germany: Fulfillment of the Original Goals for 1960 of Selected Commodities

	Unit	Original Goal for 1960	Actual 1960 Achievement	Percentage Fulfillment
Electric power	Billion kilowatt-hours	44	40.3	92
Brown coal	Million metric tons	260	225.5	87
Pig iron	Thousand metric tons	2,250	1,994.7	89
Crude steel (ingots)	Thousand metric tons	3,500	3,337.0	95
Rolled steel	Thousand metric tons	2,600	2,613.3	101
Sulfuric acid	Thousand metric tons SO_3	725	595.9	82
Caustic soda	Thousand metric tons NaOH	350	327.0	93
Soda ash	Thousand metric tons Na_2CO_3	730	593.7	81
Calcium carbide	Thousand metric tons (300 liters C_2H_2 per kilogram)	990.2	922.7	93
Nitrogen fertilizers	Thousand metric tons N	335	334.1	100
Phosphorus fertilizers	Thousand metric tons P_2O_5	200	165.8	83
Synthetic fibers	Thousand metric tons	15.7	7.8	50
Cement	Thousand metric tons	5,200	5,032	97
Bricks	Million units	2,800	2,272	81
Roofing tiles	Million units	499	358.5	72
Concrete products	Thousand metric tons	6,200	6,973	112
Wool cloth	Million square meters	58.8	47.5	81
Cotton and cotton types of cloth	Million square meters	395	345.3	87
Leather shoes	Million pairs	22	25.0	114
Meat	Thousand metric tons (slaughter weight)	701	664.1	95
Margarine	Thousand metric tons	226	180.6	80
Butter	Thousand metric tons	163	174.6	107
Beer	Million hectoliters	14.2	13.4	94
Cigarettes	Million units	19,948	18,187	91

for the use of wage weights instead of gross value weights does not reduce the over-all index (indeed, it raises it slightly). The upward bias, therefore, occurs in the indexes for the industrial branches, probably resulting mainly from the efforts of management to maximize the gross value of output by such means as subcontracting and manipulating price differentials and specifications. Most manufacturing industries would have been affected, but especially metalworking and food processing.

The approximate extent of the bias in the official index is measured by the calculated index as given in Table 18.* This index, based on physical data for outputs of basic materials, shows the increase in industrial production as being about 40 percent from 1955 to 1960 rather than 55 percent as claimed. Industrial handicrafts, which are not covered in the official index for industry, are included (implicitly) in the estimate. Output of handicrafts grew very slowly in the period, and the inclusion of handicrafts, therefore, has the effect of lowering the index slightly. Even so, there is a large discrepancy between the estimated index and the official index.

The bias in the official index also may be measured by computing an index of the over-all fulfillment of the original Ulbricht plan, using the principal commodities for which data appear in the plan. According to this index, the plan was underfulfilled by about 10 percent (see Table 17**). If this percentage of underfulfillment is applied to the projected index of 155 in the original plan, an index of 140 is obtained for industrial production (excluding handicrafts). This result may be considered as corroboration of the above estimate of 40 percent for the increase in industrial output (including handicrafts) during the period 1956-60.

Employment in industry and handicrafts remained practically stable during the period, increasing somewhat in 1957-58 and beginning to decline in 1959-60. This decline continued in 1961, and there probably will be some further drop during the next few years.

The distribution of industrial employment by branch of industry changed very little during the latter 1950's and is likely to change very little during the early 1960's. The main increases were in branches producing basic materials, in which employment increased from 1955 to 1960 by almost 2 percent per year. Employment in the consumer goods industries declined slightly because of the considerable decline

* Table 18 follows on p. 63.
** P. 61, above.

Table 18

East Germany: Index of Industrial Production 1960

Commodity	Weight	Index, 1960 (1955 = 100)
Electric power	620.4	140
Mining		
Brown coal	1,066.3	112
Hard coal	76.1	101
Metallurgy		
Pig iron	510.6	132
Rolled steel	123.4	139
Chemicals		
Sulfuric acid	118	123
Caustic soda	85	127
Soda ash	166	130
Calcium carbide	154	116
Nitrogen fertilizers	136	114
Phosphorus fertilizers	18	196
Rayon filaments	84	121
Rayon staple fibers	164	114
Synthetic fibers	116	228
Building materials		
Cement	199	169
Bricks	259	116
Concrete products	81	420
Light industry		
Textiles a/	1,424.1	112
Leather shoes	138.9	142
Paper	158.1	128
Wood products a/	359	110
Food processing		
Meat	295	109
Meat products	218	160
Flour	217	98
Margarine	78	98
Butter	249	121
Sugar	155	106
Beer	217	114
Cigarettes	124	102
Metalworking b/	5,714	172
	Calculated index of industrial production c/	140
	Official index of industrial production (excluding handicrafts)	155

a. The indexes for both textiles and wood products are based on increases in the total supply of yarn and veneer, respectively.
b. This index is an estimate based on the official East German index for metalworking, taking into consideration the increase in double-counting that results from subcontracting and specialization.
c. The industrial output of handicrafts enterprises is covered by this index because the base year weights selected for the major inputs into branches in which handicrafts are important -- notably yarn, meat, flour, and steel -- reflect value added in handicrafts and because the indexes for these inputs are based on figures that include supplies to handicrafts.

in handicrafts employment. In the machinery and equipment industries the trends vary, with little over-all increase. The same general priorities were projected for the period through 1965.

The general level of skill and education in the industrial labor force should improve somewhat more in the next few years than during the latter 1950's. The workers lost to West Germany had somewhat better than average training, and the closing of the sector border alone assured a slightly more favorable trend (apart from adverse effects on the attitudes of the labor force). The expansion of training and educational programs also should have some effect during this period, although the full effect will not be evident until the latter 1960's. The net effect is that the outlook with respect to industrial employment in the next few years is at best slightly more favorable than the actual trend for the period 1956-60.

The growth of fixed capital during the next few years is more uncertain, for it depends on economic growth and on policy decisions. Thus, any comparison of the prospective growth during the next few years with past growth involves other estimates for the period, as well as an allowance for underutilization of capacity at the beginning of the two periods.

As part of the rapid over-all growth of investments during the latter 1950's, capital investments in industry rose by 1960 to more than double the level of 1955. Almost one-half of the total for industry was invested in the fuels and power industries, but the amounts devoted to manufacturing also increased sharply. In a few branches, notably ferrous metallurgy and shipbuilding, investments rose very little. Because the growth of capacity lagged by at least a year behind the increase in investments, the value of capital assets in industry at replacement cost increased from 1955 to 1960 at an average rate of only about 3 percent per year. This increase is much less than the plan figure of about 6 percent per year implied in the Seven Year Plan data for the years 1961-65. The planned increase, however, will not be realized. East Germany has been unable to maintain the projected rate of increase in investments in recent years. Instead of the increases of 19 and 17 percent, respectively, planned for 1960 and 1961, the actual increase in 1960 was only 13 percent, and there was only a small increase in 1961 (probably 3 percent). Even if this lag is reduced somewhat, investments are almost certain to be well below the planned amount, and the value of capital in industry probably will grow by less than 6 percent per year during the years 1961-65.

The effects of a more rapid growth of capacity depend somewhat on changes in structure, which probably will be slight, and the introduction of new technology, about which it is not possible to be at all

precise. The main consideration, however, in making a comparison with the latter 1950's is the fact that most of the capacity not fully utilized in 1955 is now employed much more effectively. The best indication of the decline in the amount of unused capacity is the gradual disappearance in the latter 1950's of extreme fluctuations during the year in the level of production. Production tends to rise in the last month of each quarter, to fall in the next month, to rise in the last quarter of the year, and then to fall sharply in January of the following year. Such fluctuations were considerably reduced in 1956 and again in 1959 and 1960. In 1960, moreover, the range was no greater than the normal range for West Germany, as shown in the chart, Figure 2,* which compares the monthly fluctuations in output of the East German and West German machinery and equipment industries from 1955 to 1960. This comparison strongly suggests that there was much less excess capacity in these industries in East Germany in 1958 than Ulbricht was willing to admit and that most of it disappeared in 1959-60.

Labor productivity in these industries remains substantially lower in East Germany than in West Germany -- according to an East German estimate, which is approximately correct, East German labor productivity in machine building in 1960 was still only 70 to 75 percent of the West German level. The lag in East German efficiency, however, no longer reflects to any great extent material shortages. Rather, it is now "built into" the economy. It represents, that is, the loss of efficiency resulting from the partition of Germany, the investment policies of the postwar period, the basic weaknesses of East German management, and the inherent limitations on foreign trade within the Soviet Bloc. There is therefore no reason to expect the continuation of such significant increases in labor productivity and reductions in capital-output ratios as occurred in the latter 1950's.

A maximum rate of 7 percent in the annual growth of East German industry during the years 1961-65 also is suggested by the record for West Germany in the most nearly comparable period, 1956-60. Output per worker and capital-output ratios in West German industry in 1955 were much the same as those in East Germany in 1960, although there were considerable variations from branch to branch in manufacturing and although the mining industries are quite different in character. During the latter 1950's, industrial employment in West Germany increased by nearly 3 percent per year, or by much more than the East German regime possibly can expect in the early 1960's. The value of capital assets grew by more than 7.5 percent, a more rapid growth than probably will be achieved during the next few years by East Germany. Similarly, West German foreign trade increased at a rate

* Following p. 66.

of about 12.5 percent per year, likewise higher than the probable rate for East Germany. The rate of industrial growth achieved was about 7 percent per year. Thus, West German experience indicates that East German industry would be doing very well to increase industrial production by anywhere near this rate during the early 1960's.

In some respects, however, West German experience is not comparable, and the results of a comparison tend to understate East German capabilities. In West Germany, there was some decline after 1954 in the utilization of industrial capacity. East Germany, therefore, would need proportionally less capital to achieve the West German rate of growth than West Germany actually used. There also are important differences from branch to branch. For example, the use of electric power capacity in East Germany is so much more intensive that West German experience is scarcely relevant. Again, in West Germany most mining is shaft mining for hard coal, whereas in East Germany mining is chiefly strip mining for brown coal, which is more capital-intensive. There also is no parallel in West Germany for uranium mining, which is still very inefficient in East Germany.

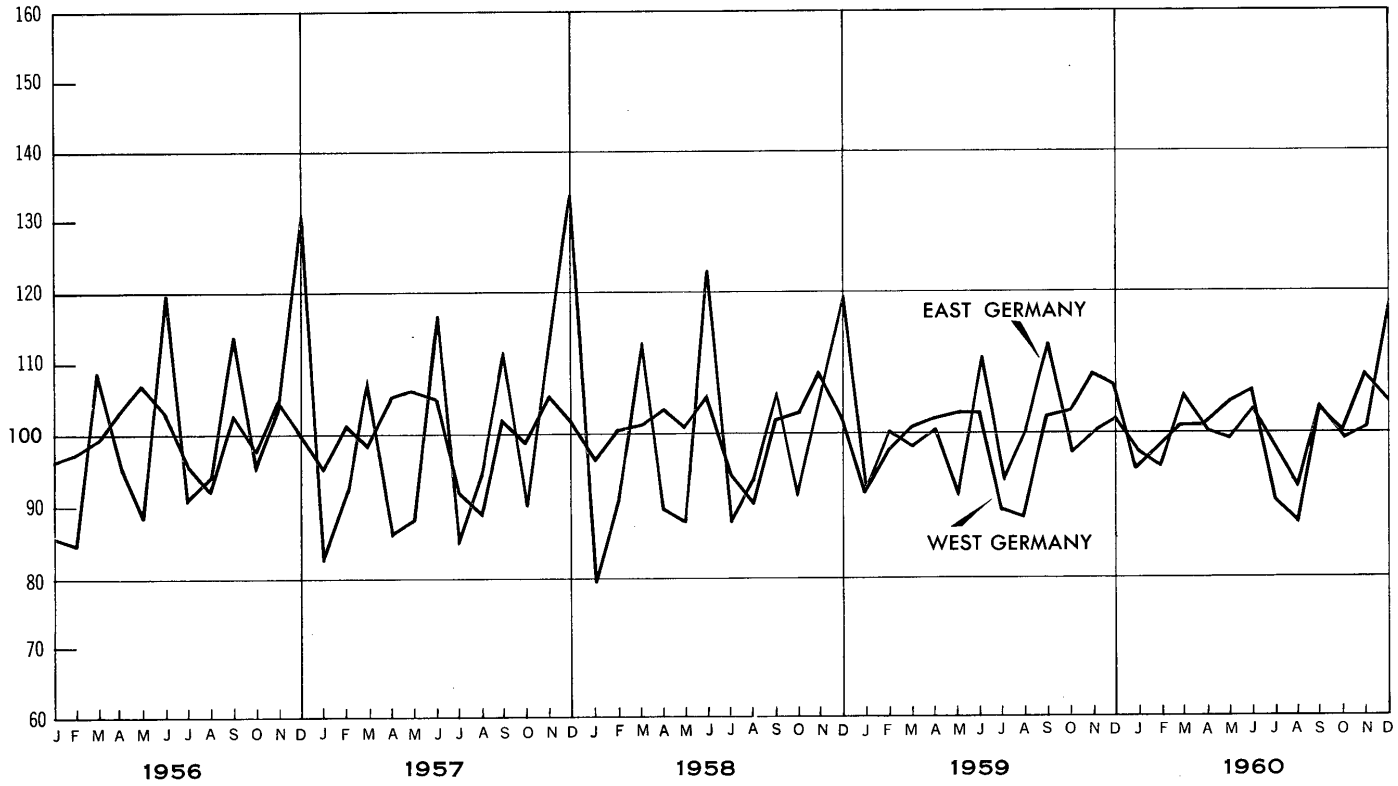
B. Construction

The growth of construction undoubtedly will be slower in the early 1960's than it was in the latter 1950's. The reduction of Soviet exploitation after 1955 and the resulting stimulus to East German investment resulted in a rapid increase in construction -- the growth in 1956-60 was indeed faster than in the early 1950's. At current prices the value of construction increased by about 73 percent from 1955 to 1960. The rise in costs was relatively slow, and the real growth of construction probably was between 55 and 60 percent during the period. Value added in construction increased somewhat less rapidly, with the greater use of highly processed materials such as reinforced concrete.

There is no really satisfactory basis for estimating the growth of East German construction. Apart from average costs for state and cooperative housing (since the mid-1950's), there are only scanty cost data available for deflating the published figures on the value of construction. There are no physical indicators of the volume of the various types of work done except the total housing space built and renovated. A weighted index of inputs is likely at best to give only a very rough answer, especially because the indexes of the availability of the chief construction materials during the period vary so widely. There was a large increase in the supply of cement (112 percent) and a substantial increase in the use of steel (probably more than 80 percent), but production of bricks and roofing tile rose very slowly (16 percent), and the consumption of wood declined slightly.

Figure 2

EAST AND WEST GERMANY: MONTHLY FLUCTUATIONS IN METALWORKING PRODUCTION 1956-60



36045 4-62

Based on monthly production figures adjusted to eliminate long-term and seasonal trends.

50X1

For lack of any better basis, information on inputs has been used in estimating the growth of construction during the latter 1950's but in a way that minimizes the possible error. The supply of the principal inputs to the construction sector increased from 1955 to 1960 roughly in accord with the plan, and an estimate of the actual growth of construction in the period can be obtained by applying to the index number for the planned growth of construction a factor representing the weighted fulfillment of plans for the supply of construction materials. On the basis of Ulbricht's original directives the supply of cement in 1960 was greater than planned (by about one-tenth) and that of bricks and roofing tile somewhat less than planned (by about one-fifth). Supplies of steel and wood to the sector were approximately at planned levels. Thus the over-all availability of inputs probably was close to planned levels (using West German price weights). Planned savings in the use of materials, on the other hand, may not have been achieved. On balance, however, the construction sector probably came very close to fulfilling Ulbricht's original goal of an increase of 58 percent in construction (an estimate that, taken in connection with the official index, implies an increase of about 10 percent in construction costs during the period 1956-60).

The estimated increase of nearly 10 percent per year in construction from 1955 to 1960 (somewhat less for value added in construction) was obtained with an increase of only about 0.2 percent per year in employment. The high rate of increase indicated in output is explained mainly by the availability of additional materials, including concrete products (an increase of 320 percent) and fiberboard (an increase of 147 percent). The prewar level of output per worker was reached by the middle of the period, but the prewar German construction industry was operating considerably below capacity, and the East German industry probably did not reach capacity until 1960. The growth of productivity in 1960 was still substantial (more than 5 percent), but in 1961 there was no further growth, possibly in part because of the effects of the Berlin crisis. During the next few years it seems probable that further increases in productivity will be much more modest than those in the latter 1950's. They will depend heavily on the industrialization of the industry -- on investment and the development of standardized components and prefabrication. These factors also will be the main source of increases in output, for there is little prospect of increasing employment in construction, which fell in 1961, given the probability of some decline in over-all employment.

The hope of rapid gains through "rationalization," however, are not well founded. Indeed, efforts to reorganize production may well prove, as in agriculture, counterproductive. The regime has succeeded since 1957 in forcing nearly one-half of the handicrafts enterprises into cooperatives and has acquired control of more than one-half of

the surviving "capitalist" enterprises. It is unlikely, however, that the attitudes of the managers and workers can be changed rapidly. The small handicrafts enterprises and cooperatives, the private enterprises, and the "semistate" enterprises together account for more than 40 percent of all employment in construction. The locally controlled state enterprises, which account for another 45 percent of employment, also are relatively small, and the management and workers of these enterprises then tend to resist changes.

This resistance is serious enough to warrant a very conservative projection of output in East German construction in the early 1960's. There is no basis, however, for any very specific figure. West German productivity continued to grow by about 5 percent per year for several years after reaching the prewar level of productivity (already attained in West Germany by 1950) in spite of the ready availability of additional labor. Thus the East German industry should be capable of attaining at least this rate in the early 1960's. Employment, however, probably will decline slightly, and the resistance of management and labor probably will have some adverse effect. For these reasons, the growth of output of construction is estimated at 4 percent per year, but the estimate is less firm than that for industry.

C. Agriculture

The prospects for growth in East German agriculture at best are uncertain. During the years 1954-58 there was a marked improvement in crop yields, in production of meat, and in output per worker. The principal causes were a rise beginning in 1953 in average prices paid to the peasant (itself mainly the result of increased production and the high prices paid for deliveries above the quota) and subsequent increases in the supply of fertilizers and feed and in the availability of agricultural machinery. These increases did not continue in 1959 and 1960 -- there was, in fact, a drop in output in 1959 -- but the results could be laid mainly to less favorable weather. They indicated indeed that socialization, which was increasing rapidly in 1959 and was completed in 1960, would not necessarily result in a decline in output. A further drop in output in 1961, however, suggests that the cumulative effect of discouragement and disorganization in the village may well be more serious than at first appeared. These factors weigh at least as much as the trend in employment and the rate of growth of fixed capital in evaluating the prospects through 1965.

In agriculture, as in construction, the East German regime sees a sector characterized by small-scale production with prewar techniques,

in which output per worker has only recently exceeded prewar levels. Like construction, agriculture is to be completely reorganized into larger units, with a great increase in mechanization and the introduction of new techniques. The difference is that the social resistance to be overcome, the managerial problems to be solved, and the capital requirements for reorganizing the sector are much greater than in construction. These factors would have been serious enough if the regime had proceeded, as foreseen in the Seven Year Plan, with a more or less gradual socialization program. The decision taken in February 1960 to bring all peasants into the collective sector suddenly left the regime facing all the problems at once.

The managerial problems in particular were magnified by the sudden socialization of agriculture, not only because one-half of the agricultural labor force had to be provided with direct supervision but also because the regime could not provide the capital required for the establishment of new cooperatives on such a scale. The regime could not provide at once the machinery needed to replace the labor supplied at harvesttime by the family of the independent peasant or the new construction needed to shelter livestock on a cooperative basis. Even under the ambitious production schedules of the Seven Year Plan, the necessary machinery and construction would take several years to provide.

With the resources at its disposal the East German regime probably will have some success in increasing production during the next few years in spite of a decline in employment. The most likely development is a fluctuation in output within a broad range, with probably a slight upward trend. The resulting increase in production and productivity, however, will be bought dearly. The added investments and higher industrial inputs involved even could lead to a decline in value added in agriculture until some way is found of easing, if not solving, the social and managerial problems growing out of collectivization. Thus the contribution of agriculture to the national income will rise little if any during the period 1961-65.

D. Conclusions

The preceding estimates of capabilities of growth in the most important producing sectors of the East German economy lead to the conclusion that the rate of growth through the mid-1960's probably will be somewhat lower than it was in the latter 1950's. In the years 1956-60 the average growth of GNP was about 5 percent per year. The estimates of capabilities suggest that the rate of growth in the years 1961-65 probably will lie between 3 and 5 percent per year, with

a best estimate of 4 percent per year. This estimate may be broken down as follows, sector by sector:

	Annual Rate of Growth (Percent)
Industry (including handicrafts)	6
Construction	4
Agriculture and forestry	Negl.
Transport and communications	3
Trade	4
Other services	2
National income (and GNP)	4

The growth of transport and communications and of trade is estimated on the basis of the need for these services implied in the estimates for other sectors. Although the policy of skimping on these services involves a cost to other sectors, the supply of such services is not expected to limit economic growth. Therefore the projected growth of the service sectors is related to that of industry, construction, and agriculture. The estimate for other services assumes a slight net increase in employment and a nominal increase in productivity.

The economic prospects of East Germany in the early 1960's are somewhat less favorable than suggested by the above estimates of capabilities for growth. Politically and socially, East Germany has become less stable than in the latter 1950's as a result of the steps taken to convert East Germany into a full-fledged "peoples democracy" entirely isolated from the West. The tightening of Party controls over the state apparatus and of legal and extralegal pressure on the populace in the effort to suppress dissent and to push the economy to the limit of its capabilities tends to reduce efficiency. So too does the elaborate program developed in 1961 minimizing the effects of a Western embargo. The combined effects on economic growth may be significant if the Ulbricht social and political policies are continued through the period and if East Germany continues with the program of making the economy independent of West German imports.

The above estimates assume that the East German regime will remain intact through the Berlin crisis and that East Germany will not have to bear the main cost of a prolonged Western embargo. If the regime does not remain intact or if the economy must bear the main cost of a long embargo, economic growth will be severely affected, and the average annual rate of growth may fall well below 3 percent

for the period 1961-65. Even a Western embargo of a few months, given the assumption that the USSR and the other European Satellites promptly come to the help of East Germany, would have a significant short-term effect on the rate of growth and some effect in the following years.

If, on the other hand, none of these unfavorable developments takes place and if the USSR furnishes economic support to East Germany on a large scale, East Germany may do somewhat better than estimated. There is little basis for evaluating the possibility that East Germany may receive large-scale aid. In May 1961 the regime announced, in connection with the renegotiation of the Soviet-East German long-term trade agreement, that the USSR had agreed to extend credits of 2 billion DME, nominally worth about $500 million. The credit apparently is for the years 1961-65. The East Germans have not given out any further information about the credit, nor has any corroboration been furnished either by the Soviet press or otherwise. The most plausible explanation is that the USSR reluctantly agreed to defer the repayment of East German debts falling due during the period in order to assure that certain investment projects in East Germany would be completed on time. Important as this aid can be, however, it is estimated that at least twice this amount would be required to raise the average rate of growth by 1 percentage point during the 5-year period. The East Germans themselves may well have been thinking in even larger terms. They doubtless will continue to urge on the Soviet government the strategic importance of making East Germany a "show window" of Communism.*

* Since the completion of this report, negotiation of a goods credit of $310 million, presumably for the year 1962, has been announced. It is not known what this credit has to do with the East German announcement of May 1961, but the new announcement is at least better substantiated, for it was announced simultaneously by both Soviet and East German sources.

Next 9 Page(s) In Document Denied

50X1

50X1

Declassified in Part - Sanitized Copy Approved for Release 2013/04/01 :
CIA-RDP79R01141A002400010001-2