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ECONOMIC INTELLIGENCE REPORT

INDUSTRIAL INVESTMENT IN EAST GERMANY SINCE WORLD WAR II



CIA/RR ER 60-20

August 1960

CENTRAL INTELLIGENCE AGENCY

OFFICE OF RESEARCH AND REPORTS

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FOREWORD

The purpose of this report is to review the role of industrial investment in the reconstruction and development of the East German economy since World War II. Investment policy during this period has been designed to achieve a variety of objectives. A number of changes in policy have taken place as a result of physical limitations and shifts in political objectives. This report traces the direction and the magnitude of the changes in investment, and it assesses the extent to which investment policy has aided in the achievement of specific objectives. Finally, the role of investment in economic planning for the future is reviewed, and an analysis is made of the prospect for fulfilling the investment plans.

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INDUSTRIAL INVESTMENT IN EAST GERMANY SINCE WORLD WAR II*

Summary and Conclusions

Industrial investment** in East Germany was relatively small during the years immediately following World War II. In 1948, however, the Soviet policy of exploitation was relaxed somewhat, and a program of rebuilding the East German economy along the lines of the Soviet economy was begun. This program emphasized heavy industry, and only a relatively small share of resources was allocated to consumer industries. The rate of accumulation during the First Five Year Plan (1951-55) was about 12.1 percent, which was considerably less than the 25 percent that is usually considered to be correct in Soviet theory. The rate of investment in industrial fixed capital appears to have been correspondingly low. Soviet exploitation limited East German production of investment goods, largely because of plant dismantling, the taking of large quantities of currently produced equipment as reparations, and the transfer of some East German plants to Soviet ownership. A large proportion of the investment expenditures in East Germany between the end of World War II and 1953 was used in the expansion of the iron and steel and heavy machine-building industries, the products of which had been obtained largely in the area that is now West Germany before World War II.

The economic "new course" announced in 1953 resulted in a relative shift in investment allocation in 1954 and 1955 toward the consumer industries. This move was accompanied, however, by a large absolute shift toward the basic materials industries and both a relative and an absolute decline in investment allocation to the metalworking industries. Within the basic materials industries, the emphasis in investment was shifted from the iron and steel industry to the coal and power industries. These changes in investment allocation resulted primarily from factors other than the concern for consumer needs that gave rise to the new course. The cessation of reparations to the USSR relieved the pressure on East Germany to expand production of heavy machinery at the rate previously necessary. The decreased rate of investment in ferrous metallurgy reflected the improved supply of steel in the Soviet Bloc, and the increased investments in the coal and power branches of industry reflected the needs of other expanding industries.

* The estimates and conclusions in this report represent the best judgment of this Office as of 15 July 1960.

** For a discussion of investment accounting, see Appendix A, and for definitions of terms, see Appendix B.

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Changes that have occurred in the East German industrial investment program since 1956 appear to be the result of two sets of circumstances, as follows: (1) the cessation of Soviet exploitation of the East German economy and (2) a more rational evaluation of economic realities than prevailed in the past.

The priorities for industrial investment that were established in the revised Second Five Year Plan (1956-60) indicate a recognition of the need for considerably greater development of the coal and power industries. These industries were allocated more than one-half of the total amount of industrial investment for 1956-60. Metalworking was reemphasized, but production was to be shifted from heavy, steel-intensive lines of machinery to those lines with relatively large inputs of highly skilled labor. These and other measures are designed to increase the returns from a given amount of investment and productive activity through a better use of the international division of labor than prevailed during the First Five Year Plan.

East Germany abandoned the revised Second Five Year Plan in early 1959 and adopted a Seven Year Plan (1959-65). The Seven Year Plan indicates the continuation of the East German trend toward recognition of the economies of international specialization. There is recognition, also, of limits to industrial expansion imposed by the existence of dissident elements in the labor force. [redacted] the labor force will decline by 500,000 workers between 1958 and 1965.

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Under the new plan, gross industrial production is to increase by an average annual rate of 9.4 percent compared with the 6.7 percent planned during 1956-60 and the 8.3 percent achieved during 1956-58. The metalworking industries are to increase gross production by 11.7 percent annually to 1965 and the chemical industry by 10.9 percent annually. These are the two major priority groups for investment in industry, and they are to account for approximately 60 percent of the increase in gross industrial production during 1958-65. The metalworking industries alone are to account for 41.7 percent of the increase. The gross production of the metalworking industries in 1965 is to be 39.8 billion DME,* which is 117 percent greater than production in 1958.

State industrial investment in East Germany is planned to total 60.2 billion DME during 1959-65, which is 58 percent of the planned

* Deutsche Mark East (East German marks). Unless otherwise indicated, DME values throughout this report are expressed in current DME and may be converted to US dollars at the rate of 1 DME to US \$0.25 to \$0.35. This rate of exchange, however, does not necessarily reflect the dollar value.

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total state investment. The average annual investment in industry is to be 8.6 billion DME, or 87 percent more than the average annual investment during 1956-58.

The largest share of state industrial investment, 20.2 percent, is allocated to the electric power industry. The allocation to the coal industry is approximately 15.1 percent in the Seven Year Plan compared with more than 30 percent in the revised 1956-60 Plan. A substantial increase is planned in investment in the chemical industry, which will receive 18.1 percent of the amount allocated to industrial investment.

The metallurgical industry is allocated a smaller share of industrial investment than in previous years. Under agreements concluded with the USSR in 1958, East Germany will receive considerably larger imports of Soviet metals and metallurgical coke.

A petroleum pipeline is to be built from the USSR to East Germany. Crude oil supplied through this pipeline will constitute an important chemical raw material that will be the basis for expansion of the plastics and synthetic fiber industries.

In spite of the large expansion planned in the metalworking industries, only about 12.4 percent of the industrial investment funds for 1959-65 are planned to be allocated to them. The impressive increase in production by the metalworking industries is to be achieved with a minimum of investment and in spite of the tightening labor supply. In addition, the export commitments of the metalworking industries will remain high, and important changes are taking place in the product mix of these industries. In view of these factors, the fulfillment of plans for the metalworking industries appears doubtful. If these plans are not fulfilled, the over-all industrial investment plan probably will not be fulfilled.

I. Early Postwar Years (1945-50)

It has been estimated that war damage and Soviet dismantling of industrial plants during 1945-48 reduced the capacity of East German industry to less than 50 percent of the level existing before World War II. 1/* Until mid-1948 the dominant Soviet economic policy in East Germany was the exploitation of the economy for the benefit of the USSR. This exploitation was accomplished through the dismantling

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of plants, the taking of huge reparations from current production, the transfer to Soviet ownership of about 200 East German enterprises (Sowjetische Aktiengesellschaften -- SAG's), and other means. In the face of these Soviet exactions, it was virtually impossible for the East German economy to regain the prewar level of production.

A shift in Soviet policy took place in 1948. The dismantling of East German plants was stopped, and a policy of rebuilding the economy along the lines of the Soviet economy was initiated.* It was evident by the time of the Two Year Plan (1949-50) that several changes in investment policy were necessary in order to achieve that objective. First, a reconstruction program had to be undertaken to recoup the losses of fixed capital from war damage and the dismantling of plants. Second, new lines of production had to be introduced in order to develop new sources of commodities previously obtained from West Germany. Third, the remodeling of the economy along Soviet lines required emphasis on the development of heavy industry and the relative neglect of consumer industries.

Before World War II the economy of the region now comprising East Germany was complementary to that of West Germany. The value of the goods sold by each area to the other approximately balanced. East Germany traded its surplus of such items as precision, optical, and light industrial equipment; textiles; and lignite for West Germany's surplus of heavy machinery, iron and steel, bearings, and the like. After the war the barriers to trade between the two areas resulting from the differing economic policies of the occupying powers led to a sharp reduction in trade between them.

The denial of West German steel to East Germany resulted in some of the most acute problems that East Germany has encountered in its postwar development. East Germany has few deposits of iron ore and hard coal for steelmaking. About 90 percent of the German steel was produced in the western area in 1936, and approximately 60 percent of the iron and steel requirements of the area that is now East Germany was brought in from elsewhere, primarily from the western area. During the first half of 1948, imports of iron and steel (expressed at an annual rate) from West Germany had declined to only 7 percent of the level in 1936. 2/

* An economy of the Soviet type has the following characteristics: (1) public ownership of most of the means of production; (2) determination of economic goals by a central authority; and (3) emphasis on strengthening the national economy by preferential investment in producer goods industries, thus leading to a steady rise in the national product.

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War damage to iron and steel plants was slight, but Soviet dismantling reduced the capacity of the industry to approximately 20 percent of its prewar level. 3/ Following the reversal of Soviet economic policy in East Germany in mid-1948, a program to expand the iron and steel industry was initiated. Given the Soviet demands for large quantities of heavy machinery, the requirements of East Germany and the other European Satellites for machinery, and the great difficulty in obtaining adequate supplies from either Soviet Bloc or Western countries during this period, East Germany had little choice but to restore and develop some iron and steel capacity within its own borders. A major emphasis of the Two Year Plan was on the reconstruction of dismantled iron and steel plants. The USSR returned three rolling mills to East Germany in 1949, and the latter country obtained other equipment, including one rolling mill, from West Germany. 4/ By the end of the Two Year Plan the capacity of the East German iron and steel industry was largely restored to its prewar level.

Another priority program of the early postwar years was the retooling of the East German metalworking industries for production of heavy industrial equipment. Before the war the area now comprising East Germany specialized in production of light machinery. Little heavy machinery was produced, largely because of the poor iron and steel resources and the small size of the domestic market.

Reorientation of the East German metalworking industries after the war resulted in increased emphasis on heavy machine building. The development of heavy industry in both East Germany and the other European Satellites, together with Soviet reparations demands, created a market for heavy equipment that did not exist in the 1930's. At the same time, traditional prewar sources of heavy machinery in the West were cut off. The facilities available for heavy machine building were reduced drastically by dismantling and by conversion to SAG's. After the end of the dismantling in 1948 the capacity of the industry was reduced to about 35 percent of the level in 1936. Approximately 80 to 90 percent of production in 1947 came from SAG's. 5/

Planned, centrally directed reconstruction and development of the East German metalworking industries did not begin until the Two Year Plan. More than 90 percent of the metalworking investment was allocated to the heavy machine-building industry. Of the allocations to heavy machine building, the machine tool branch received more than one-half. 6/ Machine tools and equipment for mining and metallurgy accounted for approximately 90 percent of production in the heavy machine-building industry during 1946-50. 7/

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II. First Five Year Plan (1951-55)

A. Plans

The East German First Five Year Plan (1951-55) envisioned a total fixed capital investment of 28.6 billion DME* during 1951-55. The share of investment in industrial fixed capital was planned to amount to 15.4 billion DME, or approximately 54 percent of the total. The First Five Year Plan continued the emphasis on heavy industry that began in the early postwar years. Gross industrial production was to increase by 1955 to 192 percent of the level in 1950. The greatest increases in production were to be achieved in the machine-building and metallurgical industries, which were of critical importance in the further development of the economy. 8/

The postwar reconstruction was nearing completion in East Germany in 1951. It was still possible, in some branches of industry, to achieve substantial increases in production with relatively small investment. The Soviet occupation authorities allowed such rapid expansion to occur only in those industries that were important to their objectives. The major economic objectives were (1) to extract large amounts of East German production in the form of reparations and (2) to continue the building of a socialist economy on the Soviet model. Although these two objectives conflicted to some extent, together they served the Soviet purpose of securing large economic gains for the USSR at the expense of the East German economy. The early postwar policy of obtaining capital reparations through dismantling suffered from a number of weaknesses. For example, (1) an existing plant could be added to the Soviet economy only once, whereas if it were operating in East Germany, its products could flow to the USSR for a number of years, and (2) old plants could produce capital goods more productive than their own fixed capital, and these goods could be sent to the USSR. The building of an economy of the Soviet type required large investment in heavy industry. With the achievement of increased capacity in heavy industry, the large pool of skilled German labor could be put to work producing capital goods for the Soviet economy.

The economic objectives of the Soviet occupation authorities during the First Five Year Plan made it difficult for a large percentage of the East German gross national product (GNP) to be devoted to investment in fixed capital. Reparations were a drain on production of capital goods, and the necessary export of machinery further prevented East Germany from acquiring much-needed capital goods for its own industry.

* Not including capital repairs.

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B. Plan Fulfillment

Actual gross fixed capital investment in East Germany during 1951-55, including capital repairs, is estimated to have been approximately 15.4 million DME. That figure represents a substantial under-fulfillment of the plan, for the plan figure, which happened also to be 15.4 million DME, did not include capital repairs, and investment costs rose during the period. Actual gross fixed capital investment in industry amounted to approximately 47 percent of gross fixed capital investment in the whole economy (including capital repairs) compared with a planned share of about 55 to 60 percent.

Table 1* presents data on gross fixed capital investment in the main installations in centralized industry and construction during 1951-55, which totaled 10.9 billion DME. The major industrial groups** shared in the total as follows: the basic materials industries, 69.0 percent; the metalworking industries, 17.7 percent; light industry, 6.6 percent; the food industry, 4.4 percent; and the construction industry, 2.3 percent. Of the individual industrial ministries, the Ministry of Coal and Power received the largest investment allocation, about 32.0 percent of the total in centralized industry. The Ministry of Mining and Metallurgy received the second largest allocation, about 22.4 percent of the total.

Trends shown by the annual investment figures in Table 1 may be misleading if used without reservation. The use of current prices gives the series an upward bias because investment costs rose during 1951-55, possibly by one-third. Also, the number of enterprises covered by the data appears to have been broadened by the inclusion in 1954 and 1955 of former SAG's. One result of that accounting change is the increase of about one-third between 1953 and 1954 in the totals given in Table 1. The official, or "state," investment series indicates a decline of approximately 11 percent in fixed capital investment in centralized industry during 1951-55.***

In spite of imperfections, the data in Table 1 indicate the shifts in industrial investment policy that occurred during and following 1953. In 1953 the East German authorities announced a new course in their economic policies. The new policies were designed to counter the adverse effects of the severe measures that were passed during 1952 for the purpose of "building socialism." One of the important objectives stated for the new course was a decrease in investment in heavy industry and an increase in production of consumer goods.

* Table 1 follows on p. 8.

** For definitions of industries, see Appendix B.

*** For the official, or "state," investment series and a discussion of differences between it and the series in Table 1, see Appendix D and Table 12, p. 52, below.

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Table 1

Gross Fixed Capital Investment in the Main Installations
in Centralized Industry and Construction in East Germany a/
1951-55

Million Current DME

Industrial Ministry or Group	1951	1952	1953	1954 b/	1955 b/	Total 1951-55
Totals c/	<u>1,445</u>	<u>1,938</u>	<u>2,101</u>	<u>2,805</u>	<u>2,633</u>	<u>10,922</u>
Basic materials industries	<u>892</u>	<u>1,316</u> c/	<u>1,443</u> d/	<u>2,054</u> d/	<u>1,832</u> d/	<u>7,537</u> d/
Of which:						
Ministry of Coal and Power	262	546	470	1,070	1,142	3,490
Ministry of Mining and Metallurgy	407	489	648	582	318	2,444
Ministry of the Chemical Industry	223	280	287	369	335	1,494
Metalworking industries	<u>355</u>	<u>409</u>	<u>404</u>	<u>419</u>	<u>346</u>	<u>1,933</u>
Light industry	<u>80</u>	<u>88</u>	<u>115</u>	<u>205</u>	<u>229</u>	<u>717</u>
Food industry	<u>78</u>	<u>67</u>	<u>96</u>	<u>71</u>	<u>170</u>	<u>482</u>
Construction industry	<u>40</u>	<u>59</u>	<u>43</u>	<u>56</u>	<u>56</u>	<u>254</u>

a. 9/. Data cover only investment in main installations (Hauptanlagen), including capital repairs.

b. Probably including investment in enterprises not reported under centralized industry in 1951-53, primarily the former SAG's.

c. Totals are derived from unrounded data and may not agree with the sums of the rounded components.

d. Data for 1953-55 include the Main Administration of Pharmaceuticals and the State Geological Commission in addition to the Ministries of Coal and Power, Mining and Metallurgy, and the Chemical Industry.

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The extent of the actual changes in investment allocation after announcement of the new course is shown by the percentage distributions in Table 2.* The distributions in this table indicate a substantial shift in investment allocation during 1954-55 toward both the consumer (light and food) industries and the basic materials industries. The basic materials industries, which received approximately 67 percent of the gross investment allocated to centralized industry during 1951-53, increased their share to nearly 72 percent during 1954-55. The consumer industries, which received 9.5 percent of the gross investments during 1951-53, increased their share to 12.4 percent during 1954-55. The distribution of the gross investment shows the very large shifts in allocation away from the metallurgical and metalworking industries. The metallurgical industry received 28.2 percent of the gross investment during 1951-53 and only 16.6 percent during 1954-55. The metalworking industry was allocated 21.3 percent of the total during 1951-53 and only 14.1 percent during 1954-55. The coal and power industry shows the largest absolute gain in gross investment between 1951-53 and 1954-55, from 23.3 percent to 40.7 percent.

Thus, as official news sources stated, it is true that the consumer industries received a larger share of industrial investment funds after the new course than previously. There was a corresponding decline in the share of heavy industry in investment. However, significantly greater shifts in investment allocation occurred within heavy industry during 1954-55 -- changes that were primarily the result of forces other than the new course. The cessation of reparations relieved the pressure on East Germany to expand its heavy machine-building industry at the rate previously necessary. Improvement in the steel supply of the Soviet Bloc and increased emphasis on an international division of labor within the Bloc allowed East Germany to decrease the uneconomic investment in ferrous metallurgy. The increased investment in the coal and power branches of industry was necessary because of imbalances in the program for industrial development. Although these branches received substantial investment in 1951-53, the over-all demand for their products was less than that of any other heavy industry.

During the First Five Year Plan the rate of accumulation was 12.1 percent (based on data expressed in current prices) in East Germany.** This rate is far below the rate of 25 percent usually considered to be correct in Soviet theory. During the same period the other European Satellites and the USSR claimed rates of accumulation closely approximating 25 percent of national income. Similarly the

* Table 2 follows on p. 10.

** For the method used in computing this figure, see Appendix C.

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ratio of gross fixed capital investment to national income appears to have been substantially lower in East Germany than in the other Satellites.

Table 2

Percentage Distribution of Gross Fixed Capital Investment
in the Main Installations in Centralized Industry and Construction
in East Germany a/
1951-53 and 1954-55

	Percent	
<u>Industrial Ministry or Group</u>	<u>1951-53</u>	<u>1954-55</u>
Total b/	<u>100.0</u>	<u>100.0</u>
Basic materials industries	<u>66.6</u>	<u>71.5</u>
Ministry of Coal and Power	23.3	40.7
Ministry of Mining and Metallurgy	28.2	16.6
Ministry of the Chemical Industry	14.4	12.9
Other	0.7	1.3
Metalworking industries	<u>21.3</u>	<u>14.1</u>
Light industry	<u>5.1</u>	<u>8.0</u>
Food industry	<u>4.4</u>	<u>4.4</u>
Construction industry	<u>2.6</u>	<u>2.1</u>

a. Based on Table 1, p. 8, above.

b. Totals are derived from unrounded data and may not agree with the sums of the rounded components.

The low rate of investment was the result of drains on the supply of investment goods produced by the metalworking industries. The drains were in two forms: uncompensated deliveries to the USSR and the Soviet occupation forces and exports of equipment that were necessary in order for East Germany to obtain vital foodstuffs and raw materials.

The metalworking industries (which produce most of the fixed capital goods) accounted for 58 percent of the exports during 1951-55. 10/ This percentage does not include reparations, a large

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part of which were products of the metalworking industries. The share of metalworking in the employment of those economic sectors producing exportable goods* in the same period was about 27 percent. 11/

Uneconomic allocation of investment resources, as well as the low rate of investment, was a feature of East German industrial development during 1951-55. The prime example of uneconomic allocation was the attempt to develop the steel industry with a seriously inadequate supply of domestic raw materials. The decision to develop the steel industry resulted from a combination of economic, political, and ideological considerations. The traditional West German sources of steel supply were cut off just at a time when the Eastern European countries, which were short of steel, were pushing their ambitious plans for industrial development.

Simultaneously the East Germans found it necessary to develop the steel-intensive branches within the metalworking industry. This action was necessary to satisfy the following three new market areas: (1) the Soviet demand for heavy machinery in the form of reparations, (2) the machinery requirements of the European Satellites for their own development programs, and (3) the domestic requirements to support the development of an economy of the Soviet type. The labor-intensive branches of the machine-building industry that produce equipment for consumer industries (those branches in which East Germany specialized before World War II) were left relatively undeveloped, because of the reorientation toward the markets of the Soviet Bloc.

Electric power capacity has been the most critical bottleneck in the postwar years. East Germany has a concentration of industries that use electric power intensively. Before the division of Germany, bituminous coal and heavy equipment for production of electric power were secured by the eastern area from the western area. After the division of Germany, some of the electric power installations had to be converted to brown coal, which resulted in a loss of capacity. The most modern electric powerplants were dismantled and sent to the USSR immediately after the war, and equipment was difficult to secure for the old plants that remained. Although production of electric power equipment was developed rapidly, until 1953 most of the equipment was taken by the USSR as reparations.

East Germany has large reserves of brown coal, which is the primary source of energy for production of electric power and is an important raw material for the large chemical industry. War damage and dismantling reduced the brown coal industry to about 60 percent

* Including industry, handicrafts that produce goods, agriculture, and forestry.

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of its wartime capacity. The SAG's had about one-third of the remaining capacity until 1952. Production of mining equipment increased rapidly in the early 1950's, but a substantial part of this production was exported commercially or as reparations.

The magnitude of the shift of investment toward the coal and electric power industries is indicated by the following tabulation showing investment changes in these branches and in the total centralized industry after the new course.* By 1955, state investment in the

<u>Industrial Group</u>	<u>Ratio of Average Annual Investment During 1954-55 to Average Annual Investment During 1951-53</u>
Total centralized industry	1.08
Centralized electric power industry	2.62
Centralized coal industry	1.88

centralized brown coal industry amounted to 21 percent of the total in centralized industry. 12/

Throughout the First Five Year Plan, industrial investment was used to promote the nationalization and centralization of industry. Only about 4 percent of state investment in industry was directed toward local state industry, and the amount of investment in private and cooperative industry also was quite small in spite of the fact that private and cooperative enterprises accounted for an average of about 20 percent of industrial gross production and employment in the period.

During the plan period, substantial increases in industrial production were achieved -- increases that were to a large extent the result of bringing into production underutilized labor and capital assets existing at the start of the plan period. These increases were the result of the long-range investment program only to a limited degree. Moreover, maintenance and replacement of fixed capital were neglected to such an extent that the quality of East German production deteriorated, thus putting in jeopardy the country's export markets and its future economic growth.

* Computed from data in Appendix C.

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III. Second Five Year Plan (1956-60)

A. Plans

The first official version of the Second Five Year Plan in East Germany was published in the spring of 1956. The plan provided for increasing the national income by 45 percent above the level of 1955. The rate of accumulation of capital was to rise to twice that of 1955. Investment in fixed capital was to total 54.6 billion DME* (exclusive of capital repairs). ^{13/} Emphasis in the investment program was to center on the mechanization and automatization of production processes and the replacement of obsolete equipment. The share of investment in equipment planned for 1956-60 was to be 52 percent of state investment compared with 42 percent planned for 1951-55, and the share of investment in construction was to decline from 51 percent in 1951-55 to 43 percent in 1956-60. Thus investment in equipment would increase by 167 percent compared with an increase of only 76 percent for investment in construction.

The need for increased emphasis on equipment in the investment program was evident because of the widespread obsolescence of the stock of industrial equipment. A combination of circumstances has contributed to the situation, among which are the following:

1. There was a continuing necessity to export a large share of the products of the metalworking industries in order to secure essential industrial raw materials and consumer goods. In 1955, for example, the distribution of foreign trade was as follows:

<u>Industrial Group</u>	<u>Percent</u>	
	<u>Share of Total Imports</u>	<u>Share of Total Exports</u>
Total	<u>100</u>	<u>100</u>
Basic materials industries	38	29
Metalworking industries	5	60
Light and food industries, agriculture, and forestry	57	11

2. Political as well as economic pressures have affected the composition of the export trade in equipment. Much of the

* All value figures in this report for the Second Five Year Plan are stated in terms of 1955 prices.

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equipment needed in East Germany for such critical industries as electric power and chemicals, for instance, has been exported to the USSR.

3. Shortages of iron, steel, and nonferrous metals led to the diversion of resources to the development of high-cost metallurgical plants during the First Five Year Plan. Nevertheless, many of the types and qualities of metals required by the metalworking industry remain in short supply.

4. Shortages of highly skilled manpower, largely caused by defections to the West, hampered the development of new designs for equipment and limited the efficiency of the industry.

5. Unrealistic optimism on the part of the East German political leaders led to expectations of large increases in production in critical industries such as coal and power, without sufficient investment.

The Second Five Year Plan was adopted over the objections of some of the East German planning officials. During the remainder of 1956 it became apparent that the original plan was too optimistic. Increases in production had been forecast in the expectation that gains in the productivity of capital and labor would continue at the high rates experienced during 1951-55, but these increases were impossible to achieve. The disruption in trade caused by the Polish and Hungarian revolts of 1956 made even greater the gap between the plans and the probable achievements.

During 1957, extensive revisions of the Second Five Year Plan were developed. A final, less ambitious plan was published in December 1957. In this revised plan the 1960 goal for gross industrial production was reduced from 155 percent of the level in 1955 to 138 percent. Total fixed capital investments were planned to be 55 billion DME, including capital repairs and maintenance of fixed capital. This figure is not comparable with the 54.6 billion DME in the original version of the plan, because capital repairs and maintenance were not included in investment at the time of the original version. In comparable terms the final version of the investment plan represented a reduction of 15 to 20 percent from the original plan.

The revised investment plan was divided as follows: 41.7 billion DME in state investment, 9.5 billion DME from enterprise funds and credits, and 3.8 billion DME in defense investment. Of state investment, 53 percent -- that is, 22.1 billion DME -- was allocated to

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industry.* ^{14/} Industrial investment was to be concentrated largely in the coal and power industries, which were to receive about one-half of the total industrial investment. The following planned investments were announced for major branches of centralized industry:

<u>Activity</u>	<u>Billion DME</u>
Chemicals	2.3
Metalworking	2.6
Coal and power	11.3
Coal	6.9
Power	4.4

The revision of the Second Five Year Plan involved a shift in the allocation by branch of industry and by type of investment as well as a reduction in the total. Allocation to investment in industry was reduced by a greater percentage than were total allocations to investment. Housing investment was planned to increase by nearly one-fourth. The revised investment plan allocated more investment funds for construction and less for machinery than had the original plan. This shift on emphasis is indicated by the following tabulation showing each of the two plans for gross production in 1960 relative to actual gross production in 1955:

	<u>Index (1955 = 100)</u>	
	<u>Metalworking</u>	<u>Construction</u>
Original Second Five Year Plan for 1960	175 ^{15/}	155 ^{16/}
Revised Second Five Year Plan for 1960	153 ^{17/}	162 ^{18/}

There was also an upward revision of planned exports of machinery.

B. Plan Fulfillment, 1956-58

1. General

During 1958, certain goals for the Third Five Year Plan (1961-65) were announced by the East German authorities. In early

* "State" investment, presumably, is here taken to include capital repairs.

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1959, however, that plan was abandoned and a Seven Year Plan, covering the years 1959-65, replaced it. Thus the latter part of the Second Five Year Plan also was canceled. This section discusses the industrial development of East Germany during 1956-58, using the 1960 goals of the revised Second Five Year Plan for comparison, although those goals may in some instances have been revised in the new Seven Year Plan.

It is not possible to compare the data on plan fulfillment precisely with the plan data on East German investment because the plan data are stated in 1955 prices and the fulfillment data are in current prices. The data on gross fixed capital investment in the economy and in industry are shown in Table 3.

Table 3

Gross Fixed Capital Investment in East Germany a/
1956-59

<u>Sector of Investment</u>	<u>Billion Current DME</u>			
	<u>1956</u>	<u>1957</u>	<u>1958</u>	<u>1959</u>
Total gross fixed capital investment	10.0	10.7	12.3	14.0
Of which:				
State industry and construction	4.0	4.5	5.3	N.A.

50X1

The data in Table 3 indicate that the revised investment plan for 1956-60 probably will be substantially fulfilled, both for total gross fixed capital investment and for investment in state industry. Few data are available on which to base an estimate of the fulfillment of investment plans for the various branches of industry. Detailed information exists only for centralized industry in 1956. Actual gross fixed capital investment (including capital repairs) in industry in East Germany in 1956 was as follows 19/:

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<u>Activity</u>	<u>Billion DME</u>
Total	<u>2.9*</u>
Coal and power	1.2
Mining and metallurgy	0.4
Chemicals	0.3
Metalworking	0.4
Light industry	0.3
Food industry	0.2
Construction	0.2

2. Basic Materials and Power Industries

Plan fulfillment reports for 1957 and 1958 have given only percentage increases for industrial investment and data for only the priority branches of coal and power and chemicals. The increases in 1957 and 1958 pertaining to industry are shown in Table 4.

Table 4

Indexes of Investment
 in Industrial Fixed Capital
 in East Germany
 1957-58

<u>Activity</u>	<u>Preceding Year = 100</u>	
	<u>1957 a/</u>	<u>1958 b/</u>
Total	109	118
Coal and power	121	115
Chemicals	113	118

- a. 20/. State investment in centralized industry only.
 b. 21/. Gross investment in state industry only, excluding long-term credits.

* The total is derived from unrounded data and does not agree with the sum of the rounded components.

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Neither the coal and power nor the chemical branches of industry have been meeting investment plans. Also, production has been lagging behind the plan, but the percentage of underfulfillment does not appear to have been as great as that for investment. The necessity to export power and mining machinery in order to insure adequate supplies of food and raw materials and to meet the demands of the USSR is responsible, in large part, for difficulties of East Germany in expanding the coal and power industries. The long time-lag between investment and the start of production in these industries, in conjunction with the underfulfillment of the investment plans through 1958, suggests the conclusion that the 1960 goals for production will not be reached.

In February 1958 the USSR and East Germany signed an agreement that involves an increase in production of chemicals. The USSR agreed to grant East Germany 300 million DME in the form of goods and credits in an investment program to increase production of plastics and synthetic fibers. This investment program is to be completed in 1961, and repayment to the USSR is to be made with products of the plants involved.

The chemical industry is the largest consumer of electric power in East Germany, consuming approximately one-third of the total in 1956 and 1957. In addition, it consumes a substantial quantity of brown coal as a raw material. Production of electric power, also, consumes large quantities of brown coal. Consequently, the large increases in chemical production increase the demand on the existing facilities of the coal and power industries.

Continuing difficulties in increasing production and capacity of the electric power industry are the legacy of policies pursued during 1945-53. The politically motivated emphasis on development of the iron and steel industry caused smaller investment allocations to be made to coal and power. Although the East Germans began developing the capacity for production of power equipment in the early postwar years, the necessary export of a large portion of this equipment, primarily to the USSR, left a large gap between domestic requirements and the supply available for domestic investment. It is estimated that about 47 percent of the generators* produced during 1956-58 and about 49 percent of the turbines* produced in that period were exported.** Such increases in production of power as have been achieved were the result of the increased intensity of use of the existing fixed capital as well as of a program of replacement with modern equipment and construction of new units.

* Measured in terms of productive capacity.



50X1

S-E-C-R-E-T

The revised Second Five Year Plan in East Germany envisioned an increase in electric power capacity of 2,600 megawatts. 23/ Fulfillment during 1956-58 was as follows:

<u>Year</u>	<u>Additions to Capacity (Megawatts)</u>
Total	<u>980</u>
1956	295 <u>24/</u>
1957	330 <u>25/</u>
1958	355 <u>26/</u>

A check on the degree of underfulfillment of the investment plan for electric power is afforded by a coefficient given in late 1957 by an East German newspaper. 27/ each kilowatt of new electric power capacity in East Germany requires investment funds amounting to about 1,000 DME. It is assumed that this figure refers to complete, balanced fixed capital for production of electric power.* On that basis, the investment in facilities for production of power that were installed during 1956-58 would total approximately 980 million DME, or slightly more than 22 percent of the 4.4 billion DME planned for investment in 1956-60.

50X1

The coal industry is one of the most important branches of industry in East Germany. The area is extremely rich in reserves of brown coal but is poor in reserves of hard coal. The brown coal industry is the basis for much of East Germany's important chemical industry, inasmuch as brown coal is a chemical raw material and also is the major source of fuel for the electric power industry. In 1956 and 1957, raw brown coal and its products were the fuel used for 88 percent of the power produced in East Germany. 28/ The electric power industry consumed 32 percent of the raw brown coal produced in 1957,** and the chemical industry consumed 15 percent. 29/ According to the revised Second Five Year Plan, new mines with an annual capacity of 80 million tons of raw brown coal were to be brought into production by 1960. These facilities were to replace exhausted mines as well as to expand capacity of the coal industry. Investment in the centralized brown coal industry in 1957 (constituting more than 99 percent of the brown coal industry) amounted to 24 percent of that in all centralized industry. 30/

* It is impossible to determine whether or not the figure of 1,000 DME is meant to include distribution facilities.

** Including the raw brown coal equivalent of brown coal products used by the power industry.

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Investment in the mining and metallurgical industries* was planned to increase little, if at all, during the Second Five Year Plan. The original plan called for a 5-year investment of 2.96 billion DME (including capital repairs) for the Ministry of Mining and Metallurgy, 31/ an increase of only 21 percent above the fulfillment in the First Five Year Plan. The planned increase in gross production of mining and metallurgy was 50 percent in the original plan and 26 percent in the revised plan. It is probable that planned investment was cut back by at least as large a percentage as production.

Investment in 1956 and 1957 totaled approximately 800 million to 850 million DME. 32/ Most of the current investment in ferrous metallurgy is for the maintenance and increase of crude and finished steel capacity. It was anticipated that about 20 percent of the 1958-60 investment would be spent for new facilities, 46 percent for completion and improvement of existing facilities, and 34 percent for maintenance. 33/ Of particular importance is the development of capacity for production of high-quality sheets and alloy steels for the programs for production of chemical and other equipment. The Doehlen ("8 Mai 1945") Alloy Steel Works is the site of most of the expansion of alloy steel capacity.

The pig iron capacity of East Germany in 1957 was about 1.9 million metric tons.** No investments for new blast furnaces were planned for the Second Five Year Plan period.

The only major addition to steelmaking capacity since 1955 is 150,000 tons per year of open-hearth capacity at the Brandenburg Steel Works. The total steelmaking capacity of the industry (excluding foundries) in 1957 was 3.3 million tons. Additional capacities expected to be added through 1960 are limited to 160,000 tons of electric furnace capacity. Of that amount, 110,000 tons of capacity are to be completed at the Doehlen Alloy Steel Works. 34/ It was planned to install six new rolling mills in East Germany by the end of 1960. These mills are mainly for production of hot and cold rolled strip and sheets, and the total investment cost was estimated to be approximately 82 million DME. It is not known to what extent these plans have been fulfilled.

East Germany produces several nonferrous metals and non-metallic minerals. With the exception of potash and uranium, the major products of this group are insufficient to meet domestic requirements. There is little information about investment plans or

* Including ferrous and nonferrous metallurgy and all mining except coal mining.

** Tonnages are given in metric tons throughout this report.

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fulfillment in these branches of industry. The distribution of gross investment in the original Second Five Year Plan for the Ministry of Mining and Metallurgy was as follows 35/:

<u>Activity</u>	<u>Percent</u>
Total	<u>100.0</u>
Ferrous metallurgy	39.6
Nonferrous metallurgy*	16.0
Metallic ore mining	17.8
Potash and nonmetallic mining	22.9
Other	3.7

[redacted] a distribution of 50X1
investment for the nonferrous metals branches (including mining)
approximately as follows 36/:

<u>Branch</u>	<u>Percent</u>
Total	<u>100</u>
Copper	35
Lead	25
Aluminum and magnesium	24
Nickel	8
Other	8

Information is not available on the revised investment plans or fulfillment for these branches. It is evident, however, from the available information about cutbacks in production plans and under-fulfillment of plans, that these branches shared in the reduction of investment allocations to the mining and metallurgical industry.

The following are among the important investment projects and objectives in the field of mining and metallurgy:

a. An increase in production of nickel from between 150 and 200 tons annually to about 2,000 tons, which probably will cover domestic requirements.

* Excluding aluminum production of the Bitterfeld electrochemical plant, which was under the Ministry of the Chemical Industry.

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b. Development of the Sangerhausen area as the major copper-producing area in East Germany. Attempts will be made to relieve the severe copper shortage by the substitution of aluminum for copper as well as by the expansion of production of copper.

c. Reconstruction of the Lauta aluminum reduction works to give that plant an annual capacity of 60,000 tons. The estimated production of primary aluminum in 1957 is 35,000 tons and that of secondary aluminum, 19,000 tons.

3. Metalworking and Construction Industries

The metalworking and construction industries together produce most of the commodities used in the East German program for industrial investment. An indication of the relative importance of structures and equipment is given by the distribution of investment expenditures in the main installations in centralized industry during the First Five Year Plan, as follows 37/:

Year	Percent		
	<u>Structures</u>	<u>Equipment</u>	<u>Other*</u>
1951	50	40	10
1952	44	43	13
1953	39	56	5
1954	32	65	3
1955	31	66	3

Equipment is relatively more important in industrial fixed capital than in the fixed capital of the total economy. Equipment accounted for only 41 percent of state investment in the economy during 1951-55. 38/

The metalworking industry is a key industry in the East German economy. It is the largest producer of goods for fixed capital investment in domestic industry and is a major supplier of capital goods to the USSR and other countries of the Sino-Soviet Bloc. The metalworking industry in 1957 accounted for 30 percent of gross industrial production and employed 36.5 percent of the industrial workers. 39/ In spite of the large size of the metalworking industry, little has been accomplished toward correcting the widespread obsolescence of the fixed capital stock in other East German industries.

* Primarily expenditures for project planning.

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Current emphasis in the metalworking industry is on increasing production largely through reorganization and through changes in the product mix without extensive investments in new production units. Investment during the next few years, however, will be concentrated in plants in instances where greater specialization requires reconstruction of the plant. Priority also will be given to investment projects of short duration in order to realize increases in production in as short a time as possible. 40/

The product mix is being altered in favor of equipment requiring relatively low metal inputs per unit of final value. This shift is designed partly to aid in the modernization of some consumer goods industries in East Germany but primarily to earn larger amounts of foreign exchange through exports of equipment manufactured with a smaller expenditure of scarce, high-cost metals. [redacted] the heavy machine-building industry gave the following average coefficients for rolled steel inputs per million DME of gross production in January 1958:

50X1

<u>Type of Gross Production</u>	<u>Tons</u>
Heavy industrial equipment	287
Equipment for consumer goods industries	87
Machine tools	92

[redacted] although the metalworking industry as a whole will increase its gross production by 53 percent during 1955-60, production of machinery for consumer goods industries will increase 83 percent and for heavy industrial equipment, only 35 percent. 41/

50X1

Within the heavy machine-building sector, emphasis is still placed on some heavy industrial equipment required for priority investment programs. Thus production of conveying and digging equipment was planned to increase in 1960 to 275 percent of the level in 1955 and briquette plant equipment to 316 percent. Machine tools, the most important class of labor-intensive investment goods, were slated in 1960 for an increase in production of 296 percent of the level in 1955. 42/ Machine tools are major export commodities, accounting for 40 percent of the exports of heavy machinery in 1957. 43/

Information on the fulfillment of investment plans for the metalworking industry through 1958 is not available. The plans for gross production, however, appear to have been fulfilled through 1958.

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The construction industry has constituted a major bottleneck in the investment program of East Germany for many years. The industry has been inefficient because of inadequate mechanization and low productivity of labor, dispersion of responsibility among many jurisdictions, and shortages of construction materials.

During 1956-60, industrial construction is being concentrated to a large extent on the coal, power, and chemical industries. Other priority areas are housing and agriculture. The planned gross production of the construction industry for 1960 is 62 percent greater than for 1955. 44/ Production of construction materials in 1960 is to increase by a greater percentage (75 percent above the level in 1955) 45/ than construction activity itself.

Gross production during 1956-58 has increased as follows:

<u>Activity</u>	<u>Index (1955 = 100)</u>		
	<u>1956</u>	<u>1957</u>	<u>1958</u>
Construction	111.9 <u>46/</u>	124.5 <u>47/</u>	130.5 <u>48/</u>
Building materials	105.7 <u>49/</u>	115.7 <u>50/</u>	129.4 <u>51/</u>

The average annual rates of increase since 1955 for both construction and building materials have been slightly less than the average annual rates required to meet the 1960 goals.

The old Ministry of Construction was abolished in 1958, and it was replaced by the Ministry of the Construction Industry. The new ministry is to have considerably greater responsibility for direction and control of building activities in East Germany than the old ministry. Production and foreign trade in building materials are also under the jurisdiction of the new ministry. 52/

According to the revised plan, investments in the construction and building materials industries during 1956-60 were to total approximately 1.1 billion DME. The distribution was planned to be as follows:

<u>Industrial Group</u>	<u>Percent</u>
Building materials industry	82
Construction industry	16
Other*	2

* Including design offices and training facilities.

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During 1958-60, approximately 85 percent of the planned investment in the building materials industry was allocated to the expansion of capacity, whereas only 22 percent of the funds of the construction industry were allocated to the expansion of capacity. ^{53/} Gross investment in the Ministry of Construction in 1956 totaled 157 million DME, which is more than three times the average annual investment in the ministry during 1951-55. The data on plan fulfillment are not available for the years after 1956.

4. Consumer Industries

The consumer (light and food) industries have been the most neglected group of industries in East Germany under the Communist regime. These industries employed 39 percent of the total number of industrial workers in 1950 and only 26 percent of the number added by 1955. ^{54/} State investment in the centralized consumer industries during 1951-55 amounted to only 11.8 percent of the total allocated to centralized industry and construction. Data on the distribution of the state investment to local industry are not available. If all such investment were allocated to the consumer industries, however, the investment for consumer industries in 1951-55 would amount to only 15.5 percent of the total state investment in industry and construction. Gross investment in the centralized light and food industry in 1954 and 1955 amounted to 12.4 percent of that in all centralized industry. Such information as is available indicates that approximately this same share is being allocated to the centralized light and food industries during 1956-60.

The share of major consumer industries in total industrial employment in 1957 was as follows ^{55/}:

<u>Branch of Light Industry</u>	<u>Percent</u>
Textiles (excluding knit goods)	10.1
Food	7.2
Clothing and knit goods	7.0
Other*	13.9

The planned production increases in consumer goods for 1960 are smaller, relative to 1955, than those in the basic materials

* Including the following: cellulose, paper, and paper products; bookbinding; leather and leather products; footwear; felt and fur products; wood and furniture; musical instruments; cultural products; and glass and ceramic products.

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and the metalworking industries. The East German leaders proclaimed in July 1958 that the principal economic task of the country was to overtake West Germany by 1961 in the per capita consumption of food-stuffs and of the most important industrial consumer goods, but there does not appear to be any significant shift of resources away from the priority heavy industries.

Although there appears to have been an increase in the percentage of industrial investment funds allocated to the light and food industries in 1954 and 1955, their stock of fixed capital has been neglected throughout the postwar years. Most of the plants are obsolete, and many have been kept in operating condition only by cannibalization of other facilities.

In light industry, as in other industries, East Germany has suffered from a dearth of indigenous raw materials, because of the division of Germany. Approximately 40 percent of the textile raw materials were imported up to 1957. 56/ The textile industry -- especially cotton textile capacity -- is being modernized and expanded in the current period. By 1960 it is planned to add the following to the facilities of the industry: 600,000 spindles, 6,000 automatic looms, 5,000 motors, and an unspecified quantity of bleaching and printing equipment. 57/ Cotton spinning capacity is especially short in relation to weaving capacity. Cotton spinning facilities were reduced to a greater extent by Soviet postwar dismantlings than were weaving facilities. 58/ Planned investment in the cotton textile industry for 1958 was 100 million DME. The plan called for the installation of 95,000 spindles in order to restore production of yarn to the level in 1955, from which it had declined in 1956 and 1957. 59/ Information on the fulfillment of this plan is not available.

Investment in the clothing industry is being used with two main objectives in view: to mechanize internal plant transportation and to increase the use of continuous flow production. 60/

The East German paper industry suffers from a shortage of raw materials and from obsolete equipment. About two-thirds of the paper machinery in early 1957 was more than 50 years old, and more than one-half of the prewar capacity was lost. The 1960 goal is to add capacity for 220,000 tons of annual production of paper and cardboard.* This increase in capacity is to be achieved by the addition of eight new paper machines with a total annual capacity of 180,000 tons and by reconstruction of existing facilities sufficient to add 40,000 tons. 61/ The most important addition is to be a new plant at Schwedt/Oder, which will be the largest in Europe. The investment in

* Production in 1955 was 651,000 tons.

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this plant will amount to about 100 million DME, and by 1960 or 1961 the daily capacity will reach 200 tons of newsprint and 100 tons of cardboard. 62/

Investment in the wood-processing industry is being directed largely toward the development of wood substitutes to be used in the manufacture of furniture. The industry since 1954 has been developing pressed fiberboard made of straw, reeds, and wood shavings. 63/ Seven new plants for the construction of these products are to be built by 1961. 64/

Investment in the centralized food industry in 1956 amounted to 150 million DME, which was 36 percent of the gross investment in the centralized consumer industries and approximately 5 percent of the total investment in centralized industry. 65/ According to the revised plan for 1956-60, the primary investment activity in the food industry is to be the reconstruction and improvement of facilities for processing sugar and vegetable oil and margarine and for fishing. Gross production in the food industry by 1960 was to increase 23 percent above the level in 1955. Production of sugar is to increase 34 percent, and production in the fishing and fish-processing industry, 105 percent. 66/ Most of the sugar factories in East Germany were built in the nineteenth century. Only two new plants have been undertaken under the Communists -- one at Delitzsch, opened in 1956, 67/ and another at Guestrow, which is under construction. 68/ Although the industry has ample capacity, considerable improvements are now being made in existing facilities in order to lower operating costs. 69/ One combine for vegetable oil and margarine production is scheduled to be constructed in the Rostock area, starting in 1960. This combine will increase the capacity of the industry by a substantial amount.* It is planned to increase the fishing fleet by 30 steel cutters, 5 trawlers, and 1 factory ship. In addition, refrigeration facilities are to be increased. 70/

V. Seven Year Plan (1959-65)

A. Plans

East Germany plans to increase the national income by 59 percent during the Seven Year Plan (1959-65), from about 63 billion DME to 100 billion DME. Gross industrial production is to increase by 88 percent during the period. 71/ Data on planned gross production for 1965 have been published for major industries and industrial groups and are shown in Table 5** in comparison with data on actual production in 1958.

* The size of the increase depends on the kind of raw material used, and it may amount to as much as 50 percent of the 1957 capacity.

** Table 5 follows on p. 28.

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Table 5

Gross Production in Selected Industrial Groups
 in East Germany a/
 1958 and 1965 Plan

Industrial Group	Gross Production (Billion Current DME)		Increase (Percent)
	1958	1965 Plan	
Total	58.5 b/	110.0	88
Of which:			
Basic materials industry	17.2	32.8	91
Of which:			
Metallurgical industry	3.7	6.9	86
Chemical industry	8.8	18.1	106
Building materials industry	1.1	2.6	136
Metalworking industries	18.3	39.8	117
Of which:			
Heavy machine-building industry	3.2	6.7	109
General machine-building industry	2.8	7.0	150
Electrotechnical industry	4.0	10.6	165
Light industry	13.2	24.2	83
Food industry	8.9	12.4	39

a. [redacted]
 b. 73/

50X1

Gross production in the metalworking industries is to achieve the greatest relative increase of any branch of industry, 117 percent.

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Within that group the electrotechnical industry is to receive primary emphasis. Gross production in the electrotechnical industry is to increase by 165 percent between 1958 and 1965. Gross production in the general machine-building branch is to increase by 150 percent compared with 109 percent in the heavy machine-building branch.

The basic materials industries are to increase gross production by 91 percent. Within this group the metallurgical industry is to increase by only 86 percent (slightly less than the average for all industry); the chemical industry, by 106 percent; and the building materials industry, by 136 percent. No data are available on plans for gross production in the coal and power branch. Physical production of electric power is scheduled to increase by 81 percent between 1958 and 1965, 74/ but production of raw brown coal is to increase by only 29 percent. 75/

Gross production in light industry is to increase by 83 percent and that in the food industry by only 39 percent between 1958 and 1965.

Table 6* shows average annual rates of growth of production in 1956-58 compared with planned rates of growth for 1956-60 and 1959-65.

The average annual rates of increase presented in Table 6 indicate that the plan generally was exceeded for both national income and gross industrial production during 1956-58. Gross production in the metalworking and chemical industries also achieved average annual rates of growth during 1956-58 in excess of the rates required to fulfill the 1956-60 plan. Gross production in the construction industry and physical production of both electric power and brown coal increased during 1956-58 at average annual rates that were less than those required to meet the Second Five Year Plan. The data on the Seven Year Plan in Table 6 indicate a planned acceleration in the average annual rate of growth above that achieved during 1956-58 for all of the categories shown.

Planned fixed capital investment during 1959-65 is shown in Table 7.** State industrial investment is planned to average 58 percent of total state investment and 42 percent of total gross investment. The average annual gross investment planned for 1959-65 is approximately 20.3 billion DME, which is 85 percent greater than that achieved during 1956-58.

* Table 6 follows on p. 30.

** Table 7 follows on p. 32.

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Table 6

Average Annual Rates of Growth
of Income and Production in East Germany
1956-60 Plan, 1956-58, and 1959-65 Plan

Activity	Average Annual Rate of Growth (Percent) <u>a/</u>		
	Second Five Year Plan <u>b/</u> (1956-60)	1956-58 <u>c/</u>	Seven Year Plan <u>d/</u> (1959-65)
National income <u>e/</u>	5.4	6.3 <u>f/</u>	6.8
Gross industrial production <u>g/</u>	6.7	8.3	9.4
Metalworking industries <u>g/</u>	8.9	10.8	11.7
Chemical industry <u>g/</u>	6.0	8.8	10.9
Construction industry <u>g/</u>	10.1	9.8	11.0 <u>h/</u>
Electric power industry <u>i/</u>	7.7	6.7	8.8
Brown coal industry <u>j/</u>	4.1	2.3	3.7

a. Average annual rates of growth are computed for the stated period, including the terminal years.

b. 76/

c. [redacted]

d. See Table 5, p. 28, above [redacted]

e. Based on data in DME.

f. [redacted]

g. Based on gross production in DME.

h. 80/

i. Based on physical production in kilowatt-hours.

j. Based on physical production in metric tons.

The East German goals for the Seven Year Plan are quite ambitious, as the data in Tables 5,* 6, and 7** indicate. The successes achieved during 1956-58 and the assistance promised by the USSR doubtless are major factors underlying the optimistic plans for 1959-65. Under agreements concluded in February and June 1958, the USSR is to increase substantially its credits and raw material shipments to East Germany. Several agreements were reached in 1956 and 1957 between East Germany and the USSR in which the USSR promised credits and commodities to East Germany. Moreover, a substantial reduction was made in the East German payments for the maintenance of Soviet troops.

* P. 28, above.

** Table 7 follows on p. 32.

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50X1
50X1

50X1

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These measures alleviated the drains that had been imposed by the USSR on the East German economy. The USSR also underwrote, to some extent, credits granted by East Germany to other countries of the Soviet Bloc and to underdeveloped non-Bloc countries. The agreements of 1958, if fulfilled, will mark the first substantial contribution made by the USSR to the economic development of East Germany and thus will affect the prospects for fulfillment of the 1965 goals.

B. Prospects for Plan Fulfillment

The revised Second Five Year Plan and the announced goals to 1965 indicate a more realistic assessment of the economic situation by the East German political leaders and a somewhat more judicious allocation of economic resources than in the early 1950's.

A major problem that must be reflected in industrial investment policy is the tightening labor supply in East Germany. The large defections to the West, especially of professional and highly skilled workers, have prevented development of some important industries as rapidly as the East German leaders desired. In addition to defections, the age structure of the population is affecting adversely the growth of the labor force. [REDACTED]

50X1

the labor force is expected to decline by 500,000 workers between 1958 and 1965. This fact has helped to focus attention on the need for improvements and for replacement of the present obsolete industrial facilities with new, labor-saving types of fixed capital.

The loss of much skilled labor resulted in some diversion of investment from producer goods industries to consumer goods industries and housing in 1954, 1955, and 1956 in order to stem the outward migration and to improve labor productivity. The share of light industry in planned state industrial investment for 1959-65 is slightly less than in 1954-56 but is more than in 1951-53. Opportunities for more intensive use of existing fixed capital are probably greater in light industry than in other branches of industry.

The East German authorities also have tailored their investment program to the supply of raw materials within the country. Many industries using large quantities of raw materials that can be produced domestically only at high cost or that must be imported are receiving smaller investment allocations than heretofore. The iron and steel industry, for example, which was a priority branch until 1953, now receives a smaller share of industrial investment funds. The shift of investment allocation from the metallurgical industry is

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Table 7

Planned Fixed Capital Investment in East Germany
by Branch of Industry a/
1959-65

Sector of Investment	Million 1958 DME							
	1959	1960	1961	1962	1963	1964	1965	Total
Total gross fixed capital investment b/	14,722	16,830	18,750	20,450	22,150	23,850	25,550	142,302
Total state investment	10,611	12,174	13,785	15,072	16,225	17,622	19,009	104,498
State industrial investment	6,098	7,238	8,440	9,004	9,577	9,798	10,094	60,249
Basic materials industries c/	4,058	4,682	5,481	5,927	6,486	6,570	6,798	40,002
Of which:								
Coal	1,412	1,394	1,397	1,252	1,239	1,195	1,195	9,084
Electric power	1,020	1,275	1,490	1,740	2,030	2,160	2,440	12,155
Nuclear technology	48	100	128	100	120	150	150	796
Mining and metallurgy	594	717	911	1,018	1,116	1,034	987	6,377
Chemicals	900	1,100	1,460	1,723	1,887	1,930	1,925	10,925
Metalworking industries	763	983	1,112	1,159	1,140	1,138	1,165	7,460
Light industry	373	489	644	700	665	695	681	4,247
Food industry	133	137	180	180	192	184	189	1,195
Construction	556	657	707	702	720	764	791	4,897
Miscellaneous local industries d/	215	290	316	336	374	447	470	2,448

a. 82/

b. In addition to state investment this category includes costs of project planning, expenditures for maintenance of the budgeting organization, investments made from the internal resources of enterprises, and long-term credits.

c. Including investment for geological prospecting in addition to that for the coal, electric power, nuclear technology, mining and metallurgical, and chemical industries.

d. The exact composition of this category is unknown.

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indicated by the following tabulation, which shows the share of the iron and steel industry in total industrial investment for several periods:

<u>Percent of Total Industrial Investment</u>			
<u>1951-53*</u>	<u>1954-55*</u>	<u>1956 <u>83/</u></u>	<u>Seven Year Plan** (1959-65)</u>
28	17	13	11

The shipments of materials and products of the Soviet metallurgical industry to East Germany are to increase between 1957 and 1965, as follows 84/:

<u>Material or Product</u>	<u>Thousand Tons</u>	
	<u>1957</u>	<u>1965 Plan</u>
Pig iron	417	1,600***
Metallurgical coke	928	1,550
Rolled steel and pipe	652	1,560
Copper	15	43
Aluminum	18	85

The USSR also is cooperating with East Germany by sharing in the construction of a pipeline to carry crude oil from the USSR to East Germany. Soviet exports of crude oil to East Germany will increase from 1.0 million tons in 1957 to 4.8 million in 1965. 86/ Thus East Germany will have an important new chemical raw material, which will be the basis for the expansion of the plastics and synthetic fiber industries and which may decrease the dependence of these industries on brown coal as a raw material. The relative share of the chemical industry in industrial investment will increase to more than 18 percent of industrial investment compared with less than 13 percent in 1954-55. This increase reflects primarily the development of facilities for petroleum refining and for making plastics and synthetic fiber. The share of the chemical industry in gross

* See Table 2, p. 10, above.

** Computed from data in Table 7, p. 32, above.

*** The figure for pig iron apparently has been reduced. The figure given in the Seven Year Plan for total imports of pig iron in 1965 was 1,435,000 tons. 85/

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industrial production is to increase from 15.0 percent in 1958 to 16.5 percent in 1965.

The coal and electric power branches of industry, which were to receive more than 50 percent of the allocations to industrial investment in the Second Five Year Plan, are to receive only slightly more than 35 percent in the Seven Year Plan. The decline in the share reflects the decreased emphasis on investment in the coal industry, which was reduced from more than 30 percent to approximately 15 percent. The electric power industry retained the same share as in the Second Five Year Plan -- about 20 percent. Planned investment in the coal industry is to decline gradually from 1.4 billion DME in 1959 to 1.2 billion DME in 1965. In the electric power industry, planned investment is to increase from 1.0 billion DME in 1959 to 2.4 billion DME in 1965.

Success of the Seven Year Plan for industrial development will depend on the deliveries of industrial raw materials promised by the USSR. Without this assistance, East Germany will be unable to achieve the major goals set for 1965. Receipt of the Soviet aid will not, of itself, however, assure fulfillment of the plan.

The success of the investment program in the next few years also will depend on more effective use of resources in the metalworking and construction industries. Although these industrial groups have achieved high rates of growth in the past few years, the demands on them are still great.

The metalworking industry must still produce more than one-half of East German export goods while supporting the investment program. Supplies of machinery available for the domestic economy appear to have increased in recent years. Gross production of the metalworking industry increased by 35.7 percent between 1955 and 1958, but net exports increased by only 8.7 percent.* It is likely, however, that the priority given in the past to exports of such types of machinery as chemical equipment will continue to hamper domestic investment in the next few years. As stated above, the large increase planned for gross production in the metalworking industry between 1958 and 1965 is substantially greater than that for the other major industrial groups. The planned increase in metalworking production amounts to 41.7 percent of the planned increase in all industrial production.

* See Appendix C.

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The following tabulation shows ratios of the increments in production to the investment in the metalworking and basic materials industries and in total industry for 1954-56 and the Seven Year Plan:

<u>Industrial Group</u>	<u>Ratio of Increments in Production to Investment</u>	
	<u>1954-56</u>	<u>Seven Year Plan (1959-65)</u>
Total industry	1.2	0.9
Metalworking industries	3.0	2.9
Basic materials industries	0.5	0.4

Differences in these ratios in given periods for various industrial groups are affected by many factors. The low ratios in the basic materials industries result in part from the high capital intensity in those industries as well as from the long construction period required before full productive capacity is realized. High ratios in the metalworking industries reflect lower capital intensity and, possibly, greater multiple counting in the gross production data than occurs in basic materials industries. Comparison of the ratios for the two periods indicates a planned decline in the increments in gross industrial production relative to investment between 1954-56 and 1959-65 of 25 percent. The planned decline for the basic materials industries is 20 percent compared with a planned decline of only about 3 percent for the metalworking industries. The expected maintenance of this ratio in the metalworking industries may well be overly optimistic in spite of the fact that the investments of the industries are designed to yield relatively large increases in production. Fairly important changes in product mix and continuing labor shortages, to mention only two problems, make the fulfillment of plans for the metalworking industries doubtful. Failure to fulfill those plans will jeopardize the entire plan for industrial investment.

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APPENDIX A

EAST GERMAN INVESTMENT ACCOUNTING*

The East German accounting category of industrial fixed capital includes all of the structures and equipment in the industrial sector of the economy. The category embraces the social and cultural facilities controlled by industrial enterprises as well as the fixed capital used directly in the production process.

Investment in East Germany is divided for administrative purposes into two categories, planned and nonplanned. Planned investment is that included in the state investment plan and financed primarily by funds allocated from the treasury through the East German Investment Bank. Nonplanned investment is undertaken by individual enterprises and is financed from the funds of the enterprises. 87/

Planned investment is divided further into investment in main installations and investment in secondary installations. Main installations include not only productive facilities but also the nonproductive facilities that are not operated by industrial enterprises, such as hospitals, day boarding homes for children, technical schools, research and development facilities, and trade enterprises subordinate to the individual ministries. Secondary installations include nonproductive facilities such as cultural, social, health, and training facilities that are operated by industrial enterprises. 88/

Following are several measures of fixed capital investment that are useful in various kinds of economic analysis:

1. Estimates of gross investment in a given period measure the portion of a country's production that is devoted to both replacement and new investment (that is, growth of stock of fixed capital).

2. Estimates of new investment in a given period measure the increment to gross fixed capital.

3. Estimates of net investment in a given period measure the increment to net fixed capital.

* For definitions of terms not specifically defined in this appendix, see Appendix B.

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The East German Central Statistical Administration has published data on state investment covering the period since 1950. There are certain deficiencies, however, in the official data. These deficiencies are threefold: first, the data are expressed in current prices; second, "state" investment, as officially defined, is a hybrid category; third, the definition of "state" investment was changed beginning in 1956.

Until the beginning of 1956, "state" investment included both replacement and new investment from state funds* and excluded replacement investment from amortization funds controlled by enterprises and new investment by enterprises from their own funds or from long-term credits. Published data on state investment cover all areas of the economy except the police, the national military forces, and defense enterprises that are under the jurisdiction of the Ministry of the Interior. 89/ State investment, then, before 1956 included only part of the new investment in the state sector of the economy and only part of the replacement investment. In the industrial sector, the major exclusion from state investment before 1956 was replacements.

The largest source of investment funds in East Germany is the treasury (nonrepayable funds are made available to enterprises through the budget). Enterprises also have their own investment resources, in the form of retained profits and amortization allowances. About one-fourth to one-third of investment financing is from the resources of enterprises. 90/ Since 1954, industrial enterprises have been able to finance investment by means of long-term credits, which can run to a maximum of 4 years. 91/ Long-term credits are a minor source of funds for industrial investment.

East Germany follows the practice of the USSR in accumulating amortization funds for replacement investment and capital repairs. The shares of the amortization funds allocated to replacements and to repairs are fixed by law each year and may vary from year to year. Before 1 January 1958 the plan for capital repairs was separate from the investment plan. Beginning on that date, the investment plan was divided into a plan for the maintenance and replacement of fixed capital and a plan for the expansion of fixed capital. The capital repairs were incorporated into the plan for the maintenance of fixed capital. 92/

* Apparently all capital repairs were included in "state" investment beginning in 1956, although the definition of "state" investment that is given with the statistical tables in official sources was not changed.

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APPENDIX B

GLOSSARY

Accounting period: Any period of time for which economic flows (production, costs, income, and the like) are totaled.

Basic materials industries: As used in East German economic accounting, this group of industries includes those plants producing the following classes of products: electric power, gas, coal, ores, potash and other minerals, pig iron, steel, nonferrous metals, chemicals, petroleum products, and building materials.

Capacity: The maximum production possible from a given combination of productive resources in specified quantities under stated conditions of operation during a given period (usually 1 year).

Capital repairs: (Also called general repairs.) Relatively large-scale renovating projects involving the replacement of a large number of parts or the most important parts of an item of fixed capital in order to restore it to full working power.

Centralized industry: That portion of state industry which is controlled directly by the East German central government.

Consumer industries: As used in this report, this group of industries includes the light and food industries.

Depreciation: The amount of decline in the value of a fixed asset during a given period.

Fixed assets: See Fixed capital.

Fixed capital: The stock of durable physical instruments of production that is used for more than one accounting period. As used in this report, the term instruments of production is defined broadly to include such social overhead capital as housing, which is necessary to (but not used directly in) production. The terms fixed capital, stock of fixed capital, and fixed assets may be used interchangeably. Gross fixed capital is the total value of fixed capital without any deduction for depreciation. Net fixed capital is the value of fixed capital after the deduction of the cumulative depreciation.

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Fixed capital investment: The fixed capital goods added to the stock of fixed capital during a given accounting period. Gross fixed capital investment is the total addition to the stock of fixed capital without any deduction for depreciation or retired assets. Net fixed capital investment is gross fixed capital investment minus depreciation of the stock of fixed capital during the period. New fixed capital investment is gross fixed capital investment minus the gross value of fixed capital retirements in the period.

Food industry: As used in East German economic accounting, this branch of industry includes those plants or enterprises producing the following classes of goods and services: processed meat and meat products, fishing and processed fish, oil mill products, margarine, processed grain, bakery goods, processed fruit and vegetables, sugar, alcohol, and tobacco goods.

Gross production: The total value of production of industry or of a branch of industry, including the value of raw materials or services used in the production process.

Income: The value of goods and services produced in a given period.

Investment goods industries: As used in this report, this category includes those industries that produce fixed capital goods (primarily the metalworking, building materials, and construction industries).

Light industry: As used in East German economic accounting, this category includes those plants producing the following classes of goods and services: lumber and other wood semifinished products, furniture, musical instruments, toys, jewelry, textiles, clothing, shoes, felt and leather goods, cellulose, paper and cardboard products, bookbinding and printing, and glass and ceramic products.

Metalworking industry: As used in East German economic accounting, this group includes those plants producing machinery (other than electrical machinery), transportation equipment, electrotechnical equipment, precision and optical instruments, fabricated structural steel, and other metal goods.

Obsolescence of fixed capital: The functional supplantation of fixed capital by superior substitutes or because of a decrease in demand for its products.

Producer goods industries: As used in this report, this category includes the basic materials and metalworking industries.

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Rate of accumulation: The ratio of net investment in fixed and working capital to the national income.

Retirements: The value of fixed capital removed from service in a given period.

State industry: As used in this report, this category includes all socialized industry except cooperative industry.

Stock of fixed capital: See Fixed capital.

Working capital: Resources that are used in a productive process and that are consumed within one accounting period.

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APPENDIX C

METHODOLOGY

1. State Investment, 1950-55

The East German Central Statistical Administration has published figures on state investment covering state industry (including the construction industry) for 1950 and 1955. An official East German index gives a means of completing the state series for 1951-54. The complete series, which has been developed by the application of this index, is given along with the index in Table 8.

Table 8

State Investment
in Centralized and Local Industry and Construction
in East Germany
1950-55

<u>Year</u>	<u>Index a/ (1950 = 100)</u>	<u>Million Current DME</u>
1950	100.0	956 <u>b/</u>
1951	153.0	1,463
1952	209.7	2,005
1953	249.1	2,381
1954	217.3	2,077
1955	228.9	2,189 <u>b/</u>
Total investment for 1951-55		<u>10,115</u>

a. 93/. Including any state investment in both centralized and local industry and construction.

b. 94/

Other official data give a check on the 5-year investment total presented in Table 8. An article on investment in the First Five Year Plan stated that total state investment in 1951-55 was

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20,879 million DME and that investment in centralized and local industry amounted to 48.5 percent of the total. 95/ The figure for investment in centralized and local industry and construction during 1951-55 shown in Table 8* (10,115 million DME) amounts to 48.45 percent of 20,879 million DME.

State investment in centralized industry and construction during 1951-55 was as follows 96/:

<u>Type of Installation</u>	<u>Million DME</u>
Total	<u>9,689.8</u>
Main installations	9,158.1
Secondary installations	531.7

Table 9** gives indexes of state investment in centralized industry and construction during 1951-55, by industrial group.

State investment in centralized industry and construction during 1951-55 was distributed among the major industrial groups, as follows 97/:

<u>Industrial Group</u>	<u>Percent</u>
Total	<u>100.0</u>
Basic materials industries	68.0
Metalworking industries	14.7
Light industry	6.3
Other	11.0

The following breakdown of state investment in centralized industry and construction during 1951-55 is based on the above percentages:

<u>Industrial Group</u>	<u>Investment (Million DME)</u>
Total	<u>9,689.8</u>
Basic materials industries	6,589.1
Metalworking industries	1,424.4
Light industry	610.5
Other	1,065.8

* P. 43, above.

** Table 9 follows on p. 45.

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These investments, except for the "Other" category, can be distributed among the individual years, 1951-55, by means of the indexes given in Table 9. In Table 10 the indexes have been converted to estimating coefficients by means of a shift to a 1951 base and division by 100.

Table 9
 Indexes of State Investment
 in Centralized Industry and Construction
 in East Germany a/
 1951-55

	1950 = 100				
Industrial Group	1951	1952	1953	1954 b/	1955 b/
Total b/	156	222	258	229	229
Basic materials industries	175	279	342	332	334
Electric power	174	295	511	846	866
Coal	147	396	471	628	640
Metallurgy	185	233	265	90	74
Chemicals	180	267	316	340	255 c/
Metalworking industries	153	198	178	68	73
Light industry	76	77	196	226	205
Food industry	86	101	101	161	106

- a.
 b. Including former SAG's.
 c. 99/

50X1

Table 10
 Estimating Coefficients for the Distribution of State Investment
 in East Germany Among Individual Years, by Industrial Group
 1952-55

	1951 = 1			
Industrial Group	1952	1953	1954	1955
Total	1.423	1.654	1.468	1.468
Basic materials industries	1.594	1.954	1.897	1.909
Metalworking industries	1.294	1.163	0.444	0.477
Light industry	1.013	2.579	2.974	2.697

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The estimating equations for the respective groups follow. In each case, x = the state investment for the group in 1951.

Total centralized industry and construction:

$$x + 1.423x + 1.654x + 1.468x + 1.468x = 9,689.8 \text{ for } 1951-55$$

$$7.013x = 9,689.8$$

$$x = 1,381.7$$

Basic materials industries:

$$x + 1.594x + 1.954x + 1.897x + 1.909x = 6,589.1 \text{ for } 1951-55$$

$$8.354x = 6,589.1$$

$$x = 788.7$$

Metalworking industries:

$$x + 1.294x + 1.163x + 0.444x + 0.477x = 1,424.4 \text{ for } 1951-55$$

$$4.378x = 1,424.4$$

$$x = 325.4$$

Light industry:

$$x + 1.013x + 2.579x + 2.974x + 2.697x = 610.5 \text{ for } 1951-55$$

$$10.263x = 610.5$$

$$x = 59.5$$

[redacted] investment in the centralized food industry in 1955 amounted to 5 percent of the total for centralized industry. $\frac{100}{100}$ On the basis of the first equation above, state investment in centralized industry in 1955 is estimated to be 2,028.3 million DME. State investment in the centralized food industry in 1955, therefore, is estimated to be $0.05 \times 2,028.3$, or 101.4 million DME. Investment in the food industry for 1951, 1952, 1953, and 1954 may be determined by the application of the index for the food industry in Table 9.* The estimated investments for centralized industry and construction and the major component groups are shown in Table 11.**

50X1

* P. 45, above.

** Table 11 follows on p. 47.

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Table 11

State Investment in Centralized Industry and Construction in East Germany
by Industrial Group
1950-55

Industrial Group	Million Current DME						
	1950	1951	1952	1953	1954	1955	Total ^{a/} 1951-55
Total	886	1,382	1,966	2,285	2,028	2,028	9,690
Basic materials industries	451	789	1,257	1,541	1,496	1,506	6,589
Metalworking industries	213	325	421	378	144	155	1,424
Light industry	78	60	60	153	177	160	610
Food industry	96	82	97	97	154	101	531
Other ^{b/}	48	126	131	116	57	106	535

a. Totals are derived from unrounded data and may not agree with the sums of the rounded components.

b. These figures are residuals and include figures for the construction industry plus or minus the net error in the other components.

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2. Rate of Accumulation, 1951-55

The rate of accumulation is defined as the ratio of net investment in fixed and working capital to the national income. The estimate of the average rate of accumulation in East Germany during 1951-55, based on data in current prices, was computed as follows:

a. The national income available for domestic use in 1955 was 48,821 million DME. 101/

b. The accumulation in 1955 was 12.8 percent of the 48,821 million DME, 102/ or 6.25 billion DME.

c. The accumulation for 1951-54 is estimated, on the basis of the official index 103/ and the estimate of accumulation for 1955, to be as follows:

<u>Year</u>	<u>Index</u> (1950 = 100)	<u>Accumulation</u> (Billion DME)
Total		<u>27.3</u>
1951	120	4.6
1952	138	5.3
1953	139	5.3
1954	156	5.9
1955	164	6.2

d. The total national income for 1951-55 was 224.9 billion DME, 104/ and the rate of accumulation was $\frac{27.3}{224.9}$, or 12.1 percent.

3. Investment, 1956-59

Total gross fixed capital investment in East Germany during 1956-59 was as follows 105/:

<u>Billion DME</u>			
<u>1956</u>	<u>1957</u>	<u>1958</u>	<u>1959</u>
10.0	10.7	12.3	14.0

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The East Germans have now published a new investment series that has more complete coverage than the old state investment series. The new series covers only the years 1956, 1957, and 1958. The investment coverage in this series 106/

... includes the expenditures for maintenance and expansion of state fixed capital. These [funds] come from the allocations to the plan for the maintenance of fixed capital in that portion of the economy which is subject to amortization charges, to the plan for maintenance of the fixed capital of the budget organizations, and to the plan for the expansion of fixed capital as well as to expenditures for project planning.

Excluded are the investments of the cooperative and private economy from its own means and credits as well as credits for rationalization of the people-owned economy.

The data from that series covering industry and construction are shown in Table 3.*

4. Changes in Production and Foreign Trade in the Metalworking Industry, 1955-58

The percentage increase in gross production in the East German metalworking industry was computed from the figures on gross production reported by the East German Central Statistical Administration, as follows: 1955, 13,102 million DME, 107/ and 1958, 17,785 million DME. 108/

The percentage increase in net exports was derived as follows:

a. In 1955, exports of the metalworking industry were valued at 3.09 billion rubles,** and imports of products of the metalworking industry were valued at 220 million rubles. 109/

b. The total foreign trade turnover of the metalworking industry in 1958 is estimated to have amounted to 14.30 billion rubles, 110/ and total exports in 1958 were 104.4 percent of total

* P. 16, above.

** Ruble values throughout this report are expressed in current rubles and may be converted to US dollars at the rate of 4 rubles to US \$1. This rate of exchange, however, does not necessarily reflect the dollar value.

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exports in 1957. 111/ Whereas total exports in 1957 were 7.24 billion rubles, 112/ total exports in 1958 are estimated to have been 7.56 billion rubles. Total imports in 1958, then, are estimated to have been 14.30 billion rubles minus 7.56 billion, or 6.74 billion rubles.

c. Products of the metalworking industries accounted for 52 percent of total East German exports in 1958 and 12 percent of total imports. 113/ The estimated amount of trade in products of the metalworking industry in 1958 is as follows: exports, 3.93 billion rubles, and imports, 0.81 billion rubles.

d. Net exports of products of the metalworking industries are, therefore, as follows: for 1955, 3.09 minus 0.22 equals 2.87 billion rubles, and for 1958, 3.93 minus 0.81 equals 3.12 billion rubles.

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APPENDIX D

COMPARISON OF THE OFFICIAL OR "STATE" INVESTMENT SERIES
WITH THE GROSS INVESTMENT SERIES FOR CENTRALIZED INDUSTRY

Data on "state" investment in centralized industry and construction (see Table 11*) and on gross fixed capital investment in centralized industry (see Table 1**) are shown in Table 12.*** It is impossible, in the absence of explanatory data, to reconcile the figures given for centralized industry in these two series. The known differences between the series are as follows: (1) The data on gross investment include capital repairs, but the other series of data cover only "state" investment, and (2) the data on state investment refer to product groups, but the data on gross investment refer to ministry groups. The probable differences are as follows: (1) The data on gross investment cover only investments in main installations, but the data on state investment cover both main installations and secondary installations; and (2) the data on state investment have been adjusted to include investment made in enterprises before their transfer to centralized control, but the data on gross investment have not been so adjusted. These latter two points can be only speculation, for there are other possible explanations for the differences between the two series. The sharpest differences between state investment and gross investment in centralized industry, as shown in Table 12, occur in the data for 1953 and 1954. State investment shows a decline in 1954 of approximately 11 percent from the peak of 2,285 million DME reached in 1953. Gross investment shows an increase of 33.5 percent from 1953 to 1954, followed by a decline of about 6 percent in 1955. The increase in gross investment of 704 million DME in 1954 reflects, to a large extent, the increase of 600 million DME in the investment of the Ministry of Coal and Power -- an increase of 128 percent. By way of comparison, indexes of state investment show the following increases during 1953-54 in the coal and power branches of centralized industry: power, 66 percent, and coal, 33 percent.†

* Appendix C, p. 47, above.

** P. 8, above.

*** Table 12 follows on p. 52.

† Computed from indexes in Table 9, p. 45, above.

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Table 12
Alternative Industrial Investment Series
for Centralized Industry and Construction in East Germany a/
1951-55

Investment Category	Million Current DME					
	Total	Basic Materials Industries	Metalworking Industries	Light Industry	Food Industry	Other <u>b/</u>
Total investment for 1951-55 <u>c/</u>						
Gross investment	10,922	7,537	1,933	717	482	254
"State" investment	9,690	6,589	1,424	610	531	535
Investment for 1951						
Gross investment	1,445	892	355	80	78	40
"State" investment	1,382	789	325	60	82	126
Investment for 1952						
Gross investment	1,938	1,316	409	88	67	59
"State" investment	1,966	1,257	421	60	97	131
Investment for 1953						
Gross investment	2,101	1,443	404	115	96	43
"State" investment	2,285	1,541	378	153	97	116
Investment for 1954						
Gross investment	2,805	2,054	419	205	71	56
"State" investment	2,028	1,496	144	177	154	57
Investment for 1955						
Gross investment	2,633	1,832	346	229	170	56
"State" investment	2,028	1,506	155	160	101	106

a. For figures on gross investment, which apparently cover only investment in main installations (Hauptanlagen), including capital repairs, see Table 1, p. 8, above. For an explanation of "state" investment, see Appendix A and Table 11, Appendix C, p. 47, above.

b. Gross investment totals include data for the construction industry only, and "state" investment totals include data for the construction industry plus or minus the net error in the other components.

c. Totals are derived from unrounded data and may not agree with the sums of the rounded components.

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