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ECONOMIC INTEREST OF THE USSR
IN CONTROL OF EAST GERMANY

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FOREWORD

The economic interest of the USSR in East Germany is subordinate to the main Soviet objective of having a voice -- if possible, the deciding voice -- in settling the future of Germany. Control over the land, labor, and industrial capacity of East Germany is an important strategic asset to the USSR. An independent East Germany thus would represent a palpable subtraction from Soviet strategic power, and an East Germany integrated into the Federal Republic would represent a still further change in the strategic balance. This report does not consider the political and military aspects of a change in the status of East Germany or the terms on which such a change could be negotiated. Rather, the report describes the nature of the economic stake the USSR has in East Germany and the extent to which its purely economic interests might be jeopardized by a change in East Germany's position. Among the topics considered are the degree of Soviet exploitation of the East German economy; the size, composition, and terms of trade between the two countries; and the extent to which each country could adjust to marked changes in this trade.

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ECONOMIC INTEREST OF THE USSR IN CONTROL OF EAST GERMANY*

Summary and Conclusions

In purely economic terms the USSR stands to lose little from giving up control of East Germany. Soviet - East German trade, the largest in the Communist world, probably would decline after a political settlement on Germany. Such a decline, however, and accompanying changes in terms of trade and commodity composition would involve little or no net economic loss to the USSR. Foreign trade is of marginal importance to the Soviet economy, and most of it involves only small gains per unit traded. Under the conditions of a political settlement on Germany, the USSR could readily make the necessary economic adjustments at little cost, mainly by shifting from the production of certain goods now taken by East Germany to the production of substitutes for some goods now imported from East Germany. Under any such settlement, however, the Soviet government probably would insist on retaining control of the East German uranium mines until they are exhausted.

Systematic Soviet exploitation of the East German economy ended in the mid-1950's. By the end of 1956 the USSR had renounced most of its claims on the East German economy, enterprises seized after World War II had been returned to East German hands (except for the uranium mines), and Soviet advisers had been withdrawn from East German economic organizations. East Germany had been relieved of the burden of paying reparations, and occupation costs had been reduced, although payment was not discontinued until 1959. Finally, the Soviet government had agreed to East German demands for fair pricing in foreign trade.

In recent years the Soviet presence in East Germany has had only a small impact on the East German economy -- through the requirements levied by Soviet forces in East Germany and by the Soviet-controlled uranium mining corporation. Soviet forces stationed in East Germany are partly supplied from local sources, at unfavorable prices for East Germany, but the Soviet gain is not large. The uranium mines supply the USSR annually with ores and concentrates containing some 5,000 metric tons (mt) of recoverable uranium metal, about one-fourth of the current Soviet supply from all sources. Proved reserves are believed to be enough to continue production into the 1970's. The costs of mining uranium in East Germany are high, and the USSR pays a high price by world standards even though the Soviet payment may not cover the entire cost to East Germany. Nevertheless, the USSR probably intends to retain control of the uranium mines until they are exhausted.

Trade turnover (exports plus imports) between the USSR and East Germany now amounts to nearly \$3 billion annually. The USSR fills the greater part of East German deficiencies in raw materials -- chiefly fuels, metals, wood, textile fibers, and foodstuffs. In return, East Germany sends the

* The estimates and conclusions in this report represent the best judgment of this Office as of 15 July 1965.

USSR a wide range of manufactured goods -- chiefly machinery and equipment, textiles and clothing, and furniture and domestic appliances.

Prices in Soviet - East German trade are negotiated on the basis of Western price quotations ("world market prices"). The prices do not reflect the relative bargaining power of the two sides, for the USSR probably could insist on much more favorable terms and in fact did so until the mid-1950's. At the same time, however, the terms of trade are more favorable to the USSR than it can obtain in Western markets. Both the USSR and East Germany face various handicaps in trading with the West -- including tariffs (which greatly affect East German exports to Western Europe and the British Commonwealth), higher transport costs (especially important for Soviet bulk commodities), and Communist methods of doing business. Communist countries still tend to trade to fill specific needs and thus are rarely able to maximize returns from exports. Moreover, they have not as yet developed stable markets in the West. As a result, Soviet and East German prices (f.o.b. basis) to the West now average 30 percent below prices for comparable products in Soviet - East German trade.

If the size and composition of Soviet - East German trade were to change because of a change in the status of East Germany, the effect on the two economies would depend on the nature and speed of the transition. In general, the transition would pose a greater problem to East Germany, if only because the volume of trade represents a much larger fraction of its economic activity. Under a negotiated settlement on Germany, it may be assumed that no obstacles would be placed in the way of Soviet-German trade, and a considerable volume of the present trade would continue -- the import of certain kinds of Soviet raw materials by East Germany in return for those kinds of machinery most useful to the USSR. This sort of trade would continue to make economic sense, especially in the short run, when the USSR would be hard put to market great new quantities of raw materials in the West and the East Germans would be hard put to meet the quality standards of Western markets for machinery and manufactured goods. Over the longer run the two economies probably would find alternative markets or would replace former imports by shifting resources in the domestic economy. For example, Soviet exports of crude oil and steel to East Germany probably would continue to expand, whereas exports of grain, nonferrous metals, and wool probably would fall off, to mention the most obvious cases. East Germany would eventually discontinue the production of many lines of heavy machinery now sold only to the USSR and other countries of the Soviet Bloc.* In general, a considerable portion of Soviet - East German trade would survive on the basis of economic advantage -- with appropriate adjustments in prices, quantities, specifications, and the like -- and the remainder would fall away as attractive alternative opportunities presented themselves.

* The term Soviet Bloc as used in this report refers to the USSR and the Eastern European Communist countries -- Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, and Rumania.

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The extent of these adjustments would depend partly on whether East Germany was absorbed into a reunified Germany or remained a separate entity. The loss to the USSR would depend on the net effect of some worsening in the terms of a reduced volume of trade, of a decided improvement in the commodity composition of trade, and of some loss in efficiency through shifting Soviet resources from the production of exports to East Germany to the production of import substitutes. In the case of complete German reunification, the net effect probably would be a small loss to the USSR. If East Germany remained a separate entity, it is unlikely that the USSR would suffer any purely economic loss from giving up control of East Germany.

The USSR would also take East German economic resources into account in evaluating the strategic importance of control over East Germany. The East German economy has made little direct contribution to Soviet strength in the cold war. East Germany has played an important role in Soviet plans for economic collaboration among the countries of Eastern Europe, but it is no longer likely that the Soviet government has any great hopes of carrying out these plans.

Of more immediate interest to the USSR is the East German economic aid program in less developed areas of the Free World. Until 1964, East Germany did very little in this field, much less than either Poland or Czechoslovakia. Since the beginning of 1964, however, East Germany has extended some \$200 million in new credits to less developed countries, chiefly to Egypt, Indonesia, and Ceylon, in a drive to acquire international recognition.

Probably the most significant measure of the strategic importance of East German economic resources is what they would add to the strength of West Germany in case of German reunification. The national product of East Germany is only just over 20 percent of that of West Germany, but the population is almost 30 percent, and East German labor productivity would doubtless rise in case of reunification. The addition of East German resources would thus greatly strengthen the West German economy, already the second largest in Europe.

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I. Introduction

The problem posed in this report is to assess the economic interest of the USSR in the control of East Germany. Open Soviet exploitation of the East German economy has given way to a businesslike relationship, almost as if between equals. East Germany is still a Soviet "satellite," however, and the USSR still retains certain special rights, associated with maintaining Soviet forces in East Germany and with the management of the uranium mines. Moreover, a large trade has grown up between the USSR and East Germany.

The problem of assessing the Soviet interest in these economic relationships is posed here in the context of a political settlement on Germany. Any settlement clearly would affect all Soviet - East German relationships. There are various possibilities. A settlement might, for example, provide for the reunification of Germany, or for a "federation" of some kind between East and West Germany, or again for the political independence -- in the Free World -- of a separate East German state. Some sort of "federation" seems the most likely solution.

But it is not in the terms of reference of this report to select or exclude any particular basis for settlement -- the entire range of possibilities is considered. It is assumed, however, as in the nature of things, that a negotiated solution of the German question would not produce any sudden, abrupt changes in the status quo but rather a gradual transition, perhaps in stages. It is also assumed that the USSR would receive guarantees of free access to the East German (or German) market -- that it would be granted most-favored-nation treatment and freedom from quotas or other direct trade or financial restrictions.

In order to give a certain concreteness to the analysis, the present economic relationships between the USSR and East Germany are taken as the point of departure, and the data used belong to the recent (or, in some cases, the not-so-recent) past. This approach, although static, seems more realistic than attempting to project the situation into a future in which a German settlement might be more likely than at present.

The point of view in analyzing the Soviet economic interest in East Germany is essentially that of a Western economist looking at the facts as he sees them. Soviet conclusions obviously would be influenced not only by overriding political considerations but also by a different approach to economic analysis as well as by the vested interests of the Soviet economic apparatus. Such factors are not taken up in the following discussion.

The discussion is divided into three parts. The first deals with the economic prerogatives enjoyed by the USSR in East Germany as the occupying power. The USSR has surrendered most of these. The East Germans, however, still contribute in a small way to the support of Soviet forces in East Germany, and the USSR retains control of the important uranium mines in the Erzgebirge.

The second part of the discussion is devoted to the question of Soviet gains from trade with East Germany. The volume and commodity composition and the terms of trade are analyzed to determine the extent of Soviet gains from trade with East Germany and of possible Soviet losses as a result of a political settlement on Germany.

The third part of the discussion considers the importance of East Germany in the balance of power, using economic indicators as a measure. A political settlement on Germany would involve an important shift in the balance of power, as indicated by the economic weight of a reunified Germany, which doubtless would seek to play a more independent role in European affairs.*

II. Economic Advantages to the USSR Remaining from the Postwar Occupation

The USSR has given up most of the economic advantages that went with the occupation of the Soviet Zone of Germany and the Soviet-administered sector of Berlin. The balance that East Germany owed on the reparations account was canceled as of the end of 1953. At the same time the Soviet government promised to turn over the control of the last of the enterprises seized after the war -- except for the uranium mines. The East Germans took over control of these enterprises in 1954 and finished paying for them in 1955-56. East German payments for occupation costs were reduced in 1954, 1956, and 1958 and were finally discontinued beginning in 1959.

The Soviet presence in East Germany is now used for maintaining Soviet strategic interests, not for exploiting the East German economy. Maintenance of the Soviet forces in East Germany and operation of the uranium mines are the only remaining aspects of the Soviet presence having any economic importance. The East Germans reportedly are paid in both cases for the goods and services furnished, but not enough to cover the cost fully.

A. East German Support of Soviet Forces

The Soviet forces in East Germany, now numbering about 400,000, depend partly on local sources for the following items: food and other consumer goods; coal and POL; supplies for repair shops; and a variety of services, including construction, transport and communications, and housing. Judging from data for the late 1950's, the value of these goods and services amounts to well over \$100 million a year (US wholesale prices). The Soviet forces pay for these goods and services at East German wholesale prices (excluding turnover tax), which do not fully cover the cost to East Germany.

B. Importance of the Uranium Mines

According to current US estimates, the annual shipment of uranium ores and concentrates from East Germany to the USSR -- the entire output of the East German uranium mines -- contains about 5,000 mt of recoverable

* The basis of the estimates is discussed briefly in Appendix B.

uranium metal. East German output leveled off at this amount in 1957 after a fairly steady increase for several years. This production contributes about one-fourth of total Soviet supplies from current output, and the USSR has an obvious interest in retaining control of the mines.

East German uranium mining is a high-cost industry. Huge amounts of ore must be mined, moved, and processed to obtain about 5,000 mt of uranium metal. Costs were much reduced during the 1950's. Labor-saving machinery was installed, and employment dropped from a peak of more than 200,000 in the early 1950's to 60,000 or less in the late 1950's. If the costs are converted on a realistic basis, however, they would still have been on the order of \$250 million in 1960 and may have increased to some extent since then. The current costs thus run at somewhat more than \$50 per kilogram of uranium, much higher than costs in the US or Canada.

The question must be left open whether the USSR is paying only part or all of the cost of exploiting the uranium mines. Official East German statements have implied that the USSR would thereafter bear half the cost directly and would reimburse the East Germans for the other half. The only known Soviet payments to East Germany for uranium are those carried in official trade statistics,* which in fact have run at about one-half of estimated costs (declining from \$176 million in 1957 to \$126 million in 1960 and thereafter rising to \$144 million in 1963). On the average, these payments came to about \$25 a kilogram of uranium.

It is believed that the USSR intends to retain control of the East German uranium mines until they are exhausted. The proved reserves are probably enough to continue production into the 1970's. Apart from the importance that the Soviet government attaches to increasing its uranium stocks, there is a presumption that the Soviet leadership also considers it important to deny the uranium resources to any future German government.

III. Advantages to the USSR from Trade

A. Scope and Character of Trade

Soviet trade with East Germany, beginning at a very low level after World War II, expanded rapidly through most of the postwar period. In 1964, turnover (trade in both directions) was about 10 times what it had been in 1950.** The nominal value of exports and imports together was about \$2.8 billion in 1964 and should rise to almost \$3 billion in 1965.*** The trade

* See Tables 1 and 3, below.

** Based on data in current prices, adjusted for changes in the nominal value of the clearing ruble. (Official statements fail to allow for the change in the nominal value of the ruble in 1950.) The net change in prices since 1950 is not large: from 1950 through 1963, according to Soviet calculations, there was a net increase of 1 percent in the prices of Soviet exports and a net increase of 9 percent in the prices of Soviet imports.

*** Converted from Soviet statistics at the official exchange rate (0.90 ruble to \$1).

of the US with its principal trading partners offers a comparison which is meaningful even though the above estimates may somewhat over-value Soviet - East German trade. US trade with Canada is more than three times Soviet - East German trade, US trade with Japan is somewhat larger, and US trade with the UK and West Germany is a little smaller. With these exceptions, trade between the USSR and East Germany is now substantially larger than the trade between any other two countries in the world.

Soviet - East German trade is so large because the USSR supplies most of the deficiencies of East Germany in minerals and metals and in agricultural and forestry products. The USSR also supplies East Germany with military end items. In return the USSR imports East German machinery and equipment and consumer goods. East Germany is the leading supplier of machinery and equipment to the USSR, with the value amounting to more than \$700 million annually. East German technology has fallen behind that of the industrial West, and East Germany could not sell in the world market much of what the USSR accepts. East German machinery meets Soviet requirements, however, and the sudden loss of imports from East Germany would cause difficulties in the Soviet investment program. (For a summary of the distribution, by major commodity group, of Soviet - East German trade in selected years, beginning with 1950, see Table 1.)

1. Soviet Exports

East Germany is heavily dependent on trade, even more so than the other small Communist countries of Eastern Europe. This dependence results in part from deficiencies in resources. East Germany has little bituminous coal, almost none of it suitable for making metallurgical-grade coke; scarcely any proved reserves of petroleum, although there are hopes of discovering major oil deposits offshore in the Baltic; and only very limited, low-grade resources in ferrous metals. All the cotton and much of the wool used in the country must be imported. Large imports of wood and wood products are also necessary. East German dependence on imports has risen because of industrial growth and the accompanying rise in the standard of living -- which have reduced the supply of labor in the countryside and increased the domestic demand for food -- and also because of insistence on agricultural collectivization, which has resulted in gross inefficiency. East Germany now imports perhaps one-fourth of its foodstuffs.

The USSR supplies a large part of East German deficiencies in raw materials and foodstuffs. East Germany's reliance on Soviet deliveries is indicated by the figures of 1963, below, which show the share of Soviet deliveries in East German imports and in total East German supplies (percent):

	<u>Share</u> <u>of Soviet Deliveries</u>			<u>Share</u> <u>of Soviet Deliveries</u>	
	<u>In</u> <u>Imports</u>	<u>In</u> <u>Supplies</u>		<u>In</u> <u>Imports</u>	<u>In</u> <u>Supplies</u>
Hard coal	11 (66*)	9 (54*)	Rolled steel	78	37
Bituminous coke**	47	23	Copper	80	41
Crude oil	97	95	Cotton	83	83
Raw phosphates***	99	99	Wool	71	61
Iron ore	92	70	Lumber†	92	32
Pig iron	100	23	Grain	91	22
			Butter	98	25

* The figures in parentheses include Polish coal delivered on Soviet account.

** Most of the Soviet coke is of metallurgical grade. East German brown coal coke is excluded.

*** Data for 1964. Phosphate rock (apatite) is used to make fertilizer.

† Only lumber shipments are included here. If Soviet deliveries of raw timber were added (on a comparable basis), the shares would be higher -- well over 40 percent of the total East German supply.

These and a few other such commodities, together with military end items -- for which the USSR is naturally a major source of supply -- make up the greater part of Soviet deliveries to East Germany, as indicated by the detailed breakdown in Table 2.

Soviet exports to East Germany, although large, generally represent a very small share of Soviet output. The only types of commodities for which exports to East Germany in 1963 amounted to more than 3 percent of Soviet output are textile fibers and nonferrous metals. For these, Soviet exports to East Germany ran from 4 to 8 percent of Soviet output. The USSR does not in any sense depend, however, on East Germany as a market for these commodities; on the contrary, the USSR is an importer as well as an exporter of most textile fibers and nonferrous metals. For two of these commodities, wool and copper, Soviet imports (which come largely from the West) are greater than total Soviet exports (which go largely to the Soviet Bloc).

The extent of East German reliance on Soviet imports is a direct result of Soviet control of East Germany. From the beginning of the Soviet occupation in 1945, East Germany was cut off from its main source of raw materials and its principal market. The area had always depended heavily on imports from the rest of Germany, which had accounted for more than one-half of its total external trade before World War II. If the postwar East German economy was to get back into operation, the USSR had to supply the greater part of its material deficiencies.

Table 1

Commodity Composition of Soviet - East German Trade a/
Selected Years, 1950-63

	Percent of Total											
	Soviet Imports					Soviet Exports						
	1950	1953	1955	1958	1961	1963	1950	1953	1955	1958	1961	1963
Machinery and equipment b/	28	68	78	58	56	55	4	2	1	3	5	6
Fuels, metals, chemicals, building materials, and raw materials for light industry c/	62	27	20	12	14	10	61	60	63	63	64	65
Foodstuffs d/	10	5	{ Negl. }	Negl.	1	{ Negl. }	35	38	{ 20 }	22	19	17
Consumer goods (excluding foods) d/			{ 2 }	12	15	24			{ 1 }	1	1	1
Military end items e/							N.A.	N.A.	15	11	11	12
Uranium ores and concentrates f/				19	15	11						
Total	100	100	100	100	100	100	100	100	100	100	100	100

a. Commercial trade, excluding reparations deliveries, deliveries in payment of occupation costs, and the like. The data are for commodity trade f.o.b. the border of the exporting country. The breakdown is based on East German published data for 1950 and 1953 and Soviet published data for 1955, 1958, 1961, and 1963. Tests for the years 1956-59, which are covered by both sets of data, show quite close agreement. Coverage varies from year to year, and the significance of the percentage figures differs accordingly. Because of rounding, components may not add to the totals shown.

b. Excluding munitions.

c. Metals exclude uranium; chemicals include fertilizers and rubber.

d. Foodstuffs include raw materials; consumer goods include semifabricates but not raw materials. Soviet imports in 1950 may include some foodstuffs. Soviet exports in 1950 and 1953, as later, are virtually all foodstuffs.

e. The estimate for military end items is a residual in Soviet exports, closely corresponding to the difference between the totals in Soviet and East German data.

f. Data for uranium deliveries, first included in commercial trade in 1956, represent the amount of the Soviet payment to East Germany, ostensibly to cover the East German share of costs of the uranium mines (see p. 6, above).

Table 2
Commodity Composition of Soviet Exports to East Germany a/
1963

	Million US \$ <u>b/</u>	Percent of Total
Machinery and equipment	80	6.1
Solid fuels	132	10.0
Petroleum and petroleum products	80	6.1
Metals and metal products	(409)	(31.1)
Iron ore	24	1.8
Pig iron	44	3.3
Rolled steel and rolled steel products	240	18.3
Nonferrous metals and metal products	76	5.8
Other	25	1.9
Nonmetallic minerals, chemicals, and building materials	48	3.7
Agricultural and forestry products, food products, and light industry products	(413)	(31.4)
Textile raw materials and semifinished products	109	8.3
Timber, lumber, and wood products	56	4.3
Grain	110	8.4
Meat and dairy products	72	5.5
Other agricultural and food products	60	4.6
Other light industry products	6	0.5
Military end items <u>c/</u>	152	11.6
Total	<u>1,314</u>	<u>100.0</u>

a. Data are from published Soviet foreign trade statistics and are f.o.b. the Soviet border. Because of rounding, components may not add to the totals shown.

b. Converted from clearing rubles. As indicated below (pp. 16ff. and Table 4), they correspond roughly to the figures that would be obtained by valuing the commodities at "world market prices."

c. A nonitemized residual which may also cover other shipments of classified character (for example, atomic energy); the residual corresponds closely with the difference between the total as shown in Soviet statistics and that shown in East German statistics. The average residual for the late 1950's corresponds with a reported figure for Soviet munitions exports to East Germany during the period.

Soviet deliveries began at a low level in the early postwar years and, measured by East German needs, were altogether inadequate. To be sure, they rose rapidly. A still more rapid increase, however, would have been to the advantage of East Germany, which could have used and paid for larger Soviet deliveries throughout the 1950's. The East Germans would thus have been enabled to avoid developing high-cost domestic resources. The Soviet leaders, on the other hand, evidently believed that it was to their advantage to draw the line far short of what East Germany could use. Presumably, they thought that the USSR would benefit more from keeping the additional materials -- or from diverting to other uses the capital and labor needed to produce them -- than from getting the additional machinery and equipment and other manufactures that East Germany could have supplied. This view doubtless was based more on habitual autarkic thinking than on a strictly economic calculation of alternative benefits to the Soviet economy.

Comparisons with prewar trade levels indicate the extent of the readjustments made by East Germany. It is only in recent years that Soviet steel deliveries have reached the level of prewar imports from the Ruhr valley. Soviet coal deliveries, even including Polish coal delivered on Soviet account, have never reached that level. Total Soviet - East German trade is still below the prewar level of East German trade with the rest of the Reich (valued at comparable prices). Soviet deliveries, nevertheless, have furnished the main basis of East German economic recovery and growth.

2. Soviet Imports

Soviet imports from East Germany are dominated by machinery and equipment, light industry products, and uranium ore.* East Germany is the leading supplier of machinery and equipment to the USSR, with deliveries amounting to more than \$700 million in 1963 -- which, however, make up only 1 percent of total Soviet supplies of engineering products for sale outside the engineering industry.** Moreover, Soviet imports are spread over a wide range of products, as shown by a breakdown in Table 3 of Soviet imports from East Germany in 1963. There are only a couple of cases (forging equipment and presses and food industry equipment) in which the deliveries, at the level of aggregation shown in Table 3, amount to more

* The special case of uranium ores and concentrates, considered above, is not discussed under this heading.

** Based on the estimate of Michael Boretsky of the value of Soviet engineering output (Joint Economic Committee, Dimensions of Soviet Power, 1962, p. 71ff). Boretsky considers his estimates to be somewhat on the high side, although they are much lower than those of Tarn and Campbell. (See Alexander Tarn and Robert W. Campbell, "A Comparison of U.S. and Soviet Industrial Output," American Economic Review, September 1962, pp. 703-27; also Alexander Tarn, "Dollar Value of Soviet Industrial Production -- 1955-60," The Review of Economics and Statistics, No. 4, November 1964, pp. 406-12.)

than 2 to 3 percent of total Soviet supplies. In still more narrowly defined groups, East Germany contributed in 1963 a larger share of the total Soviet supply of a number of products, but only in a very few cases (the most important are presses, industrial refrigerating equipment, rolling mill equipment, railroad passenger cars, and fishing ships) was the share more than 10 percent of Soviet supplies. In such cases, East German deliveries to the USSR invariably represent a large share of East German output.

Short-term considerations also have largely determined the composition of Soviet imports. In the early postwar period, East German heavy industry was rebuilt and, in some cases, expanded specifically to meet Soviet reparations requirements. After reparations were ended, Soviet representatives became more selective in choosing imports. It was understood on both sides, however, that they had to order enough goods of some kind to pay for the materials being furnished to East Germany. The lack of suitable East German goods could not be allowed to affect the overall level of deliveries to East Germany, which must increase in order to assure the steady growth of East German output. Here, as in other cases, political considerations greatly influenced Soviet trade policy, leading to an expansion of trade beyond what the USSR probably would have undertaken on purely economic grounds. As a result, East German industry continued to have an assured, protected market in the USSR (and elsewhere among the Communist countries); it therefore followed the line of least resistance and expanded output in the industries built under Soviet control. Because of the lag in East German recovery, there was substantial unused manufacturing capacity -- largely dating from before World War II -- and substantial increases in output across the board were made with little additional investment, simply by using more materials and labor. It was only in 1960-61, mainly as a result of the growing labor shortage, that further increases became difficult.

This shortsighted policy has left East Germany producing far too wide a range of manufactures -- especially of machinery and equipment, which, according to East German estimates, were 90 percent of the total range of products on the market. Much of this output is obsolescent by world standards -- customers have long criticized East German products. East German authorities themselves have acknowledged this fact, as part of an educational campaign to convince management of the need for modernizing. They were especially frank in 1959-60, when the regime was optimistically planning to "overtake and surpass" West Germany: they then admitted that only a fraction of East German output met world standards -- for example, one-half of the machine tools produced, less than one-third of the textile machinery, and only one-fifth of all machinery. Since the adoption of new, more realistic goals, other admissions have been made in announcing improvements. For example, the share of electrical machinery accepted as fully meeting world standards -- by East German judgment -- rose from 2 percent in 1962 to 8 percent in 1964. Ulbricht has recently complained that in agricultural machinery East Germany is 5 years behind the West. Foreign observers have also continued to note

Table 3

Commodity Composition of Soviet Imports from East Germany a/
1963

	<u>Million US \$ ^{b/}</u>	<u>Percent of Total</u>
Machinery and equipment	(713)	(54.7)
Metalcutting tools	31	2.4
Forging equipment and presses	31	2.4
Power equipment	34	2.6
Electrical equipment	26	2.0
Mining and metallurgical equipment	39	3.0
Hoisting and conveyor equipment	30	2.3
Food industry equipment	49	3.8
Light industry equipment	23	1.8
Chemical industry equipment	24	1.8
Construction and excavating equipment	36	2.8
Business machinery	26	2.0
Agricultural machinery	21	1.6
Precision instruments and equipment	45	3.5
Railroad rolling stock	125	9.6
Ships and marine equipment	85	6.5
Other	83	6.4
Petroleum products	11	0.8
Pipe	6	0.5
Wire and cable	26	2.0
Chemicals	84	6.4
Building materials	8	0.6
Textile raw materials and foodstuffs	5	0.4
Light industry products	(307)	(23.5)
Textiles	22	1.7
Clothing	122	9.4
Wood furniture	53	4.1
Cultural and household goods	66	5.1
Other	44	3.4
Uranium ores and concentrates <u>c/</u>	144	11.0
Total	<u>1,304</u>	<u>100.0</u>

a. Data are from published Soviet foreign trade statistics and are f.o.b. the East German border. Because of rounding, components may not add to the totals shown.

b. Converted from clearing rubles. As indicated below (pp. 16ff. and Table 4), these figures correspond roughly to those that would be obtained by valuing the commodities at "world market prices."

c. A nonitemized residual in Soviet imports from East Germany. The amount agrees closely with the nonitemized residual in all Soviet imports of "metallic ores and concentrates" and with the residual in total East German exports. For some earlier years the residual in the East German statistics can be located specifically in the category of raw materials. One defector also provided direct evidence on the amount of the Soviet payment.

such deficiencies. The latest example is a report of a US visitor at this year's spring fair in Leipzig, who found that the East German data-processing equipment on display was entirely obsolete by US standards.

East Germany thus contributes very little to Soviet technology. At the same time, however, East German goods are generally quite acceptable by Soviet standards. East German deliveries contribute significantly to a great many Soviet investment projects. If suddenly deprived of East German machinery and equipment, the USSR would have to cut back or phase out most of these projects, because it would be unable to replace these goods on short notice either from domestic production or by imports from other sources.

Such a contingency, however, is not at all likely. Insulation from the market has left East German industry -- like a convict after a long sentence -- unsuited to a competitive environment. In the short run, East Germany is heavily dependent on Soviet patronage, and the USSR is in turn obliged to support the captive industries of East Germany in order to avoid serious dislocations, with the political risks that would be involved. The commodity composition of East German deliveries reflects this involvement. The largest Soviet imports are from East German industries for which the USSR is the principal market. About two-thirds of the final output of ships and of railroad rolling stock in East Germany is exported, largely to the USSR. The Soviet market also takes a substantial share of the East German output of various kinds of heavy industrial equipment, including machine tools, forges and presses, rolling mills, and sugar refineries. Most other exports of these products go to customers in the Soviet Bloc or to underdeveloped areas; few are readily salable in Western Europe, except for machine tools.

East Germany does export a variety of other kinds of machinery and equipment to the industrial West: the most important are business machinery, electrical equipment, textile and printing machinery, and automotive equipment. East Germany, however, has had difficulty in expanding sales of these products in the industrial West. The value of East German exports of machinery and equipment to European NATO countries* did not increase from 1956 through 1963, and their share in total East German exports to European NATO countries declined steadily from about 17 to only 10 percent.

B. Terms of Trade

In view of the captive status of East Germany and its economic dependence on the USSR, it would not have been hard for the latter to demand extremely favorable terms of trade from East Germany -- that is, to practice price discrimination. The USSR has been accused of doing just that, yet in fact it has long given East Germany quite favorable

* Belgium, Denmark, France, West Germany, Greece, Italy, Luxembourg, the Netherlands, Norway, Portugal, Turkey, and the UK.

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terms of trade -- terms that reflect, not the relative bargaining power of the two sides, but their agreed concept of a just price.

According to Communist claims and the other evidence that is available, trade agreements between the USSR and East Germany specify that prices will be based on recent world market prices for equivalent goods and services. In practice, prices are negotiated on the basis of quotations from major Western markets and important Western European producers. This practice was adopted throughout the Soviet Bloc as an expeditious way of reaching agreement in the absence of any suitable Soviet Bloc prices.

For most Soviet exports to East Germany, Western European market prices are readily available. Producer prices in Western Europe serve very well for some commodities -- for example, coal, coke, iron ore, and pig iron. The price range on the Continent for the commodities mentioned is relatively narrow as a result of the work of the European Coal and Steel Community. For many other important products there are in fact world market prices, as for various nonferrous metals and grains. The basic selling price in Western Europe (for example, on the London market) is often used as the starting point in Soviet - East German negotiations.

In establishing a basis for negotiation, allowances are made for differences in handling and transport costs from one market to another. The appropriate costs, running from about \$1 to several dollars a ton, are added to the Western European price to obtain a price c.i.f. the East German border (or port). From this price are then subtracted the handling and transport charges from the USSR to East Germany, which average about \$2 per ton, to obtain the price f.o.b. the Soviet border.

A good deal of work and some bargaining are involved in resolving problems of comparability, even for the relatively homogeneous products that the USSR sells to East Germany. The specifications of the Soviet products often differ from any of the usual specifications on the Western European market. For example, Soviet iron ore, with about 50 percent iron content and a high sulfur content, differs from any ores traded in Western Europe.

Rapid changes in quoted prices also create problems -- in particular, price fluctuations on commodity exchanges. Prices for Soviet goods shipped to East Germany inevitably lag behind changes in world market prices, generally by about a year, because trade is conducted at prices negotiated on the basis of the world market the year before. In the case of goods for which Western prices can fluctuate rapidly, such as lead and zinc, prices in Bloc markets may be fixed for several years.

Finally, there are apparently cases in which the Council for Mutual Economic Assistance (CEMA) has agreed on a price significantly different from that in Western Europe. The only case so far identified

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is that of steel, which is bought and sold in the CEMA market at prices well above those in Western Europe. The higher prices apply to steel sold by Poland and Czechoslovakia as well as by the USSR and to purchases by the USSR and other Soviet Bloc countries as well as by East Germany. This situation has worked chiefly to the disadvantage of East Germany, the largest net importer of steel.

Average unit prices of Soviet exports to East Germany in 1963 -- values divided by quantities -- are compared in Table 4 with readily available market prices in Western Europe. In drawing up the table an effort was made to select comparable Western commodities and to assure that quotations were in comparable terms. The prices were not adjusted for differences in handling, insurance, and transport costs. The coverage is quite broad -- 60 percent of the total value of Soviet deliveries and almost 75 percent of the value of itemized deliveries excluding machinery and equipment. As given, the world market prices are clearly somewhat higher than Soviet export prices for commodities representing about one-half of the total value of those listed in Table 4. World market prices are clearly lower for about one-third of the value. For the other commodities the differences are uncertain. No attempt has been made to compute a net overall difference between Soviet delivery prices and Western European prices -- the prices used are not strictly comparable, there is a certain price range in the Western market, and the commodity coverage could be extended somewhat. The difference, however, is evidently quite small -- certainly small enough to corroborate the official claim that trade does take place at prices very near those on the world market.

For most products that the USSR imports from East Germany, especially for machinery and equipment, it is much more of a problem to determine a "world market price." Prices must be got from individual producers: some products are priced in catalogues, but for many it is necessary to obtain information on individual contracts along with technical specifications and other special features, including financial arrangements. Both the USSR and East Germany supplement such information by eliciting offers from Western manufacturers for purposes of comparison.

Various sources are available on which to base estimates of the prices of some types of deliveries -- chemicals and some consumer goods. Such data give a useful indication of pricing policy and are cited later in this report. It is desirable first, however, to make some effort to estimate the prices paid for East German machinery and equipment, which are so important in East German deliveries to the USSR. Published trade statistics include hardly any meaningful data on the capacity of machinery and equipment imported by the USSR, and such data at best are only a very rough indicator of value. Classified information is available on prices of specific deliveries of East German machinery and equipment and of other products. Some reports include comparisons with Western prices, but such information is not plentiful. Otherwise, it is hard to find appropriate Western prices for comparison with East German quoted prices.

Table 4

"World Market Prices" Compared with Average Unit Values of Soviet Exports to East Germany
1963

Commodity	Percent b/	Dollars per Metric Ton a/		Soviet Exports to East Germany Average Unit Price (f.o.b. Soviet Border)
		Western European Producer Price (f.o.b.) c/	Western European Import Price (c.i.f. Port of Entry) d/	
Bituminous coal	6.5	{ 15.6 (UK) 16.4 (West Germany) 17.1 (Belgium) }		15.5
Coke e/	3.0	{ 24.4 (UK) 21.9 (West Germany) 20.0 (France) }		26.3
Crude oil f/	4.5		{ 17.7 (West Germany) 19.0 (West Germany) }	19.3
Diesel oil g/	0.8		26.6 (f.o.b. Aruba)	29.0
Iron ore h/	1.9	10.9 (Sweden c.i.f. Rotterdam)	11.2 (West Germany for Algerian ore)	10.0
Pig iron	3.4	{ 61.8, 69.1 (UK) 68.0, 74.5 (West Germany) 55.1 (Belgium) }		66.9
Semifinished steel i/	1.7	{ 89.5 (UK) 90.8 (West Germany) 74.9 (France) }		122.3
Steel shapes j/	2.3	{ 110.1 (UK) 107.0 (West Germany) 98.4 (France) }		137.5
Sheet steel k/	7.4	{ 115.5 to 208.9 (UK) 132.0 to 166.0 (West Germany) }		172.5
Copper	1.6	{ 646.0 (UK) 657.6 (West Germany) 645.0 (Belgium) }		637.5
Zinc l/	0.5	{ 196.2 (UK) 197.8 (West Germany) 210.0 (Belgium) }	225.0 (1962 average export price, UN)	231.4
Lead m/	0.7	{ 151.9 (UK) 153.9 (West Germany) }	180.0 (1962 average export price, UN)	251.8

Table 4
(Continued)

Commodity	Percent ^{b/}	Western European	Western European	Dollars per Metric Ton ^{a/}	
		Producer Price (f.o.b.) ^{e/}	Import Price (c.i.f. Port of Entry) ^{d/}	Other World Market Price	Soviet Exports to East Germany Average Unit Price (f.o.b. Soviet Border)
Aluminum	2.2	{ 496.0 (UK) 539.9 (West Germany, c.i.f.) }		474.0 (1962 average export price, UN)	529.8
Crude rubber	0.9		{ 573.3 (UK) 581.1 (West Germany) }		582.1
Sawn lumber ^{k/}	3.5	{ 41.3 (West Germany) 36.3 (Austria) }			40.9
Cotton fiber ^{l/}	4.6		851 (West Germany)	874.0 (1962 average export price, UN)	776.5
Wool ^{m/}	2.8		{ 2,493.4 (UK) 2,578.3 (West Germany) }		2,250.9
Wheat	5.9		{ 73.0 (UK) 78.0 (West Germany) }		74.1
Barley	0.4		{ 69.0 (UK) 66.0 (West Germany) }		65.2
Corn	0.8		{ 56.0 (UK) 58.0 (West Germany) }		64.2
Meat ^{n/}	2.5		510.8 (West Germany)	534.9 (1962 average export price, UN)	492.2
Butter ^{o/}	2.8		{ 796.9 (UK) 853.9 (France) }	757.9 (1962 average export price, UN)	852.4

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a. Data have been converted at official exchange rates. Prices and average unit value for sawn lumber are per cubic meter.
b. Figures represent the share of Soviet deliveries of the commodity to East Germany in 1963 as a percent of the total value of Soviet deliveries to that country. The figures add to 60.7 percent of the total and represent 68.6 percent of the value of total itemized deliveries and 73.7 percent of itemized deliveries excluding machinery and equipment.
c. Unless otherwise indicated, prices are f.o.b. Most Western European producer prices are for March 1963. They are sometimes quoted f.o.b. the plant or mine, sometimes f.o.b. a basing point.
d. Western European import prices are quoted for raw materials largely obtained from overseas. They are quoted also for certain other products because the domestic prices are subsidized or because readily available domestic price quotations include large turnover taxes.
e. Most of the coke delivered to East Germany is of metallurgical grade, and the Western prices quoted are for approximately corresponding grades.
f. The two prices quoted for West German imports are for imports from Iraq and Saudi Arabia.
g. The quotation is for March 1963, used because a European price excluding tax was not readily available. Delivered in Europe, the price would be about the same as the average unit value of Soviet exports to East Germany.
h. The Swedish ore for which the price is quoted (at the beginning of 1963) is 60 percent Fe; the Algerian ore imported by West Germany (1962 average) is somewhat less than 50 percent Fe; the US ore is 51.5 percent Fe. The Soviet ore delivered to East Germany runs about 50 percent Fe.

Table 4

"World Market Prices" Compared with Average Unit Values of Soviet Exports to East Germany
1963
(Continued)

- i. Western European steel prices clearly run 20 percent below those charged to East Germany in the case of semifinished steel and steel shapes, so it may be inferred that the same follows for sheet steel, although the range of products is too wide to allow a single comparison.
- j. The prices of zinc and lead fell through mid-1962 and have risen since.
- k. The prices for sawn lumber are per cubic meter.
- l. World market prices are converted here from a raw basis to ginned by multiplying by one-third to correspond to Soviet data. Soviet cotton corresponds to US No. 1 middling upland cotton, for which the West German import price is quoted.
- m. World market prices are converted from the usual grease basis to a clean basis by multiplying by 0.48 to correspond to Soviet data. The factor is the midpoint of a range of 0.46 to 0.50. Soviet deliveries are of Australian wool; Western European countries also import lower grade wool from New Zealand and Argentina, which are averaged into the Western price quotations. These are for 1962; the prices for 1963 would be somewhat higher.
- n. Soviet deliveries are described as frozen fresh meat. In quality they are probably comparable with meat from Argentina or Australia. The West German price quoted is for meat from Argentina, presumably beef; the world market price quotation applies to beef and veal.
- o. The Western European import price represents an approximate average grade or average of all grades. Top grades of Danish export butter sell at substantially higher prices.

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The problem may be approached, however, by way of evidence relating average East German domestic prices to the average prices paid for East German exports to different markets. This evidence shows (for the late 1950's) a very consistent pattern. The prices paid by the USSR were somewhat lower in relation to East German prices than those paid by other Soviet Bloc countries but were substantially higher than those paid by Western countries with the exception of West Germany. The relation between East German domestic prices and foreign trade prices was then about the same for exports to West Germany (with certain exceptions*) as for exports to the USSR. This pattern is established for one year or another by indicators for total East German exports; for total exports of machinery and equipment; and for many commodities, including agricultural machinery, motor vehicles, machine tools, and chemicals.

As it happens, the characteristic differences among the foreign trade price/domestic price ratios for different markets are accentuated by the peculiarities of the East German price structure because of wide variations in the commodity composition of exports from one market to another. Relative prices for manufactures in East Germany differ from those in the Western European market chiefly as a result of indirect taxes and subsidies, although there are also some important differences in relative costs.

The peculiarities of the East German price structure, as applied to the difference in the commodity composition of exports to various markets, have a significant effect. In the case of machinery and equipment, the most important group of exports, tentative estimates indicate that these factors alone would result in a difference of more than 10 percent between the highest prices paid (by Soviet Bloc countries other than the USSR) and the lowest prices paid (by Western countries other than West Germany). The differences produced by these factors are probably much the same for the entire range of exports.

The characteristic price differentials for different markets, however, are much greater than and did not arise primarily from the peculiarities of the East German domestic price structure. Even when East German exports are revalued at Western European prices for purposes of comparing returns from exports to different markets, there is a wide gap between the prices that East Germany received from the Soviet Bloc countries and those that it received from the West. Such a comparison is shown in Table 5 for East German exports of machinery and equipment to various markets in 1959.

* This statement holds for East German exports to West Germany excluding brown coal briquets and synthetic fuels. For these products, West Germany has paid the same inflated prices to East Germany as to domestic West German producers. The West German government is now refusing, however, to continue paying inflated prices for East German synthetic fuels, inasmuch as the subsidy to domestic producers has been discontinued.

Table 5
Relative Prices Paid for East German Machinery and Equipment
in the USSR and Other Markets
1959

	Value (Million US \$)		Ratios of Values at Foreign Trade Prices to Values at Western European Prices
	At Foreign Trade Prices <u>a/</u>	At Western European Relative Prices <u>b/</u>	
USSR	553	567	0.98
Eastern European countries	397	388	1.02
West Germany	20	21	0.95
Other Western countries	65	86	0.76
Total	<u>1,035</u>	<u>1,062</u>	0.97

a. Based on published East German data except for the figure for West Germany, which is from official West German data.

b. Converted from the values at foreign trade prices by means of two sets of coefficients. The first set, representing the ratios between values at foreign trade prices and values at domestic prices, is based mainly on factors for 1956, shifted to 1959 by foreign trade price indexes for Czechoslovakia and Hungary. (East German domestic prices changed very little from 1956 to 1959.)

The second set, representing ratios between values at domestic prices and values at Western European prices, is based mainly on Stolper's estimates of value added in 1959 in the engineering industries, automotive industries, electrical equipment industries, and precision machinery and optical industries. (See Wolfgang F. Stolper, The Structure of the East German Economy, Cambridge, Massachusetts, 1960, p. 137ff.) These estimates, in 1950 West German marks, are converted to estimates of output (including sales within the sector) by the use of West German factors. The estimates of output are converted to 1950 dollars by the mark/dollar ratio of investment goods (European mix) of Milton Gilbert and Henry B. Kravits (An International Comparison of National Products and the Purchasing Power of Currencies, Paris [1958]). The estimates in dollars are then inflated to put them in 1959 prices by US price indexes for the several types of equipment. The resulting estimates are compared with data for gross output in East German marks to obtain purchasing power ratios, which are then weighted for total exports and exports to each market to obtain the coefficients.

From the comparison in Table 5 it appears that the USSR on the average paid East Germany prices that were only slightly below those on the Western European market (the prices generally used as "world market prices" for machinery and equipment in trade negotiations among the Soviet Bloc countries). Actually, the prices are likely to have been more favorable than is indicated in Table 5 because the basis for valuing East German exports in Western European prices does not reflect fully the obsolescence of much of the East German output. The estimates rest on Wolfgang Stolper's estimates of East German output at West German prices. Stolper was extremely thorough, but he was unable to allow for qualitative factors. It is more likely that his estimates overstate than that they understate the purchasing power of the East German mark for machinery and equipment. It may be noted that they are consistent with a later East German estimate (by Alfred Neumann, head of the National Economic Council) comparing labor productivity in the East and West German metalworking industries. The East Germans are not given to underestimating East German productivity.

Turning from the prices in Soviet - East German trade to the prices that the USSR and East Germany receive from other partners, the most important fact is that they receive substantially less favorable terms of trade in the West, the principal market to which both would have to turn as an alternative. They tend to pay more for their imports from the West than they do to each other, but the main difference is in the prices that they receive for exports to the West, which are substantially lower than those that they receive from each other. The difference results from various factors -- tariffs (mainly for East German manufactures, for which the rates are 10 to 20 percent in the Common Market countries), higher transportation costs (mainly for Soviet bulk commodities), and Communist methods of doing business. Both the USSR and East Germany still tend to trade to fill specific urgent needs and thus are rarely able to maximize returns from export. They have as yet failed to develop stable markets in the West for most of their goods. Finally, the East Germans do not maintain adequate foreign currency reserves for orderly trade.

The difference between the prices that the USSR and East Germany receive from each other and those that they receive in the West has been growing since the mid-1950's. There are several possible reasons for this situation. For one thing, both countries have lagged in adapting the mix and specifications of their export goods to the rapidly changing market in the Free World. Another reason is the beginning of economic integration in Western Europe. Still another applies chiefly to Soviet exports -- the falling trend in world market prices for some of the important basic materials, such as petroleum and iron ore, for which prices have been kept relatively stable in trade among the Communist countries.

As a result, Soviet prices to Western Europe, which averaged only about 7 percent below those paid by East Germany in 1957 (the first year in which Soviet - East German trade was really conducted at recent "world market prices") have fallen to about 30 percent below those paid by East Germany, which (as shown in Table 4) are still close to "world market prices."* Any such comparison relates, perforce, to those commodities that the USSR sells to both East Germany and Western Europe and is heavily influenced by the prices for two or three of them -- steel (especially using weights based on sales to East Germany) and lumber and petroleum (major weights in sales to Western Europe). The trend, however, has been much the same for most commodities. With a few exceptions (such as wool and zinc) the prices obtained by the USSR in Western Europe have declined steadily, and more rapidly than world market prices, since 1957.

The prices received by East Germany in the West -- except in West Germany, where East German goods do not face tariffs but do face restrictive quotas -- are at least 30 percent below those received from the USSR. The prices paid for East German machinery and equipment in 1959 by all Western countries except West Germany averaged about 22 percent below those paid by the USSR, as shown in Table 5. The difference was probably about the same for exports as a whole. The East Germans themselves publicized data for 1959 comparing the prices they received for a variety of items sold to Belgium, the Netherlands, and Austria with the average prices in those markets and the prices at which West German products sold in those markets. Of prices for some 20 listed products, 5 were between 15 and 25 percent below average price from other sellers, 6 were from 20 to 30 percent below, and the other prices all fell more than 30 percent below the average.**

Since 1959 the difference between the prices obtained by East Germany from the USSR and those obtained from Western customers has continued to grow. In 1961, one East German authority estimated that the prices received from Western Europe for a wide range of products were from 25 to 35 percent under the going Western European prices. An analysis of East German trade with the Common Market (excluding West Germany) in 1963 indicates that East German terms of trade with the West have improved slightly since 1961. But the same appears to be true also for East German terms of trade with the USSR. The only products for which a clear test can be made are chemical products, East Germany's most salable exports. In 1963 the USSR was buying East German chemicals (including synthetic rubber and fertilizers) at prices averaging 25 percent or more above the going prices in Western Europe. In the few cases in which comparable

* Calculations of average unit prices of Soviet exports to various markets, based on Soviet trade statistics, have been made by Horst Mendershausen for 1955-59 and by Frederic L. Pryor for 1955-58 (see p. 26, below, and Appendix A, Bibliographical Notes). For purposes of the present report, Mendershausen's procedures were used to update the comparison to 1963.

** The procedure used here by the East Germans involves the computation of average unit prices from standard foreign trade data.

data are available for Soviet purchases from Western Europe, the difference runs even greater. The prices at which East German chemicals were selling in Western Europe were only 10 to 15 percent below going prices as shown by foreign trade data for the Common Market and the Organization for Economic Cooperation and Development (OECD). The prices that East Germany received in Western Europe, however, were still about 30 percent below those that it received from the USSR. It is a fair inference that the difference is probably at least as great for East German commodities less in demand.

From the above comparisons it follows that the USSR has not practiced price discrimination against East Germany to any significant extent for many years. The Soviet government, that is, has not sought to exploit the political weakness of East Germany, or even its economic dependence, in bargaining on foreign trade prices, although the bargaining on specifics is stiff. The USSR has granted terms of trade much more favorable to East Germany than East Germany could have obtained in Western markets. The USSR, to be sure, has also enjoyed more favorable terms of trade with East Germany than with Western partners, but it has by no means maximized its gains in this respect.

A contrary impression of Soviet - East German terms of trade has been created by some Western writers on Soviet trade, particularly by Horst Mendershausen of the RAND Corporation. Mendershausen, who published the first detailed analysis of Soviet terms of trade with the Eastern European Communist countries, concluded that the USSR practiced systematic price discrimination against these countries. The conclusion, however, was based mainly on a comparison of the prices (average unit values) of Soviet exports to these countries and to Western European countries. He calculated that in 1955-59 the USSR consistently obtained higher prices in the Soviet Bloc countries than in Western Europe. Some problems are involved in working with average unit values -- chiefly because entries for even fairly narrowly defined commodities do not necessarily represent homogeneous products and deliveries to two countries and thus may differ significantly in specifications and therefore in value. The results, however, are undoubtedly significant. The only real question relates to Mendershausen's explanation of the results.

Mendershausen tried to apply the same procedures to Soviet imports as well. Here, too, he contended that Soviet price discrimination could be detected, although acknowledging that the commodity coverage was much smaller and less representative, because meaningful average unit values generally cannot be obtained for machinery and equipment. Here, however, Mendershausen's findings are clearly of doubtful significance, particularly for East Germany. A study of all available data, as shown above, leads to a contrary conclusion, suggesting that the prices paid for East German goods were probably at least as high as those quoted for comparable goods from Western Europe.

The weakness of Mendershausen's argument rests not only on the use of inconclusive -- and indeed misleading -- comparisons of average unit values for Soviet imports but also on his failure to consider East German as well as Soviet alternatives. As pointed out in the present report, the East Germans in any case would have had to pay as much for imports from the West as for Soviet materials -- in fact, they often have to pay more -- and would have been forced to accept much lower prices for their exports -- if, indeed, they could have sold the same volume of goods in Western markets at any prices. The USSR, too, perennially finds that it is unable to market enough goods in the industrial West to pay for its imports from this area. Hence it has had to resort to large-scale sales of gold -- its major export commodity to this market in recent years.

Most other writers have been more careful than Mendershausen and, accordingly, have received less attention. Frederic Pryor, who later dealt with the subject at much greater length, ended by deciding that the data were simply not conclusive. Pryor, like Mendershausen, was concerned with the Eastern European Communist countries as a group, and his work is the most thorough that has been published.*

There is information for other Eastern European Communist countries pointing to much the same conclusion as that reached here for East Germany. For both Czechoslovakia and Hungary it is clear that the terms of trade with other Soviet Bloc countries are more favorable than the terms of trade with the West.**

C. Possible Soviet Loss from the Reorientation of East German Trade

A political settlement on Germany undoubtedly would affect Soviet - East German trade -- the volume, the commodity composition, and the terms of trade. Far-reaching changes in the East German economy may be expected to accompany the reunification of Germany, although they would occur over a period of several years and not all at once. East German industry would become more competitive in Western markets, and dependence on the USSR would be much reduced. Even an independent East German state would to some extent reorient its economy. In any case, there probably would be a substantial increase in trade between East and West Germany, and the share of the USSR in East German (or all-German) trade would decline. A drop in the absolute level of trade is possible, and a large drop is at least conceivable although not very likely, given the longstanding German

* In Appendix A are listed, with brief comments, the main books and articles touching on Soviet - East German terms of trade.

** For Czechoslovakia, official indexes of the volume and value of foreign trade indicate a sharp deterioration in relative terms of trade with the West since the Communist takeover, before which there was probably little difference. For Hungary a similar difference in the terms of trade is noted in journal articles. Frederic Pryor (see Appendix A) has reached the same conclusions by analyzing trade data.

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interest in Soviet markets. Terms of trade and commodity composition would become more like those of the USSR with Western European countries, although how far and how fast such changes would go depends on the conditions of the settlement.

A sudden large reduction in Soviet - East German trade would, of course, cause the USSR considerable transitional difficulties because Soviet industries normally produce at or near full capacity levels, but it can be assumed that an agreement involving East Germany would exclude such a development. The shift in East German trade would occur slowly, over several years, and the USSR consequently would have time to provide for it in long-term plans and to make the necessary changes in investments, output, and labor allocations. Economic plans would have to be modified to provide for smaller increases in Soviet output (or, in a few cases, in planned imports from other sources) of various agricultural and forestry products and some basic industrial materials. Somewhat larger increases in Soviet output (in certain cases, of imports from other sources) of machinery and equipment and of certain consumer goods would also be planned. Most of these changes would be smaller than those that have to be made every so often simply as a result of miscalculation.

Apart from transitional problems, which are excluded by assumption, it is unlikely that even a large reduction in the volume of Soviet - East German trade would cause the Soviet economy substantial losses. In large, diversified economies such as that of the USSR, foreign trade is of marginal importance and the bulk of it involves only small gains per unit traded. The reason is that the factors of production formerly producing exports can be shifted to producing former imports in a fairly short time without much loss of efficiency. The Soviet economy could produce the bulk of Soviet imports from East Germany without difficulty. Some of these imports embody technology that is superior to Soviet technology, generally in equipment containing components of Western origin. The best-known example is East German chemical equipment, of which the USSR is planning to increase imports substantially in the next few years. Soviet technology, however, is generally equal or superior to East German technology, and most Soviet imports from East Germany, although meeting Soviet requirements for serviceability, do not embody technical innovations. The USSR also may import some East German products on which it obtains unusually large gains for some reason other than technological characteristics. Clearly, however, such products, together with those containing advanced technology, make up only a small fraction of total Soviet imports from East Germany, and so the USSR could continue to import them even if trade declined greatly.

Another reason for believing that the USSR's economic losses from a large reduction of Soviet - East German trade would be small is that the Soviet motivation for this trade is partly political. As explained earlier, the volume of trade is probably larger than the Soviet authorities would wish if they had no responsibility for East German economic development. Moreover, some Soviet exports to East Germany either are very scarce in the USSR (as grain has been in the past 2 years) or involve high and increasing costs of production (as in the case of iron ore).

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Current Soviet gains from trade with East Germany result, of course, not only from such differences as may exist in comparative costs but also from the terms of trade. It has been shown earlier that, even though the USSR has not taken advantage of its strong bargaining position vis-a-vis East Germany in the pricing of trade, it obtains significantly better terms on its trade with East Germany than on its trade with the West. Prices of Soviet exports to the West are about 30 percent below prices to East Germany, and prices of imports are slightly higher than the prices paid to East Germany. If the USSR tried to redirect to Western markets all or the bulk of the trade that it now transacts with East Germany, it would suffer an even greater loss in the terms of trade than is indicated by the static comparison because larger Soviet exports to Western markets would depress world market prices for some of these goods. This case, however, is totally unrealistic. If East Germany became part of the Western market, the USSR would treat its trade with East Germany in the same way in which it treats its trade with the industrial West generally. The volume of trade would drop greatly, and the composition of trade would change greatly. Some trade could be shifted to other countries of Eastern Europe, probably with little effect on the terms of trade. Even more of the trade would disappear, absorbed by Soviet domestic output. The small remaining part of the former trade with East Germany that the USSR would find it advantageous to continue transacting with East Germany or with other Western countries probably would involve less favorable price terms than before for the USSR, but in a much smaller volume.

In conclusion, the USSR probably would lose a little from the integration of the East German economy into the Western market. There probably would be some worsening in the terms of a reduced volume of trade, a decided improvement in the commodity composition of trade, and some small loss in efficiency in redirecting Soviet resources from exporting to East Germany to producing import substitutes.

The case just examined -- in which East Germany would be totally absorbed into the Western market -- is an extreme one. The case for assuming any Soviet economic loss in its foreign trade from a settlement involving East Germany is even weaker under other political assumptions. If, at the other extreme, East Germany were not absorbed into West Germany but became an independent state, in order to maintain full employment it could ill afford in the short run to shut down any large number of plants. As a result, it would remain for a time heavily dependent on its existing markets in the USSR and other Soviet Bloc countries. In the longer term an independent East Germany undoubtedly would shift a substantial part of its trade to the West -- particularly to West Germany. West Germany and other Western countries would probably be eager, for political as well as economic reasons, to expand trade with the new state and doubtless would offer substantial credits. A politically neutral East Germany, however, retaining a strong bias toward central economic planning -- and an independent East Germany can hardly be imagined on other terms -- probably would retain a large trade with Eastern Europe as a basis for

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protecting its precarious independence. Under these circumstances the USSR would stand to lose very little if anything, economically, from East German independence. On the assumption that an independent East Germany would retain a centrally planned economy, its competitive position in the world market, even after a large infusion of Western credits, would be likely to remain weak, as would its political position. Indeed, under any settlement in which East Germany remained a separate entity -- whether politically independent or federated with West Germany -- East German leadership would remain dependent on the Soviet government in order to maintain its separate existence. Under such circumstances, it is hard to imagine that the USSR would suffer any purely economic loss in its foreign trade as a result of the change in the status of East Germany.

IV. The East German Economy and the Balance of Power

Apart from any tangible direct benefits that it provides the Soviet economy, Soviet control of East Germany is an economic factor in the balance of power in the postwar world. The economic resources of East Germany represent a relatively small addition to those of the Soviet Bloc as a whole. They are an important part of the resources of the Eastern European area occupied by the USSR after World War II, however, and they would contribute a great deal to the resources of a reunified Germany.

The national product and population of East Germany may be compared as follows with those of the Soviet Bloc, the USSR, the Eastern European Communist countries, and West Germany:

	Gross National Product at Market Prices in 1964		Midyear Population in 1964	
	East Germany Billion 1963 US \$	Relative to the Given Area (Percent)	Million Persons	East Germany Relative to the Given Area (Percent)
East Germany	24	100	17	100
Soviet Bloc	403	6	328	5
USSR	301	8	228	7
Eastern European Communist coun- tries	102	24	100	17
West Germany (including West Berlin)	115	21	58	29

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The East German contribution to Soviet Bloc activities in the cold war is less than proportional to its economic weight, although it has increased somewhat in recent years. The politically anomalous and strategically exposed position of the country is the main reason. As a matter of Soviet policy, East Germany has produced very little in the way of military end items or of other products with important military applications (such as advanced electronic equipment). The East German military establishment is not large relative to the population -- some 190,000 men in uniform, including the militarized border police, compared with a population of 17 million. East German military expenditures have averaged less than 4 percent of the national product, although they may now represent a slightly larger share (5 to 6 percent).

The East German contribution to Soviet Bloc aid to less developed areas, which was also relatively small until recently, has increased rapidly during the last year. Out of about \$4.5 billion of credits extended by the Soviet Bloc during 1954-63, East German credits represented only about \$55 million, or 1 percent. Among the small Communist countries of Eastern Europe, both Czechoslovakia and Poland extended substantially larger credits than East Germany. From the beginning of 1964 to the present, however, the East German aid program has expanded more rapidly than that of any other Eastern European country, with the extension of some \$200 million in new credits -- chiefly to Egypt, Indonesia, and Ceylon.

East German resources also have a certain importance in relation to economic collaboration among the Communist countries of Eastern Europe. Specialization among the members of CEMA is still a long-range objective of Soviet policy in spite of the generally discouraging results achieved to date. Specialization offers the prospect of achieving substantial economies of scale in production and of enabling the small Communist countries to maintain successful research and development programs by concentrating their limited resources in specific fields. For such purposes it is more realistic to consider the size of CEMA excluding rather than including the USSR (which is not likely to enter into specialization agreements), although Soviet raw materials and access to the Soviet market are key features of CEMA planning. The membership of East Germany, with almost one-fourth of the sum of the national products and more than one-fourth of the industrial output of this area (the Soviet Bloc excluding the USSR) seems almost essential to the future of CEMA. Substantial progress in intra-Bloc economic integration is not in sight, however, so that the Soviet leadership would certainly discount heavily the importance of any reduction in the long-term prospects for integration in considering the future of East Germany.

Another measure of East German resources, one that is unquestionably important to the USSR, is what they would add to West German resources in case of reunification. The West German national product is one-fourth of the sum of the national products of the European NATO members together, and the national product of a reunified Germany would be 20 percent greater. In a few years, with a probable rapid rise in the productivity

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of East German labor after reunification, German national product would amount to almost one-third of the national products of all Western Europe and one-half of that of the USSR.

A settlement on Germany presupposes some basis for easing Soviet anxiety about Germany. The greater economic power of a reunified Germany would be one serious barrier to any such settlement.

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APPENDIX A

BIBLIOGRAPHICAL NOTES ON SOVIET PRICE DISCRIMINATION

The following Western writers are among those who have discussed at some length the terms of trade in Soviet trade with East Germany as well as other Communist countries of Eastern Europe:

Holzman, Franklyn D. "Soviet Foreign Trade Pricing and the Question of Discrimination: A 'Customs Union Approach,'" The Review of Economics and Statistics, May 1962, No. 2, pp. 134-147. The occasion of this article was the publication of an article by Horst Mendershausen, cited below. Holzman's point, as indicated by the title, is that comparative advantage within the Soviet Bloc, if used in determining prices, could lead to prices that would appear to be discriminatory on the basis of world market prices. (Holzman has also written a rebuttal to an article on the same topic by A. Kutt, cited below.)

Klinkmueller, Erich. Die gegenwaertige Aussenhandelsverflechtung der sowjetischen Besatzungszone Deutschland, (West) Berlin, 1959. Klinkmueller, who is on the staff of the Ost-Europa Institut (attached to the Free University in Berlin), gives an overall view of East German foreign trade. He believes that the terms of trade in Soviet - East German foreign trade were much in favor of the USSR until 1957, when there was a substantial improvement in favor of East Germany.

Kohler, Heinz. East Germany's Economic Integration into the Communist Bloc (reprinted from microfilm), dissertation, University of Michigan, 1961. The author deals with overall East German terms of trade (in Chapter VI), finding that, for commercial trade, there is a more or less random up-and-down movement from year to year with little net change over the entire period. He does not attempt to decide the question of Soviet exploitation in commercial trade with East Germany.

Kutt, Aleksander. "Exploitation in Soviet Bloc Trade," East Europe, May 1962, No. 5, pp. 21-24. The author's studies, carried on under the auspices of the Assembly of Captive European Nations, are a continuation of Mendershausen's (see below). To Mendershausen's calculations for 1955-59 he adds calculations for 1960. A novel feature is that the results of Soviet "price discrimination" are stated in terms of an absolute loss to the Eastern European Communist countries.

Mendershausen, Horst. "The Terms of Soviet-Satellite Trade: A Broadened Analysis," The Review of Economics and Statistics, May 1960, No. 2, pp. 152-163 (also available as a separate publication of the RAND Corporation, Paper P-1,873, January 1960). Mendershausen's position, as given in this and earlier papers, is discussed in the text of this report.

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Pryor, Frederic L. The Communist Foreign Trade System, Cambridge, Massachusetts, 1963. Pryor's work, revised from his dissertation at Yale, is a provocative and learned study. He draws heavily on East German sources as well as on Soviet Bloc sources generally. Pryor finds that the Bloc countries all received more favorable terms of trade from each other than from Western countries. He also finds that the USSR discriminated against the European Satellites through 1956, although least of all against East Germany. Like Klinkmueller, he points out that increased pressure was put on the Soviet government beginning in 1956 to end price discrimination. He does not reach any conclusion for later years, although he repeats Mendershausen's exercise, with additional precautions.

Stolper, Wolfgang F., and Roskamp, Karl W. "An Input-Output Table for East Germany with Applications to Foreign Trade," Bulletin of the Oxford University Institute of Statistics, Vol. 23, 1961, pp. 379ff. Professor Stolper and his associate use input-output tables for East Germany in 1956 and 1959, set up on the basis of their study of the structure of the East German economy (the standard work on East German industry), to demonstrate that East Germany benefited substantially from foreign trade in that it cost much less to produce East German exports than it would have to produce (where possible) import-substitutes. They also conclude that East German terms of trade improved by more than one-fourth from 1956 to 1959. Their findings, as they note, do not rule out the possibility of Soviet price discrimination.

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APPENDIX B

SOURCES OF ESTIMATES

The present discussion of Soviet - East German economic relations is based largely on unclassified sources, as indicated by various references in the text and tables. In certain cases, however, the use of classified information is necessary and in many others it is useful for testing conclusions based on open sources.

In estimating East German support of Soviet forces and the importance of the East German uranium mines to the USSR, classified data are essential. Most of what is known about the goods and services supplied to Soviet forces and about the prices they pay comes from clandestine reports (up to SECRET) of the 1950's. Estimates of East German uranium production and its importance to the USSR are classified SECRET.

The key estimates on Soviet - East German trade are based on information from standard published sources on foreign trade and prices, but they have been checked out by the use of available information from clandestine reports (through SECRET), which provide corroboration together with some additional detail.

The discussion of the East German economy and the balance of power is based partly on classified data. Estimates of this Office for the gross national products of the Soviet Bloc countries are CONFIDENTIAL. Estimates on aid to less developed areas, also by this Office, are SECRET.

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