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SCOPE, STRUCTURE AND DEVELOPMENT OF
EAST-WEST ECONOMIC CO-OPERATION
1970 - 1976

Note by the German Delegation

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1. Introduction

In the second half of the sixties, the socialist countries of Eastern Europe started to change their economic policy by promoting industrial cooperation with the West. The interest in such cooperation has increased on both sides during the past few years as numerous intergovernmental agreements set an official framework and removed certain obstacles and uncertainties. This increased interest in industrial cooperation has been paralleled by its increasing significance for Western security policy.

Serious security problems for the West would arise, e.g. if such industrial cooperation were to result in reducing the technological gap that exists between the East and the West. This, among other things, might lead to a strengthening of the Eastern military potential. Also, Western industrial countries might become dependent on WP countries to a certain extent when cooperating in critical fields of economy.

A statistical analysis, such as discussed in this paper, will not provide sufficient information for drawing detailed conclusions concerning the security risks involved in East-West economic cooperation.

What will be possible is to identify certain centres of gravity in this cooperation and assess their significance for the military-political field. In this connection the following questions merit special attention:

- How has East-West cooperation developed during the past few years and what are its future prospects?
- Which economic fields are preferred in this cooperation and to what extent are they relevant to Western security policy?
- What forms of cooperation are favoured by Eastern governments and how well do they work considering the technological level of the countries involved?

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- To what degree will cooperation between the East and the West involve assuming liabilities for a longer period to come?

Answers to such questions can only be based on the examination of a sufficient number of cooperation projects. Up to now only two studies on this subject are available. One, an ECE report of 1973 and a follow-up report in 1975¹⁾, and two, a study by the HWWA-Institut für Wirtschaftsforschung, Hamburg²⁾. Neither report however provides satisfactory answers to the above questions because

- the studies have grown somewhat outdated,
- the data base used is too small in both cases (in the ECE report 200 East-West cooperation agreements, in the HWWA study about 260 for the FRG alone),
- the distribution in time of the cooperation projects is discussed hardly (HWWA) or not at all (ECE),
- the reports serve the primary purpose of examining the economic and legal conditions the Western partners are interested in, and, to a lesser degree, the effect of international cooperation on individual socialist economies, and the priorities set by Eastern governments.

For these reasons we have established a data bank of our own in which some 2900 cooperation agreements between Eastern and Western partners are recorded. They have been compiled from 30 domestic and foreign papers and periodicals.

1) ECE, Analytical report on industrial co-operation among ECE-countries. Prepared by the Executive Secretary pursuant to Community Resolution 4 (XXVII) for Submission to the 28th Session of the ECE, Geneva 1973; and ECE, Preparations for the second meeting of experts on industrial co-operation. Document Trade/R. 320, 26th August, 1975

2) K. Bolz, P. Plötz, Erfahrungen aus der Ost-West-Kooperation, HWWA-Institut für Wirtschaftsforschung Hamburg, Hamburg 1974

2. Working Definition of the Term "Cooperation" and
Notes on Methodology

Important aspects in evaluating the structure and prospects of cooperation are:

- the working definition chosen, and
- the amount and organization of the data used.

2.1. Defining East-West Cooperation

So far, no internationally agreed definition of "Cooperation" exists. Different meanings are attached to the term in East and West. In Eastern countries, a broader meaning is generally applied to the term than in the West, with some of the traditional forms of foreign trade included. This disagreement in interpretation is principally due to the difficulty of establishing characteristics that unequivocally define what a cooperation agreement is.

Even if some of the general definitions emphasize certain characteristics, they are difficult to use. An example for this is the following definition by ECE¹⁾:

"Industrial co-operation in an east-west context denotes the economic relationships and activities arising from (a) contracts extending over a number of years between partners belonging to different economic systems which go beyond the straightforward sale or purchase of goods and services to include a set of complementary or reciprocally matching operations (in production, in the development and transfer of technology, in marketing, etc.) and from (b) contracts between such partners which have been identified as industrial co-operation contracts by governments in bilateral or multilateral agreements."

¹⁾ECE, Analytical report ... loc. cit., p. 2

For practical purposes the application of the principle of enumeration seems useful, i.e. listing all forms of cooperation considered by the purpose they are intended to serve in a given study. The "Ostausschuß der deutschen Wirtschaft", for example, lists the following types of cooperation¹⁾:

1. Agreements concentrating on the exchange of technological information (research and development cooperation, licencing and exchange of know-how),
2. Cooperation agreements on production (sub-contracting, specialization, joint production or joint marketing of goods),
3. Agreements on commercial and technological cooperation in third countries.

A similar working definition is found in the aforementioned HWWA study²⁾.

Our own definition corresponds somewhat to that of the Ostausschuß. Since it is of particular concern to this study to determine to what extent Eastern countries will be able to accelerate their technological progress by cooperating with the West, we found it useful to include the supply of complete plants and production lines in the definition, even if, in the West, this is seldom considered cooperation. So, the following types of cooperation are taken into consideration in this study:

(1) Scientific-technological cooperation

Cooperation in industrial research and development between Eastern and Western experts, and (separately recorded) scientific-technological frame agreements.

1) CEPES, Wirtschaftsbeziehungen zwischen Ost und West. Handel und Kooperation. HWWA-Institut für Wirtschaftsforschung-Hamburg, (not dated) p. 19 f

2) K. Bolz, P. Plötz, Erfahrungen ... loc. cit., p. 19

- (2) Licence and know-how agreements
Transfer of technological knowledge either East-West or West-East in connection with technical or personal help; the mere acquisition of licences was not taken into account.
- (3) Sub-contracting
Sub-contracting awarded for manufacture with or without the supply of raw materials and equipment.
- (4) Specialization
Concentration within joint production, related either to a specific component or a special type of a product.
- (5) Joint venture
Joint production or marketing of goods in one partner country with both partners equally sharing original stock, profit, and risk.
- (6) Market cooperation
Joint marketing of products or services (with or without connection to other cooperation agreements) using the sales force and organization of one partner or both.
- (7) Joint tendering in third countries
Cooperation in third countries in any of the forms mentioned here.
- (8) Market development
Joint market research without actually selling.
- (9) Supply and construction of complete plants, production lines or heavy equipment.
- (10) Leasing agreements
Supply of plants or equipment on a leasing basis.

2.2. Contract Indicators

The following indicators were determined for identifying each cooperation agreement in the data bank:

- (1) year of conclusion of agreement
- (2) countries participating in East and West
- (3) duration of agreement
- (4) form of cooperation (according to 2.1)
- (5) type of industry

We followed the classification used in Soviet statistics. Other than in the aforementioned studies, that Eastern industry is recorded in which cooperation will ultimately take place or into which the goods in question will enter rather than the industrial branch the Western partner belongs to. This method facilitates the analysis of the effects of international cooperation on Eastern economies.

- (6) financial value of agreement
The value of the agreement is recorded in that currency which is given in the source used.
- (7) form of clearing
Here the form of compensation is indicated.
- (8) source, the data of the agreement are taken from.
- (9) additional information on the agreement

To some of these identification indicators several characteristics can be allocated (e.g. more than one country both on the Western and Eastern sides, different industries or types of cooperation). This will lead to the double-counting of a project when evaluating the data base according to one of those indicators.

2.3. Problems in Recording Data

Only partial data were available for Financial Value and Form of Clearing. These data would seem to be of special interest for weighing the several agreements and ascertaining the quantitative significance of East-West economic cooperation.

Yet, there are some forms of cooperation that defy financial evaluation (e.g. joint R&D), although they may be of great importance in the whole context. For other forms (e.g. licence agreements with royalties based on production or sales), only ex-post evaluation is possible. So, we didn't evaluate these indicators at all.

It may have been due to these difficulties that the studies mentioned did not assess the financial value of cooperation, either. In case of the ECE study financial evaluation was expressly excluded¹⁾. As for the HWWA report there were indeed financial questions in the questionnaire that was sent to German firms to obtain correct data²⁾. But the results contain no hint as to the financial value of the cooperation agreements considered³⁾. An additional difficulty to which incomplete data in this field are attributable is evidently the reluctance of Western firms engaged in East-West cooperation to answer any questions relating to financial aspects.⁴⁾

But even an analysis without taking into account the financial value of East-West cooperation will lead to interesting results relative to its structure and development, results that are important with respect to Western security, too.

Also the year of conclusion often is not exactly recorded. In such cases the year mentioned in the earliest source found has been used. The resulting shift of the trend curves seems negligible.

¹⁾ECE, Analytical report .. loc.cit., p. 6

²⁾K. Bolz, P. Plötz, Erfahrungen ... loc.cit., p. 158-181

³⁾ibid., p. 37-47

⁴⁾ibid., p. 36

3. Development of East-West Cooperation 1970 to 1976

3.1. Number of Cooperation Agreements

The cooperation among the WP and the Western industrial countries has grown considerably since 1970. At the end of 1976, a total of 2887 agreements was counted. Up to 1974, the growth rates were very high, the highest of about 50 % was achieved in 1972/73. Since 1974, there has been a decline in the number of annually concluded agreements.

About 36 % of all agreements involve the USSR. The second and third places in the list are held by Poland and Hungary, long-time cooperation partners of the West. They are followed at a great interval by Roumania, the CSSR and Bulgaria. The GDR takes the last place, but the number of its agreements has increased markedly since 1973.

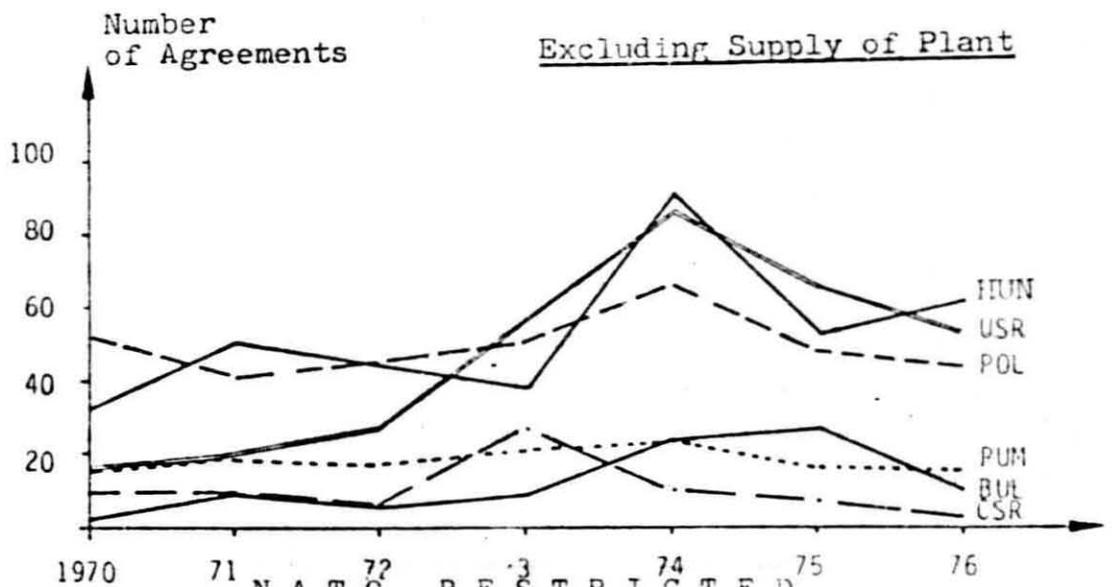
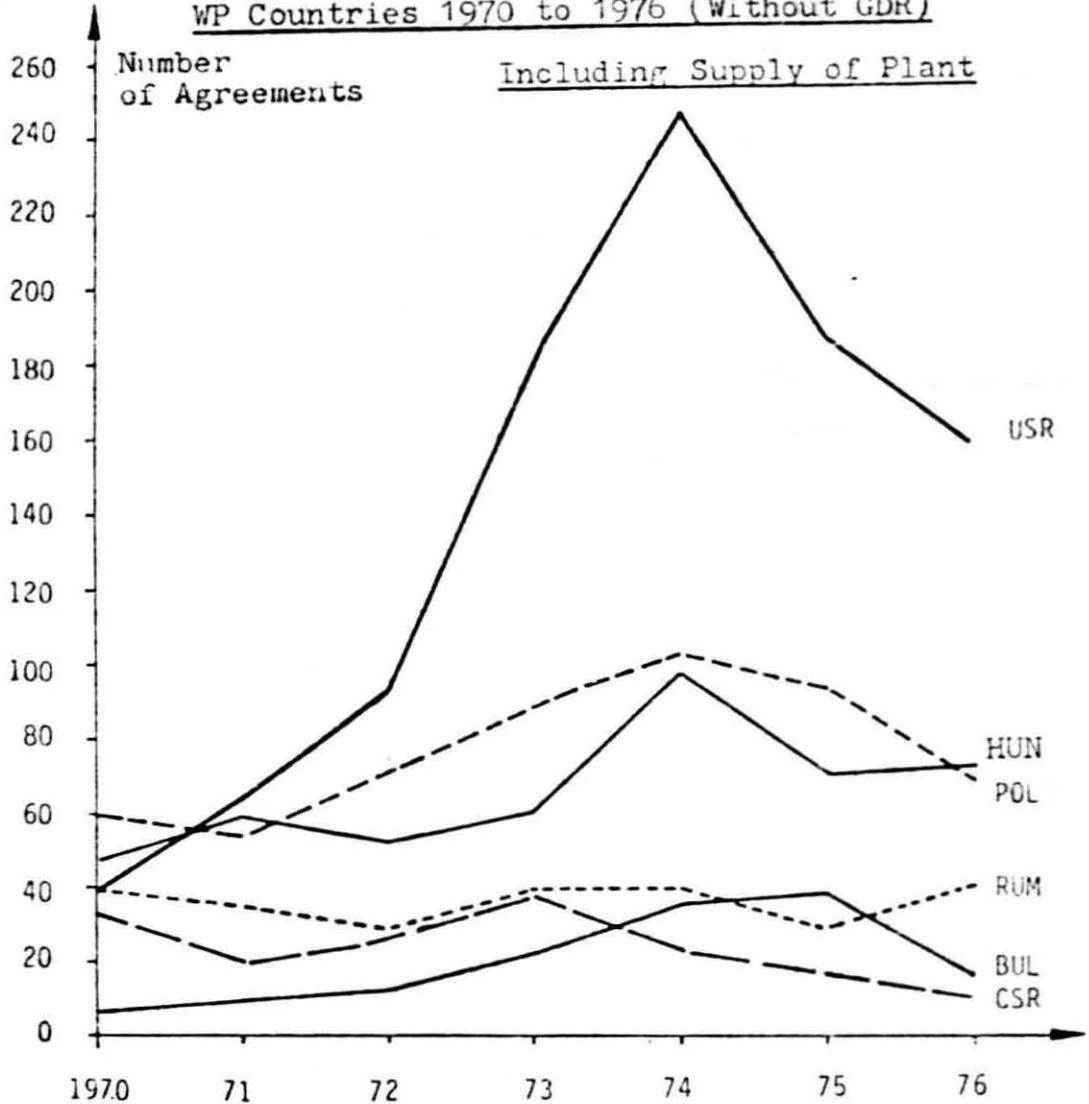
Cooperation with the USSR has grown rapidly since 1970. This is attributable to the fact that the number of such agreements concluded in 1970 and before was very low and the economic relations between the US and the USSR have been greatly intensified since then.

Table 1: Cooperation Agreements Signed Annually by WP Countries 1970 to 1976

	BUL	CSR	GDR	HUN	POL	RUM	USR	WP Total
1970	7	33	6	48	60	40	39	233
1971	10	20	-	60	54	35	64	243
1972	12	26	1	53	71	29	93	285
1973	22	38	2	61	89	39	181	432
1974	35	25	8	98	103	40	247	554
1975	38	17	10	71	94	29	188	447
1976	16	10	12	73	69	40	159	379
Total *	169	211	41	552	584	301	1029	2887

*Including agreements signed prior to 1970

Fig. 1: Cooperation Agreements Signed Annually by WP Countries 1970 to 1976 (Without GDR)



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When using a narrower definition of East-West cooperation, i.e. excluding the supply of plant and heavy equipment, the USSR loses her outstanding position. Her share amounts to 36 % of all agreements (followed by Poland and Hungary with 20.2 and 19.1 % resp.). Without the supply of plant the USSR has only 22.4 %, which puts her in third place after Hungary (29.4 %) and Poland (24.9 %).

Table 2: Percentage of Individual WP Countries in All Cooperation Agreements

	BUL	CSR	GDR	HUN	POL	RUM	USR	WP Total
Incl. Supply of Plant	5.9	7.3	1.4	19.1	20.2	10.4	35.7	100
Excl. Supply of Plant	6.8	5.9	1.2	29.4	24.9	9.4	22.4	100

The decreasing number of annual agreements since 1974 has followed the overall decline of East-West trade. Setting aside the politically motivated change of tone especially between the USSR and US (trade contract policy since 1973), this development may be attributable to the following facts:

- declining economic growth in the WP countries,
- recession in Western industrial countries resulting in reduced sales of Eastern products,
- increasing shortage of convertible currencies and high indebtedness to Western countries intensified by grain imports because of poor harvests.

As a result of these developments, priorities in Eastern long-term planning have been changed, e.g. by increasing exports to and reducing imports from the West and emphasizing cooperation within the Eastern bloc.

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It had been assumed that this decline was due to a reduction in the number of specific forms of cooperation, e.g. fewer scientific-technological frame agreements renewable every ten years, or the decreasing number of plants and heavy equipment supplied at the termination of major transactions (e.g. Kama River Plant). This assumption has not been verified by analysis. As for the distribution of the various forms of cooperation, no change worth mentioning occurred from 1970 to 1976 either for the USSR or the NSWP countries. Only with the US, the number of their scientific-technological frame and plant-supply agreements dropped considerably in 1976 in comparison to 1973 to 1975. But this particular development was compensated for by cooperation agreements with other Western countries.

The following table shows the distribution of agreements by Western countries (see also chart 2):

Table 3: Cooperation Agreements Between Selected Western Industrial Countries and WP Countries 1970 to 1976

	I							II	III
	FRG	FRA	USA	ITA	AUS TRIA	GBR	JAP	All West. Countries	I in % of II
1970	37	43	5	22	29	19	18	233	74.2
1971	52	51	15	23	27	35	18	243	82.7
1972	74	40	30	21	25	24	25	285	83.8
1973	120	52	70	41	31	37	29	432	88.0
1974	152	62	77	50	44	31	49	554	83.9
1975	103	52	69	34	32	41	39	447	82.8
1976	112	55	34	25	29	39	28	379	85.0
Total*	712	378	307	291	272	252	213	2887	84.0

*Including agreements signed prior to 1970.

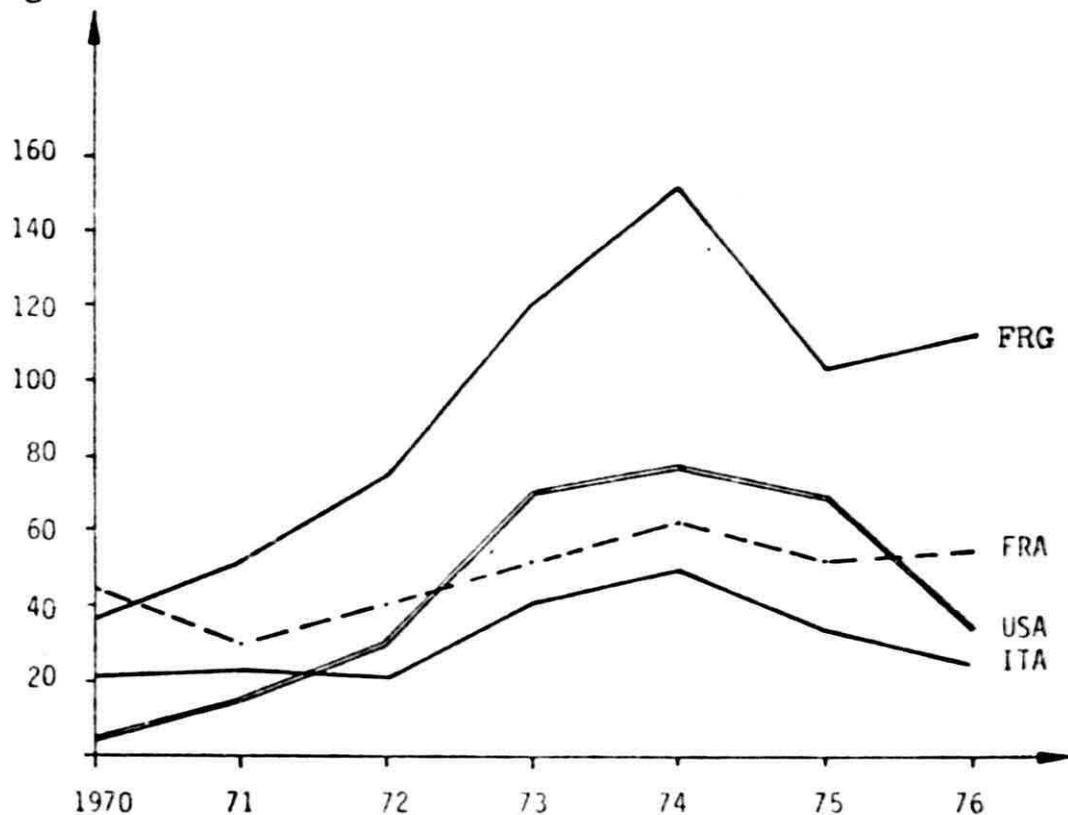
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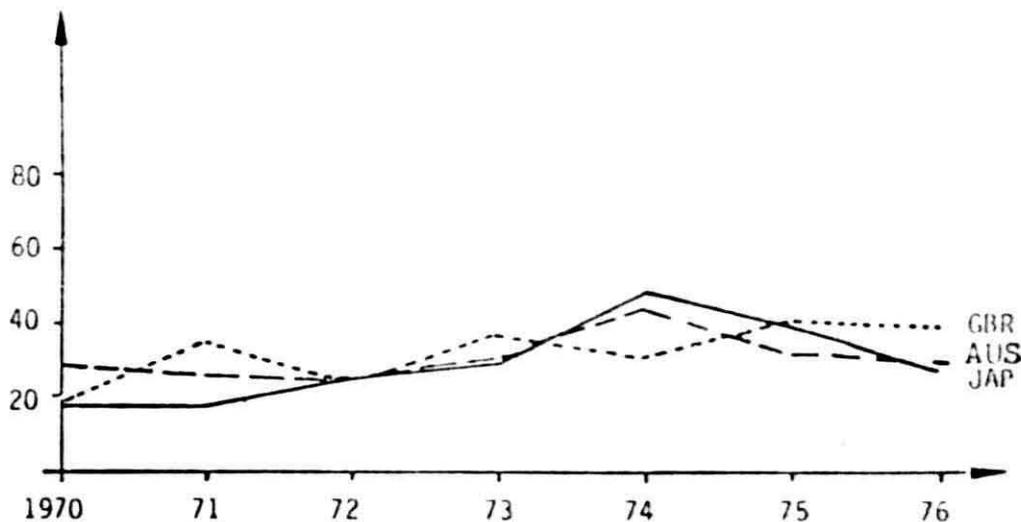
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Fig. 2: Cooperation Agreements Signed Annually by Selected Western Countries 1970 to 1976

Number of Agreements



Number of Agreements



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On the Western side, it is the FRG that has concluded the major part of such agreements (about 25 %). Western newcomers to international cooperation have generally been more active than traditional partners. It is also remarkable that the share of the selected Western countries listed above amounts to 84 % of total cooperation. An analysis omitting the supply of plant and production lines will not change the order of significance of the Western countries listed.

Table 4: Regional Distribution of Cooperation Activities of WP Countries (%)

	BUL	CSR	GDR	HUN	POL	RUM	USR
EEC	47.9	57.8	41.5	66.8	65.1	68.8	57.0
of which FRG	17.7	22.7	29.3	32.6	21.7	27.9	22.4
USA	4.7	2.8	2.4	4.5	8.4	7.6	18.9
Rest of West. Countries	47.4	39.4	56.1	28.7	26.5	23.6	24.1
NATO	62.1	62.1	43.9	72.3	74.7	78.1	77.4

The geographical distribution of WP cooperation partners in the West shows the FRG leading for all countries except Bulgaria and the GDR.¹⁾ Conversely, when considering the position of the East in its dealings with all NATO countries, it shows that the USSR with 77.4 % holds second place behind Roumania.

Some interesting variations appear when geographical distribution is broken down by years. (table 5 and figure 3):

¹⁾ See table 3 in Annex

Table 5: Geographical Distribution of Cooperation Agreements in WP Countries 1970 to 1976 (%)

	USR			NSWP			WP		
	Total	of which		Total	of which		Total	of which	
		USA	EEC		USA	EEC		USA	EEC
1965-70	16.2	0.2	10.0	85.8	2.2	55.4	100	2.4	65.4
71	26.3	1.7	15.2	73.7	4.5	47.7	100	6.1	63.0
72	32.6	5.6	20.7	67.4	4.9	41.4	100	10.5	62.1
73	41.9	11.8	22.2	58.1	4.4	37.8	100	16.2	60.0
74	44.6	10.6	24.4	55.4	3.3	33.4	100	13.9	57.8
75	42.1	10.3	22.8	57.9	5.1	32.2	100	15.4	55.0
76	41.9	4.7	24.3	58.1	4.2	42.2	100	8.9	66.5

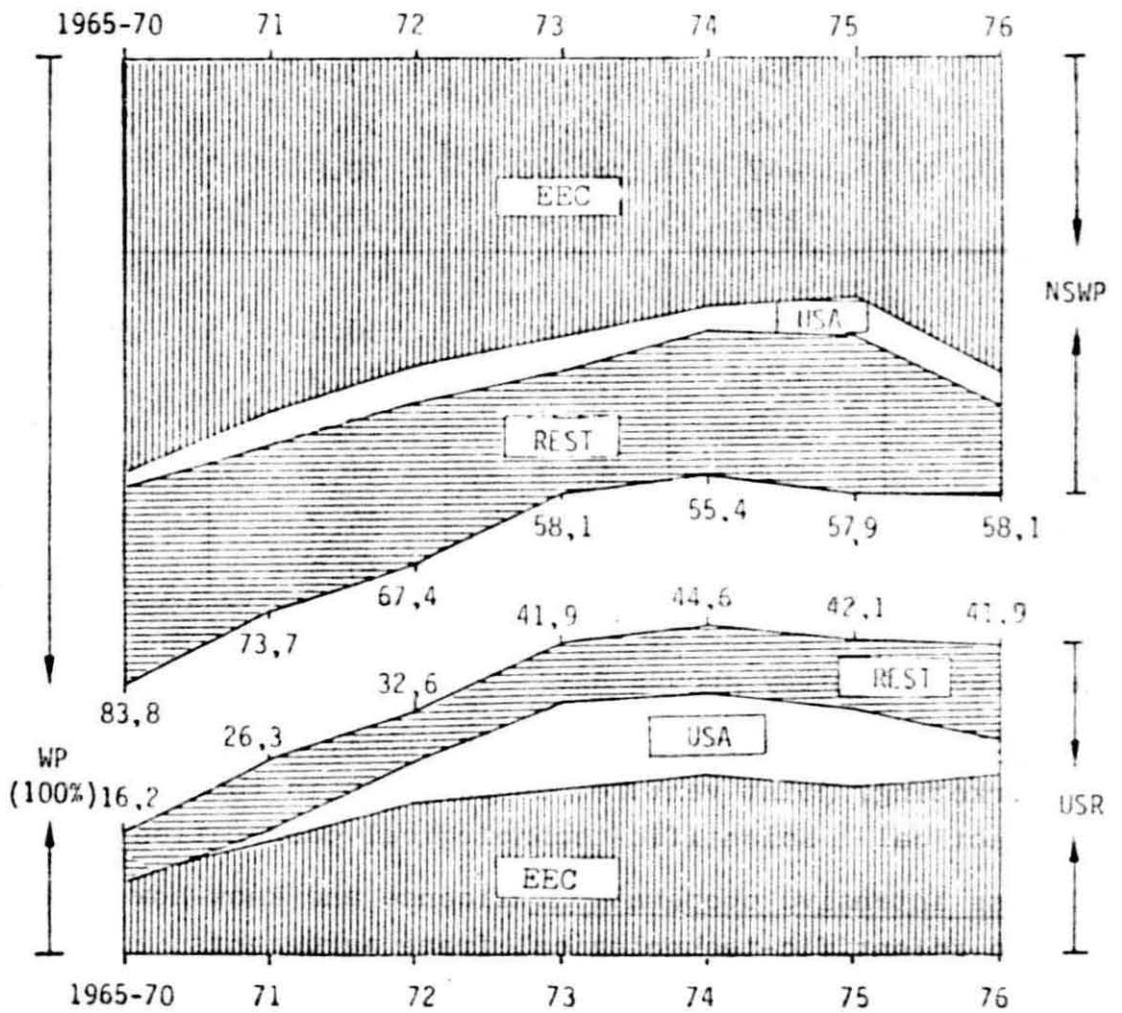
Up to 1974 the USSR's share in total East-West cooperation had been rising rapidly. Since that year there has been a shift in favour of the NSWP countries. The participation of the US, too, which had been rising since 1972, started declining in 1975 to the advantage of the EEC countries and, even more so, the rest of the Western industrial countries. With the NSWP countries the US share of cooperation has remained small during the whole period. But there have been structural changes favouring the EEC countries.

3.2. Distribution of Cooperation Agreements by Type

3.2.1. Intensity of Cooperation

From an analysis of the frequency of certain types of agreements favoured by the Eastern countries, conclusions may be drawn as to what extent and for how long they are willing to assume obligations and accept a position of temporary mutual dependence. For this analysis, three groups of cooperation forms have been established depending on the intensity of cooperation.

Fig. 3: Geographical Distribution of Cooperation Activities in WP Countries 1970 to 1976 (%)



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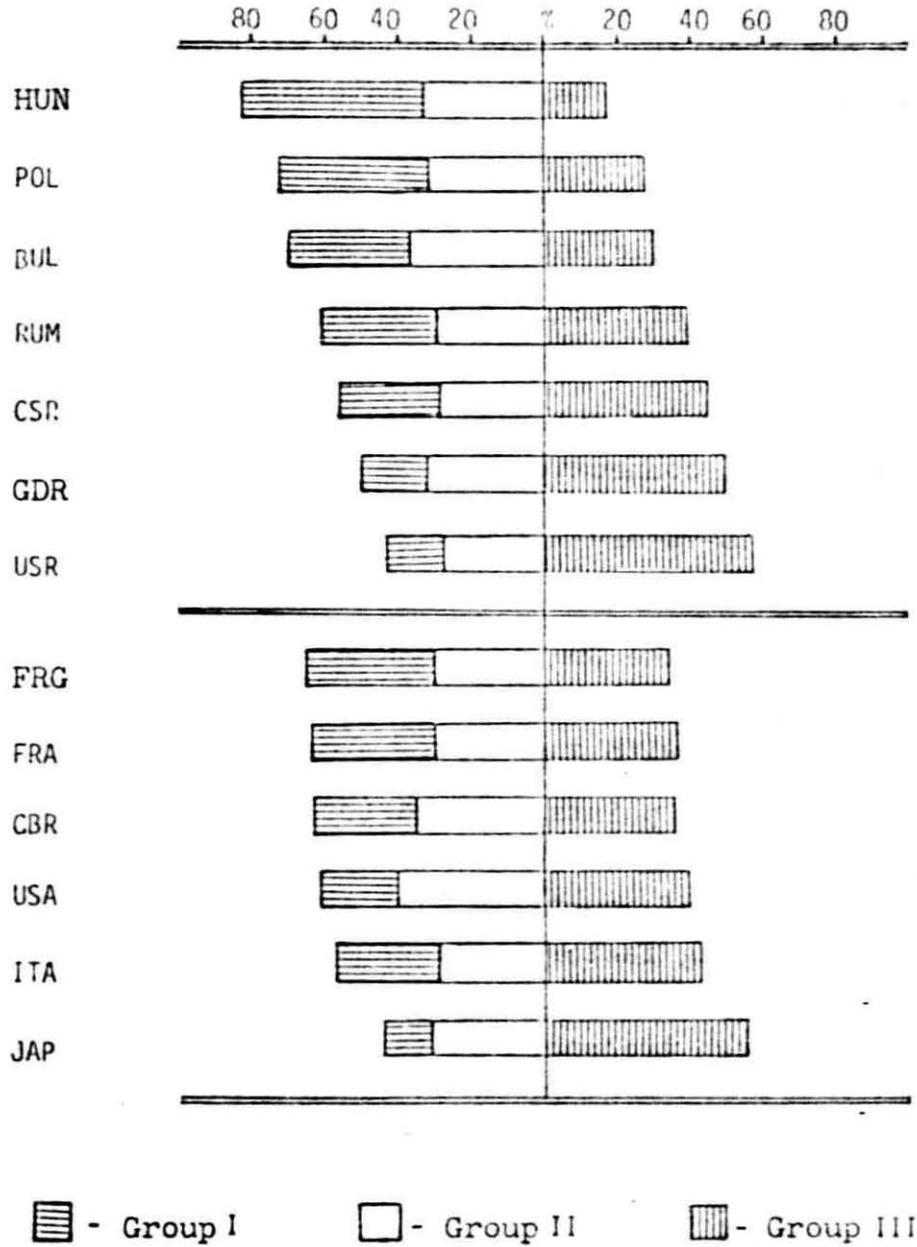
Table 6: Agreements of Selected Countries by Intensity of Cooperation (%)

	Total Agreem.	of which % in Group		
		I	II	III
BUL	262	32.5	36.6	30.9
CSR	304	26.7	29.9	43.4
GDR	54	18.5	33.3	48.2
HUN	936	49.8	33.1	17.1
POL	946	40.4	31.6	28.0
RUM	447	31.6	30.6	37.8
USR	1232	15.4	27.7	56.9
FRG	893	34.6	30.1	35.3
FRA	473	34.1	29.2	36.7
ITA	370	28.3	29.0	42.7
JAP	266	12.8	31.2	56.0
GBR	321	29.1	34.2	36.7
USA	420	21.7	39.5	38.8

The three intensity groups are:

- I intensive cooperation: sub-contracting, specialization, joint marketing, joint venture, cooperation in third countries, practical scientific-technological cooperation,
- II less intensive cooperation: licence and know-how agreements, and scientific-technological frame agreements,
- III non-intensive cooperation: supply of plant and production lines, equipment leasing.

Fig. 4: Distribution of Agreements of Selected Countries by Intensity of Cooperation (%)



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Table 6 shows relatively low values of intensity for particular countries: Below average (more than 10 % below) are the figures for the US and Japan on the Western side (average of the six Western countries selected 30 %) and for the USSR, GDR, and the CSSR on the side of the WP (average 32.4 %). These deviations may be due to the following causes:

- (1) Little incentive for close cooperation because of the sufficient provision of the economy with material and immaterial resources (e.g. raw materials, foreign currencies, manpower),
- (2) power status of the particular country and the resulting wish for self-sufficiency and maximum independence,
- (3) better standard of technology than that of other countries in the bloc,
- (4) late building-up of international cooperation as opposed to traditional connections,
- (5) unfavourable geographic location with resulting high transport costs.

The low figures for the GDR and CSSR may be mainly due to points (3) and (4), but also to their political reserve against establishing closer ties with the West.

In the case of Japan points (4) and (5) may be mentioned. Though the USSR is her immediate geographic neighbour, the USSR also belongs to the group of countries with low cooperation intensity. Another contributing factor is of course that most of the Soviet industry is located in the European part of the country, which results in too high transport costs to and from Japan in many cases.

The low figures for the USSR and especially the US may be due mainly to (1) and (2), to a lesser degree to the other points. Both nations, as leaders of their respective blocs, are bound to be interested in maintaining or even improving their power status and economic independence.

Regarding the annual distribution of cooperation forms (cf. Fig. 5) for the USSR, there are no marked changes in the curves. Neither is there any indication that priorities will change in the direction to more intensive cooperation. In the NSWP group of countries since 1974, the tendency in favour of less intensive types has been increasing.

The low intensity of cooperation for both the USSR and US is evidenced by the fact that between these two powers only one agreement for cooperation in third countries has been concluded, an agreement that has not even been geographically specified. This policy seems understandable when considering the competition existing between these two powers in building up their political influence. Only two of the USSR projects affect developing countries: First, cooperation with the FRG in Afghanistan, and second, with Austria in Columbia. Only Poland and Hungary cooperate to a greater extent with Western nations in third countries (42 and 28 agreements resp.).

Table 7: Number of Cooperation Agreements in Third Countries

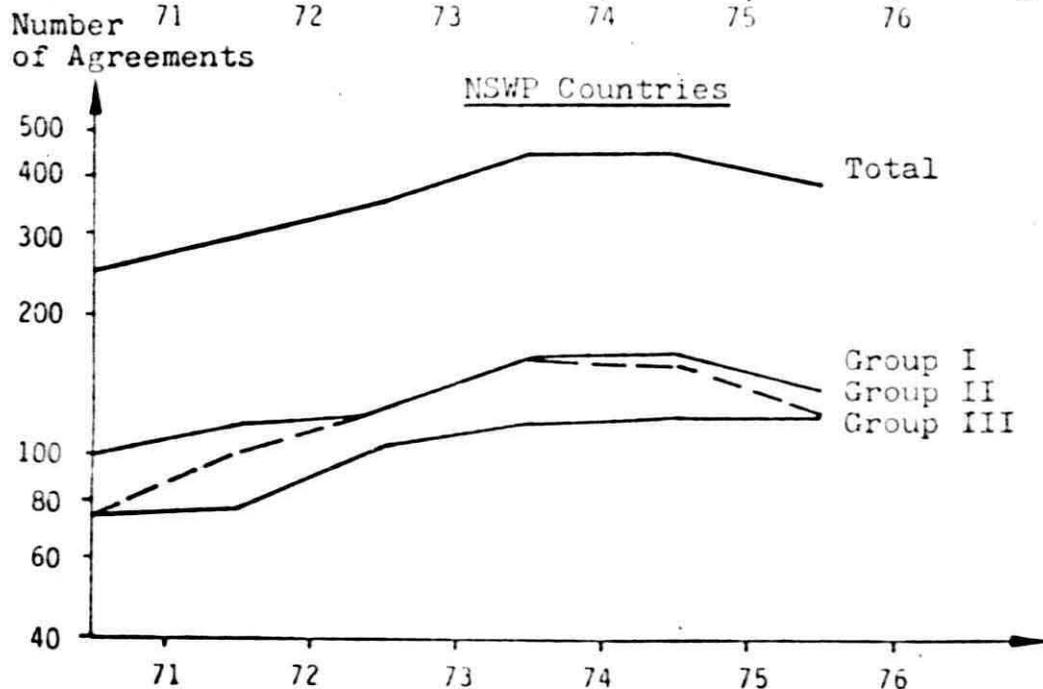
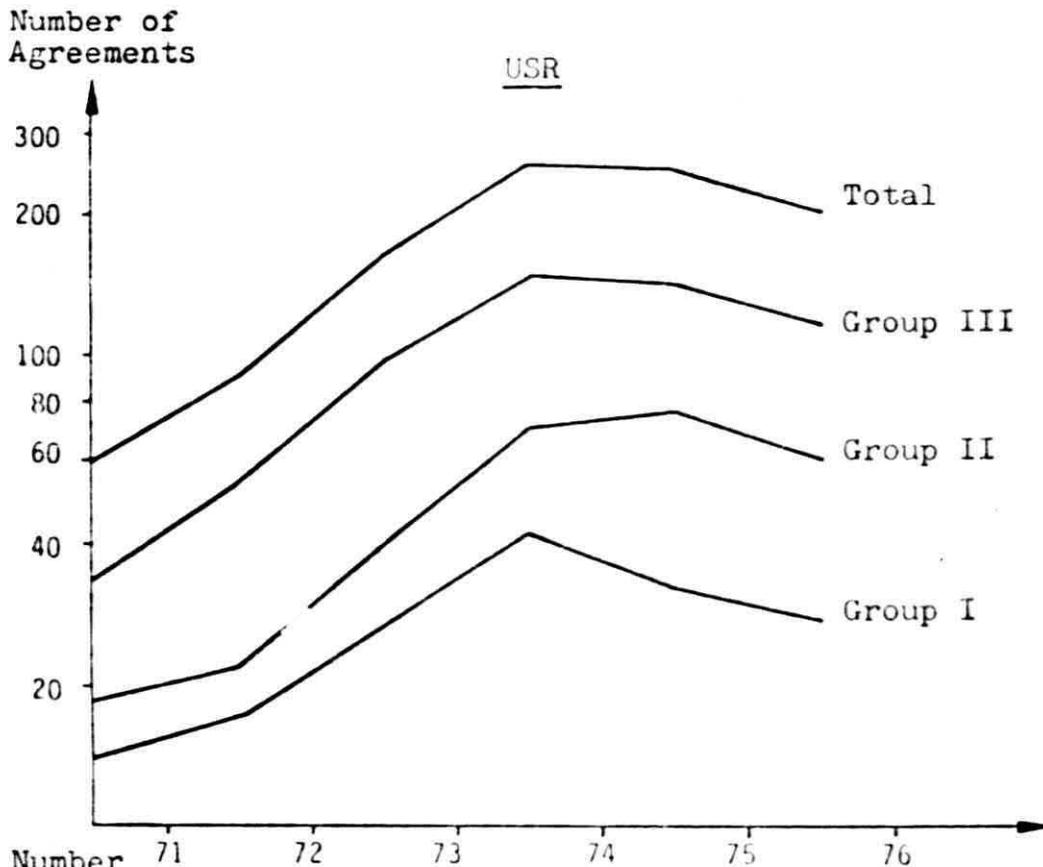
	Number of Agreements	Number in						Share of Tot. Coop.
		Not Spec.	Africa	Europe	Asia	America	Austr.	
POL	42	16	9	7	10			4.4
HUN	28	13	2	3	10			3.0
CSR	11	4	4	2		1		3.6
USR	11	3		4	3	1		0.9
RUM	8	3	3		2			1.8
BUL	6	4	2					2.3
GDR	3		1	1			1	5.6
Total	109	44	21	17	25	2	1	3.8

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Fig. 5: Annual Shares of Intensity Groups in East-West Cooperation 1970 to 1976 (Moving 2-Year Averages)



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Geographical areas favoured for this type of cooperation are Asia and Africa (38 and 32 % resp. of those agreements that can be specified by area). The cooperation in Asiatic countries chiefly concerns the oil producers and Turkey.

Another possibility of analysing intensity of cooperation is considering the number and distribution of joint ventures, which represent the most intensive form of cooperation. Their share in total activities is the greatest in Roumania, with the USSR and CSSR (not to mention the GDR) taking the end of the list.

But the most important criterion for evaluating this type of cooperation is the location of the projects and the type of industry involved: So far, only Hungary and Roumania have established joint ventures; sixteen manufacturing companies have been founded in these two countries. All other manufacturing firms listed in the table operate in the West. Initial legislation concerning the establishment of joint venture was passed in Poland in 1976.

Table 8: Number of Joint Ventures in Total East-West Cooperation

	Number of Agr.	Located in		Industry			Share JV in Total Agreem.
		West	East	Trade	Produktion	Serv-ices	
HUN	45	38	7	26	8	11	4.8
USR	42	42	-	33	2	7	3.4
POL	39	39	-	26	3	10	4.1
RUM	36	27	9	17	11	8	8.0
BUL	14	14	-	11	2	1	5.3
CSR	10	10	-	10	-	-	3.3
GDR	1	1	-	1	-	-	1.8
Total	187	171	16	124	26	37	4.5

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Altogether 91 % of the joint ventures is found in the West. When looking at the branch of economy, 66 % involves trade and 20 % services.

3.2.2. Intensity of Cooperation Under Technological Aspects

The following comparison very clearly shows the hesitation of the USSR to incur liabilities. There are obstacles for cooperation projects carried out at two places (sub-contracting and specialization) because of the different possibilities of dividing production technologies in the various branches of industry¹⁾. So, in industries with less divisible technologies, the share of coproduction may be expected to be smaller. The following table shows the relevant figures for the USSR and NSWP countries:

Table 9: Shares of Cooperation in Total Agreements in Selected Branches of Industry (%)

	Energy	Chemicals	Metals	Electr. Engin.	Mech. Engin.	Light Ind.
USR	2.9	0.7	0.7	3.9	5.1	3.6
NSWP	4.7	5.8	10.2	18.7	21.3	25.5
of which*						
BUL	8.3	2.1	14.3	17.4	14.7	15.9
CSR	-	-	8.0	7.7	6.9	15.8
HUN	8.9	13.4	19.3	23.6	30.3	35.9
POL	5.3	4.5	5.1	18.2	22.8	17.8
RUM	-	3.7	12.0	12.2	15.2	17.7

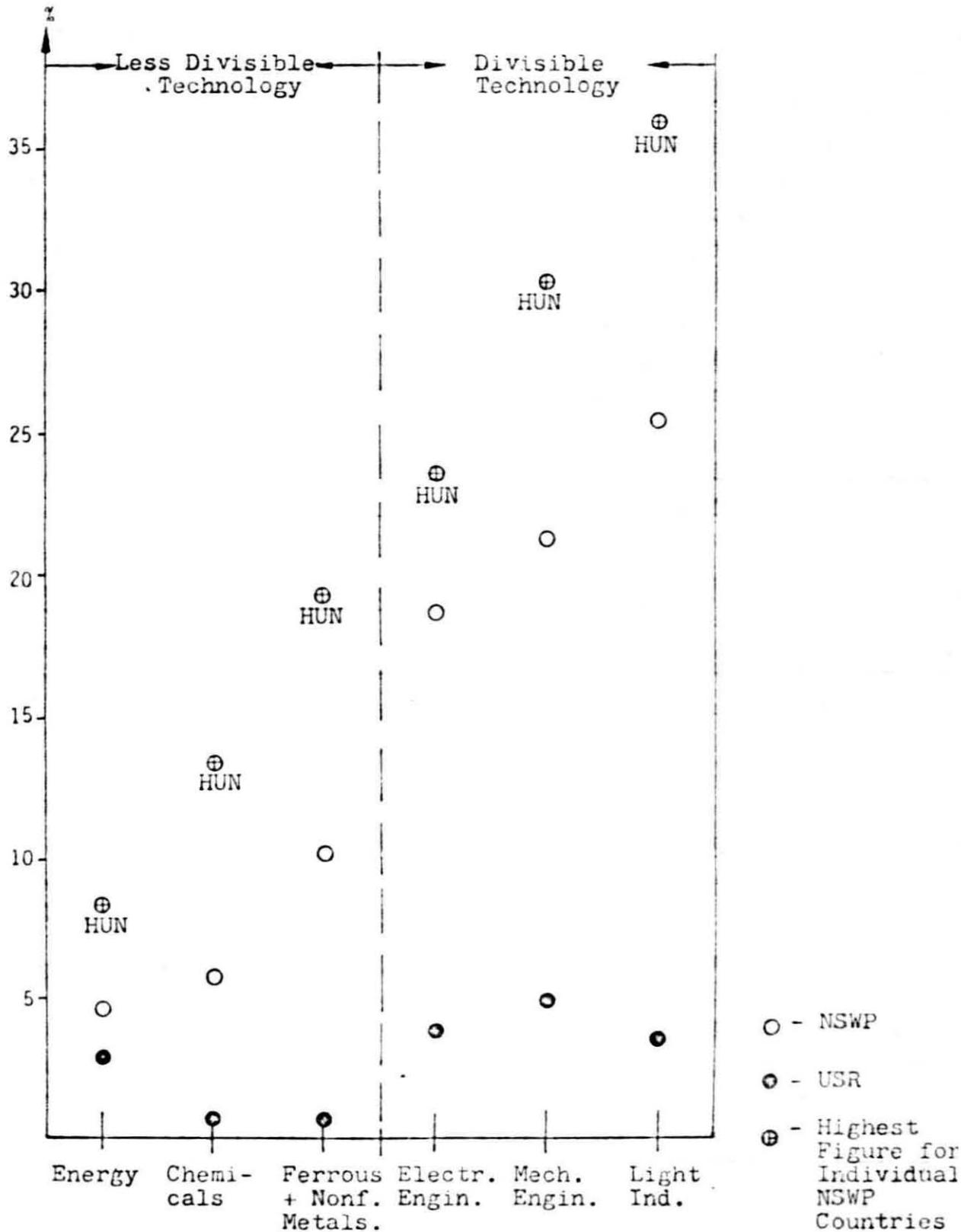
*The GDR has not been considered because its number of agreements was too low.

Chemicals, energy, ferrous and nonferrous metals are industries with less divisible technological processes, so their shares are low. But it is remarkable that, in mechanical engineering which belongs to the industries with a highly divisible technology, the USSR just exceeds the smallest share of the NSWP group (4,7% in energy). All other USSR figures are lower than 4,7 %.

1) ECE, Analytical report ... loc.cit., p.92

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Fig. 6: Shares of Coproduction in Total Cooperation of Selected WP Industries (%)



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3.3. Distribution of Agreements by Branch of Industry

The declared objective of WP countries in East-West cooperation is to speed up technological progress. So it may be expected that cooperation will concentrate on industries that have a great technological backlog. The USSR, in particular, prefers to cooperate in chemicals, motor vehicles and other transportation equipment, and energy. The NSWP countries favour chemicals, motor vehicles, and the light industry. These branches of industry account for a total share in industrial cooperation of 54 % and 51 % resp. for the USSR and the NSWP group. It is a well-known fact that Eastern manufacturing technology in these fields is still on a considerably lower level than that of the West.

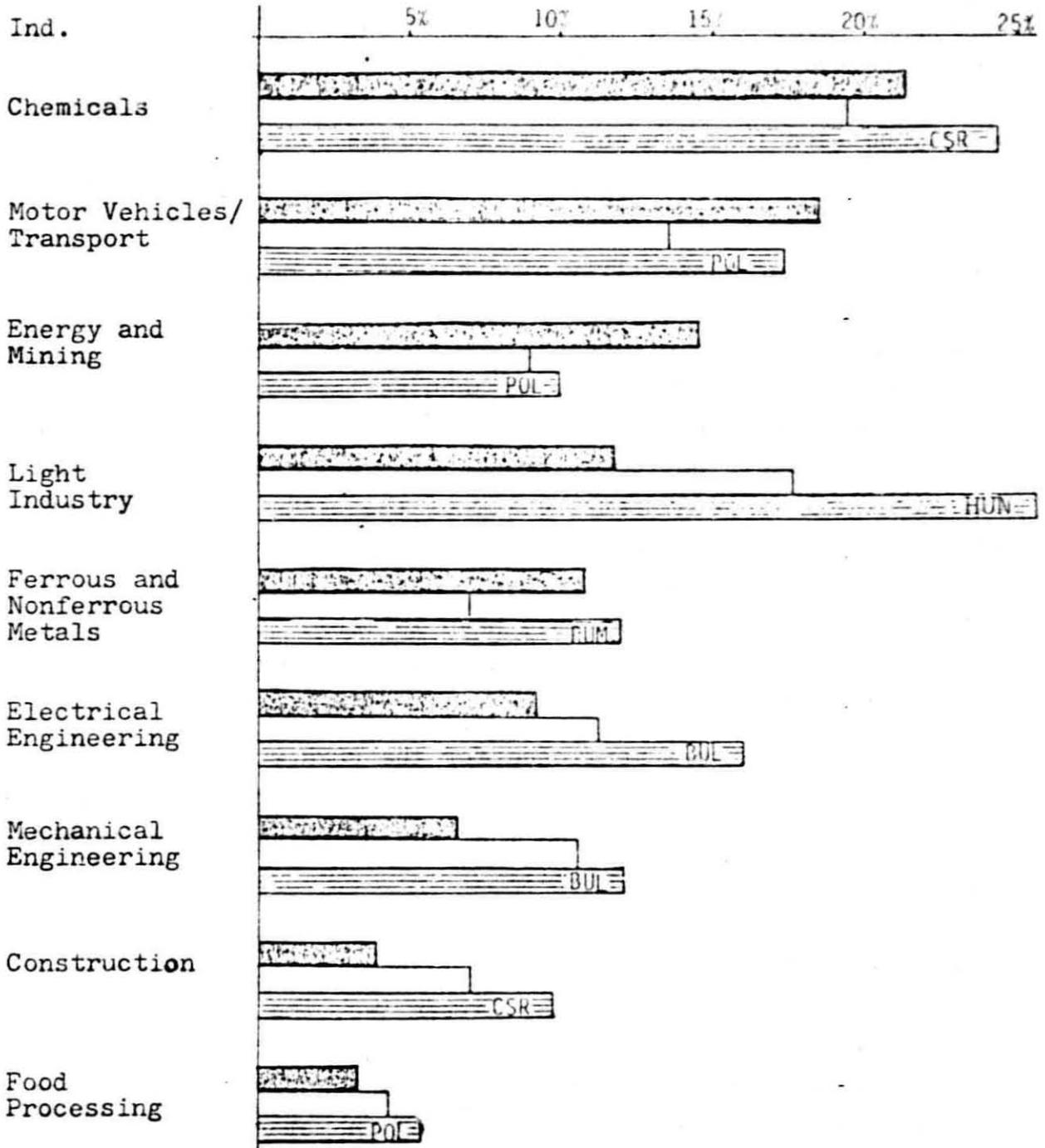
Table 10: Distribution of Total Cooperation in the USSR and NSWP Countries by Branch of Industry (%)

	USR	Total	NSWP	
			Highest Single V. Value	Country **
Total Industrial:	100.0	100.0		
of which:				
Chemicals	21.3	19.5	24.2	CSR
Mot.Veh./Transport	18.5	13.6	17.4	POL
Energy and Mining	14.6	9.0	10.0	POL
Light Industry	11.8	17.7	25.6	HUN
Ferrous and Non-ferrous Metals	10.8	7.0	12.0	RUM
Electrical Engin.	9.2	11.2	16.1	BUL
Mechanical Engin.	6.6	10.6	12.1	BUL
Construction	3.9	7.0	9.7	CSR
Food Processing	3.3	4.4	5.4	POL

** The GDR has not been considered because its number of agreements was too low.

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Fig. 7: Shares of Selected Industries in Total Industrial Cooperation (%)



■ - USSR

□ - NSWP Countries

▨ - Highest Figure for Individual NSWP Countries

Table 10 considers cooperation only in the manufacturing and mining industry of the Eastern economies. The remaining branches of the economy (agriculture, commerce, services etc.) differ widely between the USSR and NSWP countries (11 and 23 % resp.). So they were not considered because they would distort this comparison.

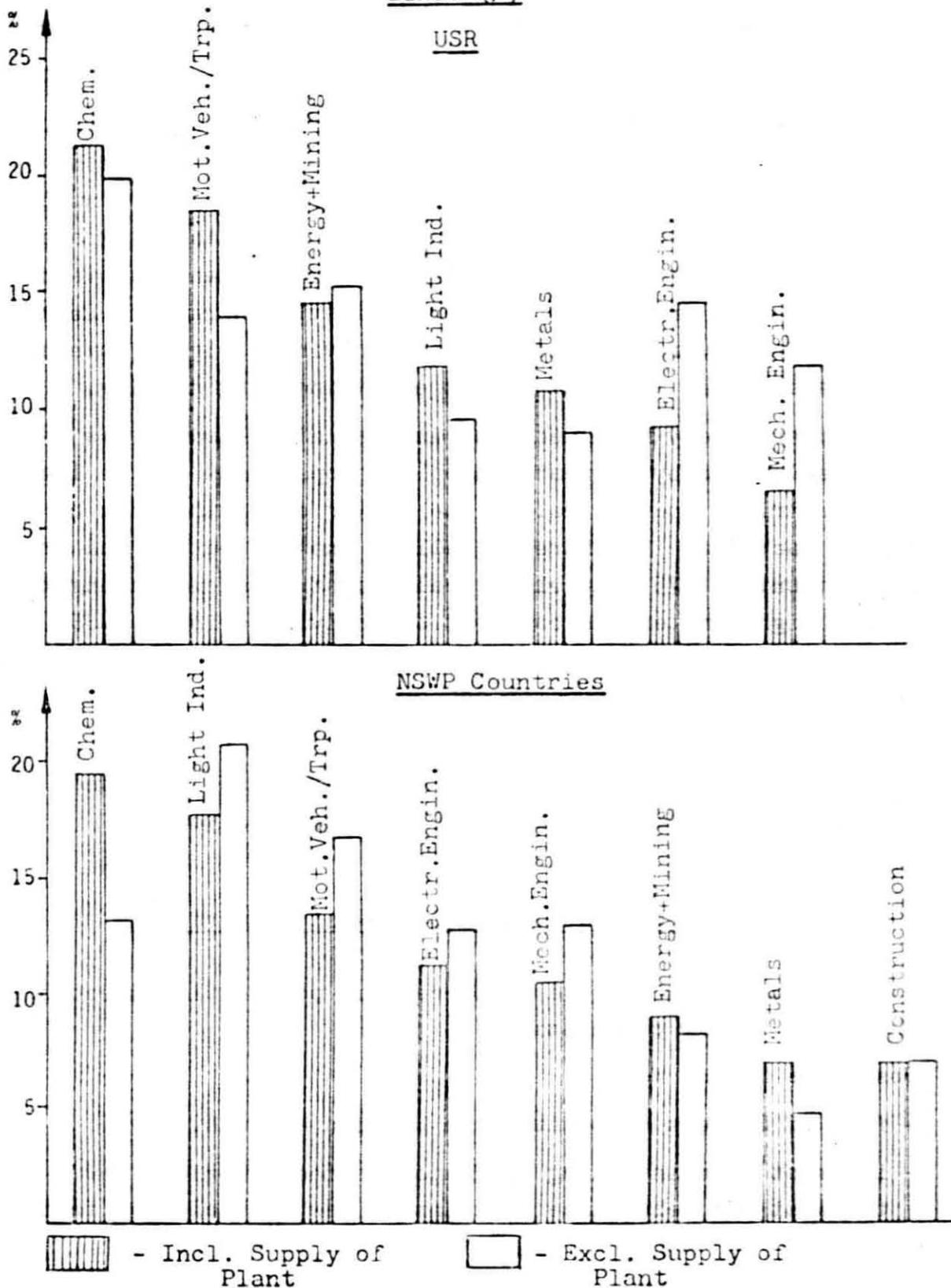
There is another possibility of assessing technological progress attributable to East-West cooperation: It may be assumed that more intensive forms of cooperation promote technological progress faster than less intensive forms such as the supply of plant and production lines. When excluding - for the USSR - the supply of plant in the distribution by branch, the branches with low technological levels remain at the top of the list. The shares of electrical and mechanical engineering increase, and so does that of energy, but to a lesser degree. These three branches achieve a higher rank than they have in Table 10. For the NSWP countries the same tendency is observed in light industry and electrical engineering.

A look at the branches mentioned for the USSR suggests the conclusion that she is especially interested in speeding up technological progress in industries that may be relevant for strengthening her military potential.

Decreasing shares are evident in the Soviet motor vehicle and transport industry and to a lesser degree in light industry, metals, and chemicals - for the latter two, the same applies to the NSWP countries.

When comparing the results of the USSR and NSWP countries, the differences in priorities is striking in motor vehicles and transport and in the consumer industries: the USSR favours the supply of plant and production lines while the NSWP countries prefer more intensive forms of cooperation.

Fig. 8: Shares of Selected Industries in Total Cooperation In- and Excluding Supply of Plant and Production Lines (%)



3.4. Structural Changes in Distribution by Branch 1970 to 1976

When considering the breakdown of the USSR cooperation activities by branch of industry in the course of time (cf. Fig. 9), the total curve as well as the individual branch curves have been dropping since 1974. However the curves for the annual agreements in energy and mining, mechanical engineering and motor-vehicles show a considerably slower decrease than the overall curve. The two industries mentioned first - energy and mechanical engineering - were pointed out as involving a higher intensity of cooperation than the rest except electrical engineering.

The comparatively small decrease in the latter industries is compensated for by a greater drop of cooperation in the light and electrical industries. In the latter case, this may be due to the fact that its share as well as that of metals had grown fastest until 1975. The electrical industry belongs among those having highly intensive cooperation activities in the USSR anyway. The unfavourable development within the light industry suggests that the USSR promotes cooperation especially in the capital goods industry which is of greater military importance.

A corresponding analysis of NSWP cooperation does not show any relevant changes in distribution by branch and year.

4. Obstacles and Limitations to East-West Cooperation

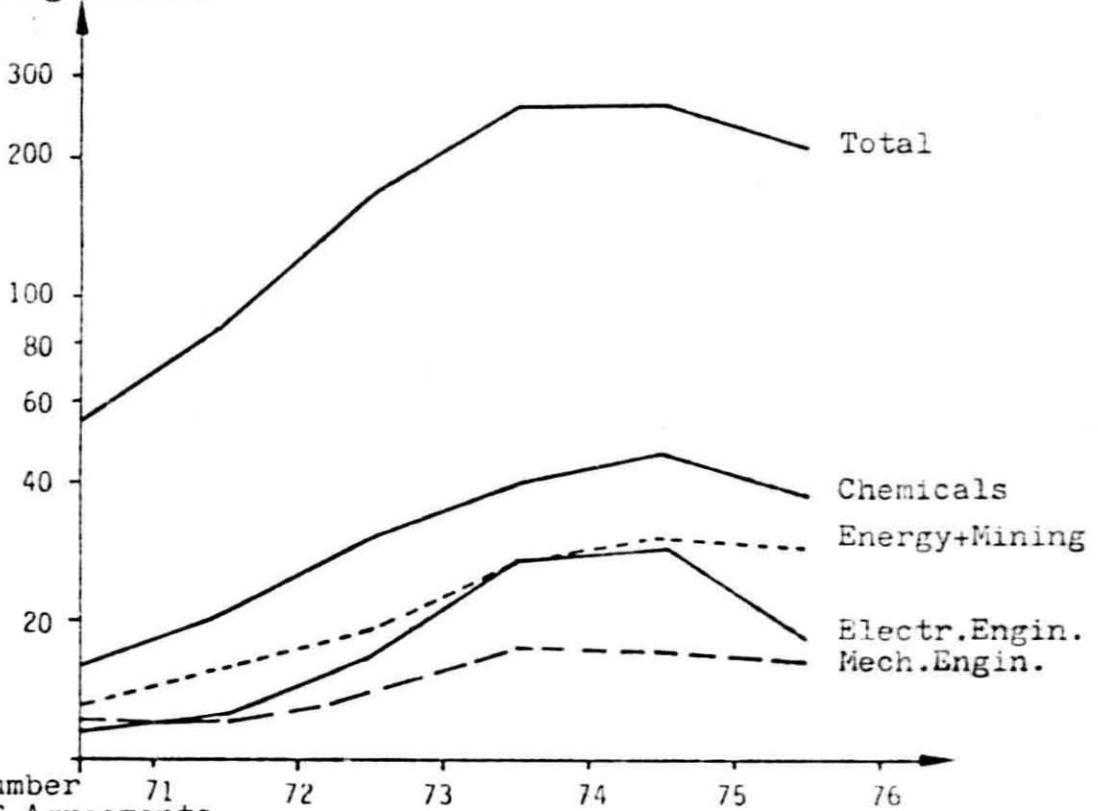
Both, in the West and the East, certain political and economic obstacles impair cooperation.

Obstacles in the West:

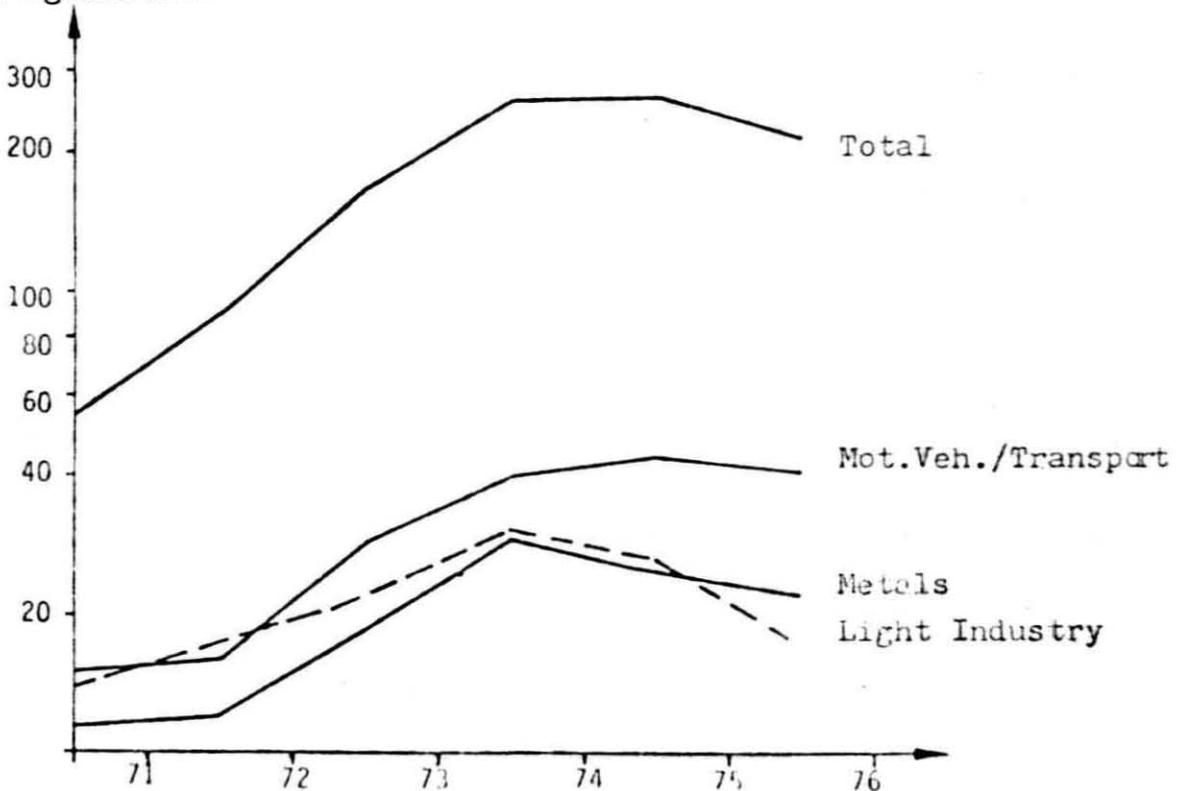
- fear of Eastern competition on Western markets,
- interest in maintaining the superior technological level of the West and reluctance to transfer new technologies to the East,

Fig. 9: Annual Cooperation Agreements in Selected Industries of the USSR 1970 to 1976 (Moving 2-Year Averages)

Number of Agreements



Number of Agreements



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- insufficient Western information on the possibilities Eastern markets offer because of travel restriction, lack of contacts, difficulties in establishing marketing outlets and official reluctance to publish economic data.

Obstacles in the East:

- insufficient quality of Eastern products,
- insufficient information on possibilities of Western markets,
- slow decision process in planned economies,
- non-convertibility of Eastern currencies,
- shortage of freely convertible currencies,
- plans to intensify cooperation within COMECON.

5. Assessment of the Development and Structure of East-West Cooperation

This section of the study presents some suggestions in answer to the questions listed at the beginning (cf. p.6 f).

5.1. Evolution of the Technological Gap

The transfer of technology involves the problems of financing and absorbing the new technology in the receiving country.

Financing East-West cooperation is much easier for the USSR than it is for the rest of WP countries. Whether imported technology is absorbed better or more rapidly than by conventional foreign trade depends on the form of cooperation chosen. For the purposes of this report the most important channels of technology transfer are:

- importation of investment goods,
- importation of know-how and manpower,
- coproduction, and
- joint venture¹⁾.

The order in which these forms are listed also reflects the increase in the chances for the application and diffusion of technology. Because, unlike the NSWP countries, the Soviets prefer the less intensive forms of cooperation, the application and diffusion of technology in the USSR may be expected less successful. The great share of complete plant and production lines imported into the USSR doubtlessly provides her with more independence in managing the economy and avoids foreign control. But this form of cooperation involves only a limited procurement of know-how and personal support. So, the transfer of technology is difficult and time-consuming (especially when copying Western models).

The impact of licence and know-how agreements on the technological development is difficult to evaluate. Both forms of cooperation would be more suitable for increasing the efficiency of transfer, because they are combined with additional services, such as the training of local technicians. On the other hand, licences usually do not reflect the most advanced technological level of the exporting country. They probably contribute only toward avoiding a further widening of the technological gap.

Coproduction and joint venture allow the optimum utilization of transferred technology, because Western partners will probably be more willing to provide the latest technology if they have direct access to production, marketing and, in the case of joint ventures, also to management. In this respect, the USSR obviously is prepared to abandon the possible acceleration of the development in favour of greater independence and fewer personal contacts

¹⁾ J. Nötzold, Die Bedeutung des Technologietransfers in der wirtschaftlichen Ost-West-Kooperation, Stiftung Wissenschaft und Politik, Eggenberg, SWP-S 223, Febr. 1974, p. 31f

However, in specific branches of the economy, the USSR has been successful in speeding up technological progress by cooperation. Evidently they gained favourable experiences in motor vehicles and in chemicals¹⁾. This may be partially due to the great share of these two industries in the total amount of cooperation (about 40 %).

The high priority the Soviets place on cooperation in the field of energy is based on their desire to push the development of existing energy resources. This conclusion is confirmed by the fact that more intensive forms of cooperation are favoured (cf. p. 32).

Electrical engineering may also have reached a higher technological level by cooperation: Up to 1975, agreements in this sector increased more rapidly than in all other industries except metals. However, in electronics, the transfer of technological improvements, so important for the strengthening of the military potential, is limited to direct imports of equipment, whose absorption is strictly controlled by Western regulations. A general improvement of the Soviet technological level may be expected from the shift of priorities to the investment goods industries.

5.2. Influence on Western Economies

Certain economic advantages of East-West cooperation for the West are obvious, but they are not discussed in this study. So far, no dependence of Western economies on WP countries and no important WP influence on the West have become evident. The FRG, e.g., conducted only about 6 % of its foreign trade with WP countries in 1976.

¹⁾ cf. Radio Liberty Research Bulletin, The Diffusion of Imported Technology in the USSR. RL 194/75, May 9th, 1975

The contracted supply of natural gas will not make the Western countries dependent on the USSR in the near future. In 1980 (1985) the FRG is expected to have about 12 % (11 %) of her total natural gas consumption coming from the USSR. As for the total consumption of primary energy, this share will amount to only 2 %. Western dependence on the East could be conceivable in the future, if the West were increasingly to agree to WP proposals for concluding barter agreements. This goes especially for the USSR most of whose cooperation agreements with the West concern the large-size supply of plant and major appliances.

6. Future Prospects of East-West Cooperation

The WP derives many benefits from cooperating with Western countries. So, the Pact may be expected to have a long-term interest in cooperation, even if future growth rates should not equal those of the early seventies because economic conditions have since deteriorated both in the East and in the West. The future application of more intensive forms of cooperation by the USSR can hardly be expected.

Aside from the political aspects, the USSR's interest should also be seen in connection with that of the developing countries which demand major changes in international economic conditions. Intensified economic aid to developing countries is a means to gain political influence. Developing countries, even those that are rich in raw materials, want only the latest and most efficient technologies. If only for this reason, the USSR is bound to be interested in filling the technological gap as much as possible.

Even if the technological gap cannot be completely eliminated by East-West cooperation, the technological progress achieved in some industries of military importance indicates that East-West cooperation helps to strengthen the WP military potential.

Protecting the West against security risks will be of increasing importance even if future economic growth rates of cooperation should be smaller. The future protection of Western interests may be assured by the following policies:

- more careful selection of cooperation forms for better control of the application of imported technologies, and for increased personal contacts,
- permanent observation of the economic involvement with the WP in order to prevent possible dependencies,
- stricter observance, and continuous review, of existing Western export restrictions for strategic goods.

Despite the great interest the WP takes in East-West cooperation, it should not be assumed that the technological backlog places the WP in a dilemma that renders cooperation with the West inevitable. Consequently, Eastern interest in cooperation may be seen as the consequence of developments which make military confrontation politically less and less profitable: The East is trying to derive economic advantage from the lessening of tensions.

L I T E R A T U R E

- Bolz, Klaus; Plötz, Peter: Erfahrungen aus der Ost-West-Kooperation. HWWA-Institut für Wirtschaftsforschung-Hamburg, Hamburg 1974
- CEPES: Wirtschaftsbeziehungen zwischen Ost und West. Handel und Kooperation. HWWA-Institut für Wirtschaftsforschung-Hamburg
- ECE: Analytical report on industrial co-operation among ECE-countries. Prepared by the Executive Secretary pursuant to Community Resolution 4 (XXVII) for Submission to the 28th Session of the ECE. Geneva 1973
- ECE: Preparations for the second meeting of experts on industrial co-operation. Document Trade/R. 320 vom 26. August 1975
- Nötzold, Jürgen: Die Bedeutung des Technologietransfers in der wirtschaftlichen Ost-West-Kooperation. Stiftung Wissenschaft und Politik Eggenberg. SWP-S 223, Febr. 1974
- Radio Liberty Research Bulletin: The Diffusion of Imported Technology in the USSR. RL 194/75 vom 9. Mai 1975

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Table 2: Cooperation Agreements Signed Annually Between Western Countries and WP Countries 1970 to 1976

	BEL	BPD	CAN	DEN	FIN	FRA	ITA	JAP	LUX	NED	NOR	GER	SPA	SWE	SWI	UNK	USA	TOTAL
PRE 65	2	2	0	0	0	1	36	0	0	0	0	4	0	0	1	1	0	47
1965	1	2	0	0	0	1	4	1	0	0	0	2	0	0	0	0	0	11
1966	2	4	0	0	0	3	7	0	0	0	0	4	0	0	0	1	0	21
1967	1	5	0	1	0	10	3	1	0	0	1	9	0	1	0	6	2	40
1968	1	14	0	0	0	4	8	3	0	1	0	11	0	0	1	5	0	48
1969	0	35	0	3	1	24	17	2	0	5	1	25	0	11	5	13	5	147
1970	9	37	3	2	0	43	22	18	0	14	4	29	1	13	14	19	5	233
1971	7	52	2	1	2	31	23	18	0	4	1	27	1	11	13	35	15	243
1972	7	74	1	4	3	40	21	25	0	7	1	25	1	15	7	24	30	285
1973	5	120	3	1	2	52	41	29	0	3	4	31	0	23	11	37	70	432
1974	8	152	6	6	4	62	50	49	0	11	2	44	2	29	21	31	77	554
1975	6	103	3	2	6	52	34	39	0	8	1	32	1	31	19	41	69	447
1976	11	112	4	3	4	55	25	28	0	7	1	29	0	17	10	39	34	379
TOTAL	60	712	22	23	22	378	291	213	0	60	16	272	6	151	102	252	307	2887

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Table 3: Regional Distribution of Cooperation
Agreements of WP Countries

	I	BUL	CSR	DDR	HUN	POL	ROM	USR	TOTAL
BEL	I	0	4	2	10	21	9	14	60
BRD	I	30	48	12	180	127	84	231	712
CAN	I	0	0	0	4	5	4	9	22
DEN	I	2	4	0	1	8	2	6	23
FIN	I	1	3	0	3	3	0	12	22
FRA	I	29	30	1	55	94	30	139	378
ITA	I	14	16	2	54	46	42	117	291
JAP	I	13	13	3	18	40	32	94	213
LUX	I	0	0	0	0	0	0	0	0
NED	I	3	6	0	16	14	3	18	60
NOR	I	2	3	0	2	2	1	6	16
OECS	I	35	40	15	70	38	19	55	272
SPA	I	0	0	0	1	2	0	3	6
SWE	I	4	15	4	32	47	5	44	151
SWI	I	11	9	1	28	18	10	25	102
UNK	I	17	14	0	53	70	37	61	252
USA	I	8	6	1	25	49	23	195	307
TOTAL	I	169	211	41	552	584	301	1029	2887

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Table 4: Distribution of Agreements of WP Countries
by Type of Cooperation

TYP OF COOP.		BUL	CSR	DDR	HUN	POL	ROM	USR	TOTAL
S T C		2	6	0	11	10	3	47	79
S T FA		22	16	9	32	42	22	176	319
L K WE		73	71	9	254	250	111	156	924
L K EW		1	4	0	24	7	4	9	49
SUB-CT		5	1	1	81	23	12	7	130
SPEC		28	28	1	153	128	35	21	394
J V P		2	0	0	8	3	11	2	26
J V TS		12	10	1	37	36	25	40	161
MAR C		30	25	4	146	133	45	60	443
JT THC		6	11	3	28	42	8	11	109
MAR DV		0	0	0	2	7	2	2	13
S COPL		44	57	13	57	96	77	371	715
S PLHE		21	46	3	66	78	35	266	515
LEASG		0	0	0	1	0	0	5	6
CON PL		16	29	10	36	91	57	59	298
TOTAL		262	304	54	936	946	447	1232	4181

Table 5: Distribution of Agreements of WP Countries
by Branch of Economy

BRANCH OF ECONOMY	I I I I I I	BUL	CSR	DDR	HUN	PCL	ROM	USR	TOTAL
AGRIC	I	4	7	1	24	18	14	31	99
FE MET	I	7	14	6	13	24	24	83	171
NFEMET	I	3	6	0	5	15	11	36	76
ENERGY	I	7	16	5	28	47	24	147	274
EL ENG	I	28	20	2	77	50	28	102	307
ME ENG	I	21	22	5	53	63	30	73	267
CHEMIC	I	32	50	12	87	104	70	235	590
CONSTR	I	12	20	2	42	33	17	44	170
LIGHT	I	29	23	4	138	94	36	131	455
FOOD P	I	8	11	1	24	31	8	36	119
MOTVEH	I	7	10	1	25	33	14	116	206
TRANSP	I	18	11	4	33	66	26	89	247
T B I	I	33	30	6	144	140	49	67	469
R SERV	I	2	8	2	15	18	14	23	82
MING	I	2	4	1	15	10	5	14	51
E R EP	I	1	8	1	5	10	4	15	44
TOTAL	I	214	260	53	728	756	374	1242	3627

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ABBREVIATIONS

List I:

Countries

Belgium	BEL	Netherlands	NED
FRG	BRD	Norway	NOR
Bulgaria	BUL	Austria	OES
Czechoslovakia	CSR	Poland	POL
Denmark	DEN	Roumania	RUM
GDR	DDR	Sweden	SWE
Finland	FIN	Switzerland	SWI
France	FRA	Soviet Union	USR
Great Britain	GBR	Spain	SPA
Italy	ITA	Hungary	HUN
Japan	JAP	United States	USA
Canada	CAN		

List II:

Type of Cooperation

Scientific-Technological Cooperation	S T C
Scientific-Technological Frame Agreements	S T FA
Licence and Know-how Agreements West-East	L K WE
Licence and Know-how Agreements East-West	L K EW
Sub-Contracting	SUB-CT
Specialization	SPEC
Joint Venture (Production)	J V P
Joint Venture (Trade, Services)	J V TS
Market Cooperation	MAR C
Joint Tendering in Third Countries	JT THC
Market Development	MAR DV
Supply of Complete Plant	S COPL
Supply of Production Lines and Heavy Equipment	S PLHE
Supply of Plant or Equipment on a Leasing Basis	LEASG
Construction of Complete Plant or Production Lines	CON PL

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List III: Branch of Economy

Agriculture	AGRIC
Ferrous Metals	FE MET
Nonferrous Metals	NFEMET
Energy	ENERGY
Electrical Engineering	EL ENG
Mechanical Engineering	ME ENG
Chemicals	CHEMIC
Construction	CONSTR
Light Industry	LIGHT
Food Processing	FOOD P
Motor Vehicles	MOTVEH
Transport	TRANSP
Trade, Banking, Insurance	T B I
Rest of Services	R SERV
Mining	MING
Education, Research, Environmental Protection ¹⁾	E R EP

1) only if connected with industrial cooperation