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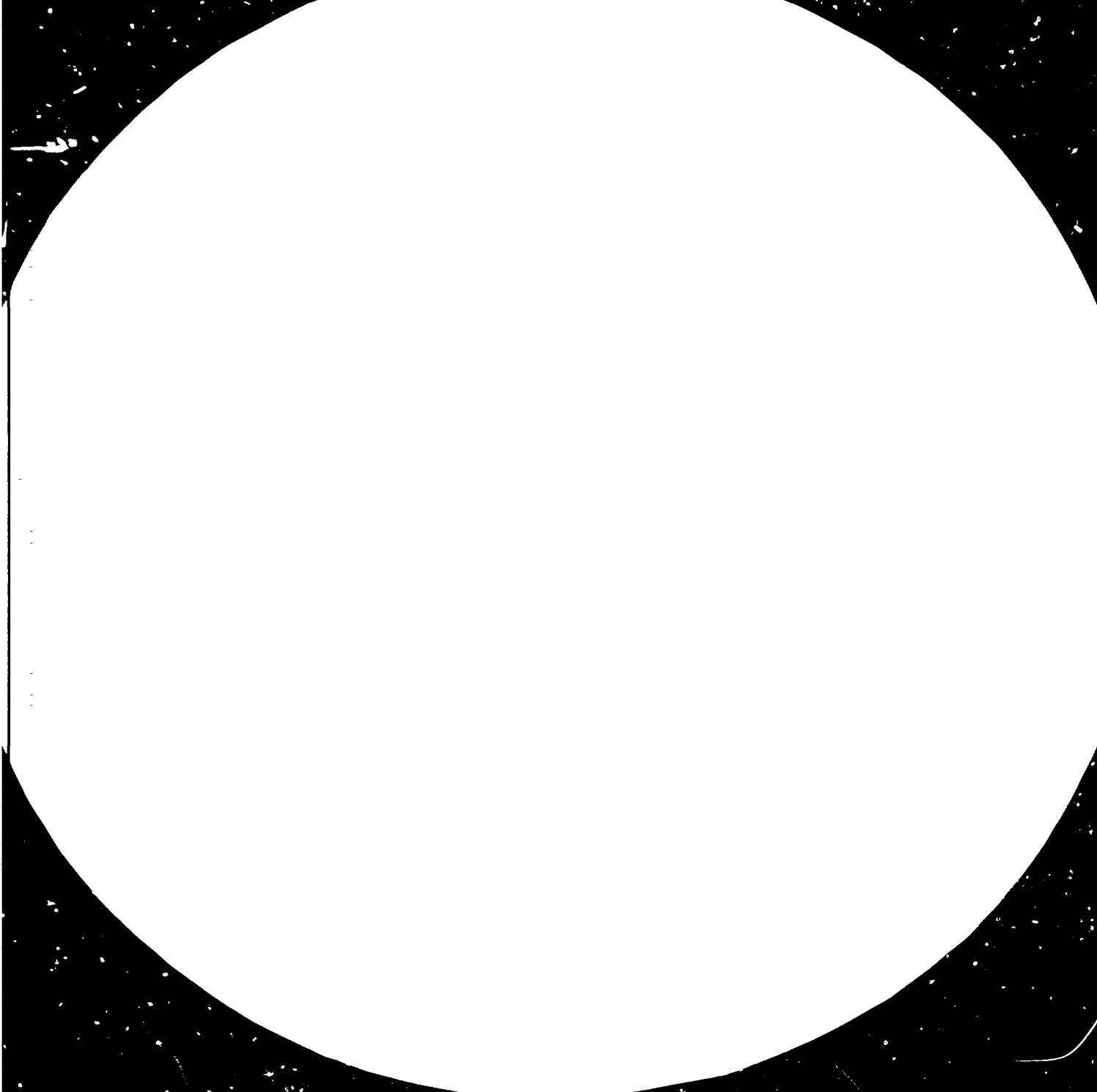
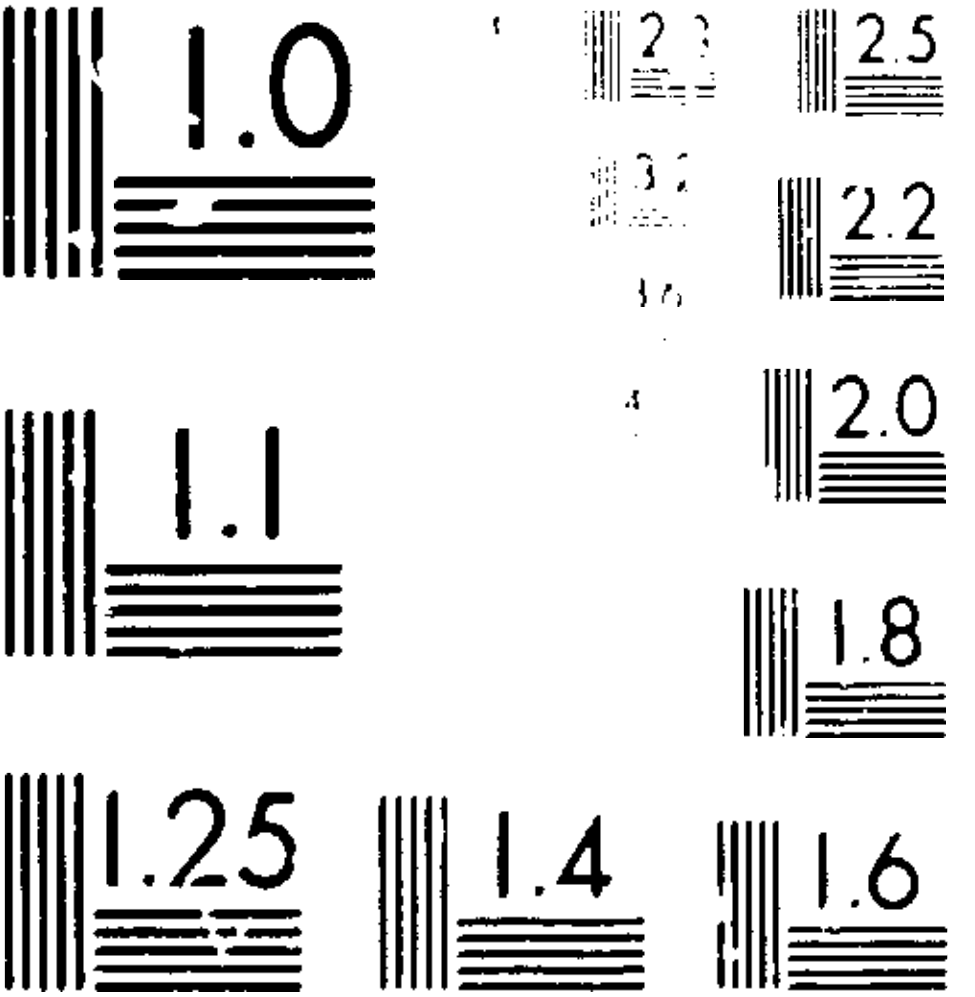
Vienna International Centre, P.O. Box 300, 1400 Vienna, Austria
Tel: (+43-1) 26026-0 · www.unido.org · unido@unido.org

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# STRUCTURAL CHANGES IN THE INDUSTRY OF THE USSR AND PROSPECTS OF THE DIVISION OF LABOUR WITH DEVELOPING COUNTRIES *

by

Igor A. Egorov and May Y. Volkov**

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** Institute of World Economy and International Relations of the USSR Academy of Sciences, Moscow, USSR.

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# P r e f a c e

This study was undertaken in the framework of the research programme of UNIDO on industrial redeployment and structural change. This programme constitutes a surveillance of the international industrial restructuring process, aiming at highlighting pertinent trends in industrial development nationally and internationally. By identifying the factors that determine structural changes and indicating the likely direction and possible implications of this process, uncertainties and rigidities in this process might be reduced and a basis created for a forward-looking conception of industrial co-operation between the developed and the developing countries.

This study is part of a series of analyses undertaken on selected European centrally planned economies. It attempts to analyse past and prospective changes in the industrial structure of the USSR and to highlight major features of these changes. In the first chapter structural changes until 1980 are analysed. Prospective trends in the 1980's are outlined in the second chapter. The present and changing trade pattern with CMEA countries and with developing countries is examined in chapter 3. Chapter 4 outlines the major factors influencing the industrial specialization of USSR in the international context and presents on this basis some indications for prospective trade developments.

The study was carried out by Prof. May Y. Volkov and Dr. Igor A. Egorov from the Institute of World Economy and International Relations of the USSR Academy of Sciences, Moscow, USSR, as UNIDO consultants.

# I. THE GENERAL DIRECTION OF STRUCTURAL CHANGES IN INDUSTRY AND THEIR EFFECT ON THE NATIONAL ECONOMY OF THE USSR BY 1981

## 1.1. Structural Changes in the Economy and Industry, 1960-1980

By the early 1960s the Soviet Union had created a society of developed, mature socialism which has, as its material base, highly developed productive forces, a powerful advanced industrial capability and large scale mechanised agriculture based on stable working group principles. Industrial enterprises were built to produce equipment for such new branches of the economy as the nuclear power industry, computers, semiconductors and space technology. In April 1961, the Soviet Union successfully launched the first manned spacecraft in the history of mankind, with the craft and the booster made entirely by Soviet scientists, designers and workers at Soviet plants and with Soviet made materials.

The Soviet economy has turned into a single complex productive mechanism where all industrial enterprises belong to the State. By the early '60s this state property was managed on the basis of the territorial principle. The country's territory was divided into economic regions where all industries were subordinated to local Councils for the national economy. The operation of this management system encountered difficulties in formulation and implementation of technical policy, and since technical progress takes its own course in different industries, utilization of the benifits of the scientific and technological revolution was impaired. Branch planning was divorced from branch management which did not go beyond the limits of an economic region. Therefore, the relationships within the branches were disrupted. Parochial interests some-

times prevailed over national ones. In 1965, the territorial principle of industrial management was replaced by the branch principle. Ministries concerned with individual branches of industry were set up, and the system was later legitimated in the Soviet Constitution adopted in 1977.

The gross social product and the national income in terms of five-year periods had the following average annual rates of growth (in %):[1]

| | 1961-65 | 1966-70 | 1971-75 | 1976-79 |
|---|---|---|---|---|
| Gross social product | 6.5 | 7.4 | 6.4 | 4.4 |
| National income | 6.5 | 7.7 | 5.7 | 4.4 |

The dynamics of growth is calculated on the basis of a methodology adopted by Soviet statistics, i.e. by reference to the social product and national income of the last year of a five-year planned period to the corresponding indicators of the last year of the preceding period in comparable prices.

In the early 1960s, Soviet industry retained the key ratios characteristic of the entire post-war period, in particular, slower rates of growth in light and food industries. The reason for this was accelerated reconstruction of the national economy as evidenced by the priority growth of the production of the means of production compared to consumer goods: in 1961-65, the gap constituted 80%, while in 1956-60 - 75%, and in 1951-55 - 48%.[2]

In 1940-1960, this priority growth resulted in a 6.7-fold increase in the output of the "A" group industries (production of the means of production) as compared with a 3.2-fold increase in the "B" group industries (production of consumer goods). The gap existed up to 1980, as can be seen from Table 1.1.

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1) Istoriya sotsialisticheskoy ekonomiki SSSR (History of Soviet Socialist Economy), vol. 7, Moscow, 1980, p. 153.

2) Ibid., p. 202.

Table 1.1 **Index numbers of industrial production**

1940 = 100

| Year | Total Industry | Production of means of production (Group "A") | Production of consumer goods (Group "B") |
|---|---|---|---|
| 1940 | 100 | 100 | 100 |
| 1945 | 91 | 112 | 59 |
| 1950 | 172 | 204 | 122 |
| 1955 | 318 | 389 | 214 |
| 1960 | 521 | 665 | 3[illegible] |
| 1965 | 786 | 1 053 | 437 |
| 1970 | 1 183 | 1 589 | 654 |
| 1975 | 1 594 | 2 316 | 897 |
| 1976 | 1 775 | 2 443 | 924 |
| 1977 | 1 876 | 2 585 | 972 |
| 1978 | 1 966 | 2 716 | 1 012 |
| 1979 | 2 033 | 2 809 | 1 047 |

Source: Narodnoje Khozjaistvo USSR v 1979, p. 134
(National Economy of the USSR in 1979. Statistical Yearbook. Moscow, 1980, p. 134).

As a result of this dynamics, the Soviet industry of the 1960s witnessed a 74% and 24% ratio between the "A" group and the "B" group. Structural changes in the industry were determined during the entire period of 1960-1980 by higher rates of growth in such industries as engineering and metal-working, chemical and petrochemical, construction materials industry, and slower rates of growth in food, timber and wood-working industries and pulp-and-paper industry. The principal qualitative changes in industrial production are the priority development of those industries that are crucial for the creation of the material and technical basis of the entire economy, help accelerate scientific and technological progress, bring down the cost of production and increase the output of the finished product, i.e. increase the economic efficiency of production.

Every industry with priority rates of development have undergone significant internal structural changes, with the emergence of new types of production and introduction of new technologies being their main feature. Thus, over 3 thousand new items started to be produced by the chemical industry during the period of 1971-1975 alone.[1/] This was paralleled by the process of chemicalisation of other branches of the national economy, i.e. utilisation of chemical products and application of chemical technology. Agriculture was the fastest growing consumer of chemicals: chemical fertilizers, crop-protection and weed-control chemicals, etc.

The share of engineering, chemical industry and electrical power industry in the total industrial production went up from 23% in 1960. to 24.3% in 1965, 28% in 1970, 33.6% in 1975 to 37.8% in 1979.

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1/ Razvitie ekonomiki SSSR v desyatoi pyatiletke, Moscow, 1977, p. 11. (Development of Soviet economy in the 10th five-year planned period).

The rates of growth of basic industries in 1970-1979 are shown in Table 1.2.

The share of manufacturing industries in the total industrial production increased with a corresponding drop in the share of mining industries.

The introduction of new products in 1960-1980 was paralleled by replacement of traditional materials by new ones, e.g. metal and timber were replaced by plastics, light nonferrous alloys, etc. From 1960 to 1979, production of polymeric structural materials increased 11.1 times, the range of products was considerably expanded and the structure of resins and plastics improved. Processing of traditional materials was improved in order to increase the range of new constructional materials. In particular, in 1960-1980, high rates of growth characterised the most progressive timber constructional materials (1979, in % of 1960):1/

| | | | |
|---|---|---|---|
| Total timber | 95.8 | Chip board | 2916.1 |
| Sawn timber | 94.0 | Wood-fibre board | 695.3 |
| Plywood | 146.8 | Cardboard | 389.7 |

Development of heavy industries was accompanied by growth in the volume and range of consumer goods. As for light industry, priority rates of growth were observed in garment, wool, knitted fabrics, fur and silk producing industries as well as in the production of artificial leather and films. Structural changes in the "B" group industries in 1975-1979 are shown in Table 1.3. The ratio between heavy industry (group "A") and light industry (group "B") in 1940-1979 is shown in Table 1.4.

Old lines of products are discontinued after the development and production of new items. In 1961-1979, 79.4 thousand new types of machinery, equipment, devices and instruments were created in

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1/ Narodnoe khozyaistvo SSSR v 1979 godu., p. 191, 192, 194. (The National Economy of the USSR in 1979)

Table 1.2. Rate of industrial growth, in per cent

1970 = 100

| | 1970 | 1975 | 1976 | 1977 | 1978 | 1979 |
|---|---|---|---|---|---|---|
| Electricity | 100 | 141 | 152 | 157 | 165 | 171 |
| Fuels | 100 | 133 | 138 | 144 | 149 | 151 |
| Iron & Steel | 100 | 128 | 134 | 136 | 140 | 140 |
| Chemicals | 100 | 165 | 178 | 190 | 200 | 207 |
| Metal Products | 100 | 173 | 189 | 206 | 224 | 241 |
| Wood Products & Paper, of which | 100 | 129 | 132 | 136 | 138 | 136 |
| - Lumber | 100 | 117 | 117 | 118 | 116 | 113 |
| - Woodworking | 100 | 131 | 135 | 140 | 144 | 144 |
| - Paper | 100 | 140 | 148 | 155 | 160 | 153 |
| Building Materials | 100 | 142 | 147 | 151 | 155 | 154 |
| Glassware & Pottery | 100 | 166 | 180 | 195 | 206 | 215 |
| Light industry, of which | 100 | 125 | 130 | 137 | 140 | 143 |
| - Textiles | 100 | 126 | 130 | 134 | 139 | 140 |
| - Cotton Textiles | 100 | 114 | 116 | 118 | 122 | 124 |
| - Woolen Textiles | 100 | 129 | 134 | 140 | 146 | 150 |
| - Silk Textiles | 100 | 157 | 169 | 178 | 194 | 201 |
| - Knitted Goods | 100 | 133 | 139 | 145 | 152 | 159 |
| Sewing industry | 100 | 125 | 132 | 138 | 143 | 150 |
| Leather, Fur & Shoes | 100 | 123 | 128 | 133 | 138 | 14. |
| Food industry, of which | 100 | 130 | 128 | 134 | 136 | 139 |
| - Sugar | 100 | 107 | 99 | 122 | 123 | 111 |
| - Meat | 100 | 141 | 126 | 138 | 144 | 146 |
| Milk Products | 100 | 129 | 132 | 141 | 142 | 141 |
| - Fish Products | 100 | 135 | 138 | 133 | 131 | 138 |

Source: Narodnoje Khozjaistvo SSSR v 1979, p. 141

Table 1.3. **Structure of the industrial output in the "B" Group of industry** (in per cent)

| | 1975 | 1976 | 1977 | 1978 | 1979 |
|---|---|---|---|---|---|
| **Total Group "B"** | 100 | 100 | 100 | 100 | 100 |
| **Light industry** | 27.0 | 28.0 | 27.7 | 27.8 | 27.5 |
| **Fabrics** | 3.1 | 3.2 | 3.1 | 3.1 | 3.0 |
| **Haberdashery** | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 |
| **Knitted wares** | 3.6 | 3.8 | 3.8 | 3.8 | 3.8 |
| **Clothes** | 12.9 | 13.3 | 13.2 | 13.2 | 13.0 |
| **Leather shoes** | 2.6 | 2.7 | 2.6 | 2.7 | 2.7 |
| **Food industry** | 48.6 | 45.6 | 45.5 | 44.9 | 43.4 |
| **Sugar** | 2.2 | 2.1 | 2.5 | 2.4 | 2.1 |
| **Flour** | 1.6 | 1.5 | 1.5 | 1.5 | 1.4 |
| Bread | 4.9 | 4.9 | 4.7 | 4.7 | 4.5 |
| **Confectionary** | 3.7 | 3.7 | 3.2 | 3.2 | 3.2 |
| **Vegetable Oil & Margarine** | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |
| **Beverages** | 4.5 | 4.6 | 4.7 | 4.5 | 4.5 |
| **Canned Food** | 3.1 | 2.9 | 3.0 | 2.9 | 3.0 |
| **Tea** | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| **Tobacco** | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 |
| **Meat & Meat Products** | 11.0 | 10.0 | 10.4 | 10.5 | 10.1 |
| **Butter** | 2.5 | 2.5 | 2.7 | 2.5 | 2.3 |
| **Milk & Milk Products** | 3.7 | 3.7 | 3.6 | 3.6 | 3.3 |
| **Fish food** | 2.0 | 2.1 | 1.9 | 1.8 | 1.7 |
| **Heavy industry** | 26.2 | 26.4 | 26.8 | 27.3 | 29.0 |
| **Fuel & Power** | 3.3 | 3.3 | 3.3 | 3.3 | 3.2 |
| **Machinery** | 10.4 | 10.5 | 10.8 | 11.2 | 11.3 |
| **Chemicals** | 2.2 | 2.3 | 2.3 | 2.3 | 2.3 |
| **Pharmaceutical Products** | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| **Lumber** | 0.8 | 0.8 | 0.7 | 0.7 | 0.7 |
| **Furniture** | 2.7 | 2.7 | 2.8 | 2.9 | 3.0 |
| **Building Materials & Glassware** | 0.8 | 0.9 | 0.9 | 0.9 | 0.9 |

Source: Narodnoje Khozjaistvo SSSR v 1979, p. 138

Table 1.4. Correlation between the production of heavy (Group "A") and light (Group "B") industries, in per cent

| Year | All Industry | Group "A" | Group "B" |
|---|---|---|---|
| 1940 | 100 | 61,0 | 39,0 |
| 1945 | 100 | 74,9 | 25,1 |
| 1950 | 100 | 68,8 | 31,2 |
| 1955 | 100 | 70,5 | 29,5 |
| 1960 | 100 | 72,5 | 27,5 |
| 1965 | 100 | 74,2 | 25,9 |
| 1970 | 100 | 73,4 | 26,6 |
| 1975 | 100 | 73,7 | 26,3 |
| 1976 | 100 | 74,0 | 26,0 |
| 1977 | 100 | 73,9 | 26,1 |
| 1978 | 100 | 74,0 | 26,0 |
| 1979 | 100 | 74,0 | 26,0 |

Source: Narodnoje Khozjaistvo USSR v 1979, p. 136
(National Economy of the USSR in 1979. Statistical Yearbook. Moscow, 1980, p. 136)

the Soviet Union; in 1966-1979, 17.2 thousand types of obsolete constructions, machines, devices, instruments and other industrial items were discontinued.

Development of engineering resulted in an increased level of mechanisation in all industries. Integrated mechanisation terminates manual handling operations and heavy work during main and auxiliary technological operations. Power systems have the highest level of automation. At present, 87% of substations operate without personnel on duty during certain periods, among them 40% operate without any personnel on duty at all, they are serviced by centralized mobile maintenance teams. As of July I, 1979, the Soviet industry had 59.6 thousand items of equipment with programme control.

Construction work is becoming industrialised. Construction materials industry is no longer engaged in primary processing of raw materials; it is now an industry which supplies finished constructions and pieces. In 1960-1979, the national output of reinforced concrete increased 3.7 times. Construction with large size elements, assemblies, panels and blocks with fully assembled supporting and reverberatory structures accounted in 1979 for 39.7% of the total volume of construction and assembly work.[I/] Utilization of bonded timber products which sometimes replace reinforced concrete pieces has expanded.

The 1960s saw the introduction of new technology in textile industry: shuttleless pneumatic spinning machines and high-capacity shuttleless machines.

In the late 1970s, the Soviet industry started to shift the emphasis from quantitative to qualitative indicators. In particular,

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I/. Narodnoe khozyaistvo SSSR v 1979 godu., p. 128.

the central authorities set the task of improving the quality of industrial output. A state "Quality Sign" was adopted to be awarded to the best industrial products. Additional bonuses were paid to enterprises and their staff for products awarded the "Quality Sign". During that period, a certain decrease in the rates of growth of industrial production was made up for by the improved quality of products, including their increased reliability and service life, which helped attain the same results with a relatively smaller volume of industrial output. In the early 1980, 75.3 thousand types of industrial products had the "Quality Sign". Petrochemical, electrical and automobile industries came out on top in terms of improved quality.

Before and during the period of 1960-1980, unemployment was totally nonexistent in the Soviet Union, and the number of those engaged in industry was steadily growing. Meanwhile, during the 8th five-year planned period, 60 to 70% of all industrial capital investments were allocated not for large industrial centers but for the development of small and medium sized towns with unutilised labour reserves. Some 60% of the 1300 new industrial enterprises, whose construction started in 1966-70, were built in towns with up to 100 thousand inhabitants. Beside large enterprises, small factories and plants were built in areas where rural population prevailed. The structure of employment changed in favour of industry. In 1960, the ratio between those employed in industry and construction and those engaged in agriculture constituted 100 to 122, and in 1979, it was 100 to 54. The role of industry in the economy as a whole has noticeably increased.

Table 1.5. Industrial production.

| | unit | 1960 | 1970 | 1975 | 1976 | 1977 | 1978 | 1979 |
|---|---|---|---|---|---|---|---|---|
| Electric power | billion kwh | | 741 | 1039 | 1111 | 1150 | 1202 | 1238 |
| Petroleum, incl. gas condensate | mln. t | 148 | 353 | 491 | 520 | 546 | 572 | 586 |
| Natural gas | mln. $m^3$ | 45 | 198 | 289 | 321 | 346 | 372 | 407 |
| Coal | mln. t | 510 | 624 | 701 | 712 | 722 | 724 | 719 |
| Pig iron | mln. t | 47 | 86 | 103 | 105 | 107 | 111 | 109 |
| Steel | mln. t | 65 | 116 | 141 | 145 | 147 | 151 | 149 |
| Fertilizers | mln. t | 14 | 55 | 90 | 92 | 97 | 98 | 95 |
| Sulfuric acid | mln. t | 5 | 12 | 19 | 20 | 21 | 22 | 22 |
| Caustic soda | th. t | 704 | 1783 | 2395 | 2604 | 2658 | 2763 | 2680 |
| Rayon | th. t | 196 | 450 | 590 | 612 | 629 | 634 | 571 |
| Synthetic filament | th. t | 15 | 167 | 365 | 408 | 459 | 497 | 529 |
| Plastics | th. t | 312 | 1670 | 2838 | 3058 | 3309 | 3516 | 3478 |
| Detergents | th. t | 23 | 471 | 769 | 828 | 824 | 877 | 859 |
| Tires | mln. | | 35 | 52 | 55 | 57 | 59 | 60 |
| Protein | th. t | | 261 | 674 | 819 | 904 | 918 | 862 |
| Turbines | mln. kwt | | 16 | 19 | 20 | 19 | 18 | 20 |
| Electric motors above 100 kwt | mln. kwt | | 6 | 7 | 7.5 | 7.5 | 7.7 | 7.5 |
| less 100 kwt | mln. kwt | | 29 | 35 | 35 | 36 | 38 | 38 |
| Electric bulbs | mln. | | 1627 | 2050 | 2032 | 2080 | 2097 | 2095 |
| Machine Tools | th. | 156 | 202 | 231 | 233 | 238 | 238 | 230 |
| Looms | th. | | 20 | 31 | 31 | 25 | 21 | 22 |
| Type-setting machines | number | | 1626 | 1019 | 1094 | 1023 | 1108 | 1042 |
| Printing machines | number | | 2293 | 2017 | 1861 | 1951 | 1178 | 1121 |
| Excavators | th. | | 31 | 39 | 40 | 42 | 41 | 42 |
| Bulldozers | th. | | 34 | 51 | 49 | 52 | 45 | 45 |
| Scrapers | th. | | 10 | 15 | 14 | 13 | 12 | 12 |
| Diesel locomotives | number | | 1485 | 1375 | 1455 | 1344 | 1392 | 1335 |
| Electric locomotives | number | | 323 | 395 | 410 | 423 | 438 | 413 |
| Cars | th | 139 | 344 | 1201 | 1239 | 1280 | 1312 | 1314 |
| Lorries | th | 362 | 525 | 696 | 716 | 734 | 762 | 780 |
| Buses | th | 23 | 47 | 67 | 70 | 75 | 77 | 79 |
| Tractors | th | 239 | 459 | 550 | 562 | 569 | 576 | 557 |

cont. ...

Table 1.5 continued

| | unit | 1960 | 1970 | 1975 | 1976 | 1977 | 1978 | 1979 |
|---|---|---|---|---|---|---|---|---|
| Combines | th. | | 99 | 98 | 102 | 106 | 113 | 115 |
| Cotton Harvesters | th | | 6 | 8 | 8 | 9 | 9 | 9 |
| Timber | mln. $m^3$ | 262 | 299 | 313 | 302 | 296 | 284 | 273 |
| Plywood | th. $m^3$ | 1353 | 2045 | 2196 | 2174 | 2178 | 2122 | 1988 |
| Paper | th. t | 2334 | 4185 | 5215 | 5389 | 5459 | 5548 | 5249 |
| Cement | mln. t | 46 | 95 | 122 | 124 | 127 | 127 | 123 |
| Linoleum | mln. $m^2$ | | 57 | 72 | 79 | 83 | 85 | 88 |
| Window Glass | mln. $m^2$ | 147 | 241 | 269 | 267 | 269 | 266 | 255 |
| Cotton | th. t | | 2129 | 2649 | 2589 | 2697 | 2731 | 2500 |
| Cotton Yarn | th. t | | 1435 | 1573 | 1583 | 1597 | 1627 | 1623 |
| Wool Yarn | th. t | | 350 | 417 | 429 | 437 | 447 | 450 |
| Flax Yarn | th. t | | 252 | 260 | 268 | 269 | 268 | 245 |
| Cotton Fabrics | mln. m | | 7482 | 7810 | 7899 | 7902 | 8043 | 8027 |
| Woolen Fabrics | mln. m | | 496 | 552 | 567 | 574 | 579 | 572 |
| Flaxen Fabrics | mln. m | | 725 | 768 | 781 | 787 | 796 | 729 |
| Silk Fabrics | mln. m | | 1241 | 1517 | 1588 | 1609 | 1619 | 1615 |
| Leather Shoes | mln pairs | | 679 | 698 | 724 | 736 | 740 | 740 |
| Watches | mln. | | 22 | 31 | 33 | 35 | 37 | 39 |
| Chinaware | mln. | | 586 | 992 | 1047 | 1064 | 1082 | 1081 |
| Radio Sets | th. | | 7815 | 8376 | 8456 | 8652 | 8728 | 8452 |
| TV Sets | th. | | 6682 | 6960 | 7063 | 7073 | 7165 | 7271 |
| Tape Recorders | th. | | 1192 | 2525 | 2601 | 2601 | 2623 | 2741 |
| Refrigerators | th. | | 4140 | 5579 | 5827 | 5798 | 6069 | 5953 |
| Washing Machines | th. | | 5243 | 3286 | 3510 | 3647 | 3697 | 3661 |
| Vacuum Cleaners | th. | | 1509 | 2920 | 2661 | 2748 | 2925 | 3098 |
| Sewing Machines | th. | | 1400 | 1360 | 1358 | 1360 | 1355 | 1317 |
| Photo Cameras | th. | | 2045 | 3031 | 3245 | 3567 | 3852 | 4055 |
| Bicycles | th. | | 4443 | 5007 | 5072 | 5229 | 5414 | 5362 |
| Sugar | mln. t | | 10 | 10 | 9 | 12 | 12 | 11 |
| Meat | mln. t | | 7.1 | 9.9 | 8.4 | 9.1 | 9.6 | 9.6 |
| Fish | mln. t | | 7.8 | 10.4 | 10.5 | 9.7 | 9.2 | 9.4 |
| Butter | th. t | | 963 | 1231 | 1263 | 1408 | 1381 | 1325 |
| Oil | th. t | | 2784 | 3344 | 2775 | 2943 | 2967 | 2819 |
| Flour | mln. t | | 42 | 42 | 42 | 43 | 42 | 43 |

Source: Narodnoje Khozjaistvo SSSR v 1979, pp.168, 170, 171, 172, 176, 177, 178, 179, 181, 182, 186, 187,188, 189, 191,192, 194, 196, 198, 200,209, 210.

## I.2. The Present Status and Role of Industry in the National Economy of the Soviet Union

Today the Soviet industry is a highly developed and diversified production complex distributed over a vast territory and constituting the property of the socialist state. It comprises virtually all types of modern production, and its technical policy is based on the concern with the fastest possible scientific and technical progress and utilisation of the most recent advances in science and technology. The complex and multifarious ties between individual industries, enterprises, and industry and the rest of the national economy are maintained on a planned basis, with the state exercising the function of regulation and control. At present, industrial management is being restructured in accordance with governmental decisions taken in July 1979.

In terms of management and planning, these decisions are designed to promote not the quantitative indicators of economic growth but rather the efficiency and quality of production, attainment of high economic results and a more complete satisfaction of growing social and personal needs.[I/] In this respect, a governmental decision lays down a system of indicators and economic norms for industrial ministries, production associations and enterprises to be attained under five-year plans, with distribution by years. These indicators include: increment in rated net output (in individual industries - output of goods in comparable prices), output of major items in natural terms, increase in the productivity of labour, wage and salary rates per one rouble of output, number of industrial and office workers, assigned targets for reducing manual labour, total profits, and in some industries - re-

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I/ "Kommunist" (Communist), No. 12, 1979, p. 3.

duction in cost price, commissioning of fixed assets, industrial capacities and projects, the amount of state capital investments and construction and assembly work, assignments to introduce advanced technology and economic effectiveness of scientific and technological activities, the volume of basic material and technological resources supplied. The transition to the net output indicator takes place as relative industries get ready for it.[1/]

The Soviet industry whose major independent self-sustaining economic unit was an individual enterprise is being restructured so that productive associations could become its main productive self-sustaining unit. Such an association comprises several enterprises closely related within the context of a production cycle though situated in different regions of the country. Beside industrial enterprises, many associations include scientific and research and design institutions. The formation of production amalgamations as the basic self-sustaining industrial unit is expected to terminate within two to three years after the promulgation of the decision dated July 12, 1979.

The present status of the Soviet industry is characterised by the following main features:

1. Industry is the basis and an organic part of the whole complex of the national economy embracing all units of production and consumption.

2. Industry has attained a high level of integration generated by the established and constant cooperation between enterprises, associations and industries, inter- and intra-industrial economic ties.

1/ "Kommunist", No. 12, 1979, p. 7.

3. The territorial organisation of industry is characterised by the setting up of large territorial-industrial complexes joined together by the Integrated Power Grid of the USSR, by a system of gas supply and transport. Large territorial-industrial complexes have been created and continue to develop.

4. The present stage of industrial development is characterised by significant transformations in the location of the productive forces, by the ever growing utilisation of natural and raw material resources of the country's eastern and northern regions. This is due to the fact that the major portion of explored deposits of coal, oil and gas, and ores of ferrous and nonferrous metals, and other minerals are concentrated there.

5. The scientific and technological revolution has greatly increased and extended its impact on industrial development; ties between industry and science have consolidated. The technical level of the means of production is on the ascendancy; new industries, advanced technology and novel materials emerge, and automated control systems are extensively used.

The Soviet economic literature notes that an important feature of the present state of the Soviet industry is characterized by the fact "that, while earlier extensive factors had played a significant part in the creation of the country's industrial potential, now they are in many respects exhausted, and further growth of the national income needs to be ensured through increasing the efficiency of social production".I/

To increase the efficiency of industrial production, enterprises whose equipment does not correspond to the present level of scientific and technological development need to be retooled. Many plants were built during the first period of industrialization (the late '20s and the early '30) and the first five-year periods before

I/. "Kommunist", No. 9, p. 25.

World War II. They need to be completely renovated. Consequently, the importance of accelerated renovation of fixed assets is increasing. Connected with it is the problem of their efficiency measured by the marginal output per capital ratio in industry. As is seen from Table 1.6, this indicator went down somewhat during the last decade.

Table 1.6 Marginal output per capital ratio in industry

| | 1965 | 1970 | 1975 | 1978 |
|---|---|---|---|---|
| 1. Gross industrial output, thous. mln. roubles | 241.6 | 363.5 | 520.8 | 603.4 |
| Increment for a five-year period | 81.4 | 121.9 | 157.2 | 82.6 |
| 2. Main fixed assets, thous. mln. roubles | 168 | 255 | 385 | 479 |
| 3. Output per fixed assets, in roubles | 1.44 | 1.42 | 1.35 | 1.26 |
| 4. Depletion of fixed assets | | | | |
| a. in % | 2.1 | 1.8 | 1.5 | 1.4 |
| b. thous. mln. roubles | 3.5 | 4.6 | 5.8 | |
| c. sum total for a five-year plan | 9.0 | 17.5 | 23.0 | 17.4 |
| 5. Fixed assets carried over from the beginning of a five-year plan (line 2 - av. 4c) | 91.0 | 150.5 | 232.0 | 367.6 |
| 6. Volume of goods produced with them (line 5 x line 3), 1,000 mln roubles | 148.3 | 216.4 | 330.6 | 497.0 |
| 7. Increment in output generated by the introduction of new assets (per five-year plan) (line 1 - line 6) | 93.3 | 147.1 | 190.2 | 106.4 |
| 8. Capital investments per five-year plan, thous. mln. roubles, in 1969 prices | 89.3 | 123.1 | 173.2 | 131.0 |
| 9. Marginal output per capital ratio, in roubles (line 7 - line 8) | 1.04 | 1.39 | 1.10 | 0.81 |

From: "Istoria sotsialisticheskoy ekonomiki SSSR, vol. 7, Moscow, 1980, p. 197. (History of the Soviet Socialist Economy)

The 26th CPSU Congress, which took stock of the country's economic development in the 1970s and laid down guidelines for the economic and social development of the USSR for 1981-1985 and for the period ending in 1990, took place in February 1981. The Congress noted significant advances in all the spheres of the development of the country's material and technical base. Attention was drawn to the fact that scientific and technological progress had resulted in the continued development or creation of such modern industries as nuclear engineering (ATOMMASH, the main supplier of nuclear steam-generating installations, had started production just before the beginning of the Congress), space technology, electronics and microelectronics, microbiological industry, laser technology, production of artificial diamonds as well as novel synthetic materials. Labour productivity in the 1970s grew almost 1.5 times.

However, the Congress noted that the economic development still encountered difficulties, shortcomings and outstanding problems. All the planned targets had not been attained. Plans had not been fulfilled by every ministry and enterprise. There are still bottlenecks and disproportions in the national economy.[1/] It was also pointed out that such planned tasks as the boosting of labour productivity, accelerated development of certain branches of the national economy, and of putting an end to the scattering of capital investments had not been solved. Resources had not been always used efficiently.[2/] There were significant shortcomings in implementing the task of raising the efficiency of production and the quality of work.[3/] No small difficulties were created by the unsatisfactory work of transport.[3/]

1/ L.I. Brezhnev, Report to the Central Committee of the CPSU to the 26th Congress of the Communist Party of the Soviet Union, Documents and Resolutions, Novosti Press Agency Publishing House, Moscow, 1981, p. 47.

2/ N.A. Tikhonov, Guidelines for the Economic and Social Development of the USSR for 1981-1985 and for the period ending in 1990, op.cit., p. 112, 113

3/ Kommunist, No. 9, 1981, p. 25.

The state of industry determines its role in the economy of a country. Today, in the Soviet Union, industry determines the functioning of all the other branches of the national economy since all of them operate on industrial lines as a result of industrialisation. The material and technical base of agriculture is attaining industrial level and thus determines the crucial role of industry in the development of agriculture and the increase in agricultural output.

Table 17 contains data concerning industrialisation of Soviet agriculture in recent years and production ties between industry and agriculture. However, the real ties are much broader and more intensive than the ones shown in the Table. Many industrial enterprises create subsidiary holdings whose product is used to supply the personnel with additional food. Individual plants take state and collective farms under their patronage. During seasons of most intense farm work industrial workers contribute their labour to agricultural production.

Industrialisation of agriculture results in the growing share of work performed by specialists of industrial professions - mechanics, metal-workers, repairmen, chemists, etc.

Agrarian-industrial complexes have institutionalized the drawing together of industry and agriculture. Industrial enterprises to process farm produce are built in rural areas. Wastes from these plants (e.g. sugar-refineries) are used for livestock farming purposes.

Table 1.7. Indicators of industrial output in agriculture

I. Supplies of Machinery to Agriculture (in thousand units)

| | 1961-1965 | 1966-1970 | 1971-1975 | 1976-1978 | fleet in 1978 |
|---|---|---|---|---|---|
| Tractors | 1093 | 1467 | 1667 | 1104 | 2515 |
| Total power, mln H.P. | 54.5 | 85.7 | 116.5 | 86.2 | 179 |
| Average power of one tractor, H.P. | 49.9 | 58.4 | 69.9 | 234.2 | |
| Lorries (except special) | 354 | 579 | 919 | 575 | 1522 |
| Combines: grain-harvesting | 387 | 469 | 449 | 309 | 700 |
| maize-harvesting | 75 | 53 | 44 | 59 | 54 |
| beet-harvesting | 61 | 107 | 70 | 43 | 69 |
| ensilage-harvesting | 197 | | 299 | 152 | 281 |
| Tractor ploughs | 772 | 964 | 1046 | 561 | 1079 |
| Tractor-drawn seeders | 982 | 983 | 965 | 687 | 1327 |

II. Fixed capital and power availability per worker in agriculture

| | 1961 | 1970 | 1978 | 1978 (in % of 1961) |
|---|---|---|---|---|
| Total fixed assets, thous.mln roubles | 40.1 | 81.5 | 200 | 498.7 |
| Fixed assets per one worker, thous. roubles; | 1.7 | 3.2 | 7.9 | 464.7 |
| per 100 hectares, thous. roubles | 8.6 | 15.2 | 36.7 | 426.7 |
| Total energy, mln H.P. | 165 | 322 | 552 | 334.6 |
| per one employee, H.P. | 5.5 | 11.2 | 21.3 | 387.3 |
| per 100 hectares, H.P. | 74 | 148 | 236 | 318.9 |

III. Supplies of mineral fertilizers to agriculture

| | | | | |
|---|---|---|---|---|
| Total, mln tons | 12.1 | 45.6 | 79.0 | 652.9 |
| Per 1 hectare of tilled land, kg | 61.8 | 205.9 | 353.6 | 572.9 |

From: Istoria sotsialisticheskoy ekonomiki SSSR, vol. 7, Moscow, 1980, pp. 316, 317, 318, 320.

As a result of industrialisation of agriculture and the creation of the agrarian-industrial complex, the share of agriculture in the end product of the agrarian-industrial complex in the middle of the '70s amounted to 44.8%, capital goods industries - 28.8%, manufacturing industry - 18.3%, distribution, transport and communications - 9.1%.

Industry plays a decisive role in the implementation of the following task set forth in the Soviet Constitution: "Article 15. The supreme goal of social production under socialism is the fullest possible satisfaction of the people's growing material, and cultural and intellectual requirements".

The "B" group industries produce exclusively consumer goods. But satisfaction of people's requirements for consumer goods is also dependent on the "A" group's activities. Firstly, the "A" group produces the means of production for the "B" group industries (equipment, raw materials and other materials). Secondly, enterprises of the "A" group are starting to produce items for personal consumption. The "Uralmash" engineering works, a typical enterprise of the "A" group, provides a characteristic example of this development. This plant was built in the early 1930s as "a plant for plants". It produces heavy equipment for other engineering works, for metal-working industry, including rolling mills, as well as drilling equipment for extracting industries, and powerful excavators. Today, alongside its traditional product line the "Uralmash" produces compact washing machines for household use, sets of furniture for kitchens and summer houses, and souvenirs. The plant is getting ready to produce a light and easy to operate tractor for private orchards and vegetable gardens, compact pumps and various household items.[1/]

Industry is the main employer and source of income in the Soviet Union. According to the 1979 census, 62% of population in the Soviet Union were urbanites, and 38% lived in rural areas by contrast with 48% and 52% respectively, in 1959.[2/]

1/ "Pravda", June 28, 1981.
2/ "Pravda", April 22, 1979.

## 2. PERSPECTIVE CHANGES IN THE STRUCTURE OF INDUSTRY IN THE 1980's

### 2.I. Rates of Growth, Heavy to Light Industry Ratio, Increased Importance of New Industries Related to Scientific and Technological Progress

On March 2, I98I, the 26th CPSU Congress adopted the Guidelines for the Economic and Social Development of the USSR for I98I-I985 and for the period ending in I990. Pursuant to the Guidelines, the Government and all the planning bodies are formulating a five-year plan for the economic and social development of the USSR for I98I-I985, broken down into years. This is the Soviet Union's IIth five-year plan which stipulates the formation of major economic proportions for the whole period of the '80s. The Guidelines for the Economic and Social Development of the USSR for I98I-I985 and for the Period Ending in I990 are the fundamental document which will determine planned realization of the envisaged rates of growth of industrial production as a whole, as well as the maintenance of a new, as compared with the preceding period, heavy to light industry ratio.

A special section of the document is devoted to the tasks of developing science and accelerating technological progress. Therefore, there is an opportunity to get a more or less precise idea of the prospects of industrial development in the Soviet Union in general and in more important detail, based not on forecast and extrapolation but on officially approved documents which will determine the formulation of state plans for the whole period of the '80s.

Rates of growth. The Guidelines set the following rates of growth of industrial production in the IIth plan: 26-28% within 5 years. This means that the planned rates of growth will be higher than in the I0th planned period where they amounted to 24% within 5 years.

These average rates of industrial growth are conditioned by the main task of the IIth five-year planned period:"The cardinal aim that the Party is setting for the eleventh five-year period is to ensure a further rise of the Soviet people's living standards through steady, continuing economic development, accelerated scientific and technological progress, the economy's transition to intensive development, a more rational utilisation of the country's production potential, the maximum saving of all kinds of resources, and an improvement of the quality of work".[I/]

To ensure proportional economic development and the continuity of the process of social reproduction, the above-mentioned average rates of industrial growth are geared to corresponding rates of growth in related branches of the national economy (freight by rail, capital investments, state and cooperative retail trade). The appropriate data are shown in Table 2.I.

Table 2.1. Growth of selected important sectors of the economy of the years 1976-85

| | Growth in I976-I980 (per cent) | Growth for I98I-I985 (per cent) |
|---|---|---|
| Industrial output | 24 | 26-28 |
| of which: | | |
| Group A | 26 | 26-28 |
| Group B | 2I | 27-29 |
| Agricultural production | 9 | I2-I4 |
| Freight carried by rail | 6 | I4-I5 |
| Capital investments | 29 | I2-I5 |
| State and cooperative retail trade | 24 | 22-25 |

From: N.A. Tikhonov., Guidelines for the Economic and Social Development of the USSR for I98I-I985 and for the Period Ending in I990., Novosti Press Agency Publishing House, Moscow, I98I, p. II4

The heavy to light industry ratio. During the entire preceding period, industrial development in the Soviet Union was based on the principle of the priority growth of heavy industry as compared with light industry. In particular, in the 10th five-year period, the "A" group's output increased by 26%, while that of the "B" group only by 21%. The higher rates of growth of the "B" group's output, as compared to group "A", will be a fundamentally new feature of the 11th five-year planned period.

In the eleventh five-year period it is planned to increase output of consumer goods as follows (See Table 2.2):

Table 2.2. Growth of output in the "B" group industries

| | Unit of measurement | 1980 | 1985 | Increase in 1981-1985 (per cent) |
|---|---|---|---|---|
| Output of food industries, | 1,000 mln roubles | 100 | 123-126 | 23-26 |
| of which: | | | | |
| - meat | million tons | 8.3 | 11.1 | 34 |
| - milk products | million tons | 24.87 | 28.3 | 14 |
| Output of light industry, | 1,000 mln roubles | 100 | 118-120 | 18-20 |
| of which: | | | | |
| - fabrics | 1,000 mln sq. m | 10.7 | 12.7 | 19 |
| - knitted goods | mln pieces | 1,662 | 2,060 | 27 |
| - leather footwear | mln pairs | 744.3 | 830 | 11.5 |
| Recreational and household goods | 1,000 mln roubles | 43.5 | 61.0 | growth of no less than 1.4 times |

From: N.A. Tikhonov., Guidelines for the Economic and Social Development of the USSR for 1981-1985 and for the Period Ending in 1990, Moscow, Novosti Press Agency Publishing House, 1981, p. 125.

It is planned to put local resources to better use to increase the production of consumer goods. To this end, the growth of local industries' production should be increased approximately I.4 times.

The "A" group industries will have to meet greater targets in terms of recreational and household goods production: radio industry - I.7-I.9 times; communications industry - I.5-I.8 times; electronics - I.8-I.9 times; chemical industry - I.4-I.6 times; aviation, automobile, ferrous metallurgy, light and food engineering, and electric industry - I.4-I.5 times; production of instruments and construction materials industry - I.3-I.4 times; timber, pulp-and-paper and timber processing industries - I.2-I.3 times.

Development of science and acceleration of technological progress. In the IIth five-year period, it is planned to achieve at least an 85 to 90% increase in the national income through a greater productivity of labour which is to increase by I7 to 20%. This increase can be ensured primarily by accelerated technological progress in industry. To this end, an integrated programme for scientific and technological progress and task programmes to solve the most important scientific and technological problems are being elaborated. In the I980s, it is envisaged to increase production of instruments, equipment, automation facilities, reagents and preparations for scientific research. Scientific and technological advances in industry will contribute to the development and application of automatic manipulators (industrial robots), built-in automatic control systems on microprocessors and minicomputers, to the creation of automated shops and plants. Per unit power of machines and equipment will be increased within optimal limits with a simultaneous decrease in their dimensions, consumption of metal and power, and a decrease in price per unit o

end positive effect. It is envisaged to develop multifunctional machines and equipment which could be readjusted to change technological processes, types of products and operations performed.

2.2 Changes in Structure of Industrial Output per Branches of Economy and in Individual Industries

The 1980s will see changes both in the proportion of individual industries and within these industries in accordance with general economic tasks and appropriate measures to solve them, stipulated in the Guidelines for the Economic and Social Development of the USSR for 1981-1985 and for the Period Ending in 1990.

Continued development is planned for such basic industries which play a decisive part in the attainment of the end results of the economy as a whole: the electric-power, metallurgical, chemical, and engineering industries. The growth of output of the key items in the basic industries provided for in the eleventh five-year period is shown by the following figures (See Table 2.3).

Table 2.3. Output of selected industrial products

| | Unit of measurement | 1980 | 1985 | Increase in 1981-1985 (per cent) |
|---|---|---|---|---|
| Electric power | 1,000 mln kWh | 1,295 | 1,550-1,600 | 20-24 |
| Oil (incl. gas condensate) | million tons | 603 | 620-645 | 3-7 |
| Gas | 1,000 mln $m^3$ | 435 | 600-645 | 38-47 |
| Coal | million tons | 716 | 770-800 | 7-12 |
| Rolled steel | million tons | 103 | 117-120 | 14-17 |
| Machinery | 1,000 mln roubles | 179 | 250 | in 1.4 times |
| Mineral fertilizer | million tons | 104 | 150-155 | 44-49 |

cont ...

Table 2.3 continued

| | | | | |
|---|---|---|---|---|
| Synthetic resins and plastics | million tons | 3.64 | 6-6.25 | 65-72 |
| Chemical fibre and thread | thousand tons | I,I76 | I,600 | 36 |
| Cement | million tons | I24 | I40-I42 | I3-I5 |

From: N.A.Tikhonov, Guidelines for the Economic and Social Development of the USSR for I98I-I985 and for the Period Ending in I990, Moscow, Novosti Press Agency Publishing House, I98I, p. I26.

As can be seen, the planned increase in production even in the basic industries is far from being proportional - the gap in the rates of growth is very wide: 3 to 7% in oil industry, 7 to I2% in coal industry, and up to 65 to 72% in the production of synthetic resins and plastics. But the general trend is clear: greater growth in the production of consumer goods as compared with the production of intermediate items, to say nothing of raw materials (raw materials, fuel, energy). Industry is oriented on a more economical use of fuel and raw materials resources. For instance, improved designs of metal-working machines and technologies, more extensive application of chemical and other construction materials will account for the saving of 8 million tons of rolled steel in engineering and 2 million tons of rolled steel in construction work by I985. Another distinctive feature is the accelerated industrial production in order to increase labour productivity by comparison with the preceding period. In I98I-I985, labour productivity in industry should increase by 23-25% compared with I7% in I976-I980, in agriculture - by 22-24% compared to I5%, in construction - by I5-I7% compared to II%.

In the planned period, individual industries of greater importance will be characterized by the following decisive trends.

Oil and oil-processing industry. Extensive application of industrial construction techniques, modular equipment, more extensive use of new techniques to influence oil-bearing layers in order to increase the amount of oil extracted. By 1985, it is planned to increase the share of oil extracted at integrally automated oil fields up to 85-90%. Aromatic hydrocarbons, liquid paraffins, ethylene and oil electrode coke will be produced in large quantities. The quality of oil products will be raised, and their grading will become uniform.

Coal industry. The emphasis will be placed on the increased extraction of coal in open-cut pits with machines with high per unit power. Hydraulic extraction will be more widely used in mines, as well as hauling coal by pipelines. The development of highly efficient equipment for coal extraction under complex geological conditions and automated means of extraction which do not necessitate the presence of personnel in working faces is being accelerated.

Ferrous metallurgy. The main emphasis is not placed on the quantity but on a drastic improvement in the quality and an increase in the number of effective types of metal products. Thus, while in 1981-1985 production of cold rolled sheets will increase by 14-17%, rolled stock with reinforcing thermal processing and of low alloyed steels, sheets and tin (including the thinnest grades) with protective surfaces, and other new and progressive grades of rolled stock will increase 1.5-2.2 times. Special attention is paid to the development and increased production of special materials for nuclear power engineering, and items with a higher resistance to wear, corrosion and an increased service life. Metal powder metallurgy will increase its output 3 times. Continuous casting machines will produce 35-37 million tons of steel.

Non-ferrous metallurgy. Novel techniques such as autogenous welding, hydrometallurgical, microbiological and others are introduced at an accelerated pace. Production will increase in the following way: aluminum - by 15 to 20%, copper - 20 to 25%, nickel - 1.3 times; significant increases are expected in the production of zinc, lead, titanium, manganese, tungsten and molibdenic concentrates, niobium and other alloying elements. Production of super pure and special materials will develop at priority rates.

Chemical and petrochemical industries. Output will increase by 30 to 33%. The range of mineral fertilizers is expanded. Beginning with 1985, potassium fertilizers will be supplied only as granules and large crystals. Production of synthetic rubber which replaces natural rubber will go up. Production of high-quality polymeres with predetermined parameters is developing.

Engineering and metal-working. Main areas of development: serial production of new constructions, automatic facilities, energy and material saving technology; improvements in the technological level and quality of products, economising potential, reliability and long service life of equipment; increased production of machines with automatic manipulators and programme control systems which preclude manual unqualified labour, especially under arduous and harmful conditions; unification of pieces, units and technological processes.

Power engineering. To produce 1-1.5 million kW nuclear reactors, 500-800 thousand kw units for steam electric stations, 100 atmosphere gas pumping facilities for trunk gas pipelines, 1150 kV AC and 1500 kV DC electrical equipment, powerful electric locomotives, steel-making furnaces with up to a 200 ton capacity, and other

highly efficient types of electric equipment.

Transport engineering. Production is growing in the following areas: high-performance diesel engines, special vehicles for railways and highways equipped with handling facilities and designed for hauling specific cargo: livestock, fowl, live fish, perishable goods, oil products, etc.

Agricultural machinery. There will be increases in the production of powerful tractors and sets of implements as well as special anti-erosion machinery, machines for vegetable and fruit farming, vinegrowing and production of medicinal crops. New types of equipment for livestock and fowl breeding, fresh water fishing, fish breeding as well as for primary processing and storage of perishable foodstuffs, including milk products, will be developed and introduced.

Other branches of engineering. It is planned to develop new high performance machines for integrated mechanisation of all stages of construction, including construction under operational conditions. Highly efficient machines for light and food industries, including production of foodstuffs with long storage life, must be developed and introduced. In textile industry - shuttleless spinning machines, machines for producing non-spinned materials, etc.

Construction materials industry. In 1981-1985, total production will increase by 17-19%. Special grades of cement as well as construction materials made of industrial wastes - ash and slags from steam electric stations, metallurgical slags and wastes from coal-dressing factories and chemical plants, are produced on an ever growing scale. The same is true of progressive reinforced concrete, metallic and timber pieces.

Timber processing and pulp-and-paper industries. Output will increase by 17-19%. It is envisaged to make processing operations

more comprehensive.

2.3 Geographical location policy in the industry of the USSR

The Guidelines for the Economic and Social Development of the USSR for 1981-1985 and for the Period Ending in 1990 contain a special section on location of the productive forces which is marked by certain changes in the regional structure of industry. The Soviet industry is located in a planned manner, and its territorial structure is the result of a deliberate policy aimed at the implementation of both economic and social tasks. In the 1980s, the following main factors will affect the distribution of industry:

1. Improvements in the location of the productive forces designed to raise the efficiency of social production through continued specialisation and proportional development of the economies of the Union republics and economic regions within the country's single economic complex.

2. The development of natural resources and fuel and power and raw materials bases in Siberia and Kazakhstan.

3. Fuller utilisation of manpower resources in the Central Asian republics. Economic planning in the Soviet Union is aimed, inter alia, at ensuring full employment and preventing the recurrence of unemployment completely eliminated in this country more than 50 years ago. The implementation of this task is closely related to the planned changes in the location of industry since demographic processes in the Soviet Union are characterised by great territorial diversity. The last, 1979 census shows that while the average growth of population over a ten-year period (1970-1979) amounted to 9%, it varied in individual Union republics between 6% and 30-31% (See Table 2.4). This accounts for a deficit in some republics and surpluss manpower entailing the need for new jobs in others.

Table 2.4. Changes in the Population Size of Union Republics

| | Population size (thous. people) | | 1979 in % as against 1970 |
|---|---|---|---|
| | as of 15.1.1970 | as of 15.1.1979 | |
| USSR | 241,720 | 262,442 | 109 |
| Russian Federation | 130,079 | 137,552 | 106 |
| Ukrainian SSR | 47,126 | 49,757 | 106 |
| Byelorussian SSR | 9,002 | 9,559 | 106 |
| Uzbek SSR | 11,799 | 15,391 | 130 |
| Kazakh SSR | 13,009 | 14,685 | 113 |
| Georgian SSR | 4,686 | 5,016 | 107 |
| Azerbaijan SSR | 5,117 | 6,028 | 118 |
| Lithuanian SSR | 3,128 | 3,399 | 109 |
| Moldavian SSR | 3,569 | 3,948 | 111 |
| Latvian SSR | 2,364 | 2,521 | 107 |
| Kirghiz SSR | 2,934 | 3,529 | 120 |
| Tajik SSR | 2,900 | 3,801 | 131 |
| Armenian SSR | 2,492 | 3,031 | 122 |
| Turkmen SSR | 2,150 | 2,759 | 128 |
| Estonian SSR | 1,356 | 1,466 | 108 |

From: Communication of the USSR Central Statistical Office on the Preliminary Results of the 1979 All-Union Population Census, "Pravda", April 22, 1979, p. 4.

On the one hand, sizable manpower resources are concentrated in geographically small republics of Central Asia where no large mineral deposits are available, and, on the other, vast areas of Eastern Siberia, with largest raw material, fuel and

energy resources. are practically unpopulated. Such situation brings about a complex problem of territorial distribution of industry: establishing industrial production capacity in areas of concentrated manpower resources along with parallel massive transfer of labour to new areas of economic activity, and concomitant limitation of new industrial construction in traditional areas of industrial concentration.

Proceeding from the above-mentioned and other considerations, it is envisaged for the 80s to improve the location of productive forces, ameliorate the territorial division of labour, increase the contribution of each Union republic to implementing national objectives, pursue a consistent policy of limiting the growth of big cities, developing small and medium-size towns and establishing there specialized high-capacity industries, as well as subsidiaries of enterprises and associations. It is necessary to achieve an adequate degree of coordination between the individual industries' decisions and local needs. Current processes of economic integration lead to establishing inter-branch territorial-industrial complexes, being of particular importance in terms of approving present national plans of economic development. It is also envisaged to draw up long-term plans of economic and social development, as well as an integrated programme of scientific and technological progress for 20 years with guidelines for 10 years, broken down over five-year periods.

The Soviet planning experience in the field of regional location of national economy shows that the development of a territory, based on a well-considered scheme or project of area planning, permits a 10-15% saving in capital investments in industry, agriculture and town-planning.

Specific changes in the location of industry, caused by the development of related economic branches, are channelled along the following lines: a more effective use of labour and natural resources along with industrial capacities, accelerated development of light industry and mechanical engineering in the Central Asia's republics; continued development of industry in the European part and the Urals to be realized primarily on the basis of better use of available industrial potential, reconstruction and technical modernization of existing enterprises with no additional manpower; as a rule, no new power- and water-consuming industrial production to be located, or the existing ones to be expanded, in the European regions; nuclear power engineering to be extensively developed; the development of hydropower resources of North Caucasus and Trans-Caucasus to be continued; the Smolensk, Kalinin and Kursk nuclear power stations to be commissioned before 1985.

In Siberia it is planned to accelerate the growth of fuel industry, electric power engineering, ferrous metallurgy, chemical, petrochemical, timber, pulp-and-paper, wood working and microbiological industries, as well as construction industry.

The establishment of industry in new areas of economic development will take place not in the form of constructing individual enterprises, as happened before, but through establishing territorial-industrial complexes, combining a coordinated development of related branches, agriculture included, along with treating social objectives of better living standards.

Among new territorial-industrial complexes one may particularly mention such as the Timano-Pechorsk territorial-industrial complex (European part's north-east), based on fuel/energy,

ore and forest resources of the Komi Autonomous SSR and the Nenets autonomous region. A particular emphasis is made on the increased production of paper.

The territorial-industrial complex of the Kursk magnetic anomaly specializes in metallurgy. The first section of the Oskolsk electrometallurgical plant will be put into service before 1985.

Automotive, tractor and other types of engineering industries will continue to develop around the Volga river, with new capacities being installed at the Cheboksary and Nizhnekamsk hydroelectric stations, as well as the Balakovo nuclear power station.

Other major new industrial projects in the European part of the USSR include, in particular, the Rostov nuclear power station and "Atommash", a manufacturer of nuclear steam-generating installations, as well as new capacities in Rostov and Taganrog for producing modern grain harvesters.

The output of oil in the West Siberian territorial-industrial complex will reach 385-395 mln tons by 1985, industrial capacities will be put into service at the Tobolsk petrochemical plant, the Tomsk chemical plant, and a plant for chemical and petroleum processing equipment is planned to be constructed, as well as a new Surgut-Urengoi railroad.

The Kansk-Achinsk territorial-industrial complex will continue to be developed, increasing the open-cast mining of coal. It is also planned to build there a Krasnoyarsk plant for heavy excavators and the Beryozovsk thermal power station.

In the Sayany territorial-industrial complex it is envisaged to complete the construction of the Sayano-Shushenskaya

hydroelectric station, the Abakan car-building plant and the Sayany aluminium plant, as well as electrotechnical plants in the city of Minusinsk.

Large-scale arrangements are planned in terms of developing vast regions of Eastern Siberia and establishing new industrialized areas along the more than 3,500 km-long Baikal-Amur Railway to be completed in the period of 1981-1985, including the output of copper ore and copper smelting on the basis of the Udokan copper ore deposit, the production of black coal and construction of big Nerungrinsk thermal power station, as well as the development of iron ore deposit in Southern Yakutia, etc.

In the Pavlodar-Ekibastuz territorial-industrial complex it is envisaged to increase the output of black coal, production of alumina, construction of big thermal power stations of 4 mln kw capacity, oil-refining plant, reconstruction of the Pavlodar tractor plant.

In the South-Tajik territorial-industrial complex it is planned to continue the construction of the Yavansk electrochemical plant, aluminium plant, hydroelectric stations at mountain rivers. The Dushanbe cotton mill and the Leninabad silk-weaving factory will be subject to technical modernization.

2.4. Planned changes in the structure of industrial employment, capital investments and production funds.

The above-indicated trends in long-term development of Soviet industry during the '80s also account for planned changes in the structure of industrial employment. In this context two aspects are considered as initial factors. First -- the necessity of solving social tasks in terms of ensuring the continued growth

of the Soviet people's well-being, meaning in all cases better working conditions in industry, facilitation of labour, use of machines instead of hard and monotonous manual operations, increased general educational and cultural level of workers. Second -- the prospect of a decreased growth of labour resources, caused by specific demographic features of the previous and present periods, thus urgently necessitating a replacement of low-productive manual labour by high-productive industrial processes based on new technology.

In this context it is necessary, as stated by L.I. Brezhnev, President of the Presidium of the USSR Supreme Soviet at the 26th Congress of the CPSU, to succeed in "eliminating manual, low-skilled and hard physical labour", still involving millions of people. It is stressed that this task is not only of economic but also of social nature.

This problem will be concurrently solved in two ways. First of all a material foundation to replace the manual labour by machines has to be established, i.e. the development and large-scale production of adequate new machines and equipment. These plans for the '80s have been mentioned above. Second -- professional training of workers that are capable of handling such new machines and equipment. Current plans in this field provide for the continued development of national system of national training institutions, being a major source of manpower supply for national economy, so that up to 13 mln skilled workers are trained in them for the period of 1981-1985, and the number of vocational school graduates, having full secondary education, to increase by 1.6 times.

Moreover, on-site training of personnel and skill upgrading will continue to be also practised.

About 10 mln high-skilled specialists, having higher (university) and secondary special (technical schools) education, will be trained over the five-year period.

A replacement of manual labour by high-efficiency machines, higher professional level and better use of manpower should lead to labour productivity increase, amounting to 17-20% in national economy and 23-25% in industry as against 17% for the five preceding years. Increased labour productivity will account for not less than 85-90% of the entire increment of national income.

The increased level of mechanisation alone in material-handling, handling and storage operations will make it possible by 1985 to save the labour of 1.5-2 mln people, thus shifting them to the sphere of machine-operated production.

Planned capital investments are mostly characterized by sizable decrease in the growth rate as against the previous five-year period. For 1981-1985 this rate is planned to be 12-15% as against 29% in the period of 1976-1980.
The return on these capital investments is largely increased, with the marginal ratio output/capital for the next five years being twice as favourable as in the previous five years (see Table 2.5).

Table 2.5. Marginal output/capital ratio in industry

| | Increment for 1976-1980, 81-85 | |
|---|---|---|
| Industrial output | 24 | 26-28 |
| Capital investments | 29 | 12-15 |
| Ratio of industrial output increment to capital investment growth | 0.8 | 2.2-1.9 |

From: N.A. Tikhonov, Guidelines for the Economic and Social Development of the USSR for 1981-1985 and for the Period Ending in 1990, Novosti Press Agency, Moscow, 1981, p. 16.

This result will signify increased production efficiency, being a vital economic and political objective for the forthcoming period. N.A. Tikhonov, Chairman of the USSR Council of Ministers, stated at the 26th Congress of the CPSU that "In the 1980s we have to complete the switchover of the economy to intensification, implement new measures to further improve the efficiency of socialist production..." (Ibid., p. 24).

One of the key problems of the new five-year plan is to make a fuller and more effective use of fixed production assets. Presently the equipment in use often operates at less than full capacity while in the engineering industry the shift index of metal-working equipment constitutes 1.35.

More vigorous action will be taken to prevent the dispersal of capital investments, concentrating them in the most important sectors, particularly in projects due for completion. The duration of new project construction will be shortened.

More funds out of the sum total of industrial capital investments will be channeled not for new construction but for reconstruction and technical modernization of existing enterprises. The funds, allocated for those purposes, are, on the average, recouped three times faster than in establishing similar production capacities through new construction. The rate of machinery renewal is to be increased by about 1.5 times.

Important changes in the structure of capital investments also include their regearing to perfect the "top tiers" of

corresponding industries: what is known as the fourth process stage in steel making, finishing work in construction, and the final operations in the light industry.

The main strategic direction of the new five-year plan in the field of fixed production assets is to accelerate the technical modernization of production, striving for the fastest possible development and universal introduction of fundamentally new machinery and materials, as well as the large-scale use of highly efficient energy- and material-saving technology.

New industrial technology is now faced with the problem of the environmental protection. An important role in this context will be assumed by closed-cycle processes, currently recommended for extensive industrial use.

A new element in implementing the tasks of industrial development is the inclusion for the first time in the 11th five-year plan of over 15 special-purpose comprehensive programmes on such problems as food, fuel and energy, development of production of consumer goods, reduction of manual operations, integrated use of material resources, development of transport, engineering, etc..

## 3. TRADE IN MANUFACTURES AND DEVELOPMENT OF CO-OPERATION IN THE EIGHTIES

### 3.1. Development of Soviet industrial structure and world market; problems of continued specialization and intra-branch cooperation with the CMEA countries

The Soviet economy of the past decades has been characterised by increasing Soviet involvement in international division of labour. This is evidenced by considerable priority rate of

Soviet foreign trade development as against the rate of growth in the sphere of material production. In 1960–1980 it resulted in a sizable growth of export to the USSR's national income ratio (See Table 3.1).

Table 3.1.
Dynamics of National Income, Gross Output of Industrial Production and Soviet Exports in 1960–1980 (in prices for corresponding years)

| | 1960 | 1965 | 1970 | 1975 | 1980 |
|---|---|---|---|---|---|
| 1. Generated national income, thous.mln rbls | 145.0 | 193.5 | 289.9 | 363.9 | 458.5 |
| Rates of growth for 5 years, % | | 133 | 150 | 125 | 126 |
| 2. Total output of industrial production, in wholesale prices of enterprises, thous.mln rbls | 157.4 | 229.4 | 374.3 | 511.2 | 615 |
| Rates of growth for 5 years, % | | 146 | 163 | 137 | 120 |
| Exports, thous.mln rbls | 5.0 | 7.4 | 11.5 | 24.0 | 49.7 |
| Rates of growth for 5 years, % | | 147 | 157 | 209 | 207 |

Compiled by: "USSR in Figures in 1980", Moscow, 1981, pp. 93, 169; "The National Economy of the USSR in 1970", Moscow, 1971, p. 533, 129; "The National Economy of the USSR in 1979", Moscow, 1980, pp. 135, 405, 567; "Soviet Foreign Trade in 1980", Moscow, 1981, p. 8.

Particularly fast growth rates of foreign trade in the '80s are partially accounted for by increased world prices, first of all of fuel and raw materials. Nevertheless, the same period was

also characterised by a considerable increase in the volume of foreign trade turnover -- by 4 times over 20 years, and almost by 2 times during the '70s (See Table 3.2.)

Table 3.2. Volume Index of Soviet Foreign Trade (in comparable prices), 1970 = 100

| | 1960 | 1970 | 1975 | 1980 |
|---|---|---|---|---|
| Turnover | 48 | 100 | 157 | 188 |
| Exports | 41 | 100 | 141 | 162 |
| Imports | 55 | 100 | 174 | 217 |

From "Soviet Foreign Trade in 1980", Moscow, 1981, p. 16.

Major internal factors, accounting for growing Soviet participation in international division of labour, are as follows:

- huge natural resources;
- developed modern industry, producing one-fifth of world output[1];
- powerful national scientific and technological potential, incorporating an extensive network of modern research institutions and one-fourth of all the world's researchers[2];

At present the USSR is the biggest producer of oil, coke, iron ore, pig iron, steel, mineral fertilizers, tractors, diesel and electric locomotives, cement, saw timber, wool fabrics, leather shoe-wear (1st place in the world), gas, marketable coal, electric power, chemical products (2nd place), and other industrial goods.[3]

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[1] "The National Economy of the USSR in 1979", p. 65.
[2] Ibid., p. 107.
[3] "USSR in Figures in 1980", pp. 62-63.

The USSR, disposing of large mineral and other resources, is capable of expanding exports through developing the mining, petroleum, gas, oil-refining, forest and timber-processing industries, taking into account the demand for corresponding products at external markets. At the same time, a high level of engineering, science and technology makes it possible to permanently increase the exporting of complex industrial equipment, various types of machines and other industrial products, taking, in so doing, the advantage of international specialization and cooperation. Such combination of factors contributes to a certain stability of Soviet export structure (See Table 3.3.) maintaining a high share of fuel and other commodities, as well as stability of USSR's national economy as a whole, and its growth rates, also in terms of external markets.

The analysis of export commodity structure in current prices for 1970-1979 reveals an increase in the share of fuel/energy and other commodities (except for food raw produce) from 45.1% to 57.4%, with a decreased share of machines and equipment from 21.5% to 17.5%, chemical products from 3.5% to 2.9%. However, these structural changes were primarily related to the changes in price proportions for individual commodity groups. The calculation in comparable prices proves an opposite trend -- the reduction of the share of fuel and other commodities for the same period down to 38.6% and higher share of machines and equipment up to 26.3%, chemical products -- up to 4.1% (See Table 3.4.).

Table 3.3 Soviet Export and Import Structure (including re-exportation)
(in percentage)

| | 1940 | 1960 | 1965 | 1970 | 1975 | 1979 | 1980 |
|---|---|---|---|---|---|---|---|
| Total exports, | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| of which: | | | | | | | |
| Machinery, equipment and transportation means | 2.0 | 20.5 | 20.0 | 21.5 | 18.7 | 17.5 | 15.8 |
| Fuel and electric power | 13.2 | 16.2 | 17.2 | 15.6 | 31.4 | 42.2 | 46.9 |
| Ores and concentrates, metals and metal products | 4.1 | 20.4 | 21.6 | 19.6 | 14.3 | 9.1 | 8.8 |
| Chemical products, fertilizers, rubber | 3.0 | 3.5 | 3.6 | 3.5 | 3.5 | 2.9 | 3.3 |
| Timber, pulp-and-paper products | 6.4 | 5.5 | 7.3 | 6.5 | 5.7 | 4.1 | 4.1 |
| Textile raw materials and semi-manufactures | 18.1 | 6.4 | 5.1 | 3.4 | 2.9 | 2.0 | 1.9 |
| Food stuffs and raw produce for them | 27.7 | 13.1 | 8.4 | 8.4 | 4.8 | 2.6 | 1.9 |
| Industrial consumer goods | 7.8 | 2.9 | 2.4 | 2.7 | 3.1 | 2.3 | 2.5 |
| Total imports, | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| of which: | | | | | | | |
| Machinery, equipment and transportation means | 32.4 | 29.8 | 33.4 | 35.5 | 33.9 | 38.0 | 33.9 |
| Fuel and electric power | 6.5 | 4.2 | 2.5 | 2.0 | 3.9 | 3.8 | 3.0 |
| Ores and concentrates, metals and metal products | 26.6 | 16.8 | 9.8 | 9.6 | 11.6 | 11.2 | 10.[illegible] |
| Chemical products, fertilizers, rubber | 4.3 | 6.0 | 6.2 | 5.7 | 4.7 | 4.7 | 5.3 |
| Timber, pulp-and-paper products | 2.6 | 1 | 1.9 | 2.1 | 2.2 | 1.5 | 2.0 |
| Textile raw materials and semi-manufactures | 6.7 | 6.5 | 4.4 | 4.8 | 2.4 | 1.9 | 2.2 |

.. cont.

.. Table 3.3 continued

| | 1940 | 1960 | 1965 | 1970 | 1975 | 1979 | 1980 |
|---|---|---|---|---|---|---|---|
| Food stuffs and raw produce for them | 14.9 | 12.1 | 20.2 | 15.9 | 23.0 | 21.9 | 24.2 |
| Industrial consumer goods | 1.4 | 17.2 | 14.2 | 18.3 | 12.9 | 11.4 | 12.1 |

From "The National Economy of the USSR in 1979", p. 569;

"Soviet Foreign Trade in 1965", p. 19;

"Soviet Foreign Trade in 1980", p. 18.

Table 3.4. Soviet Export Structure in 1970-1979 (in %), in constant prices (1970 = 100)

| | 1970 | 1975 | 1976 | 1977 | 1978 | 1979 |
|---|---|---|---|---|---|---|
| Total exports, | 100 | 100 | 100 | 100 | 100 | 100 |
| of which: | | | | | | |
| Machinery, equipment and transportation means | 21.5 | 24.7 | 24.9 | 24.7 | 26.0 | 26.3 |
| Fuel and electric power | 15.6 | 17.6 | 18.6 | 18.4 | 18.2 | 18.4 |
| Ores and concentrates, metals and metal products | 19.6 | 15.9 | 15.7 | 14.1 | 13.4 | 13.1 |
| Chemical products, fertilizers, rubber | 3.5 | 3.8 | 3.6 | 3.6 | 3.9 | 4.1 |
| Timber, pulp-and-paper products | 6.5 | 5.5 | 5.4 | 5.0 | 4.8 | 4.3 |
| Textile raw materials and semi-manufactures | 3.4 | 3.5 | 3.5 | 3.6 | 3.1 | 2.8 |
| Food stuffs and raw produce for them | 8.4 | 5.0 | 3.4 | 3.8 | 3.0 | 3.5 |
| Industrial products | 2.7 | 4.2 | 4.1 | 3.6 | 3.8 | 3.2 |

From "Foreign Trade", 1981, No. 3, p. 30.

The analysis of Soviet export structure for 1970 and 1979 in constant prices shows that most sizable growth accounts for the share of machines and equipment, industrial consumer goods, chemical products, as well as fuel and electric power. The trend of priority growth in exports of industrial manufactures, primarily machines and equipment, will, undoubtedly, be substantially accelerated during the '80s. This will be facilitated not only by factors, related to a speedy development of engineering under deepening international specialization and cooperation, but also first, the maintenance in the '80s of more stable

price proportions for products of various groups; second, the increasing costs in the USSR for mining minerals, in particular oil and iron ore, making it economically pointless to continue an extensive present rate of production of some minerals and necessitating a more effective use of available huge potential.[1]

Thus, the dynamics of Soviet exports in the 80s will be dependent upon an increased share of process industry products, first of all engineering, with high share of raw materials being maintained.

The Soviet imports are characterised by a dominant share of engineering products (with its share being kept at about a pre-war level) that is quite natural for the biggest supplier of fuel, energy and raw materials to world market. The fast growth rates of foreign trade turnover would be practically impossible otherwise. In the mid-70s the import share of Soviet capital investments in machines and equipment amounted to about 16-18% (in the FRG, Britain, France this indicator was 1.5-2 times higher).[2] At the same time, about two-thirds of imported machines and equipment originate from socialist countries. Particularly fast rates (twice as average) over the

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[1] Thus, the cost of output of a ton of oil in the USSR in 1976-1980 was over two times higher than before 1972. "World Economy and International Relations", 1981, No. 9, p. 22.

[2] "History of Soviet Socialist Economy", Vol. 7, Soviet Economy under Developed Socialism (1960-1970). Moscow, 1980, p. 664.

past years have been characteristic for mutual supplies of specialized products to be increasingly developed in the forthcoming years. Thus, in the 80s the Soviet imports will continue to be characterized by a dominant share of machines and equipment, with a sizable proportion of industrial consumer goods being maintained.

Even today the above-indicated trends are clearly manifested in Soviet economic relations with the CMEA countries, whose share in Soviet foreign trade turnover constitutes about 1/2 (see Table 3.5.).

One of CMEA's distinguishing features, making it different from other economic associations, including the EEC, consists in that an overwhelming part of socialist community requirements in fuel and raw materials is met by reciprocal supplies. Thus, in 1979 their share amounted to 90% in the CMEA's imports of black coal, coke, moulded brown coal, about 70% -- in oil, iron ore, fertilizers.[1]

It was exactly the USSR that -- due to availability of natural resources and its internationalist stance - assumed the function of major producer and exporter of fuel, industrial commodities, and metals to the CMEA international market. In 1961-1977 Soviet supplies of these products to other CMEA countries have grown by 7.4 times, thus making it possible to meet the import needs of these countries by almost 70%. The Soviet share in supply of several raw materials and fuels reaches 90-100%.

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[1] O.T. Bogomolov. "Socialist Countries in International Division of Labour." Moscow, 1980, p. 250.

Table 3.5. Soviet Foreign Trade Turnover by Groups of Countries

| | 1970 | | 1975 | | 1978 | | 1979 | | 1980 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | thous.mln roubl. | % | thous.mln roubl. | % | thous.mln roubl. | % | thous.mln roubl. | % | thous.mln roubl. | % |
| Total | | | | | | | | | | |
| Turnover | 22.1 | 100 | 50.7 | 100 | 70.2 | 100 | 80.3 | 100 | 94.1 | 100 |
| Export | 11.5 | 100 | 24.0 | 100 | 35.7 | 100 | 42.4 | 100 | 49.6 | 100 |
| Import | 10.6 | 100 | 26.7 | 100 | 34.5 | 100 | 37.9 | 100 | 44.5 | 100 |
| Socialist countries | | | | | | | | | | |
| Turnover | 14.4 | 65.2 | 28.6 | 56.4 | 42.0 | 59.8 | 45.1 | 56.2 | 50.6 | 53.8 |
| Export | 7.5 | 65.2 | 14.6 | 60.8 | 21.3 | 59.7 | 23.6 | 55.7 | 26.9 | 54.2 |
| Import | 6.9 | 65.1 | 14.0 | 52.4 | 20.7 | 60.0 | 21.5 | 56.7 | 23.7 | 53.3 |
| of which: CMEA countries | | | | | | | | | | |
| Turnover | 12.3 | 55.7 | 26.3 | 51.9 | 39.1 | 55.7 | 41.6 | 51.8 | 45.7 | 48.6 |
| Export | 6.3 | 54.8 | 13.4 | 55.8 | 19.8 | 55.5 | 21.7 | 51.2 | 24.3 | 49.0 |
| Import | 6.0 | 56.6 | 12.9 | 48.3 | 19.3 | 55.9 | 19.9 | 52.5 | 21.4 | 48.1 |
| Developing countries | | | | | | | | | | |
| Turnover | 3.0 | 13.6 | 6.3 | 12.4 | 8.5 | 12.1 | 9.5 | 11.8 | 12.0 | 12.8 |
| Export | 1.8 | 15.7 | 3.3 | 13.8 | 5.7 | 16.0 | 6.3 | 14.9 | 6.9 | 13.9 |
| Import | 1.2 | 11.3 | 3.0 | 11.2 | 2.8 | 8.1 | 3.2 | 8.4 | 5.1 | 11.5 |

Source: "Soviet Foreign Trade in 1970", p. 10;
"Soviet Foreign Trade in 1978", p. 8;
"Foreign Trade", 1981, No. 5, p. 6.

Due to that reason, the share of process industry, including engineering, in the USSR's exports is lower than in other European countries of CMEA. Thus, in 1977 the share of engineering products in exports to CMEA's international market amounted to 25.9% in the USSR, while constituting 63.2% in the GDR, 60.2% in Czechoslovakia, 55.7% in Poland, 50.1% in Bulgaria, 47.1% in Hungary and 36.1% in Romania.[1/]

1/ "Economic Affairs", 1979, No. 12, p. 95.

At the same time it has to be noted that the USSR has considerably influenced and continues to influence the development of industrial potential of other CMEA countries. This impact is revealed both in the form of direct involvement in constructing industrial enterprises, and in the form of growing imports of industrial goods from these countries. Over the past years the USSR has rendered technical assistance to the CMEA countries in constructing more than 1,300 large national economic projects, presently providing up to 30% of total electric power generated by them, 35% of pig iron smelt, 26% of steel, 48% of finished project output, most of petroleum refining, etc.[I] (See Table 3.6). 15-16% of USSR's total imports from the CMEA countries (in 1976) accounts for the output of enterprises built there through Soviet assistance.

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1 "The CMEA International Market under Integration", Moscow, 1980, pp. 107-108.

Table 3.6. Capacity of Enterprises Built or Under Construction with Soviet Assistance in Socialist Countries

(as of January 1, 1980)

| | As envisaged by agreements | Put into operation | | As envisaged by agreements | Put into operation |
|---|---|---|---|---|---|
| 1. Electric power stations (rated capacity), mln kW | 63.9 | 35.3 | 8. Coke, mln tons | 15.6 | 11.1 |
| - of which in CMEA countries | 51.2 | 25.8 | - of which in CMEA countries | 10.6 | 9.8 |
| 2. Pig iron, mln tons | 30.8 | 22.6 | 9. Tractors, thous. pcs. | 92 | 72 |
| - of which in CMEA countries | 13.6 | 11.9 | - of which in CMEA Countries | 50 | 30 |
| 3. Steel, mln tons | 44.7 | 27.1 | 10. Mineral fertilizers, thous. tons | 2852 | 2292 |
| - of which in CMEA countries | 25.6 | 15.8 | - of which in CMEA countries | 2562 | 2032 |
| 4. Rolled products, mln tons | 40.2 | 29.7 | 11. Sulphuric acid, thous. tons | 1441 | 1401 |
| - of which in CMEA countries | 30.1 | 22.2 | - of which in CMEA countries | 1191 | 1151 |
| 5. Iron ore (output) mln. tons | 22.9 | 12.0 | 12. Soda ash, thous. tons | 2070 | 1770 |
| - of which in CMEA countries | 12.0 | 4.8 | - of which in CMEA countries | 2070 | 1770 |
| 6. Oil (refining), mln tons | 59.7 | 37.7 | 13. Synthetic rubber, thous. tons | 321 | 176 |
| - of which in CMEA countries | 50.8 | 34.3 | - of which in CMEA countries | 306 | 161 |
| 7. Coal (output), mln tons | 65.2 | 34.1 | 14. Cement, mln tons | 15.8 | 6.6 |
| - of which in CMEA countries | 29.7 | 8.0 | - of which in CMEA countries | 14.5 | 5.9 |
| | | | 15. Cotton fabrics, mln. length m | 184.5 | 104.5 |
| | | | - of which in CMEA countries | 101.0 | 21.0 |

From: "The National Economy of the USSR in 1979", pp. 572-573.

The economic interaction of the CMEA countries has made a particularly speedy progress during the '70s due to improvements in the institutional machinery of economic, scientific and technological cooperation. An Integrated Programme of continued intensification, improvement of cooperation and development of socialist economic integration, adopted by the CMEA's XXVth session, in 1971 was an important landmark in this context. The integrated programme signified a qualitative stride in order to resolve the vital problems of national economies of the socialist community.

It, in particular, accounted for a transition from coordinating the mutual trade turnover to coordinating the economic activity of the CMEA countries in the sphere of production, science, technology and capital construction, including joint planning efforts. It resulted in an extensively enlarged cooperation in the field of international specialization and cooperation.

Over the period of 1971-1978, mutual supplies of specialized engineering products have grown more than 5 times, with their share in the mutual machine and equipment exports being increased from 17.7 to 35.5%, i.e. doubled. The USSR takes part in implementing about a hundred multilateral and several hundred bilateral agreements on specialization and cooperation of

production with the CMEA countries, providing for about 30% of Soviet exports to the CMEA market in machinery and equipment.

The USSR is interested in a further substantial increase in its exports of machinery and equipment, since future export potentials of fuel and other raw materials are limited by objective reasons. At the same time, some industries of the USSR are characterized by relatively high export quota. Thus, in the late seventies almost 30% of all passenger cars, about 15% of steam turbines and diesel road locomotives, 9% of tractors have been exported. The USSR is also a big supplier of complete industrial projects. In 1979 this export item accounted for 31% of total exports of machinery and equipment, exceeding 59% in trade with developing countries (see Table 3.7).

Table 3.7. Export of equipment and materials for complete projects over five-year periods (thous. million roubles)

| | 1961-1965 | 1966-1970 | 1971-1975 | 1976-1980 |
|---|---|---|---|---|
| Total export | 2.29 | 3.69 | 5.06 | 10.22 |
| of which to: | | | | |
| Socialist countries | 1.26 | 2.21 | 3.08 | 6.90 |
| of which: | | | | |
| - CMEA members | 0.98 | 1.84 | 2.51 | 6.18 |
| Developing countries | 1.01 | 1.44 | 1.88 | 3.24 |

From "Foreign Trade", 1981, No. 3, p. 3

An appreciable place in Soviet export structure is held by consumer durables -- cameras, bycicles, watches, refrigerators, TV sets, radio receivers, etc.. The USSR is exporting about 30% of national output of watches and cameras, about one-fifth of bycicles, one-sixth of radio receivers.

A continued division of labour among the CMEA countries leads to the growing trend of establishing specialized export-oriented industries, and in several CMEA countries -- to consolidating the already established international specialization. This process is, as a rule, also a basis for wider involvement of the CMEA countries in international division of labour.

In some countries an industrial pattern of export specialization has already been formed while in others it is only in the production. A general trend lies in the constantly growing share of export-oriented goods in terms of export value.

Thus, for instance, Bulgaria, within the framework of the CMEA, specializes in the manufacture of material-handling equipment, as well as computers and peripheral units, electrotechnical products, separate units of automobile electrical equipment, etc.. Export-oriented specialization of Hungary mainly covers such branches as aluminium industry, manufacture of buses, production of numerous automobile units, electronic industry, pharmaceutical industry, production of medical instruments, communications equipment, as well as light and food industries.

Similar processes are also characteristic of other CMEA countries. An increased specialization of production has led to speedily growing exports of some industrial products. For the period of 1960-1978, Bulgarian exports of material-handling equipment have increased by 73.5 times, tractors and agricultural machinery -- by 22 times; Hungarian exports of electrotechnical, laboratory equipment and instruments -- by 16.2 times, buses -- by 8.6 times; GDR's exports of equipment for chemical industry -- by 8.6 times, agricultural machinery by 27 times; Poland's exports of power-generating equipment -- by 65.5 times, road and road-building machines -- by 36 times; Romania's exports of metal-cutting lathes -- by 8.5 times; Czechoslovakia's exports of forge-and-pressing equipment -- by 5.3 times, equipment for textile industry -- by 13.6 times.[1]

As for Soviet industry, its international specialization is characterised by some particular features related primarily to the fact that the USSR's requirements for a certain product are, as a rule, two or three times more than similar requirements of all other CMEA countries. Therefore the USSR should, along with imports, have a similar production of its own. A multi-purpose range of Soviet industrial products makes it objectively difficult to identify branches of international specialization. However, considering a huge scale of production, even a 10% export share implies a high degree of export specialization. The export coefficient for most industries constitutes several per cent (except passenger cars, watches and cameras where it amounts to 25-30%).

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[1] "Economic Affairs", 1980, no. 8, p. 85.

Soviet industry, within the CMEA's framework, specializes along the following main lines: power-generating and metallurgical equipment, aviation materiel, metal-working machine-tools, agricultural and road-building machines, computing technology, instruments, industrial and household electronics. An important place in export specialization is also taken by timber processing industry.

Specialization and cooperation of production in the CMEA countries is currently most developed in the bearing industry (82% are specialized products out of the total mutual exports of that branch), agricultural machinery (50%), manufacture of transportation means and auxiliary equipment (42%), electrical and radio measurement instruments (38%), machine-tool manufacture (37%), production of communications equipment (35%), material-handling and chemical equipment (30-32%).[1] Some countries even at present have already met almost all the requirements of the CMEA countries in individual industrial products. Thus Bulgaria and the USSR account for about 100% of CMEA-produced electric hoists, Romania and the USSR -- 97% of blast furnace equipment, Poland and the USSR -- over 90% of excavators, Hungary and the USSR -- about 75% of buses, the USSR - over 90% of petroleum equipment.[2]

The present stage is witnessing an increasing extension also of unit and component specialization in such industries that are decisive for scientific and technological progress: the manufacture of computers, programmed-control machine-tools, equipment for nuclear power

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[1] O.T. Bogomolov, op. cit., p. 254.

[2] "Economic Affairs", 1979, No. 12, p. 96.

stations, shuttleless looms, means of automated control over technological processes, etc..

The cooperation in the field of equipment for nuclear power stations is a most visible example of development of intra-branch specialization and production cooperation during the 80s. Within this framework the USSR, accounting for about 50% of basic equipment supplies for completing the nuclear power stations, specializes in the production of complete sets of high-capacity power reactors, steam turbines, as well as a wide range of instruments and equipment. Czechoslovakia is planning to produce reactor installations, steam generators, trunk circulation pipelines; Hungary -- reactor servicing mechanisms; Poland -- volume compensators and diesel generators; Bulgaria -- systems and accessories of biological protection.

During the forthcoming decade, the basic changes in deepening economic integration of the CMEA countries will be primarily related to implementing the five long-term and special-purpose programmes of cooperation in the field of energy, fuel and raw materials; agriculture and food industry; engineering; consumer goods; development of transport communications. These programmes provide for a coordinated policy in cooperation among the CMEA countries for the period up to 1990, and on some problems -- for even longer periods.

The joint implementation of long-term programmes, concerning the vital spheres of national economy of many countries and incorporating large-scale arrangements, is an unprecedented international endeavour of very complicated nature. The CMEA

countries are assigned the following major tasks in the course of implementing these programmes: higher economic efficiency, accelerated rates of scientific and technological progress; meeting the rational needs in raw materials, fuel and energy, machines, equipment and modern technology; better supply of food stuffs and industrial products; establishing an effective and modern transportation system of the CMEA countries.

The coordination of national economic plans of the CMEA countries for 1981-1985 (and on some problems -- for even longer periods), geared to implementing the long-term programmes of cooperation, made it possible for the most part to find solutions to problems of supply of fuel, energy, raw materials, machines and equipment, as well as other products for these countries. All that was realized despite the world's aggravating political and economic situation, despite a somewhat lower future growth of fuel and raw material resources, as well as decreased growth of labour resources in some countries.

The current five-year period (1981-1985) will continue to keep a high rate of trade development between the USSR and other CMEA countries: trade turnover will grow by 40%, amounting to about 260 bln rbls. The USSR will increase its energy supply (in conventional units) by 20% as against the past five-year period, with oil supplies reaching almost 400 mln tons. As a whole, the Soviet exports of energy and commodities will be increased by approximately 30%. At the same time it has to be noted that Soviet-CMEA prices of fuel and raw materials are much lower than world market prices. A total gain of the CMEA countries, due to lower prices of oil and petroleum products alone, compared to the current world prices, amounted, according to tentative estimates, to over 5 billion roubles for 1976-1980.

Mutual deliveries of industrial goods have substantially increased. Thus, exports of engineering products from the USSR in 1981-1985 will reach 35 bln rbls, i.e. 40% more than in 1976-1980. At the same time the USSR will import 60 bln rbls worth of machines and equipment from the CMEA countries and 40 bln rbls worth of consumer goods. The USSR will increase its purchases of chemical and metallurgical equipment, ships, railway cars and other transportation means, equipment for light, food and printing industries. Products of electrotechnical, electronic and radio engineering, as well as other progressive branches of engineering, account for a substantial share in mutual exchanges.

Table 3.8. Indices of Soviet contract prices in trading with the CMEA countries, and world prices for major groups of commodities and manufactures (1970 = 100)

| | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
|---|---|---|---|---|---|---|
| Fuel, raw materials, metals | | | | | | |
| Contract prices | 110 | 113 | 119 | 175 | 177 | 185 |
| World prices | 111 | 168 | 243 | 247 | 258 | 289 |
| Agricultural produce and processed products | | | | | | |
| Contract prices | 107 | 108 | 111 | 135 | 148 | 150 |
| World prices | 121 | 176 | 216 | 201 | 203 | 240 |
| Machinery and equipment | | | | | | |
| Contract prices | 108 | 105 | 116 | 127 | 145 | 151 |
| World prices | 112 | 117 | 128 | 141 | 148 | 157 |

From: O.T. Bogomolov "Socialist Countries in International Division of Labour", Moscow, 1980, p. 157.

As a whole, the '80s will be witnessing a gradual increase in the share of industrial manufactures, primarily specialized products of engineering, in the mutual trade among the CMEA countries. In particular, the implementation of long-term programmes requires a substantial extention and improvement of engineering industry in the CMEA countries, increased specialization and cooperation of production. According to available estimates, the industrial output of that branch has to be doubled in 1981-1985 as against the previous five-year period and tripled in the ensuing five years, thus promoting the continued intensification of trade among the CMEA countries.

3.2 Prospects for growing export-import potentialities of Soviet industry, including the relations with developing countries. Possible structural shifts in industrial co-operation with the CMEA countries and developing countries.

The development of foreign economic relations on a planned basis permits to make them stable and long-term, fully taking into account mutual interests and needs, removing or lessening the impact of abrupt fluctuations in the conditions of world market, making a more meaningful and effective use of them for the purpose of achieving economic progress.

As is known, the socialist countries are most advanced in developing a planned system of control over foreign economic processes, with the elements of planning being also strengthened in economic relations with developing countries.

In 1981 the USSR has carried out mutually advantageous trade and economic relations, based on long-term inter-State agreements, with 64 developing countries as against 14 in 1960, and 40 in 1970. USSR's total volume of trade with developing countries has increased, in current prices, for the period of 1960-1980 over 15 times (from 0.78 to 12 bln rbls)[1], being quadrupled during the '70s (see Table 3.5).

The core of Soviet trade and economic relations with the developing countries lies in technical assistance, including the supplies of complete sets of industrial equipment for such key industries under construction as ferrous and non-ferrous metallurgy, engineering, chemical, petroleum, as well as light and food industries (see Table 3.7 and 3.9). This form is largely decisive for shaping the structure of Soviet exports to developing countries, also influencing the volume and structure of imports. A dominant place in the total volume of Soviet technical and economic assistance to these countries is held by industry - 76.8% (as of early 1980). If account is also taken of assistance, rendered in the field of geology and prospecting of mineral wealth, as well as the training of personnel for national industries, then this indicator will exceed 80%.[2]

The USSR has already provided help to developing countries in constructing 680 industrial enterprises, electric power stations and other big national economic projects, including 200 in the least developed nations. Over 500 enterprises and projects are under construction or planned to be constructed. Table 3.9 is indicative of the scale and direction of Soviet assistance to industrial development. Thus, for the period of 1960-1980, the smelting of steel in Asian and African countries has increased

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[1] "Soviet Foreign Trade in 1965", p. 11; "Foreign Trade", 1981, No. 5, p. 6.

[2] "Economic Cooperation Between Socialist and Developing Countries", Moscow, 1981, p. 109.

Table 3.9. Capacity of enterprises, built and under construction, or planned to be constructed, in developing countries with Soviet technical assistance, as of 1 January 1980.

| | As provided for by agreements | Of which: those put into operation |
|---|---|---|
| Electric power stations (rated capacity), mln kW | 16.0 | 7.2 |
| Pig iron, mln tons | 17.8 | 8.8 |
| Steel, mln tons | 19.6 | 8.2 |
| Ferrous rolled products, mln tons | 13.2 | 7.5 |
| Iron ore (output), mln tons | 14.0 | 10.9 |
| Oil (refining), mln tons | 18.0 | 11.6 |
| Coal (output), mln tons | 21.5 | 3.3 |
| Coke, mln tons | 13.1 | 8.8 |
| Metal-cutting machine tools, 1000 units | 1.6 | 0.7 |
| Metallurgical, mining, forge-and-press and material-handling equipment, 1000 units | 155 | 155 |
| Tractors, 1000 units | 10 | 10 |
| Mineral fertilizers, 1000 tons | 105 | 105 |
| Cement, mln tons | 3.7 | 0.6 |
| Cotton fabrics, mln length m | 130.5 | 30.5 |

From: "The National Economy of the USSR in 1979", pp. 572-573.

from 3.6 to 15.2 mln tons, including a 9.7 mln tons (84% increment) due to the enterprises built with Soviet technical assistance. At present the USSR helps in constructing enterprises, producing 16.4 mln tons of steel a year, thus permitting to double the existing level of output. Soviet assistance, in terms of developing electric power generation, is also quite impressive. 40 electric power stations with total installed load of 7.4 mln kw have already been commissioned in Asian and African countries, with another 18 of 8.4 mln kw capacity being under construction. In Latin America the USSR takes part in constructing power stations with total capacity of 3.6 mln kw.

Industrial and other national economic projects, constructed with Soviet assistance, as well as mineral resources prospected by Soviet geologists, were totally passed into the possession of developing nations, thus barring the outflow of resources in the form of profit transfers and contributing to stronger material basis of national industry. Soviet credits for development, granted on 2.5-3% annual interest, are repaid both through the supply of traditional goods from the developing countries and the products of Soviet-assisted projects, thus placing less burden on the balance of payments of these nations and stimulating the development of their export sectors. Total Soviet purchases of products, produced by Soviet-assisted enterprises, amounted to about 2.8 bln rbls for the period of 1976-1980.

A variety of cooperative forms also keeps extending. Apart from conventional export-import trade and technical assistance, a more extensive use is made of agreements on production cooperation and specialization, scientific and technological cooperation, compensation deals, cooperation in the markets of third

countries, etc.. It is also noteworthy that stability of Soviet market permits export and import operations of developing countries to be predictable, introducing the elements of planning into foreign trade of these nations. At the same time it serves as an alternative source of funds, technology and equipment for development, thus consolidating the bargaining position of developing countries in world economy.

Within the framework of the Third Development Decade of the U.N., the USSR and other socialist countries have expressed the readiness to continue rendering assistance to developing countries in strengthening public and cooperative sectors of their economies, integrated development of their economic, scientific and technological potentials, developing natural resources, transfer of technology, training of personnel, extending their industrial exports.[1]

The USSR's readiness to continue its assistance has again been confirmed at the UN Conference on the Least Developed Countries (Paris, Sept., 1981). As is known, the USSR's co-operation with the least developed countries has an integrated character, covering industry, power engineering, agriculture, development of natural resources, transport, training of national personnel, etc. In many cases Soviet help to these countries is in a form of grants, amounting to 80% of the total volume of Soviet assistance donated to all developing countries.[2]

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[1] Joint Statement of Socialist Countries at the XI'th Special Session of the UN General Assembly (Document A/S - IIAC.1/4 of September 3, 1980).

[2] "Main Results and Directions of Continued Trade, Economic, Scientific and Technical Cooperation of the USSR with the Least Developed Countries" (document A.Conf/104/17).

A large scale of Soviet economic, scientific and technical cooperation with developing countries gradually leads to establishing prerequisites for mutually advantageous and dynamic division of labour among them. Presently we are witnessing only the first steps along this way, since the formation of such division of labour (practically initiated only from the moment of mass decolonization of developing countries) requires not only mutual interest and appropriate efforts on the part of its participants but also a sufficient use of time. However, even during the '70s, as a result of active Soviet help in the industrialization of developing countries, positive shifts have already been taking shape in the structure of economic interrelationship among these countries. In particular, the share of manufactures and semi-manufactures progressively keeps growing in Soviet imports from developing countries. While the share of light industry products continues to remain salient among this category of goods, there has been an appreciable increase over the past years in the role of industrial goods to be exported (for instance, electrotechnical equipment, tools, pig iron, pipes, castings, chemical products, etc.). These trends will continue to be more extensively developed in the '80s.

Immense potentialities and great efficiency of technical and economic cooperation among nations are currently evidenced in a clear way by the experience of socialist community members, initiating a qualitatively new and higher stage of economic interaction. Some of them were, only several decades ago, characterized by low level of industrial development (for instance, Bulgaria, Hungary, Romania), while others (Vietnam, Cuba, Mongolia) have only recently started to restructure their economies along industrial lines. The CMEA, from its very inception, has assisted and continues to assist the less industrially developed countries in terms of their extensive involvement in developing international specialization and, particularly, cooperation of industrial production. Thus, for example, in line with a multilateral agreement on computing technology, Cuba specializes in the development, large-scale production and supply to the CMEA countries of such science-intensive completing computer units as alphabetic-digital and graphical displays.

The USSR and other CMEA countries, when identifying the prospects of cooperation for the '80s, attach particular importance to specifying the guidelines of international specialization and cooperation of production, selection of priority types of production, decisive for both the efficiency of individual industries and national economy as a whole. Such industrial entities primarily include:

- new progressive computing technology, including the

means of controlling the technological processes, new special materials and technological equipment for electronics;

- systems of machines and equipment, reducing manual labour in transport-storage and auxiliary operations;

- sets of modern machinery and equipment for open-cast mining of minerals and construction of trunk pipelines;

- progressive types of machines and equipment, ensuring a rational use of fuel and energy;

- high-capacity precision metal-working, forge-and-press and foundry equipment;

- advanced products of general engineering use: hydraulic and pneumatic drives, high-torque electromotors, etc..

As a whole, the concentration of joint efforts of the CMEA countries on developing, introducing and exchanging new progressive equipment and technology will ensure a sizable growth of production efficiency, permitting a more rational use of fuel, energy, material and manpower resources.

## 4. FACTORS AND TRENDS OF SPECIALIZATION IN INDUSTRIAL PRODUCTION

### 4.1. Role of energy and raw material resources.

Deepening specialization in industrial production, in both national and international terms, is dependent on the effect of wide variety of factors. Specialization, under present conditions, is one of the basic ways of concentrating and optimizing the production, as well as increasing its efficiency. The scientific and technological revolution has imparted wide international dimensions to production specialization, making it also

objectively necessary and, at the same time, technically and economically feasible due to revolutionary transformations in production technology, in the field of transport, information, in supplying energy to any destination, in controlling the processes of production and distribution, etc.. The renewal of industrial products has been greatly accelerated because of the need for a wider range of goods. The USSR alone during the seventies has organized production of about 25,000 pieces of new machines and equipment.[1]

A current need of developing international specialization and cooperation of production is necessitated not only by making use of "particular" scientific and technological advances in the interests of all nations, but also by the acute aggravation of global problems that mankind presently faces. One of them is the problem of meeting the growing need of international community in fuel, energy and raw material resources.

The Soviet Union disposes of huge resource potential, being the world's biggest producer of fuel (see Table 4.1.) and several other mineral resources, now holding the first place in the world in coal and oil output, soon to become first also in gas output.[2]

In 1980 the output of primary fuel and energy resources has reached the level of about 2 bln tons of conventional fuel. The largest and most stable source of energy and chemical raw materials for a long-term prospect is coal, exceeding, in quantitative terms, by manifold the predicted resources of oil and gas and sufficient (if estimated only to the depth 1.5-1.8 km) to provide

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1 "Economic Affairs", 1980, No.8, p. 80 .

2 "Planned Economy", 1981, No.4, p. 33.

an increasing output for several centuries. However, over 95% of potential coal deposits are concentrated in the eastern regions of the USSR, presently also accounting for a basic share of increment in oil and gas output, while 76% of fuel is consumed in the USSR's European part and the Urals. Hence, objective conditions are responsible for mounting expenses in terms of production and transportation of fuel (energy), reaching many billion roubles.

Table 4.1. Fuel Output in the USSR
(in terms of conventional fuel -- 7,000 large calories), mln tons

| | 1960 | 1965 | 1970 | 1975 | 1977 | 1979 |
|---|---|---|---|---|---|---|
| Total | 692.8 | 966.6 | 1,221.8 | 1,571.3 | 1,726.5 | 1,852.7 |
| of which: | | | | | | |
| oil (as well as gas condensate) | 211.4 | 346.4 | 502.5 | 701.9 | 780.5 | 837.4 |
| gas | 54.4 | 149.8 | 233.5 | 342.9 | 410.0 | 481.8 |
| coal | 373.1 | 412.5 | 432.7 | 471.8 | 486.0 | 483.9 |

From: "The National Economy of the USSR in 1979", p. 170.

Therefore, all-round saving of fuel becomes a major direction in the development of energy production and energy consumption. Calculations reveal that costs, related to fuel saving arrangements, are 2-3, and in the future 3-4, times less than the cost of its production and transportation to destination. It is estimated that the reduction of losses in oil, coal and gas only in the process of production, processing and transportation, as well as increased yield of gassy seams and oil-bearing

beds, will permit to expand national marketable energy resources by about 150 mln tons of conventional fuel by the end of the current decade, with a general effect of all fuel and energy saving arrangements in respect of the growth of marketable energy resources possibly amounting to 500-550 mln tons.[1]

The production and consumption of other mineral resources is found to be in a much similar situation. A long-term purpose-oriented programme of cooperation in the field of energy, fuel and raw materials, adopted by the CMEA countries, made it possible for them to commence implementing the large-scale joint arrangements in this field along the following guidelines:

- maximum use of national raw material resources, including extended geological prospecting in the territories of socialist community countries;
- restructuring production to decrease the share of energy and material consuming production; siting energy-consuming production units closer to raw material and fuel sources, increasing the degree of oil processing up to 60-65% by 1990 as against the present level of 40-45%;
- joint establishing of large capacities to produce basic types of energy, fuel and raw materials, including the accelerated development of nuclear power engineering;
- extending scientific and technical cooperation in the fuel and raw material branches.

The development of specialization and cooperation of production between the USSR and other CMEA countries has an important part to play in solving all the above-mentioned problems. Thus, for instance, the USSR is planning to develop the output of such energy-consuming chemical products, to be supplied to socialist community members, as ammonia, methanol, polyethylene, polyvinyl-chloride resin, isoprene and polydivinyl rubber. In exchange the USSR will receive less energy- and material-consuming products: synthetic dyes, epoxide resins, chemical admixtures, weed- and pest-killers, auxiliary substances for textile industry and other products.

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1 "Planned Economy", 1981, No. 1, p. 43.

As noted above, the cooperation among the CMEA countries has reached particular dimensions in the field of nuclear power development. By 1990 it is planned to build nuclear power stations of 37 mln kw total capacity in the CMEA European countries and in Cuba. Moreover, another two high-capacity nuclear power stations of 4 mln kw each will be built in the USSR to supply electric energy to the CMEA neighbouring countries. It is envisaged that by 1990 nuclear power stations will account for about 25% of total community requirements in electric energy as against 10% in 1980.

Most CMEA countries are also planning an increased output of solid fuel, necessitating a larger production of effective mining equipment on the basis of multilateral specialization and cooperation of production, as well as extensive joint research activity. Thus, experts from the GDR and the USSR have developed a new model of rotary bucket walking excavator of 100 mln tons capacity a year. Poland and the USSR are actively engaged in efforts to obtain synthetic liquid and gaseous fuels from solid fuel. In Bulgaria a powerful plant for heavy machine-building is under construction, planned to produce 130,000 tons of equipment a year for mining, metallurgical, power, chemical and cement industries, with more than half of its output to be exported to the CMEA countries. The list of such examples may be considerably extended.

The CMEA countries, along with joint arrangements to intensify the prospecting, output and processing of mineral resources, attach paramount importance to cooperation in the field of development and introduction of less energy- and material-consuming methods and technologies, particularly in such branches

as power engineering, ferrous and non-ferrous metallurgy, chemical and petrochemical industry, oil industry, and engineering.

An important contribution to the supply of fuel and raw materials, both for the CMEA countries and developing nations, may be made during the 80's by continued expansion of mutually advantageous cooperation among them in various fields of energy and raw materials, particularly on the basis of long-term agreements and programmes of cooperation. Considerable and useful experience has already been accumulated in this context, providing a sound foundation for deepening division of labour in the interests of both groups of countries. In particular, the USSR, being a big supplier of fuel and raw materials to many developing countries, renders extensive assistance to them in the prospecting, increasing the output and processing of mineral resources, developing the network of hydraulic, thermal and nuclear power stations.

In the field of geology and mineral prospecting, the USSR has commitments for 80 projects, with 42 of them being accomplished by early 1980.[1] The USSR has rendered assistance in prospecting considerable resources of various minerals, contributing not only to strengthening the material basis of national industry but also to an effective national sovereignty of these nations being exercised over their own natural resources. Soviet geologists have helped in the prospecting of oil and gas (Algeria, Afghanistan, Bangladesh, India, Iraq, Pakistan, Syria

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[1] "Economic Cooperation between Socialist and Developing Countries", p. 114.

Sri Lanka et al.), black coal (Iran), combustible shales (Mali, Morocco), iron ore (Afghanistan, Egypt, Iran, Nigeria), bauxites (Guinea, Guyana), ferrous metals, mercury, manganese and other mineral resources.

Over the past decade in the field of technical and economic cooperation between socialist and developing countries there emerged an important positive trend of shifting (where it is feasible and expedient) from the construction of industrial enterprises to establishing branch and inter-branch associations, starting from the output of raw materials and finishing with the manufactured product. It stands to reason that this trend is to gain an even higher momentum in the forthcoming years. Such comprehensive cooperation contributes to a more extensive use of natural resources and production capacities of developing nations, i.e. directly promoting accelerated industrialization of them. At the same time, mutual interest of the parties in establishing enterprises, as well as branch and inter-branch associations where the production is, to a certain extent, oriented towards the market of socialist countries, will contribute in the future to stable expansion of trade and economic cooperation between socialist and developing countries.

4.2. Manpower availability

The Soviet manpower balance for the '80's finds itself in a rather difficult situation. L.I. Brezhnev, as early as 1976 at the October plenary session of the CPSU Central Committee, stressed the demographic difficulties. "Our need in manpower," he said, "will keep growing both in the productive and non-productive spheres. Meanwhile the effect of demographic factors,

related to the distant aftermath of war, will lead in the '80's to a sharp decline in the influx of gainfully employed population. Such situation makes saving and more rational use of manpower extremely important."[1]

At present the USSR pays particular attention to the fullest possible use of all the factors of productivity growth of social labour and the integrated approach to a rational location and use of manpower resources. In 1981-1985, due to increased labour productivity, it is envisaged to obtain 85-90% of national income growth and over 90% of industrial production increment that is tantamount to saving the labour of 17-20 mln people.

Under the resolution of the CPSU Central Committee and the USSR Council of Ministers, adopted in July of 1979, the balance of labour resources and measures to provide manpower for national economy are presently developed in conjunction with the draft guidelines for economic and social development for ten years, as well as five-year and yearly plans. The Union republics have prepared and are implementing purpose-oriented programmes on reducing the manual and physical labour. Thus, for instance, such programme of the Russian Federation incorporates the following basic lines of action:

— specialization and cooperation of production;

— centralization of auxiliary and accessory services;

— mechanization and automation of production processes.

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[1] L.I. Brezhnev, "Along the Leninist Line", vol. 6, Moscow, 1978, p. 155 (In Russian).

Greatest reserves for releasing manpower lie in a higher level of mechanization of material-handling, and storage operations, involving tens of millions of people and the level of manual labour amounting to about 70%. Specialization and increased serial production are also very effective in terms of labour saving, evidenced, for example, by Soviet engineering data (see Table 4.2.).

Table 4.2. Relation between scale of economy and relative labour consumption

| Factors of increased serial production | 1 | 2 | 3 | 4 | 5 | 6 | 10 | 20 |
|---|---|---|---|---|---|---|---|---|
| Decreased labour consumption (in %) | 0 | 15 | 20 | 25 | 30 | 33 | 37 | 47 |

From: D.I. Polyakov, A.I. Kostin, Specialization in Engineering, Moscow, 1975, p. 111.

Each specialized production has an optimum level of its own: for instance, in a tractor plant it equals a hundred thousand tractors a year, in the production of tractor engines — 1.8 mln units, fuel pumps — 400,000 units, etc. In the late 70's about 70% of shops in most Soviet machine-building plants have not yet reached an optimum production volume, primarily due to exceedingly wide range of manufactured products.

This is evidence of the fact that achieving an effective production concentration of today, in terms of such a big country as the USSR, requires in many cases international specialization and cooperation.

The Soviet system of foreign economic relations exerts both a direct and indirect influence upon the effectiveness of social production, including the processes of higher productivity and labour saving. A direct influence is related to greater specialization and correspondingly higher production concentration, as well as the imports of high-capacity industrial equipment. Hence, the import share in the total volume of nationally installed equipment constitutes about 15%, thus appreciably affecting the industrial indicators. Imported equipment is mainly installed in such branches as chemical (particularly the production of fertilizers and polymers), automotive, metallurgical, light and food industries, as well as construction and transport.

An important role, in terms of higher efficiency of manpower use, is assigned to a long-term special-purpose programme of cooperation among the CMEA countries in the field of engineering, providing for a considerable improvement in the technical level of this branch. The programme envisages joint arrangements to be implemented for the development of new equipment and its introduction, on the basis of inter-state specialization and cooperation of production, into such key branches of national economy as extractive industry, electric power generating, metallurgy, oil processing, petrochemical, light and food industries, agriculture, transport, etc.

Some arrangements, envisaged in this programme, are directly meant to reduce manual labour, to improve the supply for the CMEA countries of modern means of mechanizing the material-handling and storage operations. First of all it is planned to expand

the production of metallurgical and gantry cranes, battery-operated trucks and autocars, electric tackle, stacking cranes and excavators. Scientific and technical cooperation is to be expanded with a view to developing new advanced methods of mechanization, including remote- and automatic-controlled equipment, as well as industrial robots.[1]

An indirect impact of international exchanges on the level of manpower use may be revealed through collating the commodity export and import structures in terms of labour consumption of products (see Tables 4.3. and 4.4., as well as Table 3.3.).

Table 4.3. Proportion of selected products in Soviet exports (in %)

| | 1960 | 1965 | 1970 | 1975 | 1980 |
|---|---|---|---|---|---|
| Total export | 100 | 100 | 100 | 100 | 100 |
| of which: | | | | | |
| Machinery and equipment | 20.5 | 20.0 | 21.5 | 18.7 | 15.8 |
| Solid fuel | 4.4 | 4.6 | 3.2 | 4.2 | 2.2 |
| Oil and petroleum products | 11.9 | 12.2 | 11.5 | 14.6 | 36.4 |
| Gaseous fuel | 0 | 0.04 | 0.4 | 1.9 | 7.4 |
| Electric power | 0 | 0.2 | 0.4 | 0.7 | 0.8 |
| Iron ore | 3.1 | 3.0 | 2.5 | 2.1 | 0.9 |
| Manganese ore | 0.7 | 0.3 | 0.2 | 0.1 | 0.1 |
| Chrome ore | | 0.2 | 0.3 | 0.4 | 0.1 |

...cont.

[1] The use of one robot releases 2-4 workers, increasing the labour productivity by 2-4 times. ("Planned Economy", 1979, No. 12, p. 8).

Table 4.3 cont.

| | | | | | |
|---|---|---|---|---|---|
| Pig iron | 1.9 | 2.2 | 1.9 | 1.4 | 0.6 |
| Ferroalloys | 0.7 | 0.7 | 0.5 | 0.4 | 0.2 |
| Rolled iron | 7.4 | 7.7 | 6.7 | 4.8 | 2.9 |
| Pipes | 0.9 | 0.7 | 0.5 | 0.4 | 0.2 |
| Chemical products | 1.2 | 1.2 | 1.4 | 1.1 | 1.5 |
| Fertilizers | 1.1 | 1.3 | 1.7 | 1.5 | 1.0 |
| Cement | 0.1 | 0.3 | 0.3 | 0.3 | 0.1 |
| Round timber | 1.1 | 2.2 | 2.2 | 1.9 | 1.2 |
| Sawn timber | 3.3 | 3.7 | 2.6 | 2.3 | 1.6 |
| Paper | 0.3 | 0.4 | 0.6 | 0.5 | 0.3 |

From: "Soviet Foreign Trade. Statistical Handbook" for corresponding years.

Table 4.4. Proportion of selected products in Soviet imports (in %)

| | 1960 | 1965 | 1970 | 1975 | 1980 |
|---|---|---|---|---|---|
| Total imports | 100 | 100 | 100 | 100 | 100 |
| of which: | | | | | |
| Machine equipment | 29.8 | 33.4 | 35.1 | 33.9 | 33.9 |
| Rolled iron | 3.2 | 1.6 | 2.2 | 3.1 | 3.0 |
| Pipes | 2.8 | 1.9 | 2.4 | 5.0 | 2.8 |
| Chemical products | 1.6 | 2.4 | 2.2 | 2.3 | 2.7 |
| Paper | | 0.4 | 0.8 | 0.9 | 0.8 |
| Wool | 2.1 | 1.2 | 1.0 | 0.7 | 0.7 |

...cont.

Table 4.4 cont.

| | | | | | |
|---|---|---|---|---|---|
| Coffee, cocoa, tea | 1.4 | 1.5 | 1.4 | 1.4 | 1.1 |
| Raw sugar | 1.8 | 3.8 | 3.4 | 5.9 | 4.9 |
| Vegetables, fruits, berries | 2.0 | 2.3 | 2.7 | 2.2 | 2.1 |
| Cotton fabrics | 1.0 | 0.5 | 0.6 | 0.4 | 0.4 |
| Woolen fabrics | 1.6 | 0.3 | 0.3 | 0.3 | 0.1 |
| Silk fabrics | 0.7 | 0.3 | 0.4 | 0.7 | 0.6 |
| Garment and underwear | 7.1 | 5.3 | 6.6 | 4.3 | 3.8 |
| Leather shoewear | 2.3 | 1.7 | 2.6 | 1.8 | 1.5 |
| Furniture | 1.2 | 1.9 | 1.7 | 1.1 | 0.9 |
| Recreational and household goods | 1.3 | 1.3 | 1.6 | 0.8 | 0.9 |

From: "Soviet Foreign Trade. Statistical Handbook" for corresponding years.

The data of these tables show that Soviet exports contain a dominant share of capital-intensive products while Soviet imports contain a relatively high share of labour-intensive items. Thus, the capital intensity of fuel, energy and mining branches is 3-4 times higher than its average value in all other industries.[1] The capital intensity of such key branches as metallurgical and chemical is also much higher than average.

Thus, it may be concluded that foreign trade is conducive to reducing the strain on the Soviet manpower balance. At the same time, many socialist countries (for instance, Bulgaria, Romania, Hungary, Poland), not long ago faced with the problem

[1] "Planned Economy", 1981, No. 4, p. 44; "Foreign Trade", 1980, No. 4, p. 17.

of ensuring full employment of their population, took advantage of Soviet market for selling considerable amounts of their industrial products, thus largely contributing to an accelerated improvement of employment situation, as well as the optimization of their industrial development as a whole. Soviet foreign economic relations with developping countries (as proved by the above-mentioned data) also promote the growth of industrial employment in them, though, naturally, to a lesser extent than in the first instance.

4.3. Prospects of developing the trade in manufactures

The structural changes in world economy, first of all in the sphere of material production, find an indirect reflection in the structure of world trade. A post-war period was, as is well known, characterized by fast growth rates of industrial production, particularly power engineering and individual branches of heavy industry. Corresponding indicators are given in Tables 4.5. and 4.6.

Table 4.5. Growth rates of output in individual branches of the Soviet industry for 1940-1979

(1940=1)

| Industrial branches | 1965 | 1970 | 1975 | 1976 | 1979 |
|---|---|---|---|---|---|
| Total industry | 7.9 | 12 | 17 | 18 | 20.3 |
| Electrical energy production | 12 | 18 | 26 | 28 | 32 |
| Fuel industry | 4.8 | 6.4 | 8.5 | 8.8 | 9.6 |

...cont.

Table 4.5 cont.

| | | | | | |
|---|---|---|---|---|---|
| Ferrous metallurgy | 7.0 | 9.3 | 12 | 12 | 13 |
| Chemical and petrochemical industry | 15 | 27 | 44 | 47 | 55 |
| Machine-building and metal-working industry | 16 | 28 | 49 | 54 | 68 |
| Wood-working industry | 4.5 | 6.2 | 8.1 | 8.3 | 8.9 |
| Pulp-and-paper industry | 6.8 | 10 | 14 | 15 | 16 |
| Construction materials | 18 | 27 | 38 | 39 | 41 |
| Textile industry | 3.0 | 4.2 | 5.3 | 5.5 | 5.9 |
| Food industry | 3.5 | 4.7 | 6.1 | 6.0 | 6.5 |

From: "Soviet National Economy in 1979", p. 139.

Table 4.6. Growth rates of output in individual branches of non-socialist countries

(1938=100)

| Industrial branches | 1963 | 1973 | 1975 | 1976 |
|---|---|---|---|---|
| Energy production (electric power, gas) | 625 | 1,385 | 1,440 | 1,540 |
| Mining industry | 235 | 370 | 355 | 370 |
| Chemical industry | 555 | 1,320 | 1,265 | 1,420 |
| Metal-working industry | 500 | 965 | 915 | 1,005 |
| Wood-working industry | 245 | 410 | 370 | 410 |
| Paper and printing industry | 345 | 570 | 520 | 560 |
| Construction materials | 335 | 575 | 535 | 580 |

....cont.

| | | | | |
|---|---|---|---|---|
| Textile industry | 295 | 295 | 280 | 310 |
| Food industry | 225 | 345 | 355 | 375 |

From: V.V. Rymalov, "Structural Changes in World Capitalist Economy", Moscow, 1978, p. 278.

An accelerated and stable international exchange in manufactures is one of the conditions of the fast growth of industrial production, particularly its process branches. Thus, for 1950–1970 the ratio of output growth rates in the manufacturing industry and growth rates of international trade in its products constituted about 1:2, while the export quota in the manufacturing industry of non-socialist countries has grown from 1:5 in the early '50's and '60's up to almost 1:3 in 1973. Despite appreciable decline of industrial output and foreign trade in industrial products, caused by the crisis of 1974–1975, as well as increased crisis-induced instability of the entire system of foreign economic relations among the market economy countries, a general upward trend of export quota in the manufacturing industry remained intact.

A similar direction is characteristic for factors, related to the aggravation of some global problems (energy and raw materials, environment, food). Their solution is dependent on the substantial expansion of international cooperation in the field of production, science and technology, presupposing a priority growth of international exchanges in most advanced equipment and industrial technologies.

At the same time, the upward trend of export quota in the agrarian-commodity sphere also remains unchanged, constituting

about 2:5 in the early 70's for the non-socialist sector of world economy. The interaction of these two trends will lead to the decreasing share of agrarian-commodity items in world trade (by the estimates of the authors, down to about 1:3 by the mid-eighties).

As for the USSR, its foreign trade prospects are most stable for its relations with the socialist countries. A steady economic development of socialist countries is conducive to the continued acceleration of mutual commodity exchanges. As noted above, in 1981-1985 the USSR's trade with this group of countries is to grow by 40%, i.e. a 7 per cent average annual increment. However, proceeding from the experience of the past five-year period and taking into account the development of socialist economic integration, primarily related to implementing the long-term special-purpose programmes of cooperation, one may surmise this planned indicator to be exceeded.

In this case the share of industrial manufactures in Soviet exports will continue to keep growing. It is, in particular, indirectly confirmed by forecasts of the ratio between commodities and manufactures in the structure of conveyance across the CMEA countries (see Table 4.7.).

Table 4.7. Share of raw material, energy, and manufacturing in the USSR export to the CMEA countries

(in %)

| Indicators | 1970 | 1975 | 1985 | 1990 |
|---|---|---|---|---|
| Output of fuel and raw material branches | 86 | 84 | 78 | 77 |
| Output of manufacturing industry | 14 | 16 | 22 | 23 |

From: "Economic Affairs", 1981, No. 6, p. 205.

There is ground to expect in the forthcoming 10–15 years a somewhat higher growth rates of the USSR and other CMEA countries trade with developing nations than with the developed market economies.[1] Such forecast is based, first, on the already attained and future levels of technical and economic cooperation between the two groups of states, and, second, on the fact that the present prospects of orienting the expanded industrial exports of developing countries towards a steadily increasing market of CMEA countries are more favourable than those of the market economies.

According to the estimates of Soviet economists, a possible increment in the volume of commodity exchanges between the CMEA countries and developing nations up to 1990 will amount to 7–8% a year (in constant prices).[2] In this case an increment in Soviet

[1] "Cooperation between Socialist and Developing Countries: A New Pattern of International Economic Relations", Moscow, 1980, p. 184.

[2] Ibid, p. 185.

trade turnover with respect to the least developed countries, will, according to available forecasts, up to 1990 reach the yearly level of 8-9 per cent.

A high share of machinery and equipment is, apparently, to remain unchanged in the trade flow from the CMEA countries to developing nations. However, along with supplies of manufactures, including complete factories, the exports of completing products meant both for engineering in developing countries proper and for the enterprises, established on a cooperative basis, will continue to keep growing. The opposite trade flow will contain a largely increased share of manufactures, semi-manufactures, as well as initially processed commodities. As a whole, the structure of imports from the developing countries is to represent in a more rational way the products of all stages of national production, ranging from commodities to industrial manufactures.

## 5. SUMMARY AND CONCLUSIONS

a. The Soviet industry is highly developed and diversified, and distributed over a vast territory and constituting the property of the socialist state. It comprises virtually all types of modern production, and its technical policy is based on the concern with the fastest possible scientific and technical progress and utilisation of the most recent advances in science and technology.

b. During the entire period of 1960-1980 structural changes in the industry were determined by higher rates of growth in such industries as engineering and metal-working, chemical and petrochemical, construction materials industry, and slower rates of growth in food, timber and wood-working industries and pulp-and-paper industry.

c. The Guidelines for the Economic and Social Development of the USSR for 1981-1985 and for the Period Ending in 1990 set the rate of growth of industrial production in the 11th five year plan of 26-28% within 5 years. It is planned to achieve at least am 85 to 90% increase in the national income trough a greater productivity of labour which is to be increased by 17 to 20%. The planned increase in production is far from being even, e.g. the gap in the rates of growth is very wide: 3 to 7% in oil industry; 65-72% in the production of synthetic resins and plastics.

d. In the 1980s, the following main factors will affect the distribution of industry: Improvement in the location of the productive forces designed to raise the efficiency of social production through continued specialisation and proportional development of the economies of the Union republics and

economic regions within the country's single economic complex; the development of natural resources and fuel and power and raw materials bases in Siberia and Kazakhstan; fuller utilisation of manpower resources in the Central Asian republics. The Soviet planning experience in the field of location of national economy shows that the development of a territory, based on a well-considered scheme or project of area planning. permits a 10-15% saving in capital investments in industry, agriculture and town-planning.

In 1980s the re-adjustment of the economy of the USSR to intensification will be completed.

e. The Soviet economy of the past decades has been characterised by an increased involvement in the international division of labour. This is evidenced by considerable priority rate of Soviet foreign trade development as against the rate of growth in the sphere of material production. The analysis of Soviet export structure for 1970 and 1980 in constant prices shows that the most sizable growth accounts for the share of machines and equipment, industrial consumer goods, chemical products, as well as fuel and electric power. The trend of priority growth in exports of industrial manufactures, primarily machines and equipment, will, undoubtedly, be substantially accelerated during the'80s. In the '80s the Soviet imports will continue to be characterized by a dominant share of machinery and equipment, with a sizable proportion of industrial consumer goods being maintained.

f. Soviet industry, within the CMEA's framework, specializes along the following main lines: power-generating and matallurgical equipment, aviation material, metal -working machine-tools, agricultural and road-building machines, computing

technology, instruments, industrial and household electronics. The present stage is witnessing an increasing extension of not only intra-branch, but, primarily, also unit and component specialisation in such industries that are decisive for scientific and technological progress.

The core of Soviet trade and economic relations with the developing countries lies in technical assistance, including the supplies of complete sets of industrial equipment for such key industries under construction as ferrous and non-ferrous metallurgy, engineering, chemical, petroleum, as well as light and food industries. The USSR's readiness to continue its assistance has been confirmed at the UN Conference on the Least Developed Countries (Paris, Sept., 1981).

There is ground to expect in the forthcoming 10-15 years a somewhat higher growth rates of the USSR and other CMEA countries trade with developing countries than with the developed market economies. Such forecast is based on the already attained and future levels of technical and economic co-operation between the two groups of states, on the fact that the present prospects of orienting the expanded industrial exports of developing countries towards a steadily increasing CMEA's market are more favourable than those in the markets of industrialised market economies.