

22497

8 April 1977

MEMORANDUM FOR: Steve Skancke, Experimental Technology
Incentives Program, Department of Commerce

SUBJECT : Input Data for Technology Impact Model

1. We have prepared the attached Table in response to your request for data on the USSR. While there are no comparable science data for China, the attached bibliography may be of some help to you.

2. The science figures are taken from the Soviet statistical handbooks and include expenditures from the state budget and from the resources of industrial enterprises. The series does not include factory expenditures for prototypes, or assimilation of new equipment and processes. While this series is the only one we can supply on an unclassified basis, we believe it is a reasonable approximation of gross outlays on civilian R&D.

3. Let us know if we can be of further assistance.

Office of Economic Research

Attachments:
as stated

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USSR: Science Expenditures; Labor Productivity,
Manhours and Wages in Industry, 1960-1975

	Soviet Industry Data b/			
	Science expenditures billion rubles a/	Manhours (million) c/	Index of industrial production 1970=100 d/	Index of labor productivity e/
1960	3.9	42752	53.8	72.3
61	4.5	43061	57.6	76.8
62	5.2	44616	61.9	79.7
63	5.8	45897	65.4	81.8
64	6.4	47713	69.5	83.6
65	6.9	49377	74.0	86.0
66	7.5	51553	78.6	87.5
67	8.2	53389	84.3	90.1
68	9.0	55288	89.4	92.8
69	10.0	56741	93.7	94.8
1970	11.7	57405	100.0	100.0
71	13.0	58554	106.1	104.0
72	14.4	59217	111.5	108.1
73	15.7	59557	118.4	114.2
74	16.5	60671	125.8	119.0
75	17.4	61737	133.3	124.0
				Rubles per manhour f/
				0.57
				0.62
				0.63
				0.64
				0.66
				0.68
				0.70
				0.73
				0.80
				0.84
				0.88
				0.90
				0.95
				0.98
				1.05
				1.07

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- a. Narodnoye khozyaystvo SSSR, various issues. Data are in current prices.
- b. Equivalent to manufacturing mining and public utilities in US statistics.
- c. M. Feshbach and S. Rapaway, "Soviet Population and Manhour Trends and Policies". Soviet Economy in a New Perspective, Joint Economic Committee, October 1976, p. 113.
- d. R. Greenslade, "The Real Gross National Product of the USSR, 1950-1975". Ibid. p. 269.
- e. Derived by dividing the index of industrial production by the index of manhours.
- f. Derived by dividing the average monthly wage bill by average monthly manhours. The wage bill is the product of average monthly employment times average monthly wage. Wages include holiday pay and bonuses. Average employment includes workers on leave. Wage and employment data are from source a, above.

BIBLIOGRAPHY

During the 1950s, the Chinese published budget expenditure figures on major expenditure categories. Since 1960, even these few data have not been released. Nevertheless, some useful information may be derived from the following publications, all being products of research by Leo A. Orleans of the Library of Congress Legislative Reference Service:

1. "Research and Development in Communist China: Mood, Management, and Measurement," in An Economic Profile of Mainland China, Joint Economic Committee of the Congress of the United States, 1967, Vol. 2, pp. 549-578. See especially pp. 569-578 on Measurement of Research and Development.
2. Professional Manpower and Education in Communist China, National Science Foundation NSF 61-3, 1961.
3. "China's Science and Technology: Continuity and Innovation," in People's Republic of China: An Economic Assessment, Joint Economic Committee, Congress of the United States, 1972, pp. 185-219.
4. "China's Environomics: Backing Into Ecological Leadership," in China: A Reassessment of the Economy, Joint Economic Committee, Congress of the United States, 1975, pp. 116-145.

Other articles in the cited Joint Economic Committee compendiums on the Chinese economy may yield useful information.