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Relationship between Basic and Applied Research Efforts in the USSR

Scientific research in the USSR is carried out by industrial enterprises and by non-economic agencies of the State. Of chief importance among the latter are the higher educational institutions and the Academy of Sciences, the pinnacles of the state system of research institutes. Applied research is largely a function of industrial research components. The efforts of the non-economic research organization is mainly confined to basic research, but considerable activity of this type is also carried on in industrial installations.

FINANCING OF RESEARCH

Four known sources of research financing are presently utilized. The State Budget allocates funds under the category "scientific and research work" within the Education portion of the Social-Cultural appropriation. This Budget appropriation finances all research in higher educational institutions, state research institutes, and part of the effort in industry.

Some of the research performed by graduate students and teachers in universities may be financed by general educational funds in which case it is covered by the Education category proper under the Social-Cultural appropriation.

Industrial and other economic enterprises expend funds for "Planning and scientific research". Such outlays of a research nature

CIA HISTORICAL REVIEW PROGRAM  
RELEASE AS SANITIZED  
1999

are not considered an element in production cost and presumably finance the more basically oriented research performed in economic organizations, as well as that more closely related to immediate production requirements.

Lastly, as a component in cost of production, economic enterprise accounts contain the entry "expenditures for laboratory testing and scientific-research work". Presumably such outlays are entirely of the applied research variety, representing activities immediately related to current production activities.

ESTIMATES OF BASIC RESEARCH EXPENDITURES

From the description of the several sources used for research finance, it may be concluded that basic research is financed from budget allocations to research and possibly from the general educational appropriation and from enterprise outlays not included as production costs. Applied research is financed from the budgetary research appropriation and from enterprise expenditures of both a production cost and non-production cost nature.

Expenditure magnitudes are readily available for budgetary research allocations and for those enterprise outlays not chargeable to production cost.

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Soviet Research Expenditures  
(billions current rubles)

<u>YEAR</u>	<u>BUDGET RESEARCH ALLOCATIONS</u>	<u>ENTERPRISE RESEARCH FUNDS</u>	<u>TOTAL PLANNED OUTLAYS</u>
1946	5.1	1.3	6.4
1947	6.5	1.4	7.9
1948	N.A.	N.A.	8.5
1949	6.6	2.5	9.1
1950	5.6	2.5	8.1
1951	5.3	2.7	8.0
1952	5.6		N.A.
1953	N.A.		N.A.
1954	N.A.		9.5
1955	N.A.		10.5

Indications of the amount, if any of research supported by general educational outlays are not available. Since enterprise research outlays financed as a cost of production would be recorded in the inaccessible internal accounts of enterprises, it is not feasible to arrive at estimates for outlays of this type. However, the lion's share of basic research is covered by the two quantifiable expenditure categories. The more perplexing problem is to remove the applied research element from the figures. This refinement is not possible given current data limitations. However, it is reasonable to conclude that the preponderant share of these expenditures supports basic research activities.

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In 1951 total quantifiable research outlays comprised about 0.75 percent of gross national product. (GNP) Since both of these magnitudes increased about 30 percent between 1951 and 1955, their current relationship is about the same as that prevailing in 1951. The research effort as a proportion of GNP has risen slightly from the prewar period. Between 1939 and 1952 there was somewhat less than a doubling in the number of scientific personnel while GNP increased by over 80 percent.