

## 1.—Research-Development Expenditures, by Industry, 1957 with Estimates for 1958

Industry	Research Expenditures 1957	Estimated Research Expenditures 1958	Increase or Decrease
	\$	\$	p. c.
Mining, quarrying and oil wells.....	6,279,487	5,260,671	-16.23
Manufacturing—			
Foods and beverages.....	1,883,122	1,976,940	4.98
Rubber products.....	4,307,531	4,459,720	3.53
Textile products.....	1,482,206	1,465,550	-1.12
Wood products.....	148,163	152,300	2.79
Paper products.....	6,213,362	6,536,718	5.20
Iron and steel products.....	4,340,043	4,835,265	11.41
Transportation equipment.....	72,918,827	77,992,404	6.96
Non-ferrous metal products.....	5,793,109	7,110,580	22.74
Electrical apparatus and supplies.....	15,348,440	15,948,267	3.91
Non-metallic mineral products.....	1,713,776	1,817,889	6.08
Products of petroleum and coal.....	7,488,518	9,624,000	28.52
Chemical products.....	12,428,448	14,247,164	14.63
Other manufacturing <sup>1</sup> .....	1,808,351	2,349,419	29.92
Transportation, storage, communication and public utility operations.....	3,898,800	4,171,300	6.99
Other non-manufacturing <sup>2</sup> .....	3,091,896	3,051,372	-1.31
<b>Totals.....</b>	<b>149,144,079</b>	<b>160,999,559</b>	<b>7.95</b>

<sup>1</sup> Includes tobacco and tobacco products, leather products and miscellaneous manufacturing, construction, health services, engineering and scientific services and trade associations.

<sup>2</sup> Includes

The following estimates of research-development in the various fields of activity in 1957 show that mechanical, electrical and "other" (mainly aeronautical) engineering, chemistry and metallurgy together accounted for almost 80 p.c. of the total. Expenditures in all engineering fields combined accounted for almost 65 p.c. of the total. Every industry reported some activity in mechanical engineering and at least one other phase of engineering research and also in the chemical research field.

## 2.—Research-Development Expenditures, by Field of Research, 1957

Field of Research	Amount	Field of Research	Amount
	\$		\$
Chemical engineering.....	10,078,282	Geology, geophysics and other earth sciences.....	1,621,535
Civil engineering.....	935,371	Metallurgy.....	12,879,038
Electrical engineering.....	22,300,993	Medicine.....	2,473,357
Mechanical engineering.....	39,843,632	Agriculture.....	421,383
Other engineering.....	23,438,084	Other.....	4,688,988
Chemistry.....	20,328,760		
Physics.....	10,134,656		
		<b>Total.....</b>	<b>149,144,079</b>

Arrangement of industrial-research expenditures by size group based on annual sales of research-active firms shows that the larger firms with annual sales in excess of \$50,000,000 accounted for the major part of the expenditures, although this size group included only 12 p.c. of the firms maintaining research establishments.