



It is important to note that the major R&D performers, the electronics, instrument and aircraft industries, are greatly influenced by government decisions in the fields of defence, transportation and communications. There is little question that the tendency of governments to demand continually improved performance in such fields stimulates R&D in these areas. This is especially true where performance is the significant factor in determining the purchase of goods or systems.

Research and development expenditures are a form of investment in hopes of a future return. The risks involved can be considerable since there is rarely any assurance of success. The nature of these risks explains in part both the concentration and fluctuation of R&D expenditures. It is reasonable to assume that only the larger firms can or are willing to risk large sums since, in the extreme, they must be prepared to accept a total loss. Similarly, the amount of "high risk money" available will fluctuate according to the financial health of the firm.

Canadian industrial R&D is largely financed by industry itself. In 1971 R&D funds came from the following sources: reporting company 71%; federal government 16%; other Canadian sources 7%; and foreign sources 6%. The foreign sources were mainly parent or affiliated companies. Table 9.12 shows the growth of industrial R&D expenditures from 1965 to 1973 and Table 9.13 gives the amount spent intramurally by certain industrial groups.

The 16% originating with the federal government is composed of both contracts and grants. The major contracting agencies are Atomic Energy of Canada Limited and the departments of Communications, National Defence, and Environment. Most federal R&D assistance is provided under various grant programs.

The Department of Industry, Trade and Commerce administers the Programme for the Advancement of Industrial Technology (PAIT), the Defence Industry Productivity Program (DIP) and the Industrial Research and Development Incentives Act (IRDIA), while the National Research Council operates the Industrial Research Assistance Program (IRAP). The IRDIA program differs from the others in that it offers partial rebates for R&D expenditures which have been made in the past. The other programs offer grants in aid of work yet to be done.