3. Trade and Technology Policy

(i) Background:

Research and development is the creative work undertaken on a systematic basis to increase the stock of scientific and technical knowledge and to use this knowledge in new applications. Such innovation can combine with a greater investment and savings effort to underpin continuing economic growth. The use of new knowledge and techniques can create comparative advantages for industry, especially if linked to the development of specialized labour and suppliers. Purchasing technology from the outside can be less "expensive" in the short term for a given firm. The cost and availability of an innovative product, process or service will depend in large part on the nature of the proprietary rights enshrined in domestic and international intellectual property disciplines affecting patents, copyrights, and other such regimes. On the other hand, in-house R&D can have a significance that goes much beyond any specific innovation at a given point in time. In-house research can significantly enhance a firm's ability to learn, and to use and adapt knowledge effectively, including someone else's knowledge. Firm size is also a factor in this regard, with smaller companies less able to reach the financial and personnel threshold needed to carry out significant R&D. A central issue here is how to ensure that governments, business and research institutions cooperate to ensure the effective diffusion of technology.

A number of studies have identified an important correlation between R&D performance, and sales growth and increased market shares, including in Canada.[49] Although not all investment in R&D necessarily yields a competitive rate of return, expenditures on R&D can be an important indicator of the effort devoted to creative activity underpinning a country's competitiveness. The quality of statistics on R&D expenditures suffer from a number of practical short-comings. Nonetheless, R&D expenditure levels, especially when used to gauge cross-national comparisons, do provide a useful benchmark. Canada's record, regrettably, is not good.

[49] Lawrence G. Franko, "Global Corporate Competition: Who's Winning, Who's Losing, and the R&D Factor as One Reason Why", Strategic Management Journal, 10 (1989), pp.449-74; Guy P.F. Steed, "Technology Strategies and Competitiveness: A Canadian Perspective", Science Council of Canada (May 1992), pp.39-41.