

between countries; (b) delays at frontiers for customs purposes and related administration burdens for companies; (c) restrictions on competition for public purchases; and (d) restrictions on freedom to engage in certain service transactions.³ Europe 1992 aims to eliminate these barriers. Hence, by locating a subsidiary within a specific EC member country an extra-EC parent firm could benefit as intra-EC trade opens up.

c) Canadian Investments in the EC

While published data confirm a sharp rise in Canadian direct foreign investment (CDFI) abroad in the 1980s, the data are far too aggregated to indicate the role played by Canadian firms in the telecommunications and computer sector. In 1988, CDFI stock in the EC was \$8.8 billion compared to \$23.1 billion of EC investment in Canada. CDFI in the EC is only 15 per cent of total CDFI. Of the CDFI in the EC, 60 per cent (\$5.5 billion) was in the U.K.

Published data do not indicate what proportion of CDFI in the EC is made by the firms in the telecommunications and computer sector. Northern Telecom has a number of facilities in Europe, (including the U.K., Ireland, Germany, Holland and Switzerland, and a plant being built at Verdun, France). Mitel, partially owned by British Telecom, has a U.K. base to service European markets. DMR has acquired firms in Belgium and Holland, while Memotec has acquired one in Belgium. But few, if any, of the mostly smaller Canadian firms have establishments in Europe. Exceptions include Gandalf Technologies and GEAC. As we shall see, if Europe 1992 provides an incentive for greater European involvement by Canadian telecommunications and information technology firms, it is likely to take the form of presence rather than arms-length trade.

d) Conclusion

There are two reasons why Canadian firms have a role to play in the information revolution that the EC wishes to bring about with Europe 1992. First, the transmittal, storing and processing of vast amounts of both general and highly specific information play an increasingly important role in a modern industrial, but service-oriented, economy.⁴ The production of these information services and the technology that produces them represent an increasing share of the GDP of the EC and other economically advanced nations. A rapidly expanding market provides plenty of opportunities for capable new entrants.

Second, Canadian firms have played a role in this revolution, and some such as Northern Telecom and Mitel have played major roles. For example, Northern Telecom pioneered the digitization of telecommunications networks, which is the chief factor behind the convergence of the telecommunications and data processing sectors. Nevertheless, from the standpoint of commercial interaction with the European Community, the role, to date, of Canadian firms is small, as Table 4 and Figure 4 indicate.

1.2 European Community Context

a) Sector Description

The limited role played by Canadian telecommunications and computer firms in the EC is attributable to at least two factors. In the telecommunications subsector European markets have been *national*, each country served by a single publicly owned or regulated public telecommunications operator (PTO). In turn, these PTOs have been traditionally served by one or more favoured, domestic telecommunications suppliers, making it difficult for outsiders to break into the market.