

is the degree of foreign ownership of Canadian manufacturing and resource industries. Potential clients in these sectors either use the in-house services of their parent or tend to employ consultants from the country of the parent.

In recent years, the industry has suffered from declining profitability levels with the situation exacerbated due to the substantial drop in revenues caused by the recession. However, some factors which would favour a restoration of profits have begun to emerge. Salaries, which comprise 50% to 70% of operating costs, have stabilized in the context of an environment characterized by layoffs. Also improving the international competitiveness of firms has been the movement towards adoption (albeit not as widespread as desirable) of more efficient operating methods, with some firms proceeding faster than others in such areas as automated drafting systems and computer-based design and information systems. The advent of computer aided design and drafting (CAD/CAM), aside from enabling productivity gains in the operations of firms and providing greater flexibility to the designer, has had a marked effect on employment levels by effecting reductions in staff particularly at the technical and subprofessional levels. Knowledge of the displacement of the technician/draftsman from this particular market should prompt labour planners/trainers and training institutions to reassess their training requirements. These productivity enhancing measures are expected to have positive effects in restoring acceptable levels of profitability when market growth returns.

(b) Trade Related Factors

Exports are an important component of total industry activity, representing about 15% of overall billings or some \$300 million estimated for 1984. The bulk of the export activity is accounted for by large and specialized firms. Imports account for less than 10% of the domestic market and are concentrated in the oil and gas field. These originate largely from the U.S.A.

Export potential is promising based on Canada's proven technological capability, particularly in resource and infrastructure projects; the recognition of Canadian capabilities by International Lending Agencies; and the growing demand for training (at both the engineering and post-construction operation phases) services in which the Canadian industry has proven strengths. Moreover, the high degree of domestic ownership accords broad export freedom to the Canadian industry, a factor of special interest relative to the exploitation of communist bloc markets.

However, there are certain factors that may influence the extent of Canadian participation abroad, such as the increasing requirements being imposed by developing countries for local participation in projects which implies less actual project work in future years. In addition, to the extent that export-oriented firms have had to put into their core of experienced engineering talent in the recession-induced down-sizing, there may be increased vulnerability to import competition in the future.

Moreover, while technological excellence is required to succeed internationally, financing is also an important element in obtaining engineering services contracts in developing countries. External financing accounted for 50% of the export fees of Canadian consultants in 1982. CIDA and EDC financing alone accounted for 32% of the export fees. Many clients make financing assistance a prerequisite to bidding. As a result, to penetrate the international market Canadian firms must not only compete on a technological basis but also on the basis of financing. It is, therefore, necessary that Canadian government financing facilities are capable of meeting the financing terms offered by competing countries.

While export of these services makes a valuable contribution to economic growth on its own, it should also be recognized that the benefits of consulting activity abroad extend beyond the engineering sector itself by the creation of opportunities for follow-on sales of manufactured products and/or construction services. Clearly, this spin-off potential is a function of a number of factors such as the source of financing, project location and