

Assessing the Canadian Proposal

An analysis of recommendations that would allow the government to closely regulate technology imports

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A research report issued under the auspices of the Science Council of Canada has recently recommended that the mandate of the Foreign Investment Review Agency be altered to enable that agency to regulate imports of technology.¹ While the Science Council has yet to take an official position on this recommendation, there can be little doubt that the report is reflective of the council's views.²



Science Council recommendations are not binding on the government of Canada. They can, however, influence the government's legislative program. For this reason it is worthwhile to examine the type of regulation advocated by the council and to discuss both the manner in which it might be applied and its ultimate effect.

At present the Foreign Investment Review Agency regulates both the acquisition by foreigners of businesses currently operating in Canada and the initiation by foreigners of new Canadian businesses. The Science Council study advocates that FIRA be authorized to regulate "New licensing and franchising agreements and joint ventures involving an enterprise already in Canada (foreign or domestic) and a business enterprise entering Canada for the first time".³

Were FIRA to be granted this additional authority, only technology transfers which are carried out within established transnational firms and are related to their existing lines of business will escape government scrutiny.

Expanded Power

The council study advocates that this expanded power be used by FIRA, first, to close some industries altogether to foreign direct investment and, in all cases, to discourage foreign direct investment in favor of licensing and joint ventures. Internal technology transfers are to be discouraged, arm's-length transfers encouraged.

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"For certain designated industries, at certain times, licensing agreements and joint ventures will be the only permissible way of obtaining foreign technology: but even for 'unprotected industries' these methods are to be preferred over technology and purchasing associated with foreign direct investment"⁴

Second, it is argued that the power to prohibit the importation of technology should be used by FIRA to alter the terms of trade in favor of Canadian parties to

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technology transfers. Having prohibited the internal transfer, FIRA proceeds to function as the sole agent for arm's-length transfers. This enables it to negotiate better terms for its Canadian clients.

"This will involve the agency in bargaining with potential investors and/or sellers of technology as well as potential technology purchasers, and, at times seeking (1) alternative sources of technology amenable to transfer through a license agreement or a joint venture, and (2) suitable Canadian licensees and participants for joint ventures. This implies the agency should become a much more active intermediary in the process of transferring foreign technology to Canada than FIRA is at present."⁵

Finally, the council study contends that, while FIRA need not participate in the negotiation of all arm's-length technology transfers, it should scrutinize the terms with a view to eliminating license provisions which, in its opinion, are not beneficial to Canada.

"It should also be a central function of the agency to review the terms of all arm's-length agreements including those for which it was in part or wholly responsible. Licensing agreements and joint ventures may carry restraints similar to those associated with foreign direct investment, e.g. tied procurement and export restrictions. Contractual techniques can lead to a licensee being effectively controlled by a licensor. All agreements should be reviewed by the agency with a view to improving the contractual terms for Canada"⁶

The essence of the Science Council's approach, then, is one of discouragement if not outright prohibition of foreign direct investment, state participation in and occasional control of the negotiation of technology transfer arrangements and state scrutiny of the provisions of transfer agreements with the possible prohibition of certain licensing practices.

The manner in which an augmented FIRA might actually carry out this mandate can be inferred, first, from its present operation and, second, from the council's views on the source of Canada's industrial problems.

Approvals

The Foreign Investment Review Agency presently approves 81% of applications to acquire existing Canadian businesses and 85% of applications to establish

new businesses. Applications which are approved often involve commitments by the applicant to create a number of "new" jobs, to buy inputs from Canadian sources, to export a certain fraction of output and to undertake a certain amount of research in Canada. The assumption is the FIRA's intervention has created new and desirable kinds of economic activity in Canada.

An example of this type of intervention is provided by the application of British retailer Marks and Spencer to acquire the Canadian chain operated by Peoples Department Stores. Approval of the application ultimately involved the commitment by Marks and Spencer to: (1) an investment of \$1 million in three new stores in 1977 and an additional \$3 million for 12 new stores by 1980; (2) 83 new jobs for Canadians in new stores to be opened in 1977; (3) obtaining from Canadian suppliers at least 70% of St. Michael textiles and clothing and at least 40% of St. Michael foodstuffs; (4) using Marks and Spencer textile technology and industrial management expertise in the development of Canadian-made St. Michael merchandise; (5) spending at least \$100,000 annually through 1980 on Canadian research and development in textile and clothing technology; (6) promoting the export of Canadian-made St. Michael products; (7) ensuring that a Canadian is elected and maintained on Marks and Spencer's board of directors in Britain.⁷

That the Science Council would have similar requirements imposed upon those proposing to transfer technology to Canada can be inferred from its perception of the problems of Canadian industry. It concludes that the excess of Canadian imports over exports of high technology products is "too great", that high-skill jobs occupy a disproportionately small fraction of the Canadian labor force and that Canada's indigenous technological capability is insufficient.⁸

The council study alleges that this state of affairs is due, first, to the confinement by foreign multinationals of their Canadian units to current technologies and to the Canadian market and, second, to stipulations in technology transfer agreements which have the same effect.⁹

Evidence Lacking

A number of commentators have noted that there is no evidence to support these conclusions.¹⁰ The quality of Science Council study is not at issue here. For present purposes it is sufficient to note that the conclusions reached in the study support a policy of: (1) further restrictions on foreign direct investment; (2) the continuation, if not a more zealous pursuit of the present policy of requiring direct investments which are approved to meet government goals in exports, the hiring of Canadian scientists and engineers, the conduct of research and development in Canada and the sourcing of inputs in Canada; (3) the prohibition of provisions of arm's-length technology transfers which appear, to government, to have the effect of reducing Canadian exports, research or the sourcing of inputs in Canada.

The features of technology transfer agreements most likely to meet with the disapproval of FIRA are: (1) export restrictions; (2) tie-ins; (3) tie-outs and pack-

age licensing and; (4) grantbacks. These provisions would, in the view of the Science Council, restrict the ability of Canadian producers to export high-technology products, to conduct the full range of production activities in Canada, to shop around for the appropriate combination of technologies and to use foreign technology as a foundation for an autonomous technological capability.

The comprehensive set of regulations advocated by the Science Council may indeed increase the technological capability of Canadian industry. They may also involve a net reduction in the wealth of Canadians. To illustrate, consider again the Marks and Spencer case. To obtain approval for its Canadian acquisition, Marks and Spencer was obliged to commit itself to a number of expenditures. It may have made these expenditures in any event. If so, FIRA intervention had no effect. Expensive cosmetics indeed.

Alternatively, the commitments of Marks and Spencer to FIRA may represent expenditures the former would not otherwise have made. In this case they must have been profit reducing. The conditions imposed upon the acquisition entail a wasteful use of technological capability is insufficient.⁸ amount Marks and Spencer would be willing to pay for Peoples Department Stores is reduced. Much of the cost of fulfilling obligations to FIRA is born by the owners of the acquired Canadian firm.

Reduce Value

In general, obligations to FIRA, if binding, will reduce the market value of Canadian businesses. This, in turn, serves as a deterrent to capital accumulation.

The regulatory measures advocated by the Science Council can be exposed to a similar type of evaluation, the initial results of which are presented here.

Consider, first, the policy of discouraging if not eliminating technology transfer via foreign direct investment. The transacting parties will, in the absence of government intervention, choose between internal and arm's-length (market) modes of transfer on the basis of their relative costs.

Market transfers have generally involved technologies that are: (1) older; (2) simpler; (3) more fully developed; (4) more widely known; (5) a smaller fraction of the business of each of the transacting parties and; (6) more distantly related to the business of one of the transacting parties.¹¹ The newer, more complex, less fully developed and larger in scope is the technology, the greater is the advantage to internal transfer.¹² Other things being equal, as a technology grows older, the cost of a market transfer falls relative to that of an internal transfer.

The proscription, by the government, of an internal transfer forces the transacting parties to adopt the more costly market transfer mechanism. This amounts to a requirement that the transacting parties waste resources. It reduces the net gain generated by the transaction. The wealth reduction involved will generally be born by both parties to the transaction, that is, by both the foreign supplier and the Canadian importer of the technology.¹³

If it is assumed that technologies are transferred as soon as their Canadian application becomes profitable,

the requirement that the market mechanism be employed will, other things being equal, render some transfers unprofitable. As time passes and the technology becomes more widely known the cost of a market transfer will fall and a profitable arm's-length transfer will become possible. A period of profitable Canadian exploitation will have been foregone, however, and Canadians share in the loss this entails.

Role for Government

The second element of the Science Council technology strategy is that the government serve an entrepreneurial function, bringing buyers and sellers together, assembling groups of buyers and shopping around, playing one technology supplier off against another. The contradiction this involves is obvious. The incentives faced by government employees are not designed to elicit entrepreneurial activity. Moreover experience reveals that if there are market participants willing to pay for this type of service, specialists will emerge to provide it. It is hard to conceive of an area, save perhaps the enforcement of a cartel arrangement among Canadian technology importers, in which the government would hold an advantage over such specialists. Even here, mere sanction by government of cooperative technology acquisition arrangements would be sufficient.

The third and final component of the Science Council program involves screening technology transfer agreements and possible prohibitions of export restrictions, tying arrangements or grantbacks they may involve.

Screening will be costly in itself. It will also impose two types of costs on the transacting parties. First, it inserts another party into the negotiations, making the negotiations longer if not more complex. Second, by prohibiting voluntary and therefore mutually beneficial contractual arrangements, transacting parties are forced to adopt arrangements they would not otherwise have chosen.

It may be that some license provisions assist foreigners in the extraction of surplus from Canadians. These provisions are, however, the manifestation rather than the source of the power to do so. Upon prohibition they would be replaced by other license terms which would have the same effect but be more costly to negotiate and enforce. The resulting loss would be born jointly.

It may also be the case that the licensing practices to which the Science Council takes exception recur because they reduce the cost of and thereby facilitate arm's-length transfers. Market restrictions, including

export restrictions, reduce the number of markets to which a technology transfer agreement applies. This reduces the number of contingencies the agreement must cover and thus the cost of negotiating and enforcing it.

Tie-ins provide a low-cost meter of the intensity with which a technology is being used. The existence of such a meter is potentially beneficial to small Canadian producers who would otherwise be obliged to pay the higher price charged the larger, average user of the technology. While tying arrangements do imply some restrictions on the purchase of inputs by a licensee, the incentive exists to obtain them from the lowest-cost source whether foreign or domestic.

Grantbacks allow coordination of research between the licensee and licensor. Unilateral grantbacks, while likely to be uncommon, also have a role in reducing the cost of transacting. They provide a means by which a licensee can assure a licensor that his interest is limited to the current applications of the technology and thus obtain it on better terms and with a simpler agreement than would otherwise be the case.

The essential conclusion here is that the terms of voluntary contracts must be assumed to be mutually beneficial. *Per se* prohibition of any of these contractual undertakings is clearly unwarranted. Government-sponsored renegotiation may shift the terms of trade in favor of Canada but does not do so without significant cost. There is no reason to believe the net result is favorable to Canada.

NOTES

1. J.N.H. Britton and James M. Gilmour, *The Weakest Link: A Technological Perspective on Canadian Industrial Underdevelopment* (Background Study 43, Science Council of Canada, Ottawa, 1978) pp. 186-96.
2. See Steven Globerman, "Canadian Science Policy and Technological Sovereignty" *Canadian Public Policy* 4 (Winter, 1978) pp. 34-45.
3. Britton and Gilmour, p. 188.
4. *Ibid.*, p. 190.
5. *Ibid.*, p. 191.
6. *Ibid.*, p. 192.
7. Charles J. Byron, "The Canadian Experience of Marks and Spencer" *Foreign Investment Review* 1 (Summer, 1978) p. 6.
8. Britton and Gilmour, Ch. 2, 3, 4 respectively.
9. *Ibid.*, Ch. 5.
10. See Kristian Palda, *The Science Council's Weakest Link* (The Fraser Institute, 1979); Donald J. Daly, "Weak Links in the Weakest Link" *Canadian Public Policy* 5 (Summer, 1979) pp. 307-17; A. E. Safarian, "Foreign Ownerships and Industrial Behaviour: A Comment on the Weakest Link" *Canadian Public Policy* 5 (Summer, 1979) pp. 318-335.
11. See D.G. McFetridge, "Technology Transfer and the Theory of the Firm" (mimeo, Carleton University, Ottawa, 1979).
12. For descriptions of complex internal transfers see J.N. Behrman and H. Wallender, *Transfers of Technology within Multinational Enterprises* (Ballinger, Cambridge, 1976).
13. Both parties to the transaction will generally have assets, the value of which is enhanced by its consummation.