

Canadian minerals under seige

by Stuart L. Smith

If Canada occupies a position of prestige in the international community, it certainly is not a factor of the size of our population. It is our position as a storehouse of vital natural resources that has permitted us both to prosper and to enjoy international prestige and influence. Metals have always made up a substantial portion of these valuable resources. Our exports of ores, concentrates and basic shapes have been around \$12 billion in recent times (10-11 percent of all exports). Looked at from a point of view of trade surplus, these categories account for a very substantial portion of any surplus that exists. If our metals exports are seriously threatened, then so too is our international prestige and influence.

Mining is a great Canadian success story and is, to an important extent, responsible for the high standard of living enjoyed by Canadians. To examine the future prospects of this important industry, the Science Council of Canada a few years ago commissioned some research work on the subject. The project studied the impact of new materials technology on the market for metals to the year 1990, since extended to the year 2000. The Report was written by G.A. Jewett of G.A. Jewett Associates Inc. This article draws freely on that research.

Substitute materials arrive

We at the Science Council predicted three or four years ago that recovery from the recession would not necessarily bring with it the familiar concomitant growth in demand for raw materials. The reasons we gave at that time were related to new technology which had emerged following the oil shock and which, in effect, allowed greater efficiency, less waste and better conservation of raw materials. Our exact expression was that the "productivity of resources" had been vastly increased by technology and that, via conservation, recycling and downsizing, one now got more function out of less material. Added to this was the effect of new technology in creating substitute materials. A research agenda for those had been set by Japan following the oil shock. As a result of that, together with advances stimulated by the United States space program, a totally new synthetic materials industry has been brought into flower. If all that were not enough to cause concern, there was also the well-documented problem of competition from other mineral deposits, particularly in countries short of hard currency and therefore ready to produce even at low prices.

In Canada, the Macdonald Commission ignored our submission. But now, in the last few months, the respected

American social scientist Peter Drucker has confirmed that the events we predicted did, in fact, occur during the recovery. He has been able to quantify the effect and has referred (*Foreign Affairs*, Spring 1986) to the phenomenon as an "uncoupling" of economic growth from demand for materials. Such a pattern is of the utmost importance to resource-dependent countries such as Canada or Australia.

On the other hand, even if these trends continue — and no one can be certain — it does not mean that Canadian mining is in a hopeless situation. Far from it. There are many actions already being taken, and others that can be taken, to maintain our country as a leader in the industry and to permit continued substantial economic benefits for Canadians in the field of metals. What will be required are new attitudes, new priorities and new activities; even with those, however, we will not be able to rely on the mining industry to carry so much of Canada's economic load.

Our research indicated that there was no longer a "metals industry" but rather a "materials industry." The substitutability of metals by other materials, such as plastics, composites, glass fibers and ceramics, represents a serious constraint to future demand growth and requires a much broader strategic approach. This applies especially to the transportation and packaging markets, but also touches the field of construction. It must be understood that what is predicted is not a widescale "flight from metals," but rather a crucial competition at the margin. Unfortunately, this could keep demand constant rather than growing and, more importantly, could keep prices from rising.

Declining demand for metals

A major assumption of the paper is that there will be very low demand from non-Western countries for Canadian minerals. What is Canada's particular position relative to the anticipated consumption trends? In a low price market, it is conceivable that a low cost producer like Canada might, with continued technical improvements, do very well. Of course, Canadians wish for higher commodity prices to replenish coffers and permit new investment. Still, a temporary low price situation can be helpful if it serves to delay the introduction of substitute materials and to force some losing foreign operations out of the market.

Dr. Stuart Smith is Chairman of the Science Council of Canada in Ottawa.