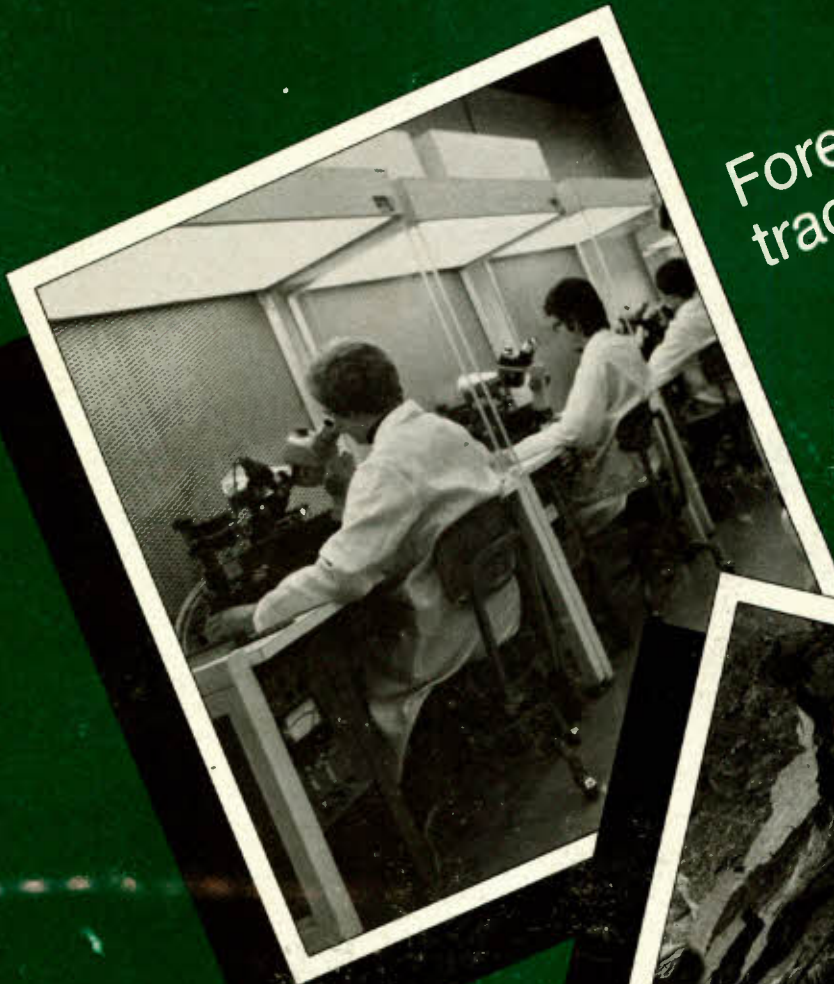


au courant

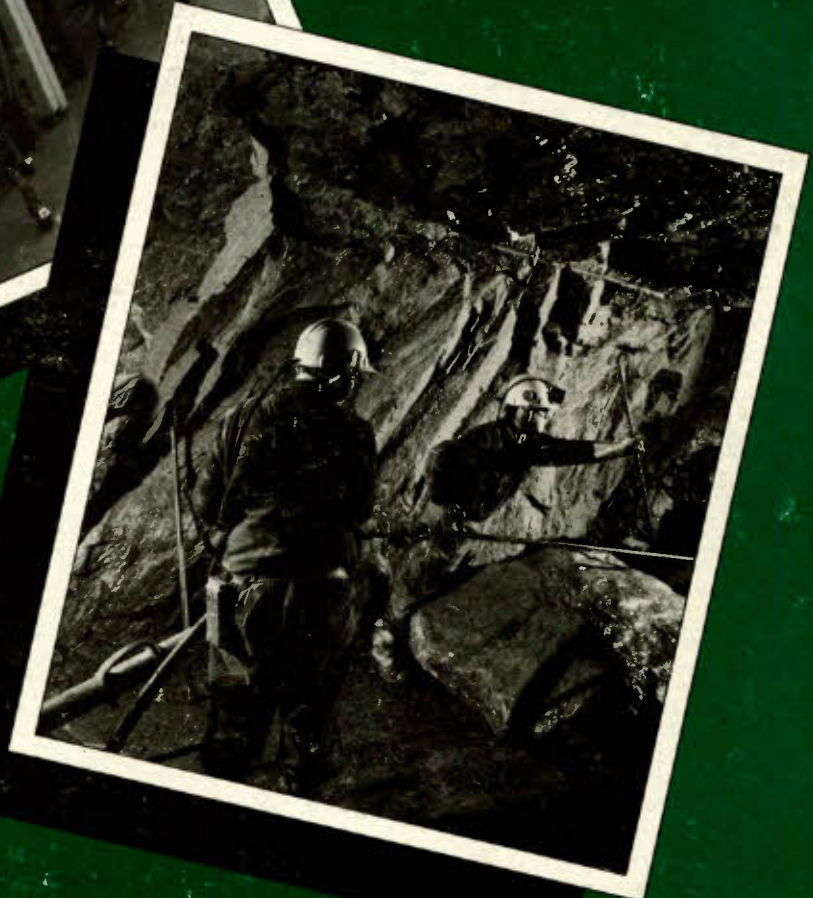
Economic Council of Canada

Volume 4, No. 3, 1983



Foreign
trade issues

A new approach
to productivity



Alberta's
supplies

PUBLICATIONS

Research Studies

Research studies are published by the Economic Council in both official languages. A list of titles is available on request. Each study clearly attributes the findings and conclusions to the individual author or authors rather than to the Council (ordering information below). Two new titles have been published since the last issue of *Au Courant*:

Canadian Productivity Growth: An Alternative (Input-Output)

Analysis, by H. H. Postner and L. Wesa (EC22-115/1983E; \$6.95 in Canada, \$8.35 elsewhere)

Government Assistance to Export Financing

by A. Raynauld, J.-M. Dufour, and D. Racette (EC22-114/1983E; \$7.95 in Canada, \$9.55 elsewhere)

Reprints

The following Council report and research study have been reprinted, and can be ordered according to information below:

Responsible Regulation: An Interim Report (EC22-70/1979E; \$7.25 in Canada, \$8.70 elsewhere)

Minimum Wages: The New Issues in Theory, Evidence, Policy and Politics, by E. G. West and M. McKee (EC22-81/1981E; \$12.25 in Canada; \$14.00 elsewhere)

Discussion Papers

Discussion papers are typically of a technical nature, and are intended for distribution in limited numbers to individuals who may have a particular interest in these or related fields of research. Of varying length and complexity, these papers are reproduced only in the language in which they are written. Each paper is the personal responsibility of the author or authors, and distribution under the auspices of the Council does not, of course, imply that the conclusions of the paper have been endorsed by the Council.

No. 238 "Selective Economic Subsidization and Stabilization Policy in an Inflationary Environment: A Dynamic Aggregative Model," by F. Delorme

No. 239 "Governments and the Residential Mortgage Market I: A Normative Analysis," by G. Fallis

No. 240 "Government and the Residential Mortgage Market II: Programs and Evaluation," by G. Fallis

No. 241 "The Impact of Environmental Regulation on Productivity Growth," by W. A. Sims and J. B. Smith

No. 242 "Inter-Factor Substitution and Total Productivity Growth: Evi-

dence from Canadian Industries," by P. S. Rao and R. S. Preston

No. 243 "The Energy Assumptions: Background Paper to the Twentieth Annual Review," by B. Cain

No. 244 "Statistical Problems of Relating Research and Development Data to Productivity Data," by H. H. Postner

No. 245 "L'évolution des disparités linguistiques de revenus de travail au Canada de 1970 à 1980," by J.-A. Boulet and L. Lavallée, assisted by C. Pedro and M. Poulin

No. 246 "The Alberta Economy 1980-2000: Theme and Variations," by T. T. Schweitzer

No. 247 "Trade, Tariffs, Product Diversity and Length of Production Run in Canadian Manufacturing Industries: 1970-1979," by J. R. Baldwin and P. Gorecki, with J. McVey and J. Crysdale

No. 248 "Productivity Trends and their Causes in the Canadian Mining Industry, 1957-1979," by K. R. Stollery

No. 249 "The Supply of Oil and Gas Discoveries in Alberta, 1947-1985," by J. Jobin

How to order

Research studies and Council reports are available across Canada from bookstores where government publications are sold. (A list is available from the Council on request.) These publications can also be ordered by mail from the Canadian Government Publishing Centre, Supply and Services Canada, Ottawa, Canada, K1A 0S9. (Please be sure to include a cheque or money order made payable to the Receiver General for Canada.) Discussion Papers and *Au Courant* are available without charge from the Communications Division, Economic Council of Canada, P.O. Box 527, Ottawa, Ontario, K1P 5V6.



Economic Council
of Canada

P.O. Box 527
Ottawa, Ontario
K1P 5V6

au courant

Volume 4, No. 3

1983

Energy issues

A brighter outlook for Alberta's energy supplies	6
Costs of finding and developing oil and gas	7
Long-term prospects for Alberta's economy	11

Productivity

A new way of measuring productivity	4
Examining productivity in the mining industry	9
A look at labour quality	10

International trade

Freer trade would improve manufacturing efficiency	2
A study of export financing leads to new proposals	3
Trade liberalization would bring an economic bonanza	8



Roger Olivier
Beauchemin



Raymond Blais



Gordon L. Hill



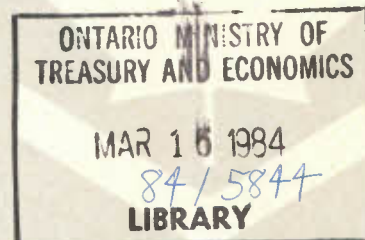
Peter P.
Podovnikoff

New appointments to the Economic Council	5
Council launches study of government enterprises	12

Are we reaching you?

If your address has changed, please let us know. **Send the address label** from this copy, along with your new address to:

Au Courant
Communications Division
Economic Council of Canada
P.O. Box 527
Ottawa, Ontario K1P 5V6



Au Courant est également
disponible en français.

The major reports featured in *Au Courant* reflect the viewpoint of the Economic Council. Research studies, discussion papers, and other background papers are prepared for the use of the Council by members of its staff and others. The findings of these reports are the personal responsibility of the authors. Neither the original publication of these studies and papers, nor their condensation for the purposes of this magazine, should be taken to imply endorsement of their conclusions and recommendations by the members of the Economic Council.

Au Courant is prepared in the Communications Division of the Economic Council and published quarterly under the authority of the Chairman of the Economic Council of Canada, who bears final responsibility for the publication of the magazine under the imprint of the Council.

Editors are welcome to reproduce material in *Au Courant* in whole or in part, with appropriate credit.

ISSN-0226-224X

Trade liberalization would pay off

Trade liberalization will lead to improved efficiency in Canadian manufacturing and the improvement will benefit large as well as small firms.

A paper prepared for the Economic Council looks at the effect of tariff restrictions on the size of plants and product diversity. It is part of a series done by economists John Baldwin of Queen's University and Paul Gorecki of the Economic Council. They were assisted by J. McVey and J. Crysdale of Statistics Canada. Their previous work examined trade barriers and plant scale and trade barriers and product diversity. This effort goes a step further, to examine the relationship

Product diversity

They decided to examine product diversity on an industry basis by comparing the average Canadian plant size with the size of plant at which U.S. firms build a second plant. Such a comparison permits the relationship between diversity and economies of scale to be studied. The more important plant scale economies are, the greater the incentive to add more products (to take advantage of the plant economies). In turn, the more products, the larger plants will be before firms build a second plant.

By comparing average Canadian plant size with the U.S. branching

plant size, an indirect way of analysing product diversity is available, since product packing will not be as important in the U.S. because, on average, the market there is much larger.

Tariffs

The analysis shows that tariff restrictions led to larger plant sizes in Canada relative to the United States. In addition, where diversity was high, Canadian plants were larger relative to U.S. plants when they branched. Finally, the larger the size of market, the closer the similarity between the Canadian and U.S. plant size. These results show that the main benefit to diversity was larger plants. However, this is accomplished at the cost of "excessive diversity" as the firm packed as many products as possible into a single plant.

In earlier work, the authors found that in comparing larger Canadian with larger U.S. plants in high tariff/high concentration industries, Canadian plants were smaller than U.S. plants. When tariffs dropped in the industries, plant size in Canada increased relative to that in the U.S. — evidence of unexploited scale economies.

Regardless of whether the plant is, on average, large or small, the authors' research shows that trade restrictions were costly in terms of efficiency for the Canadian manufacturing sector.

"The Relationship Between Plant Scale and Product Diversity in Canadian Manufacturing Industries 1970-1979," by John R. Baldwin and Paul K. Gorecki with J. McVey and J. Crysdale. Discussion Paper No. 237.



National Film Board

Worker monitoring production among the three factors.

Canada's sagging productivity has often been blamed on the smaller size of plants (compared with the United States) and too much product diversity. Both of these, in turn, are linked to trade barriers. However, little data has been available to test these propositions, especially concerning the impact of product diversity. This has prevented much research from being done on the subject. The authors of this paper had access to a great deal of data through a special arrangement with Statistics Canada.



Circuit assembly

CAN.
EC22-
70/
4-3
cop.2

Government assistance to export financing

On the surface, export subsidies make good sense — they are designed to make Canadian goods and services more competitive in world markets.

But at what cost? Are the pay-offs to the economy worth the billions of dollars poured into subsidies, particularly by the federal Export Development Corporation?

A recent study carried out for the Economic Council concludes that the cost to the economy of the federal program was a net loss of \$1 billion to \$2 billion between 1970 and 1980. With this in mind, the authors question whether the current EDC program is the best way to increase exports.

Written by former Council chairman André Raynauld and University of Montreal colleagues Jean-Marie Dufour and Daniel Racette, the study report says a simpler way to stimulate exports would be to eliminate tariff barriers.

Research for the study contributed to the major Council report on government lending, titled *Intervention and Efficiency*, which was released in late 1982.

Export promotion

EDC loans, credits, and insurance support are only about 5 per cent of the \$85 billion a year in Canadian exports. But roughly 70 per cent of Canadian trade is with the United States where EDC financing is less important.

Raynauld and his co-authors set out to determine whether these financing services are useful.

They also want to find out whether the objectives for the EDC make good sense; whether these objectives are achieved; and whether the export aid programs benefit the economy as a whole.

They pinpoint five basic reasons for federal export aid developed since the EDC's predecessor, the Export Credits Insurance Corporation, was first created almost 40 years ago. These include promoting exports, diversifying trade, boosting processed goods and some services, supplementing the private sector, and matching foreign

export aid programs.

Has the EDC reached these goals? And are the objectives good ones?

Room for improvement

As a corporation, the EDC does a good job, say the University of Montreal researchers. But they find flaws in the tasks chosen for the corporation.

For instance, they say the government objective of promoting exports is too vague. Landing a giant foreign contract "is no reason, in itself, to pat ourselves on the back." After all, money for the export subsidy is taken from other sectors of the economy which also produce jobs.

So they urge the government to tie export aid to benefits for Canada, much as the Foreign Investment Review Agency demands evidence that foreign investment in this country will yield additional benefits to Canadians.

Benefits of aid

One way to measure benefits is to point to additional jobs or to an improved trade balance.

But simulations carried out for the study show that it is useless to artificially stimulate exports when these are offset by imports, say the authors. The net result of such government intervention is no increase in jobs and no improvement in the trade balance.

The EDC programs do help diversify trade, one of the corporation's goals — almost two-thirds of its credits are granted outside the United States and Europe. But it is hard to measure these benefits to the country as a whole, says the Raynauld study.

The EDC seems to have gone some way to meeting the government priority on exports of processed goods and services. But the University of Montreal researchers take no position on whether this is good or bad economically. They say the debate about reorganizing Canada's industrial structure is still unsettled.

On the goal of supplementing the private sector, the authors say there is

a danger the EDC will duplicate the services of private banks abroad. The federal corporation may want to open offices abroad, short-circuiting the already extensive private network.

Private role

Already, they say, Canada shuts out private financial institutions from public export financing more completely than any other country. They suggest the EDC prefers to negotiate directly without consulting private banks and yet later asks the banks to participate in the loans.

The Raynauld study supports the Council's view in *Intervention and Efficiency* that there is room for a greater private role in export financing.

To see whether government investment in export financing is economically worthwhile, the authors look first at the financial flows of the EDC and then examine the economic costs of putting money into public export promotion rather than elsewhere in the economy.

They find that the EDC's financial cost of borrowing in the 1970-80 period was only half a percentage point higher on average than its return on investments. So the deficit on lending operations was small.

Looking at the overall economic cost, they choose several different rates for the social opportunity cost of capital. After subtracting the net real rate of return on export loans, they determine that the economic cost of EDC intervention was between \$1 billion and \$2 billion in the 1970-80 period.

The authors say the gains to society should at least equal this amount if the EDC is to be judged socially beneficial. These benefits are not measured in the study.

Supporters of public export financing say that, since other governments subsidize exports, Canada must do the same or risk losing customers. But the Raynauld study rejects this argument. The authors say money spent on exports should have a reasonable chance of earning enough to recover costs over a suitable period of time.



Government Assistance to Export Financing, by A. Raynauld, J.-M. Dufour and D. Racette (EC22-114/1983E; \$7.95 in Canada, \$9.55 elsewhere).

A new look at productivity

For many Canadians, the word "productivity" conjures up a mental picture of a boss trying to squeeze more work out of his employees.

But there is more to understanding and improving productivity than a whip-cracking boss. Economists know that a variety of factors from technology to management go into productivity growth, but they are not yet satisfied they have a complete grasp of the problem.

Now, two Economic Council researchers, Harry Postner and Les Wesa, have come up with a different way of measuring productivity, which casts new light on Canada's recent performance. In fact, their approach calls for a fundamental change in thinking about productivity.

The new tool they have developed may help policymakers in trying to improve productivity in coming years.

For example, the Postner and Wesa study points to specific industries where technological improvements could have a significant impact on productivity in the economy as a whole. These include communications, finance, insurance, and real estate, and services to business.

The recently published study also demonstrates, for the first time, that domestic research and development contributes to improved productivity. But the pay-off is often indirect: research and development in one industry leads to improvements that help another industry.

New approach

Traditionally, economists conceive productivity to be based on the output and labour employed in a particular industry — their thinking is production-oriented. But Postner and Wesa say the goal of raising productivity should be to increase the goods available for consumers. So, the emphasis should be on final consumption.

The value of this approach, the researchers say, is that it gives policymakers greater choice in selecting ways to improve productivity. For instance, rather than trying to boost productivity in all industries at the same time, you can centre your efforts on those that directly or indirectly have a key impact on goods bought by consumers.

The conventional way of measuring

productivity is output per person employed. To calculate productivity in a particular industry, you take gross domestic product and figure out how much it would be per person employed.

But Postner and Wesa have devised a method that is more complete at the industry level. It includes the impact of one industry on another and the influence of international trade. It contains contributions from outside a particular industry, such as raw materials, energy, and contracted-out services.

In calculating productivity, they include the contributions of all industries to the final product bought by the consumer. The contribution may be very indirect, perhaps raw materials or a component manufactured several stages before final assembly. All this is converted into the labour needed to produce these items.

For example, more goes into making a new car than the final bolts screwed in an assembly plant. Rubber, steel, plastics, electrical products, energy, and financial and business services all contribute.

Different results

Using 1961-76 figures, the researchers find the two methods produced sharply different results in some industries. But the differences were not as great at the economy-wide level where the average growth rate for produc-

tivity was exactly the same under both methods until 1971. After that it dropped faster under the older procedure.

The new method reveals that the leveling of productivity growth in the 1973-78 period was not the same across all industries. It was mainly concentrated in the mining industries, petroleum and coal, construction, and transportation and storage.

It also shows the pervasive role played by the agriculture and transportation and storage industries in improving productivity in the past. Both took big strides technically in the 1960s.

They were directly or indirectly linked to a wide variety of other industries, and so their influence was widespread.

But now the communications, services to business, and finance, insurance, and real estate industries seem better placed to take on that job, the researchers say. More technical change in these industries could have a broad influence.

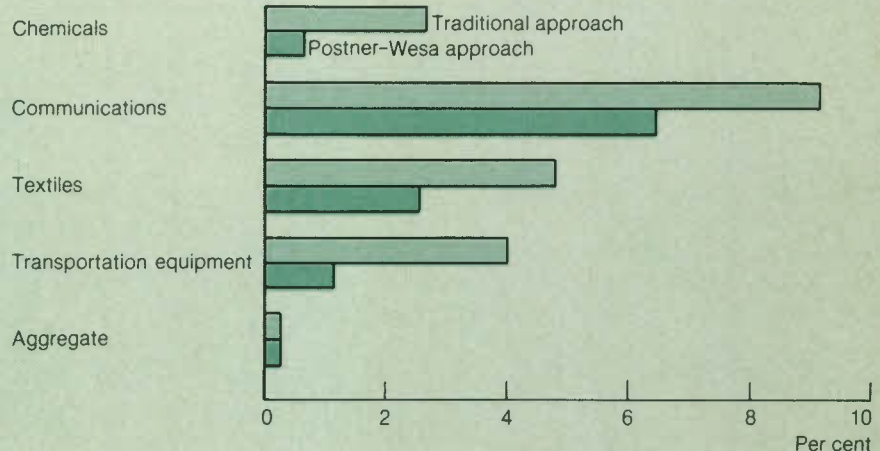
In effect, they also urge Statistics Canada to start producing productivity figures, using the new measurement tool. They also suggest the federal statistics agency should collect additional information on research and development to fill important gaps.



Canadian Productivity Growth: An Alternative (Input-Output) Analysis, by H. H. Postner and L. Wesa (EC22-115/1983E; \$6.95 in Canada, \$8.35 elsewhere).

A comparison of two productivity measures

Average annual growth rate of productivity in selected industries, 1973-1978



NEW APPOINTMENTS TO THE ECONOMIC COUNCIL OF CANADA

ROGER OLIVIER BEACHEMIN

Roger Olivier Beauchemin is a consulting engineer from Montreal. He is president of Arrowby Consultants Inc. and senior partner of Beauchemin-Beaton-Lapointe Inc. He serves as chairman of the board of The United Provinces Insurance Company and as a director of Canadian Marconi Company, Cansult Ltd., Fondation Fournier-Ethier Inc., National Westminster Bank of Canada, and Stablex Canada Inc.



GORDON L. HILL

Gordon L. Hill is a farmer from Varna, Ontario, and is president of Hill and Hill Farms Limited, a pork, beef, and cash crop operation run by his partner son. He is a member and vice-chairman of the Ontario Bean Producers' Marketing Board. He is a former president of the Ontario Federation of Agriculture and the Ontario Farmers' Union, and is a former member of the Canadian Agricultural Stabilization Board and the Ontario Farm Products' Marketing Board. Mr. Hill has also served on various Ontario and federal agricultural enquiries.



RAYMOND BLAIS

Raymond Blais is a chartered accountant and president of the Confédération des caisses populaires et d'économie Desjardins du Québec and the Caisse centrale Desjardins du Québec in Lévis. He is a member of the board of the Caisse de dépôt et placement du Québec and has served on the boards of the Fiducie du Québec, the Crédit industriel Desjardins, and the Economic Council of Lévis-Lauzon.



PETER P. PODOVINIKOFF

Peter P. Podovnikoff is a certified general accountant and chief executive officer of the British Columbia Central Credit Union in Vancouver. He sits as a director on the board of the Canadian Co-operative Credit Society and is a member of the International Projects Advisory Committee of the Co-op Union of Canada. He has served as president of the B.C. Credit Union League, as a director of the World Council of Credit Unions, and as a member of the board of the Co-op Trust Company of Canada.



Alberta's energy supplies reassessed

The outlook for Alberta's energy supplies is a bit brighter than even the most optimistic forecast made by the National Energy Board (NEB) in 1981, says Council economist Jacques Jobin. In a paper prepared for the Council's western project (*Au Courant*, Vol. 3, No. 1), he estimates that about a quarter of potential oil reserves remain to be found. The NEB's highest estimate was that a fifth remain undiscovered. Jobin is also more optimistic, on balance, about natural gas reserves.

In attempting to estimate how many new discoveries are still to be made in Alberta, Jobin began by using conventional techniques applied previously in research on oil and gas supplies in Canada and the United States. Briefly, these hinge on the idea that oil prices encourage exploration and discovery but, at the same time, new discoveries become harder as more oil is found. It should then be possible to find, from past data, what influence the price of oil and the amount already discovered have on new discoveries. Given this and estimates of the future price of oil, expected discoveries could then be estimated. The same ideas apply to natural gas. Unfortunately, this conventional analysis did not work out well, even with plausible modifications. Consequently, Jobin was led to a new approach.

Price increases

His idea was to apply a well-known concept in economics to the problem: the marginal cost curve. The idea behind it is that there is no such thing as a fixed quantity of potential oil discoveries. Instead, the amount of oil that is worth discovering is higher as the price of oil increases. This is because, at high prices, it becomes profitable to discover oil even if the discovery process is expensive. Past data give good but not perfect information on how much the cost of discovery rises as more oil is found, i.e., on what economists call the marginal cost curve. Using that information, together with expected price trends, Jobin was able to make rough estimates of how much oil it would be profitable to discover over the next two decades. The same method was applied to gas. Jobin made

two estimates, each based on a different but plausible assumption about the appropriate allocation of exploration costs between oil and gas.

The first estimate showed 577 million cubic metres of oil and 67 exajoules of gas were as yet undiscovered. The second showed 1,027 million cubic metres of oil and 36 exajoules of gas.

More oil and gas

For oil, both estimates were above the NEB's most optimistic forecast (446 million cubic metres). For gas,

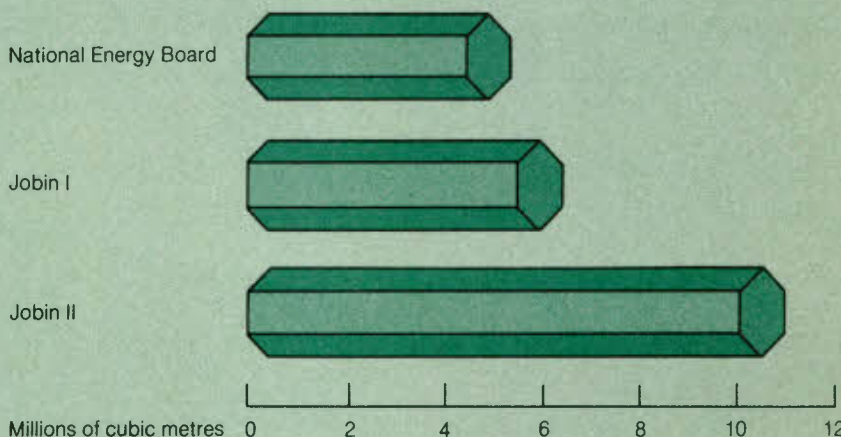
there was rough agreement on one estimate and a higher value on the other (the NEB's most optimistic forecast was 38 exajoules).

Whatever the exact amount for each resource, one thing is very clear: there is proportionately more natural gas than oil left to be discovered in Alberta. This is reflected in the dramatic increase in the cost of finding oil. In 1981, discovery of oil cost 30 times more (in constant dollars) than it did between 1947 and 1956. The cost of finding natural gas has also risen, but at a much slower and steadier rate. In 1981, natural gas discovery costs were only about six times higher (in constant dollars) than they were from 1947 to 1956.

"The Supply of Oil and Gas Discoveries in Alberta, 1947-1985," by Jacques Jobin. Discussion Paper No. 249.

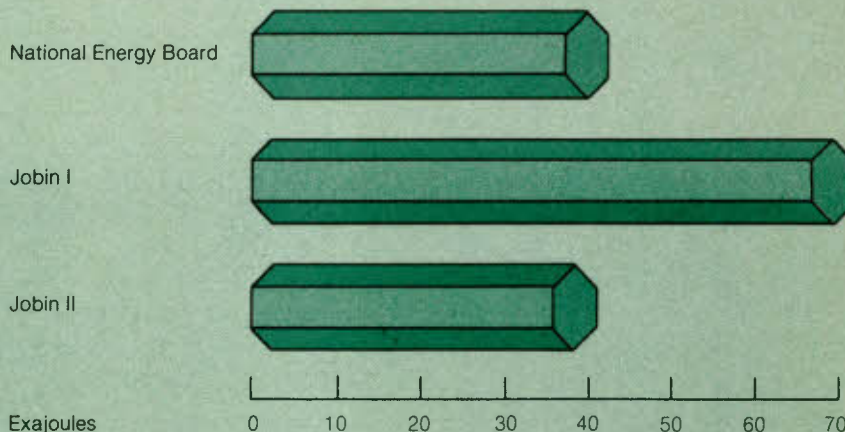
Future oil discoveries

Three alternative estimates



Future natural gas discoveries

Three alternative estimates



Topical Books on Crucial Issues

available from the Canadian Government Publishing Centre

All the publications listed were prepared by the Economic Council of Canada

New Releases



*What's in store for Canada?
Find out in this 1983 Annual Review!*

On the Mend

**Economic Council of Canada
Twentieth Annual Review, 1983**

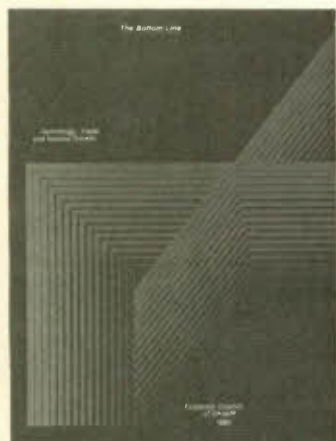
In this report the Economic Council continues to focus on Canada's economic performance and its prospects for future growth.

Special issues examined this year include:

- The income-security safety nets – how well are they holding in the face of persistently high unemployment?
- Women – their changing economic role
- Canada's international situation

The medium-term projections and policy simulations developed by the CANDIDE Group make a major contribution to this Twentieth Annual Review. The conclusions and recommendations presented by the Council deal mainly with the changing economic role of women and with macroeconomic and social policies.

Cat. No.: EC21-1-1983E **Price:** \$5.95 **ISBN:** 0-660-911442-9



*A major report on the future of technology and trade
in Canada*

The Bottom Line: Technology, Trade, and Income Growth

This major report examines the facts pertaining to the recent productivity slowdown and shows that technical advance and international trade represent promising areas for the investigation of ways to restore some growth in productivity and hence in living standards.

Part B of the report is devoted to the process of technical advance and contains a series of recommendations on how it can be speeded up. Part C examines how and why policy in the area of international trade might affect growth in productivity and real income, and reviews some of the structural and adjustment problems that might be involved. One important conclusion is that "the Canadian manufacturing sector has not withered, and is not withering, in the face of increasing international competition, and that Canada is a far cry from de-industrialization."

Cat. No.: EC22-113-1983E **Price:** \$8.95 **ISBN:** 0-660-11354-6

Recent Publications for the business community

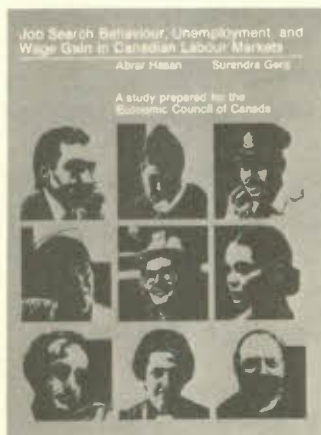


Intervention and Efficiency

A Study of Government Credit and Credit Guarantees to the Private Sector

Among the principal topics examined in this report are the nature and scope of government intervention and the objectives currently being pursued; the environment in which such intervention takes place, including the state of the financial markets; the impact that this government intervention has on financial and real resource allocation and on stabilization policies; and the technical efficiency with which financial assistance is delivered. Tables. Charts. Paperbound. 180 pages.

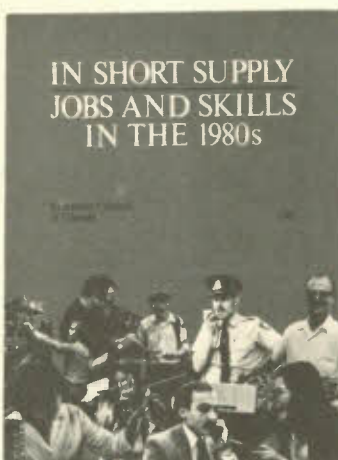
Cat. No.: EC22-111-1982E Price: \$9.95
ISBN: 0-660-11200-0



Job Search Behaviour, Unemployment, and Wage Gain in Canadian Labour Markets

This study focuses on determining the overall significance of the search phenomenon, by examining the following four questions. How extensive is search activity? Are individuals flexible in their asking wage over the duration of search activity? What are the determinants of the duration of search-unemployment? And is search time productive? Bibliography. Tables. Figures. Paperback. 71 pages.

Cat. No.: EC22-110-1982E Price: \$7.95
ISBN: 0-660-11199-3



In Short Supply: Jobs and Skills in the 1980s

The major issues examined in this report include the extent to which unemployment is of the short-spell, turnover variety or, conversely, is a more deep-seated, long-lasting phenomenon; the identification of present and future shortages of skilled labour; the relationship between vocational training and labour market requirements; the role of information in the adjustment process; and the potential role of job-creation policies. Tables. Charts. Appendices. Paperback. 128 pages.

Cat. No.: EC22-108-1982E Price: \$7.95
ISBN: 0-660-11134-9

The Impact of Investment Incentives on Canada's Economic Growth

This deals with the Jorgensen neoclassical investment model; discusses the data required to estimate these investment functions; presents a summary of the simulation results; etc. Bibliography. Notes. Tables. Appendices. Paperbound. 128 pages.

Cat. No.: EC22-112-1983E Price: \$8.95
ISBN: 0-660-11261-2

Meeting Skill Requirements: Report of the Human Resources Survey

The development of vocational skills is a significant feature of any country's social and economic reality. The information and analysis offered in this study are intended to contribute to the understanding of human resource problems, which are of considerable concern to governments, educational institutions, unions, employers, and employees. Tables. First edition 1982. Paperbound. 91 pages.

Cat. No.: EC22-100-1982E Price: \$6.95
ISBN: 0-660-11066-0

Canadian Productivity Growth: Alternative (Input-Output) Analysis

The main purpose of this study is to present an alternative and relatively new approach to Canadian productivity growth analysis, based on input-output techniques, that is final-demand-oriented (or consumption-oriented) rather than industry-oriented (or production-oriented).

This empirical investigation is more extensive than other similar research, and it introduces some novel (experimental) aspects of analysis and interpretation.

The input-output approach to productivity analysis is applied to 40 Canadian industries. These industries encompass the complete business sector of the Canadian economy, and the analysis covers the time period 1961 to 1978. Appendices. Paperback. 96 pages.

Cat. No.: EC22-115-1983E Price: \$6.95
ISBN: 0-660-11384-8

Have you missed any of these titles?

All have been adopted as textbooks in universities across Canada!



Responsible Regulation

An in-depth analysis of the growth, scope, and economic impact of government regulations. This report defines the important issues, outlines possible alternatives for governments, and offers specific recommendations for action. Contents include: concerns about regulations (a view from the private sector); regulation and the complexity of federalism; accountability, policy-making and regulatory agencies; and improvements in governmental decisions concerning regulation. Appendices. Tables. Chapter Notes. 127 pages.

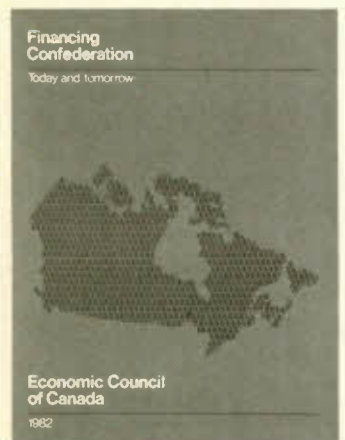
Cat. No.: EC22-70-1979 Price: \$7.25
ISBN: 0-660-10450-4



The Choice of Governing Instrument

This study deals with the perspectives of the principal actors in the decision-making process; the choice of governing instrument: the calculus of decision; public inquiries; taxation, expenditures, and debt management; public enterprise; and regulation. Tables. Figures. Bibliography. Paperbound. 113 pages.

Cat. No.: EC22-101-1982E Price: \$8.95
ISBN: 0-660-11067-9



Financing Confederation: Today and Tomorrow

Among the principal topics examined in this report are: the future of equalization payments; the future of the principal federal-provincial "conditional" grants on health and postsecondary education; the implications of intergovernmental fiscal arrangements for the conduct of stabilization policy; the effects of natural resource pricing decisions on the fiscal positions of federal and provincial governments and intergovernmental transfers; the relationship between the transfer system, movement of factors of production and efficient allocation of resources in the economy; objectives of tax and fiscal harmonization between federal and provincial governments; the nature of the process by which intergovernmental fiscal arrangements are concluded; and a comparison of the recent patterns of public finance in Canada with that of other federal states. Appendices. Tables. Charts. Paperbound. 182 pages.

Cat. No.: EC22-103-1982E Price: \$9.95
ISBN: 0-660-11069-5

Living Together: A Study of Regional Disparities

The result of three years of research into the causes of regional disparities, this report throws new directions in policy-making. The first four chapters examine the rationale for policy, maintaining that the goals of regional policy-making should be to reduce three fundamental types of disparity: unemployment, income levels and population growth rates. The next three chapters examine the causes of these kinds of disparities. Chapters 8 and 9 describe the existing policy used to attenuate disparities, and Chapter 10 summarizes the most important results of the research and contains the recommendations. Charts. Tables. Maps. First edition 1977. Paperbound. 247 pages.

Cat. No.: EC22-54-1977 Price: \$7.50
ISBN: 0-660-00915-3

Reforming Regulation

This report is a follow-up to the Interim Report entitled *Responsible Regulation*. It sets out to analyse the assortment of economic regulations that daily affect Canadians. The findings go a long way towards clarifying how selected regulatory regimes work for or against individual groups, and Canadians generally. The report examines: the economic markets that have traditionally been highly regulated; the regulation of common-property resources; social regulation; and the effect of regulation on business performance. It concludes by returning to the issues of regulatory process discussed in the Interim Report and by offering the Council's general conclusions about matters of regulatory reform. Appendices. Notes. Tables. Charts. 169 pages.

Cat. No.: EC22-93-1981E Price: \$9.95
ISBN: 0-660-10861-5

Order Form

Name		<input type="checkbox"/> Account No.	
Organization		<input type="checkbox"/> Enclosed \$	
		<input type="checkbox"/> Visa	
		<input type="checkbox"/> MasterCard	
Address		Expiry Date	
City		Bank	
Province		Postal Code	
		Signature	

Please check off the titles you are ordering, indicating the quantity required.

	Catalogue No.	Title	Qty.	Price	Total
<input type="checkbox"/>	EC21-1-1983E	On the Mend		\$5.95	
<input type="checkbox"/>	EC22-113-1983E	The Bottom Line: Technology, Trade, and Income Growth		\$8.95	
<input type="checkbox"/>	EC22-111-1982E	Intervention and Efficiency		\$9.95	
<input type="checkbox"/>	EC22-112-1983E	The Impact of Investment Incentives on Canada's Economic Growth		\$8.95	
<input type="checkbox"/>	EC22-110-1982E	Job Search Behaviour, Unemployment, and Wage Gains in Canadian Labour Markets		\$7.95	
<input type="checkbox"/>	EC22-100-1982E	Meeting Skill Requirements: Report of the Human Resources Survey		\$6.95	
<input type="checkbox"/>	EC22-108-1982E	In Short Supply: Jobs and Skills in the 1980s		\$7.95	
<input type="checkbox"/>	EC22-115-1983E	Canadian Productivity Growth: Alternative (Input-Output) Analysis		\$6.95	
<input type="checkbox"/>	EC-22-70-1979	Responsible Regulation		\$7.25	
<input type="checkbox"/>	EC22-54-1977	Living Together: A Study of Regional Disparities		\$7.50	
<input type="checkbox"/>	EC22-101-1982E	The Choice of Governing Instrument		\$8.95	
<input type="checkbox"/>	EC22-93-1981E	Reforming Regulation		\$9.95	
<input type="checkbox"/>	EC22-103-1982E	Financing Confederation: Today and Tomorrow		\$9.95	
<input type="checkbox"/>		Regular information and listings of publications as per selection below		FREE	
				Total	

Orders prepaid by postal money order or cheque must be made to the order of the Receiver General for Canada and addressed to the Canadian Government Publishing Centre, Ottawa (Canada) K1A 0S9.

Also available through authorized bookstore agents or your local bookseller. Add 20% to prices for books to be shipped outside Canada. Payable in Canadian funds.

A Key Source of Information . . .

The Canadian Government Publishing Centre publishes numerous publications on a variety of topics that appeal to the business community. For regular information and free listings of publications, simply check the appropriate boxes below. We will make it a point

to keep you informed of new releases in your areas of interest. Please fill in the Order Form and return it to the address indicated.

- | | | | |
|--|--|--|--|
| <input type="checkbox"/> Economics, Management and Commerce (P62-5E) | <input type="checkbox"/> Energy and Environment (P62-3E) | <input type="checkbox"/> Science and Technology (P62-14E) | <input type="checkbox"/> Sociology and Communications (P62-6E) |
| <input type="checkbox"/> Labour and Immigration (P62-13E) | <input type="checkbox"/> Parliamentary and Special Reports (P62-16E) | <input type="checkbox"/> Women and the Workplace (PUB-04E) | |

Code E92031

Energy reserves: finding and developing costs

Costs of finding and developing oil reserves in Alberta have accelerated dramatically over the past 25 years. The costs of finding and developing gas reserves have increased, but at a fairly steady pace.

That is the major finding of a paper written for the Economic Council's energy project (*Au Courant*, Vol. 3, No. 2) by economists Peter Eglington and Maris Uffelmann. Their analysis of costs is based on data compiled by the petroleum industry and the Alberta Energy Resources Conservation Board (AERCB). Their study is an attempt to estimate the real cost of proving up developed oil reserves separately from natural gas reserves.

Higher costs

Costs contain two elements: finding and developing. Finding costs include expenditures on exploration drilling, geology, bonuses, and the money that is tied up in the process. Development

costs include actual drilling and facilities to connect up the reserves. Eglington and Uffelmann take the total costs recorded, separate them into oil and natural gas, and then divide by how much of each was added to the annual reserve estimates of the AERCB. The final result is an estimate of the real cost of putting into place productive reserves of oil and natural gas in Alberta between 1957 and 1979.

They find that the costs of finding and developing both oil and gas had increased, but that the pace of increase for oil was much larger. The main factor was that finding costs, especially exploration drilling, rose faster than the other cost components related to oil. To eliminate simple inflationary effects from the analysis, the results were converted to 1981 dollars and compared with the estimated value of developed reserves. It was found that the finding and developing costs tracked the movement of reserves'

prices over the period.

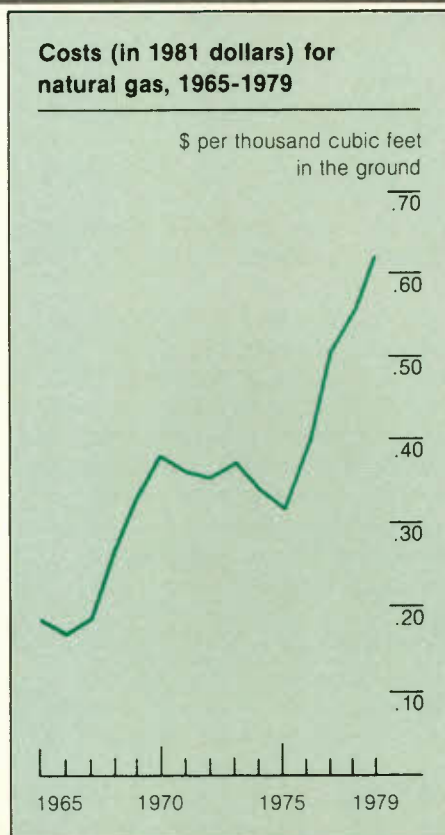
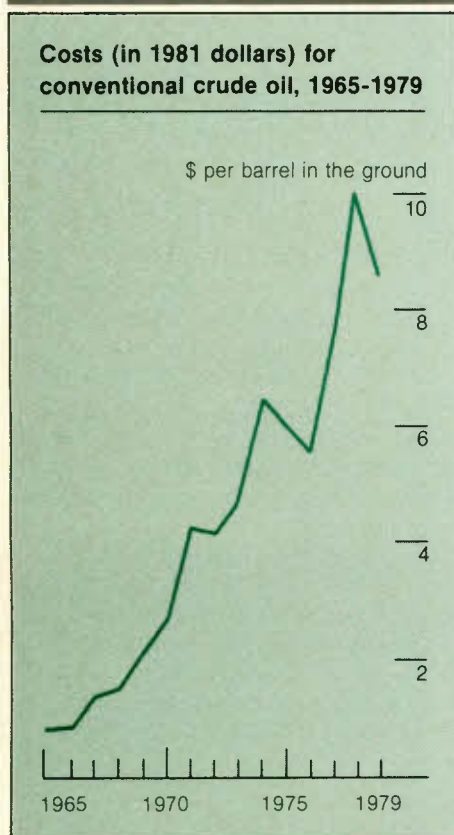
In 1965, more than 6 billion barrels of oil had been added to Alberta's reserve estimates ("booked"). Finding and exploration costs amounted to \$1.00 per barrel in the ground. By 1970, just under 9 billion barrels had been added to reserves, and the costs were between \$2.00 and \$3.00 per barrel in the ground. Since 1970, the cost of proving up the next one billion barrels has risen dramatically, to a range of \$7.00 to \$10.00 per barrel in the ground. That meant the finding and developing of new oil reserves was not a profitable venture in the late 1970s because of the controlled level of Canadian oil prices. Once operating costs, royalties, and taxes are subtracted from the wellhead price of oil, the return to the petroleum industry, at the present time, does not appear high enough to cover the average cost of proving up additional reserves by developing older and/or smaller pools of oil.

The outlook

Eglington and Uffelmann note that the tremendous increase in costs in the late 1970s is probably not a good gauge of estimating a trend for future costs. If exploration was unprofitable, then why did the industry continue to do it? The authors point out they are dealing with averages and that there will be successful companies which will indeed make profits. Secondly, the Canadian petroleum industry had been expecting a bigger return than was allowed under energy policy, which kept Canadian prices below world levels. And finally, because of the uncertainty in any exploration activity, most companies would continue to search for long periods of time even though the results were not profitable.

In the case of natural gas, finding and development costs also increased during the 1960s and 1970s, but at a more steady rate. Gas costs have risen from about 14 cents per million cubic feet in 1960 to about 62 cents per million cubic feet in 1979. There appears to be little or no evidence of any acceleration in gas costs as additional reserves are found.

Finding and development costs of reserves



"Observed Costs of Oil and Gas Reserves in Alberta 1957-1979," by Peter Eglington and Maris Uffelmann. Discussion Paper No. 235.

Multilateral free trade: a bonanza for manufacturing

Multilateral free trade would bring a larger-than-expected bonanza for Canadian workers and the overall economy, according to a recent study.

Based on 1976 data, Richard Harris of Queen's University estimates real wages would leap 25 per cent and real national income would climb a startling 12 to 15 per cent, well above previous calculations.

As well, average fixed costs would plunge almost 30 per cent and productivity would rise substantially. The length of production runs would increase by more than 66 per cent, increasing efficiency and lowering costs.

Manufacturing

Interestingly, the biggest benefits would flow to the manufacturing sector, although a handful of troubled industries such as clothing and knitting mills would wither away, Harris told an Economic Council seminar in Ottawa recently. Free trade critics often suggest the manufacturing sector would fade away if all trade barriers were dropped.

Regionally, free trade would have a greater influence in Ontario and Quebec than anywhere else because the biggest gains would be in manufacturing. The industrial heartland is in those provinces.

Traditionally, there has been more interest in free trade in the western provinces than in central Canada.

The Economic Council has long supported encouraging trade by lowering barriers. Most recently, the Council report *The Bottom Line* opposed any attempt to increase protectionism and urged renewed efforts internationally to reduce trade barriers.

Freer trade is also drawing increasing national attention with recent federal proposals for free trade with the United States in certain selected industries.

New model

Using 1976 statistics, Harris and David Cox of the University of Western Ontario have developed a new economic model to estimate the benefits and costs of free trade to the overall economy and to individual industries.

While the basic data is now seven years old, Harris says he is confident the same general trends would hold with more recent statistics.

Harris and Cox have created a general equilibrium model that includes such features of industrial organization as economies of scale, which do not appear in some conventional studies.

A general equilibrium model takes into account the interaction of different markets in the economy. For example, consumers have only so much money to spend and must choose between different wants and different products. Their choices will affect the industries they buy from and those they decide against. This gives the Harris study a more complete view of the economy than earlier partial equilibrium research.

There have been some trade studies using general equilibrium models in the past, but they have generally assumed that all industries are competitive and that unit costs remain constant as output expands. But this overlooks the uncompetitive nature of some protected industries in this country and the cost benefits of longer production runs.

By including these features of Canadian industrial organization in their study, Harris and Cox fill a significant gap.

After marrying the general equilibrium and industrial organization aspects, the two researchers have come up with much larger benefits from free trade than previously estimated.

Research using conventional, neo-classical trade models have concluded that the benefits of multilateral free trade are small – an increase in gross national product of no more than 2 per cent, based on assumptions that costs remain constant and that markets are perfectly competitive. However, the Harris and Cox model estimates growth at 7 per cent.

Economic growth

With trade walls removed, real wages would rise sharply, helped by longer production runs, more competition, and lower consumer prices.

Productivity – with labour, capital, and other factors included – would rise 9.5 per cent, a major increase.

Increased productivity contributes to a rise in real income for Canadians.

Trade volume would jump a phenomenal 88.6 per cent as Canadian companies penetrated new markets abroad and foreign firms entered the Canadian market.

The benefits of free trade are naturally greater when Canada's trading partners also eliminate barriers, the study results show. But even if Canada wiped out trade barriers unilaterally, the study claims that this country would gain considerably through higher gross national product, higher wages, and lower average costs.

Winners and losers

Looking at the impact of multilateral free trade on individual industries, Harris and Cox determine that all but four of 29 industry groups would increase production. Output of the transportation equipment industry alone would increase by more than 120 per cent. The four losing industry groups would be leather, machinery, miscellaneous manufacturing, and furniture and fixtures.

Much of the clothing and knitting mills industries would eventually disappear under free trade, Harris said in an interview. These industries already rely considerably on protection to withstand foreign competition. They are labour intensive and have few economies of scale.

About 6 per cent of workers would have to move from one job to another, but the Harris and Cox model assumes they would ultimately find other work.

In fact, Harris says labour would be one of the biggest beneficiaries of free trade because real wages would soar. In any case, he says the adjustment problems would not be as severe as many people imagine.

Harris is now trying to pin down exactly the transition costs in moving towards free trade arrangements.

He acknowledges his model does not tackle the question of whether firms that have set up branch plants behind Canadian tariff walls would simply leave.

Productivity in the mining industry

High interest rates, shrinking export markets, and lower mineral yields provide some explanation for the dismal productivity performance of Canada's mining industry in recent years. But the productivity puzzle in that sector remains partly unsolved, says a new Economic Council discussion paper.

University of Waterloo economist Kenneth Stollery, in research carried out for the Council's investigation into growth and productivity, takes a close look at seven Canadian mining industries between 1957 and 1979. His chief concern in so doing is to discover why the productivity decline in mining has been one of the worst in Canadian industry – and one of the longest lasting as well, dating back to the 1960s. While the possible causes of this slowdown have been analysed extensively in earlier research, Stollery says, no satisfactory explanation has emerged.

Author's approach

To solve this mystery, the author first pinpoints various postwar trends across these industries – chiefly, the slowdown in major technical innovations after the 1960s, the decline in mineral yields, and the rapid substitution of capital and energy for labour. Then he uses an economic model to relate these trends to changes in industry costs and to calculate measures of productivity change during that period. Finally, he discusses the policy implica-

tions of his results.

For purposes of his analysis, Stollery notes, he does not restrict his definition of productivity to that of "output per person or per labour hour" – which describes labour productivity alone – but rather uses the wider "multifactor" concept, encompassing all the inputs employed in production.

Author's results

Stollery's approach leads him to the following conclusions:

- Contrary to the popular notion that sharply higher energy prices in the 1970s were largely to blame for the productivity slowdown in this relatively energy-intensive sector, Stollery finds that in reality they accounted for only a small percentage of the decline.
- Wage increases weren't to blame either, according to the author. Because industry-wide technical advance proved to be capital-using and labour-saving, wage increases in fact indirectly increased productivity by stimulating the substitution of capital for labour.
- By the same token, increases in interest rates or in other capital costs inhibited productivity growth. "The implication of our result," Stollery says, "is that monetary policy has at least a greater short-term impact on the mining industry than energy policy has."
- The decline in mineral yields has

had a significant impact in reducing productivity in some of the industries studied. In the copper industry, for example, average grade in 1971-79 was only 60 per cent of that in the 1957-65 period. In earlier years, Stollery notes, the effect of falling grades was offset in most industries by new cost-reducing technology. But it would appear that this type of major innovation has not been in evidence recently.

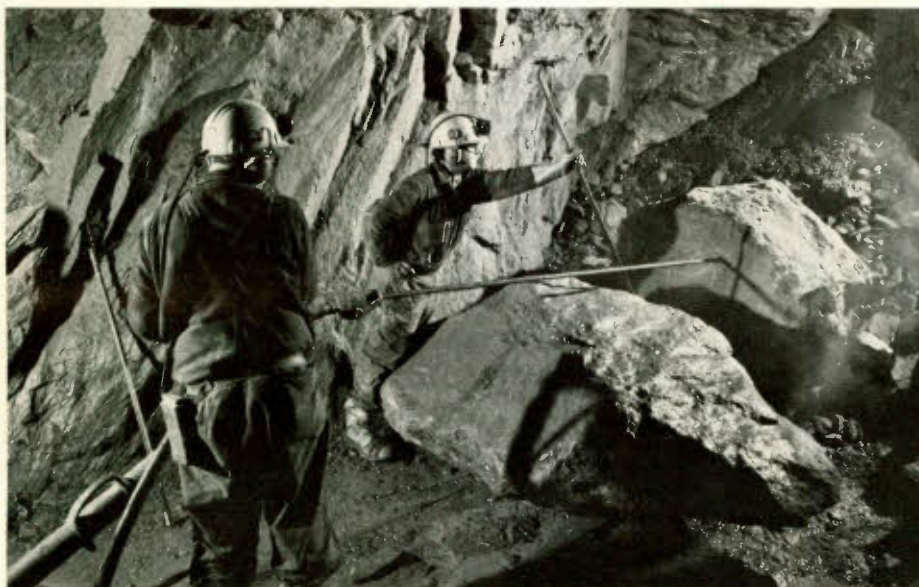
• The decline in output in certain industries during the 1970s probably has some bearing on the productivity slowdown too, the author says, although his model does not prove this conclusively. A good deal of the productivity growth in the late 1950s and early 1960s was associated with rapid increases in output in response to strong demand for minerals, he explains. Nowadays, however, export markets are contracting or growing more slowly, so that mines that expanded their scale of operations earlier are now operating well below capacity. Solving this particular problem won't be easy, he adds, since the key markets are export ones, highly dependent on economic growth in the United States and Europe, and facing growing competition from newer mining areas in Asia and Latin America. A step that might be considered, Stollery suggests, would be the promotion of the sort of market research normally conducted by Inco, for example, on new uses of nickel and stainless steels.

• Finally, the above findings account for some, but by no means all of the productivity decline. The sizable unexplained residual may be attributed to a number of causes, Stollery conjectures, one being an apparent slowdown in technical innovation. In this respect, there is evidence of an inadequate level of research and development in Canadian mining and mining supply industries, related to the small size of many mining and mining supply firms, and to the high degree of foreign control.

Further, health, safety, and environmental regulations introduced in mining in the early 1970s may have had some impact as well, by diverting capital from production towards pollution control. Unfortunately, little direct evidence is available on this point, the author concludes.

"Productivity Trends and Their Causes in the Canadian Mining Industry, 1957-1979," by Kenneth R. Stollery. Discussion Paper 248.

National Film Board



Miners at work

Trends in labour quality

The overall quality of the Canadian workforce dropped slightly in the mid-1970s, but this decline had little impact on the recent productivity slowdown, says economist Peter Chinloy.

Labour quality – influenced by age, sex, skills and education – fell a fraction of one per cent a year, on average, in the 1971-76 period, says Chinloy. This change chopped an even smaller slice off productivity, often defined as output per person employed. So the virtual halt in productivity growth over the last decade can't be traced to the skills, ability and experience of Canadian workers.

But this slump in quality does raise questions for policy makers and Chinloy, a University of British Columbia economist, offers some answers in a discussion paper prepared for the Economic Council of Canada. His study looks into the reasons for changes in labour quality in the 1970s as well as the effect on productivity.

One important reason for the dip in quality, says the author, was the large number of young people entering the labour force, lacking the experience of older workers. On the other hand, education levels rose, helping to offset some of the decline. Post-secondary education was particularly important. Among occupational groups, managers and scientists contributed most to productivity growth.

The Chinloy paper is a contribution to a Council project on growth and productivity. Productivity has flattened out since 1973, and that has an impact on economic growth and rising living standards. Labour quality is closely tied to productivity but is difficult to measure.

Job shifts charted

Chinloy uses Statistics Canada material on employment, earnings and hours to document shifts in employment between industries and regions in the 1961-79 period. Based on these figures, he estimates changes in labour input, a factor in productivity growth. Then, taking census data from 1971 and 1976, he sets out to determine the effect of sex, age, and education on labour quality.

There are some pitfalls that the author frankly acknowledges. Much of the work on labour quality depends on wages accurately reflecting worker

skills and abilities. But if, for example, there is discrimination against women and young people, this may not be entirely true.

Chinloy concludes that, overall, employment increased at an average annual rate of 5.59 per cent between 1971 and 1976 while labour quality fell by .24 per cent a year, leaving labour input at 5.35 per cent. "These results confirm that personal and demographic characteristics continue to contribute negatively to labour input growth in Canada," Chinloy says.

Looking more closely at the reasons for the labour quality change, the author notes that women accounted for a growing share of employment in the 1970s. The overall effect is a reduction in labour quality, says Chinloy, but that is because wages are supposed to reflect skills and productivity. That may not be true in all cases, especially if there is discrimination or if many women are in non-union jobs.

The expanding bulge of young Canadians in the workforce also had a negative impact. "Hiring one more teenager reduces average labour quality in Canada, since such a worker is paid less than the average employed person," he says. But, again, discrimination or market forces may mean that the young person is getting less than he is actually worth.

Schooling improves quality

The managerial and scientific occupations contributed positively to growth in labour quality while others – recreational, clerical, sales, service, farming, processing and transport – did not. So if employment in the skilled occupations grows faster than in other jobs, it should lead to higher productivity.

Education also helped raise the overall level of skills and abilities of Canadian workers in the 1970s. The number of Canadians with an undergraduate degree or diploma more than doubled between 1971 and 1976. The total effect of schooling was small – an increase of slightly more than .2 per cent a year. The bulk of this increase was due to post-secondary education, particularly universities.

Even though education has helped boost labour quality in Canada, the overall contribution seems to be waning and it is less than in the United States, says Chinloy. If government planners are handing out funds based on U.S. labour quality figures, he adds, they may be investing too much. Undergraduate university education also seems to make a greater contribution than post-graduate training, suggesting too much may be spent on graduate schooling.

Chinloy says his study makes no attempt to evaluate government programs or the advantages and disadvantages of government intervention. Yet labour quality research does cast light on certain programs, he says. Employment training is one example. In negotiations with the provinces, the federal government has proposed that some funds be switched from post-secondary institutions to training. The benefits of the policy will be greater if, in fact, formal schooling is contributing less to labour quality growth.

The federal government spends a lot of money on post-secondary education, but benefits are hard to establish. By measuring the contribution of education to productivity, labour quality research can estimate the most efficient allocation of funds between elementary, secondary, and post-secondary schools, says Chinloy.

"Labour Quality Change in Canada," by Peter Chinloy. Discussion Paper No. 231.



Workers in assembly plant

National Film Board

The outlook for Alberta revisited

Economic growth in Alberta will be close to the national average for the rest of this century. The province's "boom" years are unlikely to be repeated even if major energy discoveries and development take place.

Council economist Thomas Schweitzer has prepared a sequel to a paper dealing with future economic prospects in Alberta (*Au Courant*, Vol. 3, No. 4). His new work simulates alternative scenarios about those prospects. Most notably, he looks at what would happen if a much more optimistic energy scenario than that used in the previous paper were assumed.

Under this more optimistic scenario, economic growth in Alberta would improve over the base case to between 2.7 and 3.0 per cent a year. This would be at or slightly above the expected

growth for the rest of Canada. The base case projection (same as in the previous paper) showed oil production dropping by 50 per cent over the next two decades and gas production peaking in the late 1980s at some 37 per cent above the 1980 level, then dropping to 13 per cent below the 1980 level by 2000. Economic growth in the province would range from 1.4 to 2.0 per cent.

Energy prospects

The optimistic energy scenario assumes substantial new discoveries of oil and natural gas, the building of two additional oil sands plants, increased gas exports, and a 50 per cent increase in production at the Syncrude oil sands plant. Oil production would drop 10 per cent by 2000 and gas production

would peak in 1991 at 55 per cent above the 1980 level and then stay there until the end of the century. While this scenario would lead to considerable economic growth, Schweitzer finds that it would not be as great as the extraordinary pace of economic growth enjoyed by the province between 1961 and 1979.

Manufacturing

Schweitzer examines what would happen if Alberta used 30 per cent of the Heritage Fund to promote manufacturing through an "across the board" subsidization. He determines that the stimulus to economic growth would be less than one-tenth of one per cent a year.

Wage impact

He finds that wage behaviour is critically important. If wage increases moderate a lot in response to high unemployment, wages are called "flexible." If increases moderate only a little, wages are called "inflexible." Flexible and inflexible wages produce very different results. The base case assumes inflexible wages. If wages are flexible, it will mean significantly lower unemployment rates in the years ahead, but at the cost of lower income per capita, less migration, and lower economic growth. Schweitzer says past data are inadequate for deciding whether wages in the future in Alberta will be flexible or inflexible.

Migration

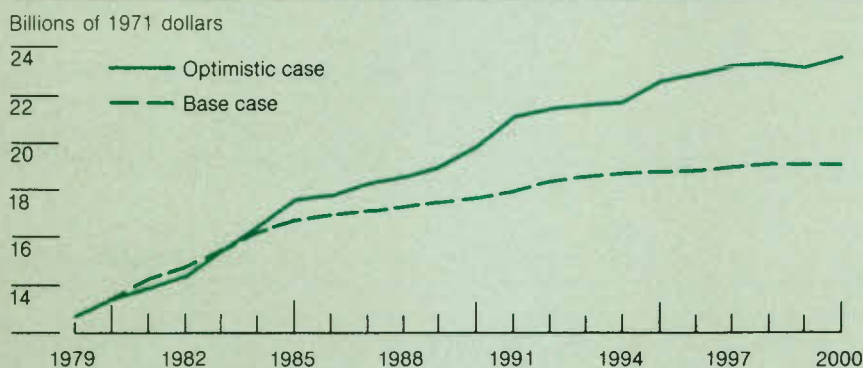
A similar problem, of not being able to decide exactly which kind of behaviour will apply in the future, arises with respect to migration. The previous paper supposes the differences in income and fiscal benefits are a better explanation of movement than differences in income and unemployment rates, but past data give either hypothesis good support. Had unemployment been used in the explanation (a scenario investigated in this paper), the future would hold slightly lower unemployment rates in Alberta but also less migration.

Schweitzer tests to see what higher or lower world energy prices will do to his model. He finds that only a major upward or downward change will have an impact. Shifts of 1 to 2 per cent per annum will have a minimal impact on the provincial economy.

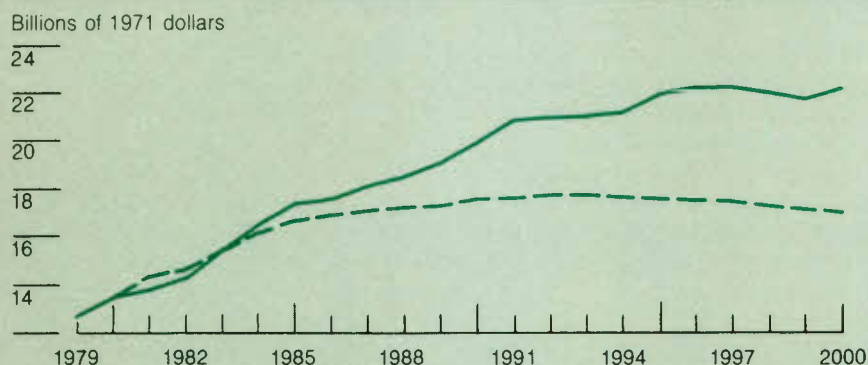
"The Alberta Economy 1980-2000: Theme and Variations," by Thomas Schweitzer. Discussion Paper No. 246.

Real provincial product in Alberta

Inflexible wage scenario, 1979-2000



Flexible wage scenario, 1979-2000



S·P·E·A·K·I·N·G · O·U·T

Canadians ride in Crown-owned planes or trains, listen to programs broadcast by the publicly owned network, and light their homes with electricity from government-owned corporations.

But there is a lot of people don't know about government enterprises. How well are they fulfilling their assigned tasks? Are they the best answer to problems governments want to solve?

The Economic Council has just launched a study of federal and provincial government enterprises to answer questions like these. The project is expected to be completed in about two years.

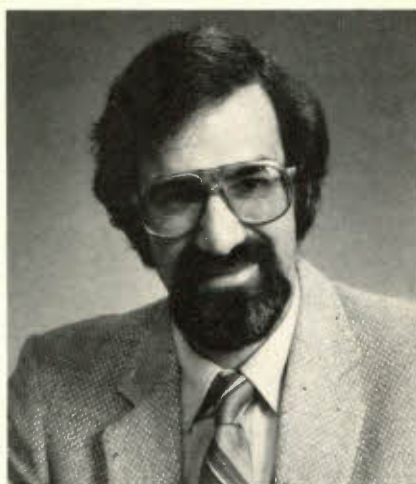
To find out more about the study, *Au Courant* recently interviewed Ronald Hirshhorn, director of the government enterprise project.

Au Courant: Why is the Council undertaking a study of government enterprises?

Hirshhorn: The activities of public corporations have been the subject of considerable concern and debate. The recent report of the Auditor General, the record losses of Canadaair, and federal proposals aimed at controlling growing provincial holdings in the transport sector have focused attention on some of the important issues in the area. It's our view that, notwithstanding the considerable attention that's being given to public corporations, there are important gaps in our understanding of these entities. Economists have indeed devoted relatively little thought to the role and activities of public corporations in Canada. We think that we can make a contribution to filling this gap.

Au Courant: What are the objectives of the study?

Hirshhorn: A major focus of this study will be on two central questions. What is the appropriate role to be played by government enterprises in Canada? In other words, given the range of instruments the government has at its disposal, how



Ronald Hirshhorn

does government enterprise fit into the scheme of things? Under what conditions and for what sorts of problems is government enterprise the correct form of response? A second question we want to look at is how things can be improved. How can the legal and institutional framework we have in place be modified so as to make government enterprise a more desirable policy instrument?

Au Courant: Can you give some examples of what you're thinking of in this respect? What kind of instruments are at the disposal of government?

Hirshhorn: There are a variety of avenues by which governments attempt to influence behaviour in the market – to encourage activities that are seen to be socially desirable and discourage activities that are undesirable. Government ownership – full or partial – is among several alternatives. The others include regulation, taxation, subsidization, and even exhortation. The government may influence the industrial environment through trade and competition policy. It may also exert direct pressure through its role as a major employer and its position as a major purchaser of goods and services.

Au Courant: When you mention the legal and institutional framework, what are you talking about?

Hirshhorn: Essentially, what we want to look at is the framework of incentives under which government corporations operate. How have the institutional structures that exist and the formal and informal controls governments have put in place affected performance? This will involve an examination of such things as whether relevant measures of corporate performance exist, whether the controls on capital spending are appropriate, and whether the nature of management rewards and penalties are optimal. We will also want to look at what sort of changes can be made to make the corporations more efficient in economic terms and more effective in fulfilling their social obligations.

Au Courant: How are you organizing the research to carry out this study?

Hirshhorn: We've broken the research down into three types of studies: background studies, which are intended to provide basic information about public corporations in general and about Canadian public corporations in particular; enterprise studies, which will involve detailed case studies; and what we call framework studies, which will examine some common issues that arise in connection with the legal and institutional framework.

Au Courant: I'm not sure whether you're able at this point to name the corporations you will be studying, but can you give an indication of what areas you will be looking at?

Hirshhorn: In the studies, we want to look at a number of different areas. We want to cover some of the most important corporations and those which are in some way indicative of important aspects of public enterprise behaviour. Certainly, the electric utilities stand out – the assets of the provincial utilities exceed the assets of all federal public corporations combined – and we will want to examine them. Telecommunications is very important,

"Many of the most important corporations emerged in the course of the government's attempts to respond to specific problems".

as is transport. Growing areas of importance are the mining, petroleum, and oil and gas sectors. There are other areas which are interesting because they're examples of the use of government enterprise to solve particular types of problems. Government has gotten involved in some important manufacturing enterprises to bail out private firms. In other cases, the government participation resulted because the private sector was unwilling to underwrite certain types of risks. We want, to some extent at least, to touch on all these different aspects of public enterprise activity.

Au Courant: *What do you have in mind as far as framework research studies are concerned?*

Hirshhorn: Here we will undertake analytical and prescriptive studies focusing on a number of important common problems. For example, how do you monitor management performance in public firms given the absence of many of the usual indicators of performance that exist for private firms? What sort of adjustments are required to account for the fact that public corporations are often required to undertake activities with no commercial justification? What type of financing arrangements are appropriate for public corporations? Are controls on the growth of public enterprise desirable, and if so, what sort of controls? Answers to these types of questions are important if we are to develop an improved framework of incentives and controls for public corporations.

Au Courant: *Has there been some coherent approach to developing Crown corporations at the federal and provincial levels?*

Hirshhorn: Many of the most important corporations emerged in the course of the government's attempts

CAN.
EC22-
70/
4-3
cop.2

Canada. Economic Council
of Canada.

Au corant.

Canada's credit standing in foreign capital markets. The Cape Breton Development Corporation was established because Dominion Steel and Coal Corporation was closing its coal operations and the already weak Cape Breton economy was facing increased unemployment and distress. Many of the provincial governments established resource companies to overcome the constraints they faced with respect to the control of natural resources and their ability to obtain increased resource revenue. That's not to say that political and ideological factors have been irrelevant. But it certainly does

"Data available suggest that since the mid-1960s the government enterprise sector has grown somewhat faster than other sectors of the economy."

seem that the force of events has been important in explaining the growth of government enterprise in this country.

Au Courant: *Do these enterprises make a significant contribution to government debt?*

Hirshhorn: We do have some preliminary figures on the borrowings of some of the most important federal government corporations. What we've done is taken the fourteen largest borrowers - this includes Canada Mortgage and Housing Corporation, Export Development Corporation, CN, Petro-Canada, the Wheat Board, and Canadair. Government investment in these corporations in the form of debt and equity and the private sector borrowings of these corporations, which are, for the most part, guaranteed by the government, came to \$37 billion in 1982. This accounted for over 35 per cent of all federal government long-term debt in that year.

Au Courant: *Is there any way that you can tell whether their importance economically is growing or not?*

Hirshhorn: Data available from Statistics Canada suggest that since the mid-1960s the government enterprise sector has grown somewhat faster than other sectors of the economy. The strongest growth has occurred at the provincial level.

Au Courant: *Are there obvious cases where government enterprises fill a need that no one else could fill? And vice versa, are there cases where they are doing something that private enterprise could do just as well?*

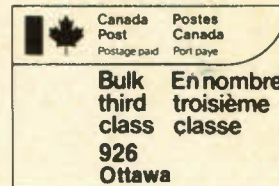
Hirshhorn: In the case of some of the enterprises, there was a clear need which wasn't being filled by the private sector at the time they were established. It is now conceivable that, in certain areas, where there exist alternative systems, one could legitimately ask whether there continues to be a need for government enterprise in such areas, and that's quite a different question. To answer the second part of your question, we should probably start by making clear that, in general, there are important differences between public and private enterprises. Public enterprises have commercial responsibilities, but they're also involved in noncommercial activities related to the achievement of broader policy objectives. In some cases, this distinction gets blurred. In the case of some public corporations, their social responsibilities are either very insignificant or it may be the firm is compensated in much the same way as a private firm would be compensated if it were required to undertake certain social functions.

Au Courant: *What general philosophy does the Council have in approaching this task?*

Hirshhorn: What is of major importance to us is whether government corporations are effectively fulfilling the roles assigned to them and whether the corresponding costs are reasonable. In other words, is government enterprise appropriate in various circumstances, or are there better ways to pursue some public policy objectives?

LIBRARY
MIN OF TREASURY & ECONOMICS
1 FL FROST BLDG NORTH
QUEEN'S PARK
TORONTO ONT
T514403

M7A 1Y8



WORKING TO IMPROVE CANADA'S POLICY PERFORMANCE

Economic policy performance has never been of such crucial national interest as in the 1980s. Each and every Canadian is affected in some way by our energy policy options, by the relationship between our industrial and market structure, or by business income taxation – to name but a few of our concerns.

The Economic Council of Canada knows this, and since the time of its establishment by Act of Parliament in 1963, it has endeavoured to keep this national interest at the forefront of its work.

We are an independent advisory body seeking to improve Canada's economic performance, not through policy making but through the following important roles:

Consultation

The Council consists of economists, specialists, and citizens from a variety of disciplines, activities, regions, and socio-economic groups. Together, we consult and advise – interacting with various governments and groups, studying, analysing, and making recommendations on significant Canadian economic issues and policies.

Research

Our staff of experts, assisted by technical and support services, provides original research and background information on many specific topics, focusing mainly on the medium- and longer-term problems of the Canadian economy.

Information

The Council also endeavours to educate and inform the Canadian public with respect to economic problems and possible solutions by making its findings and recommendations known to the media and to the individuals and groups involved in discussions of public policy.

Whether the issues we address are as regional as the development of Western Canada or as national in scope as the problems that face women in the marketplace, the Council continually seeks to improve economic policy and its impact on Canadians.



Economic Council
of Canada

P.O. Box 527
Ottawa, Ontario
K1P 5V6

