au courant

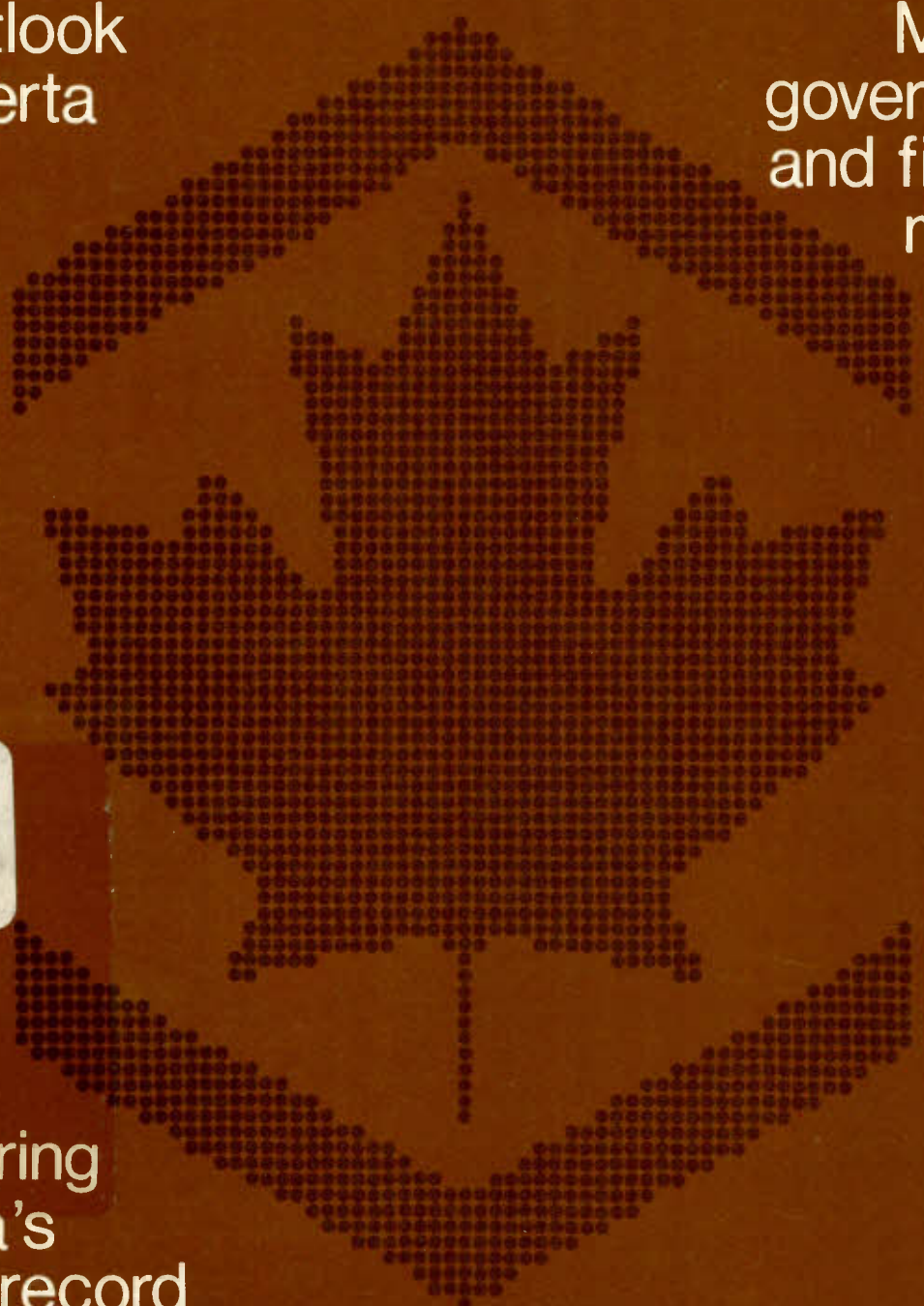
Economic Council of Canada

Volume 3, No. 4 ,1983

Special anniversary feature on the Council

The outlook for Alberta

More on governments and financial markets



aring Canada's energy record

PUBLICATIONS

Research Studies

Research studies are published by the Economic Council in both official languages. A list of French titles is available on request. Each study clearly attributes the findings and conclusions to the individual author or authors rather than to the Council.

The following research studies have been published since the last issue of *Au Courant*.

Job Search Behaviour, Unemployment, and Wage Gain in Canadian Labour Markets, *by Abrar Hasan and Surendra Gera* (EC22-110/1982E; $7.95 in Canada, $9.55 elsewhere).

The Impact of Investment Incentives on Canada's Economic Growth, *by Carlton Braithwaite* (EC22-112/1982E; $8.95 in Canada, $10.75 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. 221 "Migration and a Small Long-Term Econometric Model of Alberta," *by Thomas T. Schweitzer.*

No. 222 "International Energy Comparisons: A View of Eight Industrialized Countries," *by Bobbi Cain, assisted by Pat Nevin.*

No. 223 "L'offre de découvertes de pétrol et de gaz naturel en Alberta, 1947-1985," *by Jacques Jobin.*

No. 224 "An Economic Analysis of Industrial Training in Canada," *by Wayne Simpson.*

No. 225 "Entry and Exit in the Canadian Manufacturing Sector, 1970-1979," *by J. Baldwin and P. Gorecki, with J. McVey and J. Crysdale.*

Reprints

The following report has been reprinted, and can be ordered according to information below:

Farm Incomes in Canada, *by George L. Brinkman* (EC22-97/1981E; $7.95 in Canada, $9.55 elsewhere).

Erratum

Au Courant apologizes for errors made in the biography of new Council Member, Douglas P. Thomas (*Au Courant*, Vol. 3, No. 3). The final sentence should read, "Mr. Thomas *was* regent for the Canadian Investment Seminar, and past director of the *Montreal* Society of Financial Analysts."

The Economic Council of Canada is an independent advisory body established by Parliament in 1963 with broad terms of reference to study and report on a wide range of matters relating to economic development. The act requires the Council to make an annual review of the country's economic problems and prospects, and empowers it to conduct other studies on its own initiative or at the request of the Government, and to publish reports as it sees fit.

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, Hull, P.Q., K1A OS9. (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.

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au courant

Volume 3, No. 4 1983

Governments and financial markets

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Au Courant est également disponible en français.

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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.

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Government aid off target

At a time when skilled industrial workers are sorely needed, government assistance to manpower training programs may be off target.

University of Manitoba economics professor Wayne Simpson, in a paper written for the Economic Council's research into growth and productivity, says that government subsidies appear to be having no effect where they could be doing most good – in encouraging the training of general skills. Instead, their greatest impact seems to be in the area of specific skill training, where firms have more incentive to finance their own programs.

Simpson's purpose in what he terms an exploratory research paper is to evaluate industrial training in Canada through a better understanding of the economics of training decisions. In the course of his analysis, he makes extensive use of a survey of almost 1,400 Canadian companies (the Human Resources Survey) conducted by the Economic Council in 1980 (*Au Courant*, Vol. 1, No. 2). The survey collected information on current and future skill shortages, in-house training programs, industrial training costs, and the availability of government assistance. Using the survey data, Simpson develops an economic model to pinpoint the major training problems companies are facing, and to assess the effectiveness of government policies in this area.

Evidence from the Council's 1980 survey and other sources signals the existence of critical shortages in various labour skills, a finding which, given the current large numbers of job hunters, implies manpower training programs aren't entirely up to scratch. If these programs could turn out more skilled workers, Simpson says, then companies would be able to fill vacancies and to operate at peak efficiency. Productivity would inevitably increase, and inflation would be curbed as well, through a moderating of the wages firms need to pay to attract skilled labour.

So, better government support for job training can be an effective policy response to our current economic dilemma, Simpson says. Too, there are valid economic reasons for government intervention in this area, he argues, in that government subsidies or loans can provide employers with some protection against the risks involved in running training programs, for example. While the federal government appears to be stepping up its participation, up to 1980 it concentrated most of its spending on the Canada Manpower Industrial Training Program, which emphasizes rapid skill training to bring down unemployment as quickly as possible, and to fill glaring labour shortages. The short-term, classroom-type approach of this program though may not promote long-term productivity and employment growth nearly as effectively as thorough on-the-job training over longer periods, Simpson says.

In order to analyse job-training decisions and the appropriate direction for government policies with any effectiveness, the author says, a distinction should be made between general skill training on the one hand, and specific skill training on the other. The former refers to the acquisition of skills in widespread demand, and the latter to specific skills valuable only to a single firm. Companies will have a vested interest in teaching employees special skills of direct immediate benefit to their operations. But employers may be less inclined to pay for general training, on the grounds that costs are hard to recover, since workers with these portable skills can easily find work elsewhere. So government assistance is probably best directed towards this kind of program. On the other hand, Simpson adds, general training benefits a firm by equipping workers with skills it badly needs.

When Simpson constructs an economic model to isolate some current key training problems, he finds, somewhat surprisingly, that government subsidies in the recent past have resulted in more specific training, but have had no impact on general training programs. This finding, he says, "can only suggest that current government assistance to promote non-apprenticeship training is ineffective."

Despite the limited nature and the datedness of the data at his disposal (and he underlines the pressing need for more groundwork in this area), Simpson is also able to conclude that:

- larger firms have longer training programs and do more specific training than smaller ones;
- Ontario and the Atlantic region are doing significantly less training than Quebec and British Columbia;
- the increase in the minimum wage in the 1970s and 1980s – which arguably could have impeded training programs, by making it more expensive for companies to keep workers-in-training on the payroll – has, in fact, had no impact on employers' training decisions;
- high worker turnover increases the incidence of general training within firms (indicating that the need to fill vacancies outweighs the risk of losing workers to other firms).

"An Economic Analysis of Industrial Training in Canada," by Wayne Simpson. Discussion Paper No. 224.

National Film Board of Canada

Alberta's prospects not bright

Prosperous Alberta might be facing serious economic problems within the next twenty years, according to an economic scenario developed by a Council economist.

On the basis of this scenario, Thomas Schweitzer says that the province's days of strong economic growth could be numbered. Its economy may begin to falter badly in the late 1980s, his analysis shows, with much slower growth and, most probably, higher unemployment in store thereafter. As a result of this slowdown, by the 1990s, more people may be leaving Alberta than settling there.

In conducting his analysis, Schweitzer considers changes only in the energy sector, making the assumption that there will be no major changes in any other sector over the next 20 years. His calculations are based on 1981 National Energy Board oil and gas projections, which are now being revised.

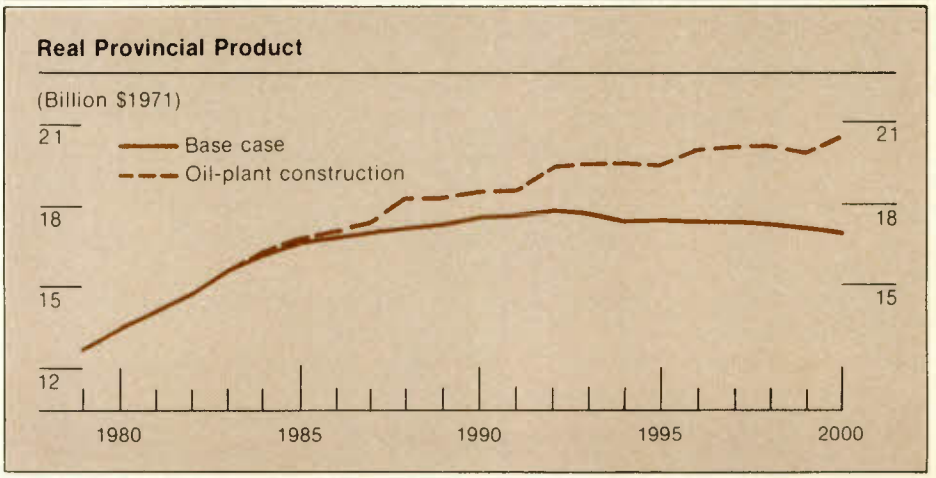
Over the past 15 years, strong growth, low unemployment, and large government revenues from natural resources have made Alberta a haven of prosperity, attracting swarms of people from other provinces. Schweitzer's main research purpose is to discover how much more immigration can be expected. In addition, he attempts to see if the extra benefits Albertans receive via the province's hefty royalty revenues are encouraging a massive immigration which lowers the province's labour productivity and, hence, Canada's overall output.

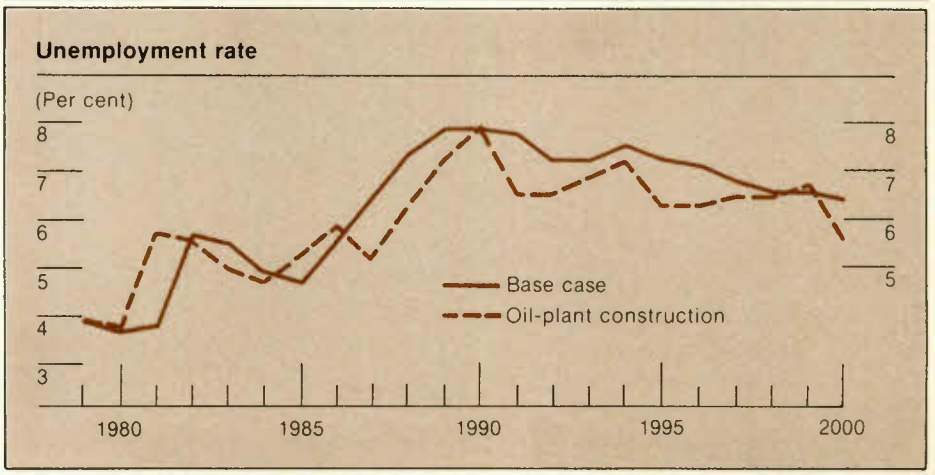
His analysis of these questions by means of a newly developed economic model shows that immigration to Alberta will slow down considerably in the future. About 194,000 persons will move there between 1980 and 2000; after 1995, departures will begin to outnumber arrivals, by as much as 56,000 people in the year 2000. While some immigration can indeed be traced to fiscal inducements such as lower taxes, the loss to national output is modest, the author discovers.

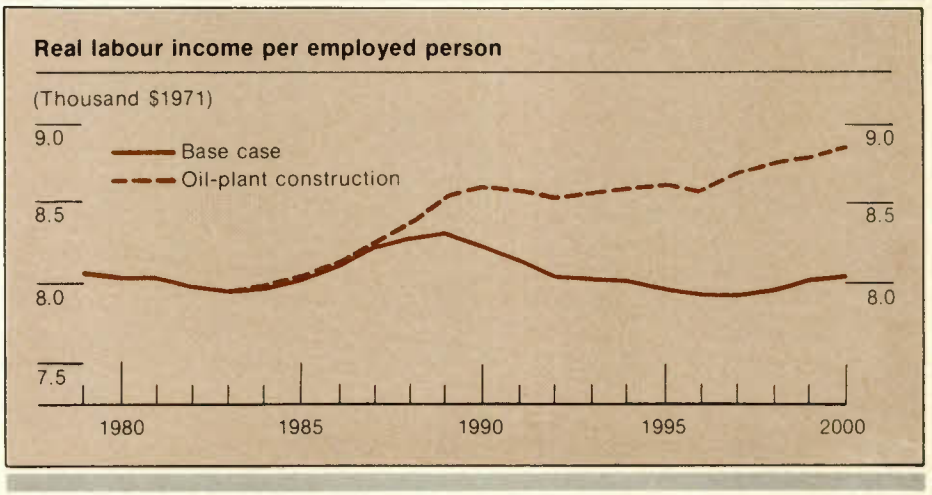
In the course of conducting this study, however, Schweitzer has found that his economic model is able to deal with a wider and more interesting range of issues as well. When he asks questions about the effect dwindling conventional oil and natural gas production might have on provincial growth, unemployment and labour incomes, he receives some surprising answers, as illustrated in the charts.

The basic projection, or "base case" used in the analysis, assumes conventional oil and natural gas output will decline in line with the National Energy Board forecast of June 1981 and that no further oil-sand plants will be built. An alternative scenario is also developed, allowing for the construction of four additional Syncrude-size oil-sand plants between 1983 and 1995. Both projections also assume that the world price of hydrocarbons will rise about 2 per cent a year, and that the federal-Alberta agreement on hydro-

The outlook for Alberta







carbon prices and taxes will hold for the rest of the century. In both cases, too, unemployment is assumed to have a moderating influence on wage inflation.

The charts tell the story. The base case shows that provincial production will continue to grow by about 4.7 per cent a year until 1985, when the growth rate will drop to 1 per cent until 1992 and turn into a decline thereafter. This result is startling, Schweitzer says, particularly given that, over the 1961-79 period, Alberta's growth rate was 6.6 per cent. A key reason for this reversal lies in the decline in hydrocarbon output as the province gradually runs down its conventional oil reserves, combined with a fall in gas output starting in the mid-1980s. Rapid growth in coal mining isn't enough to counteract this decline and, by the year 2000, Alberta's mining output will be about 10 per cent below the 1979 level.

If oil plants are constructed, Alberta's output will continue to grow throughout the period under study, but at a progressively slower rate, well below the 1961-79 levels.

The base case spells out a worsening in unemployment as well, although Alberta's rate will remain lower than that of the other provinces until 1994, when the gap will close. Plant construction will bring unemployment down slightly, but even so, it will remain high by Albertan standards.

Workers will be out of luck on the wage front too, according to the basic projection. Real labour income per employed worker will hover around the 1979 level till 1985, when it will rise slightly, only to begin a prolonged decline in the late 1980s. A slow recovery in the late 1990s will barely restore it to its 1980 level; calculations show that, by 1990, Albertan workers will have lower real labour incomes than the average for the rest of Canada. Building plants though will brighten the wage outlook somewhat, particularly once the second plant is under construction and the first starts producing.

"Migration and a Small Long-Term Econometric Model of Alberta," by Thomas Schweitzer. Discussion Paper No. 221.

Comparing Canada's energy record

People who chastise Canada for its inefficient, wasteful energy habits are guilty of gross oversimplification, according to a new Council paper.

In fact, Canada's record as an energy consumer stacks up pretty well beside that of other industrialized countries, even when key factors such as weather and geography aren't taken into consideration, says Council economist Bobbi Cain.

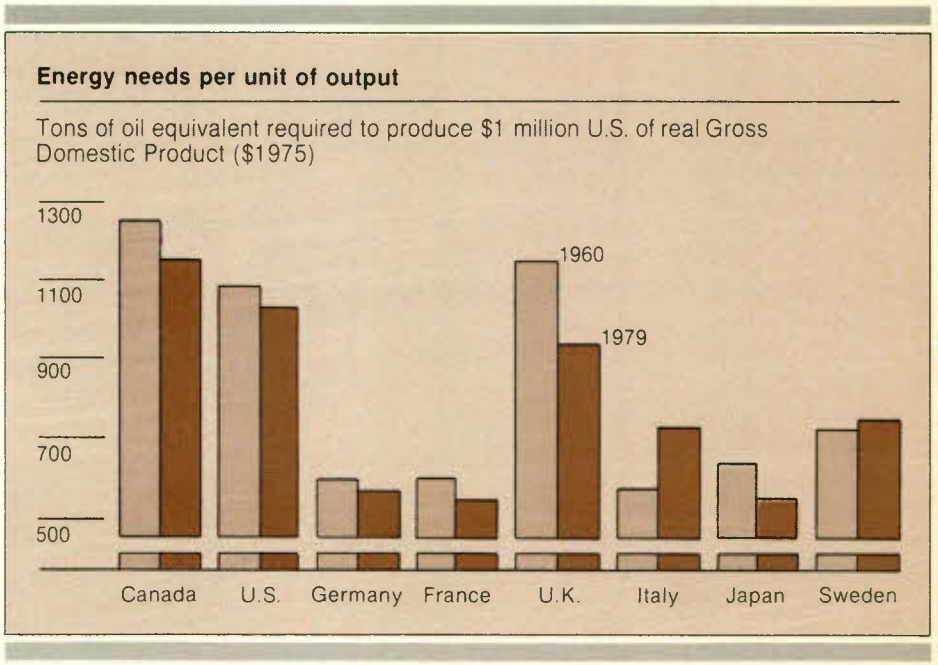
With the assistance of Pat Nevin, Cain compares energy requirements and consumption during the 1960s and 1970s within the various sectors of eight industrialized countries: Canada, the United States, Germany, France, Italy, the United Kingdom, Sweden, and Japan. In so doing, she looks at each country's performance from three angles: its energy requirements and consumption in total, per person, and per unit of gross domestic product (GDP) output.

Energy requirements (the total energy needs within all sectors of the economy) are supplied by many sources – coal, wood, peat, electricity, natural gas, and crude petroleum. In absolute terms, the United States was by far the greatest energy user throughout the 1960-79 period, Cain finds. Although Canada stands in fifth place by this measure, the picture changes dramatically when each country's energy needs are examined on a per capita basis. Then Canada moves up the line to vie with the U.S. as the greatest per capita energy user.

However, Cain points out, Canada doesn't come off badly in terms of growth in per capita energy requirements over the 1960-79 period. With an average growth rate of 2.9 per cent a year, it lines up with most other countries in the sample. Japan (with a 6.3 per cent yearly growth rate) and Italy (with 5 per cent) easily clock the highest rates of the group.

Perhaps the most significant measure of energy needs is found in each country's energy requirements per unit of output. Cain's calculation of the amount of energy needed to produce a million dollars of real GDP – measured in 1975 prices in terms of U.S. dollars – puts the United States and Canada at the top of the list (see chart), joined in the early part of the period by the United Kingdom, while the rankings among the other countries shift throughout the period.

As a final test, Cain compares the growth in energy requirements for each country with their respective growth in overall economic activity (measured by growth in GDP in constant U.S. dollar terms), in order to gauge the energy intensity or efficiency of each economy. Canada tops the list as the country with the most energy-intensive industrial structure of the sample, a finding which reflects the premise of the inexpensive and readily available energy on



which the Canadian economy has been built. But Canada has been using energy more efficiently since 1973, Cain says, as indeed have all the countries in her sample (most notably, Japan and the U.K.) with the exception of Sweden.

Cain follows the same procedure to trace trends in energy consumption for her sample group. The difference between the initial demand for energy and the final consumption stage, she explains, is accounted for by the intermediate or "transformation" sector, where energy is used up in the process of conversion to final forms (such as electricity and gasoline, for example).

As is the case for energy requirements, the United States once again leads the field in total energy consumption. Of much greater interest though, in Cain's opinion, is the change over time in levels of consumption. The U.K. was the most successful in keeping consumption growth down, a reflection, in part, of its troubled economy; with a 1.3 per cent rate of change over the entire period, its consumption level was only 26.6 per cent higher in 1979 than it was in 1960. At the opposite extreme lies Japan, where consumption increased by 340 per cent between 1960 and 1979, an annual growth rate of over 8 per cent.

Canada ranks fourth in terms of growth in total consumption, and was remarkably effective during the past decade in slowing the rate of growth, which declined from almost 6 per cent a year in 1972 to under 2 per cent in 1979.

Energy consumption per person was greatest in the U.S., closely followed by Canada in every year analysed. The U.S. though is the only country where the per capita growth rate actually declined; in Canada, along with Germany and Sweden, consumption per person grew about 3 per cent a year, placing Canada about midway in the sample.

The accompanying chart shows how each country fared in terms of final energy consumption per unit of output. The effect of the OPEC (Organization of Petroleum Exporting Countries) price explosion in the early 1970s is crystal clear: every country except France – and the U.S. and Canada in particular – noticeably reduced consumption between 1973 and 1979.

Once again, Cain calculates the energy efficiency of the respective economies, this time in terms of final energy consumption. In this case, the picture which emerges is considerably different for some of the countries from that in the energy requirement scenario. Canada, the U.S., Japan, and most notably the U.K. – where industrial consumption of energy increased by only 20 per cent, while total output went up by 50 per cent, a phenomenon related to the shift from coal to petroleum and natural gas – were more energy-efficient at the end of the period than at the beginning. France, Germany, and Sweden, on the other hand, had slightly more energy-intensive economies by 1979 – and Italy markedly more so, with consumption growth centred in the industrial and road transportation sectors.

Finally, Cain looks at consumption patterns for three major sectors in each economy during the 1975 to 1979 period: the industrial sector, with iron and steel isolated for comparison purposes; the transportation sector, with road consumption isolated; and "other sectors," with residential use isolated for the latter part of the period in question.

She finds that in Canada and the U.S. where industrial, geographic, and climatic conditions are reasonably similar, the three sectors consumed about equal amounts of energy, with strong growth evident in the transportation sector, particularly in Canada's case. Canada's growth in total consumption within these sectors was about average for the sample, increasing at a much slower rate than growth in Italy and Japan, the leaders.

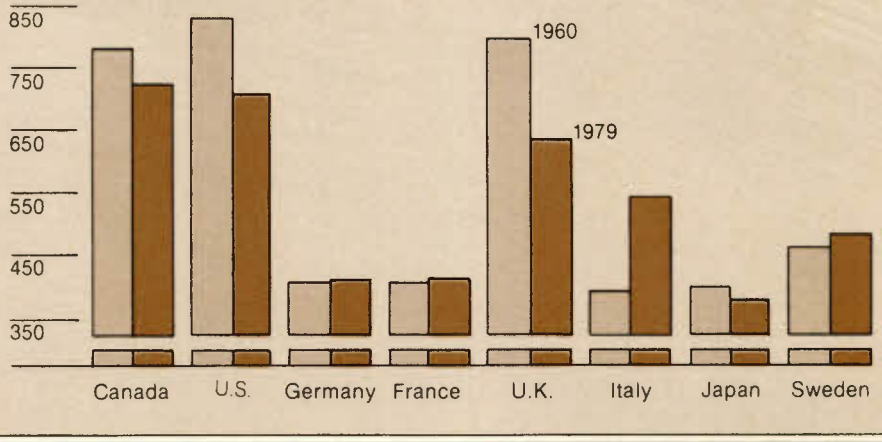
In contrast to the North American economies, the industrial sector in Japan consumed well over half its energy requirements, although its thirst for energy declined somewhat over the period. Italy's industrial sector used up 50 per cent of its available energy in 1960, but consumption declined to 44 per cent by 1979, partly because of a drop in the amount consumed by the iron and steel industry.

The industrial sectors of France, Germany, and the U.K. accounted for about 48 per cent of energy requirements in 1960, but that share dropped to under 40 per cent by 1979, due to a considerable reduction in demand by the iron and steel industry. More energy-efficient methods of production, and a switch to more efficient fuel sources, along with some reduction in crude steel output, probably explains this sizable decline, Cain says.

Given the energy needs of the industrialized countries under study, the question of import dependence assumes considerable importance. Canada alone, Cain discovers, switched (in 1970) to the role of net exporter of all energy sources. All the remaining countries became increasingly reliant on imported energy, particularly Japan (importing 90 per cent of all energy needs in 1979), Italy (86 per cent), and France (78 per cent).

Final energy consumption per unit of output

Tons of oil equivalent consumed in producing $1 million U.S. of real Gross Domestic Product ($1975)



"International Energy Comparisons: A View of Eight Industrialized Countries," by Bobbi Cain, assisted by Pat Nevin. Discussion Paper No. 222.

WHAT THE ECONOMIC COUNCIL OF CANADA IS ALL ABOUT

The Council was set up under the Economic Council Act of 1963 in a time with certain similarities to the present. Canada had recently undergone a period of unsatisfactory growth and what people then considered an unsatisfactory price performance. Governments in Canada and in many other countries wanted advice, information, and analysis on policy alternatives – or, if you like, consultative planning.

By contrast with its predecessor, the National Productivity Council, the Economic Council was designed to take a somewhat broader, comprehensive approach and was given a number of statutory responsibilities, which included:

- providing a regular assessment of the medium-term and long-term prospects of the economy, and comparing these prospects with the potentialities for growth of the economy;
- studying how national economic policies can best foster the balanced economic development of all areas of Canada;
- encouraging maximum consultation and co-operation between labour and management and;
- seeking full and regular consultation with appropriate agencies of the provincial governments.

The Council was also assigned a major role in increasing public understanding of and encouraging public debate on major economic policy issues.

The Act itself, the ensuing discussion in Parliament, and the positions taken by the first Chairman, John Deutsch, set several important characteristics of the organization. It became an independent, national, advisory agency focusing on the medium and longer term.

It was independent in the sense that it operated under its own Act, with the ability both to undertake its own research and to publish on its own initiative (as well as to undertake studies at the request of the federal government). It was national because its mandate extended to looking at things of national interest rather than things of paramount concern to the federal government alone. And it was advisory in a special sense.

The first Chairman turned down requests to act as a confidential advisor to the government or to become directly involved in policy-making operations. Instead, he insisted that conclusions would be reached only on the basis of prior research and analysis, the results of which would be made available to Council Members for assessment, discussion, and possibly recommendations, and then made public.

The Council's Act and the objectives assigned to it by Parliament have remained unchanged since that time, despite rather searching re-examinations of the institution by successive Chairmen, as well as by other sources both within and outside government; today, as earlier, the Council meets its objectives by fulfilling three important roles: providing research, information, and advice.

Research is, of course, the Council's life blood, but it is not a research institution in one of the more frequently used senses of the term. The research undertaken is focused squarely on specific issues and it does not normally include more broad-ranging work.

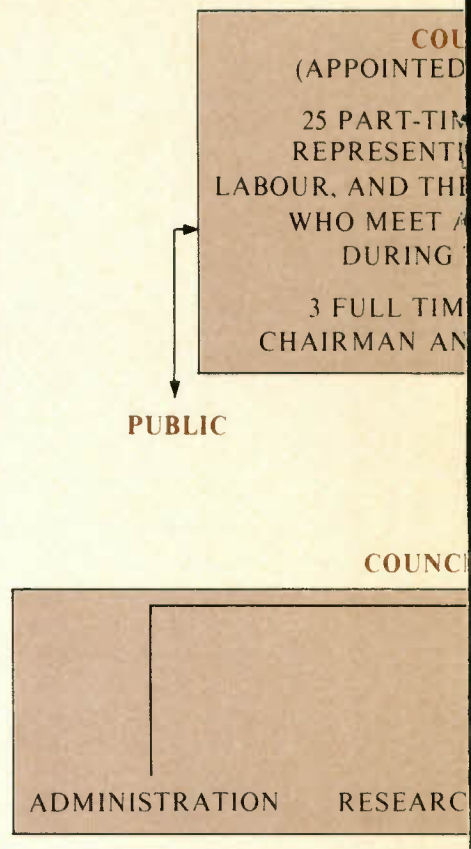
Over time, however, there has been a deliberate attempt to strengthen the Council's research capabilities to accomplish more with given resources. New research by staff has been supplemented by an expansion in research contracts and, in the early 1970s, a shift to the use of a number of task forces, each concentrating on a specific topic. This has led also to an increase in new, more original research, such as that concerning the impact of regulation on various Canadian industries (1981), and the background work for our recently published study on labour market imbalances.

Each task force consists of a project director and a core of research economists who conduct their own research and at the same time assist in the management of outside contract work. As each task force winds up, its staff is reassigned to a new problem area, usually after a short period for "cleaning up" background studies.

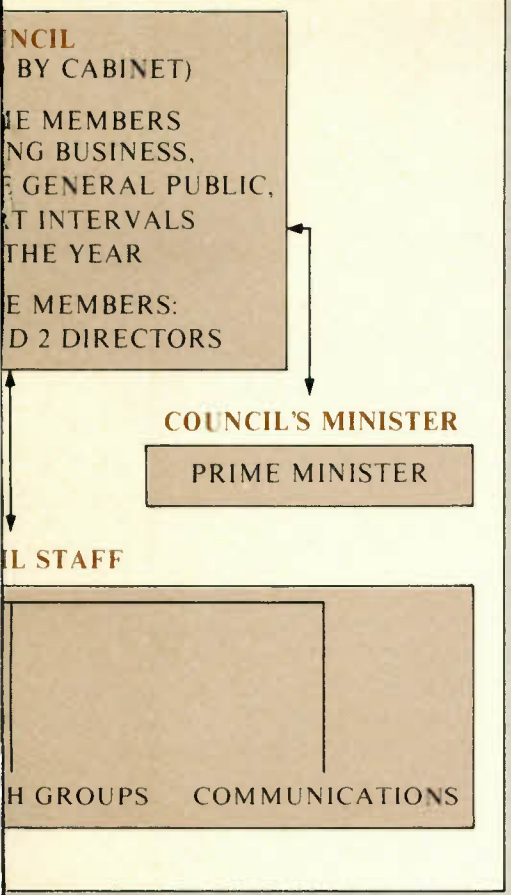
At the present time, research is being conducted by individual groups in the following areas:

- Technological Change, Trade and Income Growth: This report, to be released later this spring, is the "bottom-up" part of a two-pronged attack on productivity problems. It focuses particularly on the role of technological change, a subject which has for too long been relegated to the residual in the growth-accounting framework. Among other things, the study will be reporting on the results of a survey of innovations by a large number of Canadian firms, which gives us a handle on importation and diffusion of new technology and what might be done to speed up the latter. The study will also evaluate various government programs to assist research and development and will look at new information on industrial adjustment to import competition.
- Twentieth Annual Review: This report is scheduled for September 1983. It will mark the second year of a

COUNCIL OR AND REPORTING



GANIZATION RELATIONSHIPS



new time schedule for the Review that is designed to tie in better with the planning cycles of governments and private organizations. Since it is a sort of anniversary document, it will provide both a look back at changes, including structural ones, over the last couple of decades, and a look forward at some of their implications for economic performance.

- Growth and Productivity: We hope to publish this report – the "top-down" part of our productivity work – early in 1984. Unlike earlier work, this project will be cast largely in a Total Factor Productivity rather than a Labour Productivity framework and will tend to use macro analysis more to place the detailed micro analysis in perspective than to direct policy prescription. Among other things, it will attempt to go beyond the usual examination of the relationship between outputs and inputs to see how that relationship may be affected by industrial and market structure, e.g., tariffs and concentration. Particular emphasis will be placed on the service sector.
- Western Development: This report, which is scheduled for publication in 1984, represents a continuation of the Council's commitment to regional studies. (For more detail on this project, see *Au Courant*, Vol. 3, No. 1.)
- Energy Issues: This report too is scheduled for publication in 1984. The Council is seeking energy policy options that will lead to a more harmonious resolution of differences in energy policy among governments and energy industry participants. (For further details, see *Au Courant*, Vol. 3, No. 2.)
- The CANDIDE Group: This is a continuing group which provides a basic input into the Council's assessment of economic performance as well as analyses of special issues such as energy problems. The Group is just beginning a complete revision of the CANDIDE model.
- The Exploration Group: This too is a continuing group, set up only last year to conduct research into special topics, but to focus particularly on feasibility studies for major Council consensus documents. At the present time, the group is carrying out a limited project on the problems faced by women in the labour market (part of which may be included in the Twentieth Annual Review) and it is beginning feasibility studies of the role of Crown Corporations, business income taxation, medium-term fiscal stance, health services and agriculture.

The Council's **information** (and educational) role is carried out via all of the communications media but for the most part it centres around our printed documents, including the Annual Review and other Council consensus reports – for which the Council as a whole takes responsibility – various authored documents – Research Studies, Technical Papers, and Discussion Papers – conference reports, and the Council's quarterly magazine, *Au Courant*.

The **advisory** function involves the Council Members – the Chairman and two full-time Directors and up to 25 part-time Members, who meet four or five times a year – in the development of economic policy advice and recommendations for governments and the private sector, the promotion of consultation and co-operation between labour and management, as well as consultation with a variety of other agencies. Some recent examples include recommendations on fiscal and monetary policy in the *Nineteenth Annual Review* (September 1982); policy advice and recommendations on improving the functioning of the labour market (June 1982) and on federal-provincial fiscal relations (February 1982); and a major report on the reform of government regulation (June 1981).

Once the Council as a whole has given preliminary approval to a research project directed towards a consensus document, a new staff group is set up, which reports back to the Council Members several times. After a final draft has been discussed – assuming it has received general approval – there is a short period for final revisions and sign-off by individual Council Members before the document goes to print. One major change in the last few years is that Members can now dissent in writing with all or, more usually, parts of a report, such as specific recommendations. My own feeling is that in today's circumstances this approach has in fact strengthened the Council's reports.

Nevertheless we do put forth serious efforts to move towards consensus and that process itself is very valuable.

The most important question, of course, is whether all of this has an impact on policy. It is possible to go back and indicate where governments have adopted specific recommendations of the Council in whole or in part. Mr. Lalonde's recent presentation with respect to the increase in unemployment insurance contributions provides a case in point. But the Council is an advisory body and not a policy-making body. Perhaps its most significant achievement over the past 20 years has been its contribution to a raising of the level of economic education and awareness in this country.

1983 marks the 20th anniversary of the Economic Council of Canada. In honour of that event, *Au Courant* features a look at the Council past and present. The material presented below is taken from a speech given by Council director Dr. Peter Cornell to the Atlantic Canada Economics Association.

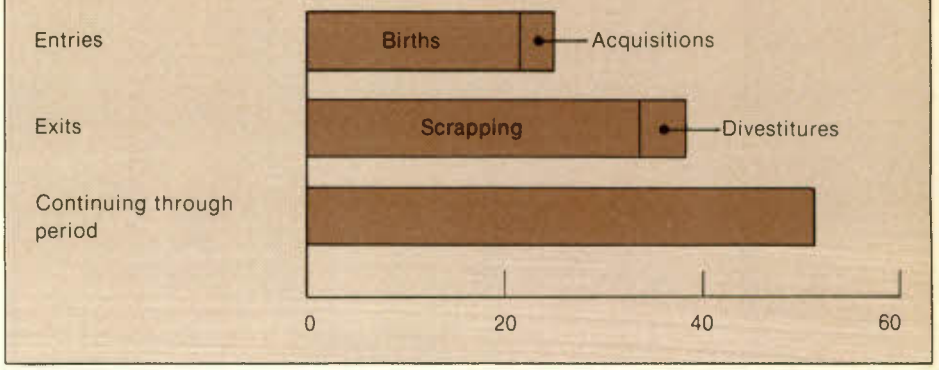
Manufacturing meets challenge

Canadian manufacturing companies rose to the challenge of a stimulating new trade environment in the 1970s, according to a Council paper.

Economists J. Baldwin of Queen's University, and P. Gorecki of the Economic Council – with assistance from J. McVey and J. Crysdale of Statistics Canada – reach that conclusion following an intensive examination of the process whereby firms entered or exited from industries in Canada over the decade 1970 to 1979. A contribution to the Council's current research into technological change, trade and income growth, their paper makes use of a specially created database at Statistics Canada, unique in its compilation of data from a wide cross-section of manufacturing companies.

What happened to manufacturing firms in the 1970s

Average number of entering or exiting companies across 141 industries, 1970-79



Need to adapt

During the 1970s, the Canadian manufacturing sector was faced with the need to adapt to a fast-changing environment. Trade in terms of both exports and imports increased substantially during the decade (up by between 20 and 25 per cent), as tariffs fell (by approximately 30 per cent between 1966 and 1978).

An important public policy issue, particularly given current rising protectionist sentiment and fear of unemployment through import competition, say Baldwin and Gorecki, is the way in which companies adapt to such changes. Conflicting points of view have been expressed in this regard. One camp holds that Canadian firms would not be able to survive in the face of increased competition from cheaper imports; another has it that they would meet the challenge by making certain adjustments, such as specializing in a narrower brand of product lines.

One measure of adaptability lies in calculating for each industry how many companies begin operations, and how many go out of business over a given period. This turnover process is continual, natural, and usually involves a surprisingly large number of firms, Baldwin and Gorecki say; new companies will enter an industry whenever they see profits to be made, for example, while others will leave under pressure of increased competition or poor profits.

A thorough understanding of how this entry-exit process worked during the 1970s would cast new light on the debate about the effects of freer trade, say the authors. Further, it would provide guidance to policy-makers, by indicating whether industries are adapting well on their own, or whether policy action is necessary.

As the chart shows, a substantial number of companies entered and left industries between 1970 and 1979: entries accounted for on average 26 per cent of an industry's sales, while exits accounted for 31 per cent. This indicates a reasonable balance between the two processes, the authors say, suggesting a potential for adjustment that was not as painful as many had anticipated. But because averages across the entire sector could be masking important differences among specific firms, the authors carry their analysis one step further. While earlier research in the field looked at only part of the process, either by lumping entry and exit together or by investigating one or the other, Baldwin and Gorecki examine the two procedures separately. In addition, they recognize that each can occur in more than one way: an entering company can set up a new plant, or buy an existing one; an exiting company can scrap operations altogether, or merge with or sell to another organization. Further, existing companies can follow similar procedures with regard to part of their operations.

Authors' results

The authors discover that the freer trade environment of the 1970s played a positive role in a company's decision to enter an industry. New Canadian firms went into business in direct response to both increased export possibilities and a growing domestic market. Imports though, to the extent that they reduced domestic sales, deterred firms from setting up shop.

However, casting doubt on the theory that increased imports would harm domestic manufacturing, Baldwin and Gorecki discover that the greater the import growth, the less the likelihood of companies to exit.

Their analysis of firm exits also shows that, not surprisingly, Canadian companies were less likely to scrap operations in times of booming exports and domestic sales. What is surprising though the authors say, is the discovery that firms balked at closing down in tough times; the larger the negative growth rate, the fewer the plants that were scrapped.

But the majority of exits were the result of a natural replacement process, rather than forces of trade, the authors find.

A variety of other topics are covered in the paper as well, including a comparison of entry-exit between domestic firms and foreign-controlled ones over the 1970-79 period; analysis of different types of mergers during that time; and information on the relationship between trade liberalization and firm rationalization.

"Entry and Exit in the Canadian Manufacturing Sector, 1970-1979," by J. Baldwin and P. Gorecki, with J. McVey and J. Crysdale. Discussion Paper No. 225.

AID TO BUSINESS: WHO BENEFITS?

In its recent report on Canadian financial markets, *Intervention and Efficiency*, the Economic Council calls for a far-reaching review of federal and provincial financing programs for the private sector. In the following pages, *Au Courant* takes another look at some of the issues examined in the report – including the following analysis of the beneficiaries of public assistance to the business sector.

Through their financing agencies and programs, governments at the provincial and federal levels pursue two broad categories of objectives. They play a "corrective" role in an attempt to compensate for existing deficiencies in the functioning of capital markets – the so-called credit gaps. They also play a "developmental" role, attempting to modify the pattern of resource allocation – through, for instance, industrial restructuring – in order to promote economic growth and social progress.

Beneficiaries of government assistance should be chosen in such a way as to permit the achievement of government objectives. Thus, in this context, one might have expected to find a greater emphasis on assistance to small and new businesses – the concerns more likely to be affected by market deficiencies.

In most cases, however, loan and guarantee agencies and programs do not seem particularly inclined to assist new or small firms. For instance, a December 1980 survey showed that businesses in existence for less than two years received less than their share of assistance from government agencies and programs at both the federal and provincial levels. A comparison of the clientele of four public agencies accounting for 82 per cent of loans outstanding with that of two main private specialized lenders shows that three of them have a lower proportion of new businesses in their clientele (19.2, 15.5 and 10.6 per cent) than their private sector counterparts (18.5 and 26.7 per cent).

The situation is similar with respect to financing given to small businesses, defined here as those with sales of less than $2 million. While 97 per cent of Canadian firms are small, the proportion of loans extended to them by three large agencies is well below that figure. In fact, it appears that public lending agencies grant a relatively higher proportion of the volume and number of their loans to very small or very large businesses (those with assets of less than $250,000 or more than $10 million, respectively), while private lenders tend to favour medium-sized firms.

Some small agencies – those whose loans outstanding do not exceed $10 million – do tend to cater to new and smaller businesses. But these programs and agencies represent only a small proportion of government financing activities.

With respect to the financial characteristics of the beneficiaries of government assistance, one might expect that when governments play a "corrective" role – i.e., when they compensate for a shortfall in the supply of funds caused by some malfunctioning in private markets – they would choose firms with good prospects of making it on their own, and in many cases they do. But a survey of 1,000 borrowing firms – some 800 of which were clients of public agencies – showed that public lending agencies tend to finance less profitable firms than do private specialized lenders. And the proportion of firms with negative rates of return is much larger among the public lenders' clients.

With respect to financial structure, the distribution of the debt-to-asset ratios of the clients of public lenders does not differ significantly from that of private-lender clients, except when the ratios are quite high. In the case of the smaller firms (assets of less than $1 million), public lending agencies have financed a larger number of less indebted concerns than have their private sector counterparts. The opposite is true for larger businesses. For instance, in the case of firms with assets between $1 and $10 million, more than half of the clients of public lending agencies had debt-to-asset ratios equal to or greater than 77 per cent, while this was true for less than one-third of private sector clients of the same size. Given that today's market deficiencies are to be found in equity finance, government corrective efforts may be misdirected if they offer loans to firms with a heavy debt load.

But it should not be forgotten that governments' "developmental" role is pursued simultaneously with their "corrective" role, and by the same agencies. In the former case, the lower economic profitability of public sector clients may be more than compensated by their high social profitability. But to ensure that government actions do indeed maximize the benefits to society, they should be part of a consistent strategy for economic development.

Too often, however, government intervention appears to lack this coordinating factor. An example is provided by an analysis of the various industrial sectors that have received government assistance. It is difficult to find a clear pattern. While the distribution of loans by industry does, in fact, differ from the industrial structure of a province, it also differs from one agency to another within a given province. For example, the Ontario Development Corporation has focused its assistance on Ontario's manufacturing sector (95 per cent of its assistance extended in 1979), while credit granted under the Small Business Loans Act has favoured the service (33.6 per cent) and trade (30.1 per cent) sectors. The Federal Business Development Bank has concentrated on firms operating in the manufacturing (31.8 per cent) and trade (24.7 per cent) sectors. A similar picture also emerges in Quebec.

UNDERSTANDING THE INDEXED MORTGAGE

Mr. Littlehouse (fictitious name), a Regina resident, called us in January after reading the last issue of *Au Courant*. He explained to us that, in 1974, he bought a three-bedroom bungalow, better known as the Royal Trust survey home No. 1, for $33,000. Mr. Littlehouse had to finance 85 per cent of the value of his house with a conventional three-year term mortgage amortized over 25 years. With an annual income of $12,569, his gross debt-service (GDS) ratio – that is, the ratio of his gross income to his mortgage payments – was initially 30 per cent. Mr. Littlehouse was intrigued by the proposed indexed mortgage and wanted to know more about it.

Mr. Littlehouse: How would I be better off with an indexed mortgage?

Au Courant: First, as you know, adjustment to inflation on the standard mortgage you have is done through a premium added to a "real rate" of interest. As a result, you initially were charged a 10.7 per cent rate. Difficulties in anticipating inflation have resulted in losses for many lenders and have prompted them to shorten the term of the loan considerably. But housing is a long-term asset which should be financed by a long-term loan. The indexed mortgage could mark the return of a long-term debt instrument. In fact, it's a long-term contract in which the parties agree on a "real rate" of interest (the rate that would have prevailed in the absence of inflation) that will be fixed for the duration of the loan. At the time you bought your house, the real rate would have been 1.8 per cent. Adjustment for inflation is made on a continuous basis by increasing or reducing the balance of the loan outstanding in accordance with an index reflecting actual inflation. Second, the monthly payments are initially much lower with an indexed mortgage.

Mr. Littlehouse: Could you go into some more detail?

Au Courant: In May 1974, you would have paid $116.24 with your mortgage indexed to the consumer price index (CPI) compared with the $264.22 you actually did pay. In March 1982, you would have paid $243.83 instead of $372.22. The burden of the loan – as measured by your GDS ratio – would have been substantially less with an indexed mortgage. (*See chart.*)

Mr. Littlehouse: Low initial payments are very nice but the monthly payments increase over time, and this scares me.

Au Courant: The increase is the result of inflation; the larger monthly payments will not outstrip the general rate of increase of prices in the economy if the indexation factor is well chosen.

Mr. Littlehouse: But what will happen if my salary doesn't keep up with inflation and I can't afford the higher monthly payments?

Au Courant: The general experience is that salaries keep up with and sometimes even run ahead of inflation. When they fall back, the situation usually doesn't last for many years. This could happen, for instance, during a recession related to high interest rates. That's when you're better off with a long-term loan instead of having to renegotiate your short-term standard mortgage. And you were quite badly stung when you renegotiated in May 1980, as mortgage rates rose to 17 per cent. Others were even less fortunate than you and had to live with a 20 per cent rate or more. Of course, individual cases can be found that don't fit the general situation. If your salary doesn't keep up with inflation, neither will it keep up with the increase in interest rates resulting from inflation. And you'll have as much difficulty in affording a standard mortgage as an indexed mortgage.

Mr. Littlehouse: But I don't like to see the balance of the loan increasing while I make regular payments.

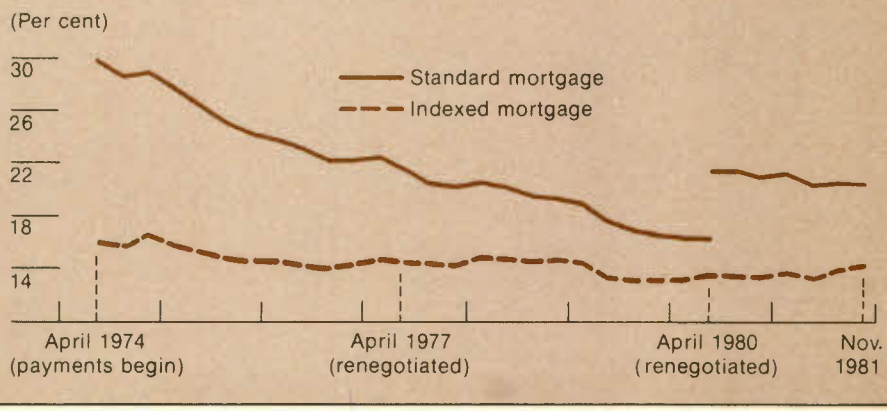
Au Courant: We understand that you want to see the equity in your house increase. But there's a trade-off between lower monthly payments in the initial period and faster equity accumulation. With an indexed mortgage, adjustment to inflation is made on the balance of the loan outstanding, thus slowing the pace of equity accumulation. (*See chart – the reader will note that it shows only the first eight years of a contract covering a 25-year period.*) Indexed mortgages will be fully amortized over the life of the loan. If you'd like to see a faster equity accumulation and you can afford it, you can make larger payments of principal. Actually, lenders will likely encourage this. They already do so in the case of variable rate loans, which pose similar questions regarding equity. If you can afford higher monthly payments and if you can find a lender who is willing to enter into a contractual agreement at a fixed interest rate, you're better off with a 25-year standard mortgage than with an indexed one.

Mr. Littlehouse: What are my chances of being able to get that kind of agreement?

Au Courant: Well, recent history has shown that in periods of rising and fluctuating interest rates, lenders are not willing to enter into long-term fixed-rate contracts. In 1981 and 1982, mortgages were given for terms of less than two years, sometimes for only six

How much income goes on mortgage payments?

Gross debt-service ratio for Mr. Littlehouse's mortgage



months. Today, the trade-off is not between a 25-year indexed mortgage and a 25-year fixed-rate standard mortgage but between an indexed mortgage and a mortgage renegotiable every two, three, or five years. Depending on your own financial situation and your attitude towards risk, you'll choose one or the other instrument. The indexed mortgage only increases the options available for financing the purchase of a home.

Mr. Littlehouse: In the end, with an indexed mortgage, I would have paid back to the lender much more (sometimes even twice as much) as under a standard mortgage. Why should I prefer an indexed mortgage?

Au Courant: Well, your question assumes that inflation will continue indefinitely. We don't share that point of view. Should inflation continue, you pay small amounts in good money now and larger sums in depreciated money later on. With a standard loan – if you can get one for a long term without refinancing at higher rates in a short period of time – you pay larger amounts from the start and in good money. Once you consider that, you may find the indexed mortgage cheap and easy to carry.

Mr. Littlehouse: My banker says that the way indexed mortgages work, the loan balance could outstrip the value of the house, particularly if the value of my house falls or does not keep up with inflation. This reduces the value of the security and increases the risk to the lender.

Au Courant: This is a common, age-old problem facing real estate investors and mortgage lenders and is not unique to indexed mortgages. In your case, the value of your home would have stayed ahead of the balance outstanding on an indexed mortgage. (*See chart.*) This would not have been the case with an indexed mortgage extended at the same time and under the same conditions for a similar property in Montreal. As a matter of fact, even with a standard mortgage, similar to yours, equity in the home in Montreal turned negative in the late 1970s. However, it's not because you suddenly have temporarily negative equity in your home that you walk away from your property. Lenders may not feel comfortable, but negative equity doesn't necessarily create a rash of defaults on mortgages. Default depends as much on the level of monthly payments or on the gross debt-service ratio as on the equity accumulated in one's home. Indexed mortgages offering initially lower GDS make the home more affordable and contribute to reducing the risk of default associated with high payments. This in turn has to be balanced against the slower equity accumulation and the possibility of negative equity. And this higher risk – if indeed there is one – may be considered when agreeing upon the "real" contract rate.

Mr. Littlehouse: How is the contract rate set?

Au Courant: The lender will offer a contract rate at a level such that the total yield of the loan is comparable to the returns from other long-term debt instruments such as term loans and bonds. In fact, operating in a competitive environment, a lender cannot set a rate but has to find the market rate through a process of trial and error.

Mr. Littlehouse: I hear that the government is considering the implementation of a mortgage rate insurance scheme. Couldn't that be of help to me?

Au Courant: The way we understand it, at this very preliminary stage, the new scheme could lower the burden of high interest rates at the time of renegotiating a loan. However, it will not solve the problem of high initial GDS ratios. To deal with this, another instrument would be necessary. Indexed mortgages may play that role.

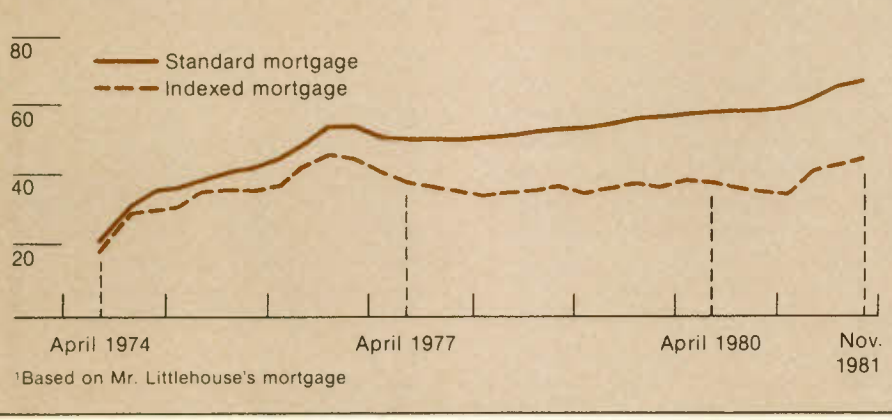
Mr. Littlehouse: Indexed mortgages, interest rate insurance schemes, these are all directed at protecting us from the negative impact of inflation. Wouldn't it be better to get rid of inflation?

Au Courant: Absolutely. But this seems easier said than done. And even if we're able to wrestle inflation to the ground, how can we get rid of the memory of inflation? While that memory is slowly erased, the long-term loan business must be nursed back to good health. Indexation is like the orthopedic cast that allows this business to stand. Furthermore, indexed mortgages provide an insurance that, should inflation continue or come back, the long-term mortgage would remain alive. As a matter of fact, indexed mortgages are like an all-weather tire, appropriate for seasons of inflation or of price stability. In the context of price stability, an indexed mortgage becomes identical to a standard mortgage.

Mr. Littlehouse: If indexed mortgages are so good, why haven't they already been introduced?

Au Courant: They have been introduced, but not in Canada. They've been available in Denmark since April 1982, and it seems that 25 per cent of new mortgage loans since then have been indexed ones. New regulations by the U.S. Federal Home Loan Bank Board, effective August 16, 1982, permit indexed lending in the U.S. In Canada, indexed loans may need legislative support. Another difficulty is a product development problem. This is where the CMHC loan insurance recommended by the Council would be helpful.

How equity grows[1]

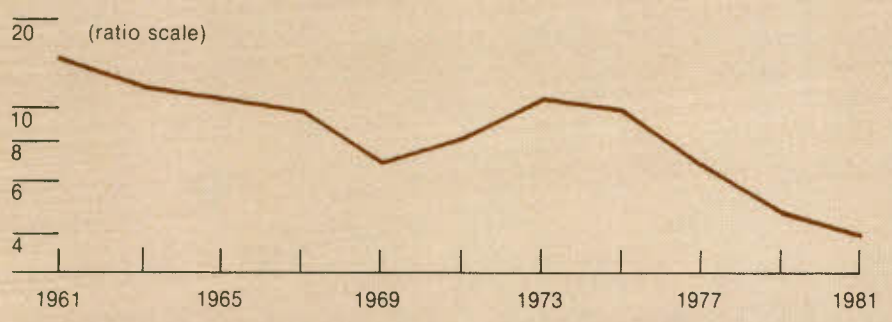


[1]Based on Mr. Littlehouse's mortgage

WHERE FARMERS GET CREDIT

Farm loans less and less affordable

Ratio of gross farm income to interest payments[1]



[1]Profits before interest and taxes, divided by interest payments

The most important change in the supply of farm credit over the last two decades has been the growing role of financial institutions. And this has occurred in the context of an eightfold increase in credit outstanding over the same period, as a strong demand for farm produce, rising land values, and increased mechanization bolstered farmers' financing needs.

In 1980, the private sector accounted for 42 per cent of long-term credit outstanding to farmers, with the share of private financial institutions amounting to more than 28 per cent. In 1961, barely 8 per cent of long-term credit outstanding originated in the private sector, with most of it granted by individuals, supply companies, dealers, and stores. In 1980, more than 77 per cent of medium-term credit outstanding was held by private financial institutions, while in 1961 this share was only 36 per cent; individuals and suppliers accounted for 63 per cent of this form of credit outstanding.

The greater importance of financial institutions is, to a large extent, attributable to the rapid increase in bank credit during the 1970s. The chartered banks' share of short-term credit outstanding rose from 61 per cent in 1971 to 77 per cent in 1980; their share of medium-term credit rose from 40 per cent to 58 per cent over the same period. Although banks entered the long-term farm credit market only recently (1977), their share has risen sharply since.

This increase in the relative importance of chartered banks in farm credit and, more generally, the renewed interest of financial institutions in farm lending can be explained by a brief look at some of the past events that have affected financing in this sector.

Private financial institutions became involved in farm finance at the turn of the century. Farmland was then considered to be a good security, and building societies as well as insurance companies were offering mortgage loans to farmers. The Depression of the 1930s and the various debt adjustment acts, however, drove many private financial institutions out of the farm finance market.

The high risk of farming was another reason for the reluctance of financial institutions to participate in farm finance. Although government introduced a number of measures during the 1930s and 1940s to reduce some risks, others remained high until the late 1960s.

In addition, a lack of specialized knowledge on the part of many lending institutions, the self-imposed ceiling on interest rates adopted by lenders to avoid public hostility, and the regulation preventing mortgage lending by banks contributed to the development of a credit gap in farm finance. This gradually led governments to increase their participation in agricultural finance.

In the late 1960s and early 1970s, there occurred several changes that increased the participation of private institutions in farm finance. Among these were several years of good crops, which improved the returns on farm activities, and amendments to the Bank Act. The agricultural sector thus became a fertile field for financial institutions. Banks and credit unions hired agronomists to assist in the operation of newly established agriculture divisions. They were ready to move in, but could not compete with the low rates offered by government lending agencies. In 1977, budgetary restrictions moved governments to adopt a more conservative approach to the provision of public financing. Since farmers were at the same time substantially increasing their demand for funds, the private institutions moved in to fill the void – essentially closing the generalized credit gap prevalent in the 1940s and 1950s.

Thus, as we enter the 1980s, farmers can generally obtain sufficient financing from private financial institutions if they are willing or able to accept market conditions. But many operators cannot afford the interest rates prevailing in capital markets, simply because their operations cannot generate sufficient cash flow to cover the payments. As shown in the chart, the interest coverage ratio – i.e., the ratio of gross farm income to interest payments – declined dramatically between 1961 and 1980. Of course, cyclical factors – such as weak prices and high interest rates – provide some explanation. However, as already discussed (*Au Courant*, Vol. 3, No. 3), this cash-flow problem – which many call agriculture's number one problem – stems from the structure of the industry and particularly from the fact that a large part of the farmer's income often accrues in the form of a capital gain on land and is thus not available to make cash payments to creditors.

Continued government subsidized lending is not a viable long-term solution. Not only are subsidies costly but, when attached to mortgage loans, they also contribute to an increase in the price of land, with the improvement in cash-flow position still not sufficiently large. In the context of greater private sector participation in farm finance, the farm indexed mortgage proposed by the Council may help those operators who cannot afford standard mortgages because of limited cash flow, particularly because of inflation.

NEED FOR CARE IN SUBSIDIZING LOANS

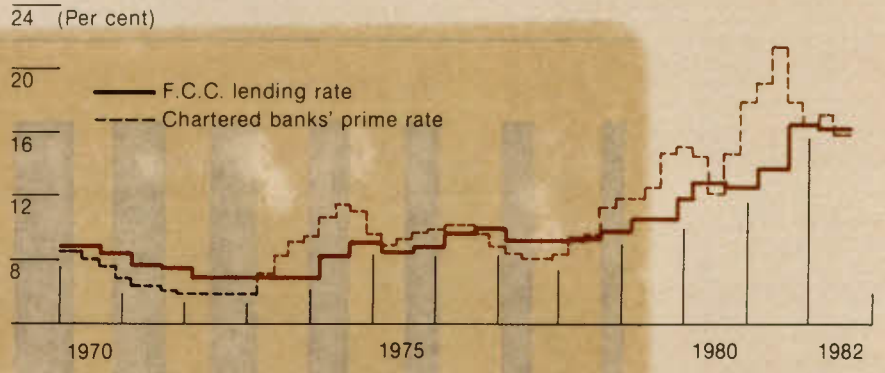
In 1980, some businessmen were receiving public financing at 10 per cent, and some farmers at 8 per cent or even less, while the prime rate fluctuated between 12.5 per cent and 18 per cent. Under its co-op program, the Canada Mortgage and Housing Corporation reduced the cost of long-term mortgage loans to 2 per cent.

By subsidizing credit, our governments have shielded some businessmen, farmers, and homeowners from the impact of high market interest rates. In doing so, governments aim at modifying the industrial structure, at maintaining the viability of Canadian farms or at making housing affordable.

On the other hand, the high interest rates were partly the result of government efforts to slow the pace of inflation. Under such circumstances, subsidized loans may be viewed as an attempt to fine tune government stabilization policies. But in view of the scale of subsidization, the question arises as to whether this attempt at fine tuning is not counterproductive. For instance, when stabilization efforts call for increased market rates, isn't it possible that, in order to be effective, interest rates would have to be pushed higher than in the absence of public subsidized credit?

Rising rates bring higher subsidies

Monthly evolution of chartered banks' prime business loan rate and the Farm Credit Corporation's lending rate, 1970-82



In pursuing its stabilization objectives, government can generally turn to monetary policy and to fiscal measures. As a rule, these two policy instruments are used simultaneously, either in a complementary fashion or in opposition; both interact with subsidized credit.

Looking first at monetary policy implemented – directly or indirectly – through a change in interest rates, we find that the interaction between government stabilization efforts and subsidized loan and loan guarantee programs is quite visible.

When market interest rates are increasing, the difference between the cost of financing at the market rate and the subsidized cost often, if not always, widens, thereby weakening the overall restraining effect of high interest rates. On the other hand, when market rates are decreasing, the gap between the costs of subsidized and unsubsidized borrowing narrows, thus probably weakening the overall expansionary effect of the lower rates. Such variations in the difference between the cost of financing and the market rate occur when the rates charged by public loan agencies are not affected by market fluctuations. Even when the public agencies periodically adjust their lending rates, the latter always lag behind the fluctuations of the market rates, thus widening or narrowing the gap between the two.

A comparison between the Farm Credit Corporation lending rate and the banks' prime rate illustrates this case (see chart). And one should bear in mind that the actual gap is larger than that shown in the chart, since banks apply rates to farmers that exceed the prime rate by 0.5 to 2 percentage points.

The dampening effect of subsidies on government stabilization efforts will depend, however, on the relative importance of the subsidized activities, on the degree of subsidization, and on the reaction of those who are subsidized to variations in interest rates.

Government stabilization policies may also be carried out through an increase or decrease in government expenditures. An expansionary policy is implemented through an increase – and a restraint policy through a reduction – in spending levels. Research conducted for the Council shows that, in the short run, a financial subsidy increases the effectiveness of stabilization measures carried out through changes in government spending.

A somewhat simplified explanation runs as follows. Higher government spending results in an increase in economic activity, which in turn leads to a greater demand for funds by individuals and firms. This increased demand exerts upward pressures on interest rates, which may dampen somewhat the initial impact of the increase in government expenditure. The provision of a financial subsidy reduces this secondary dampening effect. By sheltering some borrowers from the effect of upward pressures on interest rates, the subsidies magnify the expansionary impact of the increase in government spending.

In the long run, however, one cannot exclude the possibility that the cumulative effects of loan subsidies on government deficits will have paradoxical results. Over the long term, loan subsidies can reduce the effectiveness of stabilization measures. In certain circumstances, notably when interest rates are very high, a subsidy could even reverse the direction of the effect of stabilization measures: instead of stimulating economic activity, an increase in spending could have a restrictive impact.

Many factors and policies interact with government stabilization efforts. Public subsidized credit is one of them. As we have seen, the interaction between the two sometimes reinforces – but sometimes also works against – government stabilization efforts. This interaction should be kept in mind when stabilization policies and credit subsidization policies are designed.

Looking Ahead

That's the task assigned by Parliament to the Economic Council of Canada when it was created in 1963.

Since that time the Council, drawing on the expertise of its staff of economists and other specialists, has provided Canadians with an ongoing analysis of the economy, looking at economic policies and the effect of possible alternatives on the country's economic prospects. The projections, policy analysis and recommendations formulated by the Council in the past decade have played a significant role in public policy.

The issues the Council deals with affect each of our lives. They include inflation and the erosion of our buying power, human resources planning for future jobs, the distribution of wealth among Canada's regions, and even the cost of taking a taxi in Montreal, land use planning in Vancouver or the effect of the spruce budworm on Newfoundland's economy.

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