au courant

Economic Council of Canada
Volume 3, No. I 1982

Jobs and skills – in short supply

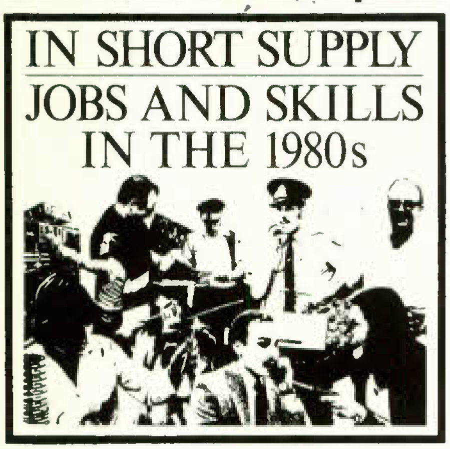
Airline deregulation: who benefits?

Gambling on new technology

Council launches western project

PUBLICATIONS

New Council report



In Short Supply: Jobs and Skills in the 1980s (EC22-108/1982; $7.95 in Canada, $9.55 elsewhere).

The Economic Council takes an in-depth look at what the future holds for Canada's labour markets, and discusses its findings in this recently published report. *In Short Supply* is available in bookstores across the country and may also be ordered from the Canadian Government Publishing Centre (see below).

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 study has been published since the last issue of *Au Courant*.

Approaches to an International Comparison of Canada's R&D Expenditures, *by Kristian S. Palda and Bohumir Pazderka* (EC22-107/1982E; $5.95 in Canada, $7.15 elsewhere).

Conference Proceedings

Proceedings of conference on inflation-induced distortions in financial reporting and taxation: **Peering Under the Inflationary Veil**, *P. Grady, ed.* (EC22-106/1982E; $6.95 in Canada, $8.35 elsewhere). Available in bookstores or from the Canadian Government Publishing Centre (see below).

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No. 212 "La taille comparative des budgets fédéraux et provinciaux et la stabilisation économique," *by Pierre Fortin.*

No. 213 "Provincial Involvement in Regulating the Business Cycle: Justification, Scope, and Terms," *by Pierre Fortin.*

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In Short Supply: Jobs and Skills in the 1980s

Highlights from the Council's report on labour markets:

Reforming Regulation

More information resulting from the Council's three year study of government regulation of the economy:

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IN SHORT SUPPLY
JOBS AND SKILLS IN THE 1980s

"The average number of jobless persons in recent months has exceeded one million, and about three times that number may experience some unemployment during the course of a year. Yet in some regions, some industries, and some occupations, there are shortages of people to fill the jobs that are available, especially in the skilled category. Clearly, these imbalances are costly . . ."

Canada's labour market has in many ways been a vigorous one throughout the 1960s and 1970s. The remarkable expansion in the employment rate has placed the country among the leading industrialized countries in this respect.

The other side of the coin is less bright, however. With Canada's labour force growing at an even faster rate – an average 3.2 per cent annually over these two decades – unemployment has been on the rise since the mid-1970s, with the result that the country's unemployment rate is among the highest in the industrialized world.

The severe joblessness associated with the current recession has been reinforced by a disturbing increase in structural unemployment – arising out of the difficulty of matching people and jobs – as evidenced by widespread skill shortages in the context of high unemployment levels. And since skill shortages in some areas push up salaries while workers elsewhere are jobless, the trade-off between inflation and unemployment worsens.

In a recently released report, ***In Short Supply: Jobs and Skills in the 1980s***, the Economic Council takes an in-depth look at these and related problems, projecting present trends through the 1980s and searching out workable solutions to the current imbalances in the Canadian labour market.

In comparing the last two decades with the 1980s, one word keeps surfacing: change. For it appears that the evolution of the labour market in the 1980s will contrast sharply with that of recent years.

For instance, while the labour force grew at an average rate of more than 3 per cent annually over the 1960s and 1970s, this growth will likely slow to a rate of less than 2 per cent a year during the 1980s.

Just as significant will be the change in the composition of the labour force. While the participation rate of women will continue to rise, with their share of the labour force expected to increase from 40 per cent to more than 44 per cent during the 1980s, other developments will show a more radical departure from past experience.

The proportion of young workers will drop substantially, for instance, as the postwar baby-boom generation that swelled the labour force in the 1960s and 1970s moves through the "prime working age" group (25-44). And the working-age native population, whose annual average growth rate will run at about 2.9 per cent – compared with 1.1 per cent for the working-age population as a whole – is expected to contribute considerably to labour force growth. These changes alone suggest that flexibility will be the hallmark of effective labour force policy in the years to come.

Technological change will of course leave its mark on labour market adjustment in the 1980s, says the Council, with women experiencing much of the subsequent dislocation. And with changing patterns of international trade – in particular the increasing influence of third world countries – clear that the 1980s will present pc makers with some tough choices in effective allocation of manpower.

While the full impact of many o these changes is reserved for futur years, other changes affecting Canada's labour market have been making themselves felt for at least a decade. Institutional changes, such as revisions to the Unemployment Insurance Act and upward adjustments in the minimum wage, continue to affect the labour market, although opinion is divided on the extent of their influence. Vast government manpower training programs, at both the federal and provincial levels, have also contributed to a change in the characteristics of Canada's labour market.

If many of these changes can be expected to create severe problems and dislocations in the coming years, current concerns provide no fewer headaches for policymakers. Within the context of a labour market out of balance, the question of equity looms large. Whatever the source and nature of Canada's labour market difficulties, the consequences are not shared evenly by participants in that market. This segmentation, says the Council, is a principal characteristic of the Canadian labour market, reflected in regional disparities, in the relative prospects of various industries and occupations, and in the experience of different age/sex groups and of those with special disadvantages when it comes to finding and keeping jobs.

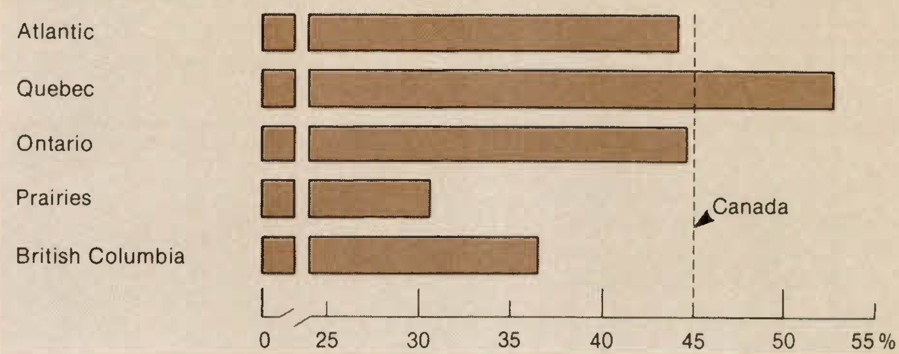
Another key problem is long-term unemployment. For, says the Council, a large proportion of current joblessness in Canada is of the long-run variety, borne by a relatively small proportion of the labour force. On the demand side, skill shortages are expected to continue to pose problems for employers in particular and for the economy as a whole.

It is with such problems in mind that the Council has stressed the importance ... onal skill training, the develop- ... n effective information sys- ... the encouragement of job ... programs, in order to come to ... h the present and future ... ces in Canada's labour market.

The unemployment burden

While the Canadian labour market as a whole can be said to work reasonably well, unemployment remains a severe social and economic ailment. The official unemployment rate – 7.5 per cent in 1980 – continues to climb, with 1.2 million men and women out of work and an unemployment rate of 9.6 per cent recorded in the spring of 1982. And Council research has shown that, contrary to the widely held view, most unemployment is not a short-term turnover phenomenon.

How long-term unemployment affects regions
Proportion of unemployment caused by jobless spells lasting more than three months



It is true that the average unemployment spell is short; about 55 per cent of those recorded in 1980 ended within one month. But the long spells – those lasting more than six months – accounted for a disproportionate share of total unemployment; obviously, an unemployment spell of six months will contribute six times more to unemployment than one that lasts only a month. Thus in 1980, the Council found that the number of unemployment spells exceeding six months represented only 4.9 per cent of all spells – but 21 per cent of total unemployment in Canada. More striking still, unemployment spells exceeding three months accounted for 45 per cent of total unemployment.

The implications of this are clear. Had all unemployment spells in 1980 ended within three months, the recorded unemployment rate would have dropped from 7.5 per cent to 4.1 per cent.

In sum, while the unemployment experience is characterized by large flows into and out of joblessness, the burden is borne by a small group of the unemployed. If we take into account those who experience more than one spell of unemployment over the course of a year, the picture becomes even more grim. Considering the total number of weeks of unemployment, without regard to the number of unemployment spells, we find that 45 per cent of all unemployment in 1979 was borne by individuals who were jobless for a total of more than six months, while those out of work for more than three months represented about 75 per cent of all recorded unemployment for that year.

Another dimension is added to the problem of long-term unemployment when we consider labour force withdrawals. Unemployed people may stop actively looking for work although they still desire jobs, because they assume that jobs are simply not available – a circumstance often described as the "discouraged worker" phenomenon. Since official estimates of unemployment exclude such people, the recorded duration of unemployment for them is also underestimated.

As an example, the Council estimates that in 1980 some 9 to 20 per cent of all unemployment spells ending in labour force withdrawal represented discouragement. This would be equivalent to between 106,000 and 225,000 people a month, on average. Had these people been included in the officially unemployed category that year, the unemployment rate would have risen from the official 7.5 per cent to between 8.4 and 9.4 per cent. And the average duration would have been lengthened considerably, giving a truer picture of the economic hardship imposed by unemployment.

But just who are the long-term unemployed? What characteristics, if any, set them apart from either those who enjoy regular employment or those who, once unemployed, find jobs again fairly quickly?

Council research and the Canada-wide Survey of Consumer Finances provide some clear indications here. Prime-age males, (the 25-44 group), for instance, are the least likely to experience long spells of unemployment. Among women, the incidence of long-term unemployment increases with age, with those in the 25-and-over age group at a relatively greater disadvantage. Being married appears to reduce the risk of long-term unemployment, especially for men.

As might be expected, higher levels of education and training reduce the likelihood of extended unemployment. And the risk tends to be somewhat less for white-collar compared with blue-collar occupations.

At the regional level, the unemployed in Newfoundland, New Brunswick, and Quebec are at a disadvantage compared with the Ontario reference group, while those in British Columbia and Manitoba are in a favourable position.

New entrants in the labour force (those who never worked before) and re-entrants (those returning to the labour force after an absence of more than five years) encounter particular difficulty. Male or female, both groups are significantly overrepresented among the long-term unemployed.

The Council concludes that, while programs focusing on the short-run turnover variety of unemployment may be of some use, an emphasis on long-term unemployment will eventually be more likely to curtail the extent of joblessness.

Because the number of people who suffer from extended unemployment is quite small, it should be easier to develop intensive and carefully targeted programs to improve their employment prospects. Such action, says the Council, would not only have a greater impact on the unemployment rate, it would also be consistent with the equity concerns of Canadians.

Supply . . .

The supply side of the Canadian labour market – the working-age population in the labour force, that is those employed or seeking employment – changed substantially during the 1970s. The last of the postwar baby-boom generation matured to working age, and labour force participation rates for young people reversed from decline to increase, while the participation of women of all ages continued to rise.

These changes produced remarkable increases in labour force growth over the decade – growth, says the Council, that will continue through the 1980s, but at a considerably reduced rate. The projected increase in 1985 over the previous year will be a modest 1.9 per cent compared with the peak increase of 3.7 per cent in 1978, which is nearly a 50 per cent reduction in the growth rate over seven years.

In terms of labour market policy, this slower growth should ease the demands placed on job creation programs. But it may also magnify the problem of skill shortages in certain sectors, already a major cause for concern.

Two elements influence labour force growth: changes in the working-age (source) population – made up of most civilians 15 years of age and over – and changes in the participation rates of the different groups in that population.

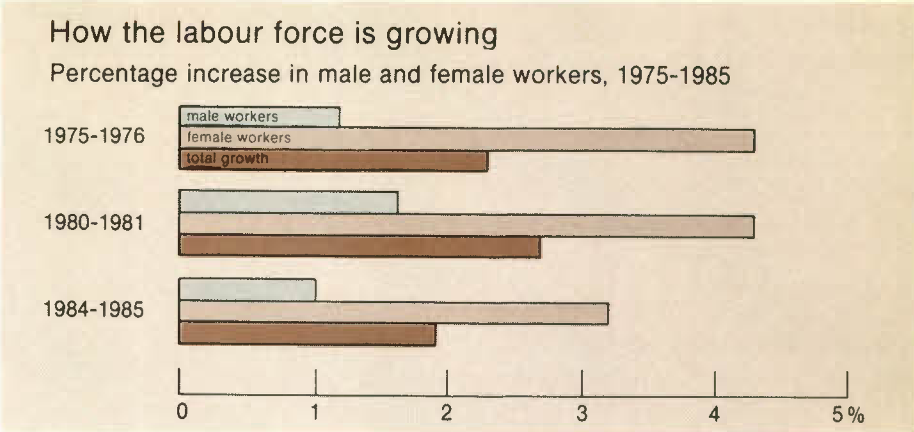
The progressive decrease in the source population growth rate from 2.3 per cent to 1.0 per cent between 1975 and 1985 reflects the decline in Canada's birth rate that started in the 1960s. This population will undergo a striking compositional change, says the Council, with the 15-24 age group declining from 1980 on and representing only about 20 per cent of the total in 1985, compared with more than 25 per cent 10 years earlier. As more of the baby-boom generation moves into prime working age, the 25-44 age group will expand significantly. These large compositional shifts, says the Council, are a major determinant of the labour supply changes occurring at present.

Rates of participation in the labour market, the second element influencing labour force growth, are also shifting significantly. Rates for the 15-24 age group are projected to continue rising, with the rate for males increasing by 7.8 percentage points to 76.6 per cent and that for females by 9.3 percentage points to 66.1 per cent between 1975 and 1985. Over the same period, the participation rate for men aged 25 to 44 years (the highest rate for all groups) is expected to remain steady at about 95 per cent, but the rate for women in this age group should show the largest increase, at 18.8 percentage points, a rise from 52.3 per cent to 71.1 per cent. Men in the 45-64 age group will continue to show slight declines in participation, due mainly to early retirement, while women in that age group will experience fairly strong increases (10.8 percentage points).

The aggregate participation rate is estimated to increase by 5.9 percentage points, from 61.1 per cent to 67.0 per cent, with the total rate for men increasing by just under one point and that for women by just under 11 points.

These changes in source population and participation rates will combine, says the Council, to produce the following labour force changes in the 1980-85 period:

- the 15-24 age group will decline in numbers, and its share of the labour force will also decline;
- the largest labour force increase is expected to be for women in the 25-44 age group;
- total average female labour force growth will be more than double that of males;
- total labour force growth will continue to slow down, for an average annual growth of 2.2 per cent;
- increases in participation rates will keep labour force growth rates above population growth rates – but not enough to counter the trend of slowing population growth.



Changes in the occupational structure of the labour force in the 1975-85 period are likely to be rather small. If present trends continue, the largest changes in the distribution of the labour force by occupation will be the increases in the shares held by the management and service occupations and the decreases in those of the construction and sales sectors.

Most occupational growth rates – that is, the absolute growth in numbers of people in each occupation – are projected to be lower in 1980-85 than in 1975-80, reflecting the overall slowdown of labour force growth. The largest growth is expected to be in managerial occupations, with men and women in the 25-44 age group experiencing the most rapid labour force growth in that field.

Finally, there is the problem of occupational concentration by sex, most significant in occupations staffed predominantly by women – such as clerical and other office work. This situation arises chiefly from source population and participation rate changes and, says the Council, is likely to get worse before it improves.

These often striking changes in labour force growth and composition obviously will weigh heavily in future policy decisions concerning education, vocational training, job creation programs and on the priority given to more – and more effective – labour market information.

IN SHORT SUPPLY
JOBS AND SKILLS
IN THE 1980s

. . . and demand

The presence of skill shortages in the labour market, at any time, can produce unfortu-nate social and economic consequences. Bottlenecks that result can lower productivity, fuel inflation, and slow down growth – thus restricting higher employment and prosperity. When such shortages emerge, as they have recently, in a period of slow development and high unemployment, there is increasing cause for concern.

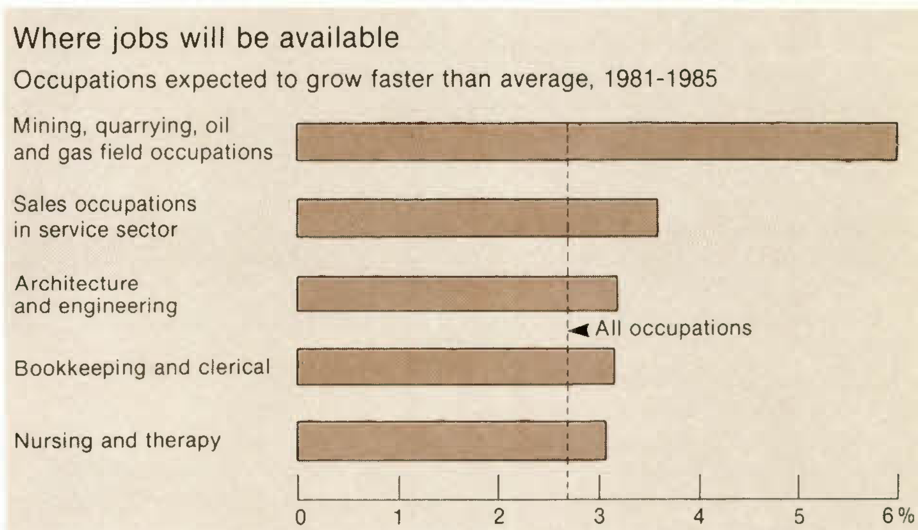
Some occupations in particular will be subject to hiring difficulties in the early 1980s – for example, product fabricating and repair, machining, and sciences and engineering. (see chart).

Many vacancy problems – such as those involving architects and engineers – can be solved through government policy measures at the level of post-secondary education. But vacancies in the highly skilled trade occupations may be harder to fill. In the past, immigration has been a major source of skilled tradesmen, a situation that no longer prevails. And while the domestic apprenticeship system is growing, it still cannot provide the number of workers required to fill the gaps.

Turning from job vacancy projections to the question of where people will be employed, it appears that both the manufacturing and service sectors will experience some growth during the 1981-85 period. But such traditional occupations as agriculture, fishing, and trapping will continue to support fewer and fewer people.

Occupations such as management, the social sciences, medicine, law, and teaching are expected to grow at a rate lower than the projected national average (2.7 per cent). On the other hand, nursing, mining and quarrying, and clerical work are among the occupations that should experience a growth rate exceeding the national average.

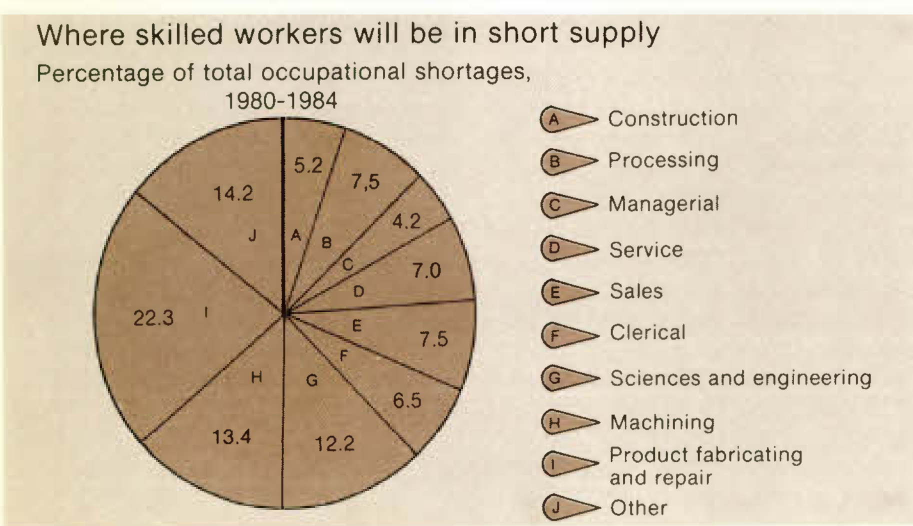
In any projection of future demand and shortages, of course, both job vacancies and employment growth must be considered. Employment growth in a particular field may be very rapid but, as long as enough qualified people are available, vacancies will be low and bottlenecks will not occur. Conversely, an occupation with low employment growth may still experience a high rate of job vacancies if the required workers aren't out there.



Since the absorption of women and young people in the labour force will still present problems in the 1980s, says the Council, the projected continued growth in service sector employment – which helped considerably to absorb these groups in the 1970s – strikes a note of optimism.

On the other hand, the jobs that have traditionally provided opportunities for female and youth employment are those most likely to be jeopardized by rapid technological change. While the resulting dislocation may not be enormous, the nature of the work to be performed will probably change substantially, giving rise to concern over the quality of future work in these occupations.

At the general level of labour market demand, it is clear that far more information than is now available will be required. Given the amount of time needed to develop many occupational skills, only accurate and detailed projections can prevent current programs from falling wide of the mark. The government can improve the present situation, says the Council, by providing the public with regular, comprehensive, projected information on occupational demand.



Training programs miss the mark

Canada's per capita expenditures on vocational training place the country among the world's leaders. During the past year, the federal government alone spent more than $800 million on training programs.

There's only one thing wrong. It's not working.

High unemployment while jobs go begging due to skill shortages attests to this. Obviously, says the Council, the prevailing approach to training programs needs serious reconsideration. This conclusion appears to be shared by the federal government, which recently announced changes in the national training effort under the proposed National Training Plan.

It wasn't until the 1960s that the federal government assumed a major role in vocational training. In particular, the Adult Occupational Training Act (AOTA) of 1967 spawned two main manpower and skill training programs.

It is these programs that have come under extensive criticism, particularly in recent years. While many problems have been pinpointed, the most obvious failure of the system has been its inability to produce the skilled workers that the economy needs.

At least two factors, says the Council, have contributed significantly to this failure. To begin with, it is not clear that the main objective of government training has been to meet the real needs of the market. And even if that were the main objective, the data needed to forecast those needs accurately have been inadequate.

Occupational data are essential to manpower programs in general and training initiatives in particular. But the information needed to create responsive programs is still unavailable, making the identification of imbalances in Canada's labour market extremely difficult.

Duplication of effort at the public and private sector levels is one of the most striking examples of how a lack of information can misdirect the various resources involved in training programs. For example, there is considerable risk in setting up government programs without a better knowledge of the training effort being made by industry. Rather than complementing training activity in industry, government programs often displace private efforts.

National Film Board of Canada

More effective programs needed

Another problem is that of multiple objectives. The AOTA programs have tried to serve both equity and efficiency considerations, thus risking limited success in either direction. For efficiency, the volume of training should be linked directly to labour demand. Obviously, economically active areas have the greatest need for skilled workers.

However, a disproportionate amount of federal government training has been carried out in areas of Canada where poor employment prospects prevail. Thus, in trying to reduce regional disparities, AOTA has been training workers for jobs that frequently just aren't there – while the areas in need of skilled workers are still waiting.

Emphasis on equity does have its place, says the Council, particularly where disadvantaged groups in the Canadian labour market are concerned. For instance, basic adult education courses could do much to ease the problem of functional illiteracy. The difficulties women experience in gaining access to education, training, and the job market itself demand special initiatives. And the work-related problems of Canada's native population will call for increasing attention and new solutions throughout the 1980s.

Finally, the Council notes that avenues for the development of vocational skills such as apprenticeship training, postsecondary education, and continuing adult education must be considered along with regular occupational training programs.

"A concern for vocational training and education," says the Council, "must extend beyond their contribution to economic development and performance. It is also essential to consider the importance of training in improving the prospects of those who experience difficulties in the labour market. Indeed, a major emphasis of this report is that governments must play a critical role in improving the employment prospects of *all* Canadians." A balanced approach between equity and efficiency, concludes the Council, is what's needed now.

IN SHORT SUPPLY
JOBS AND SKILLS
IN THE 1980s

Blueprint for action

In the Economic Council's final summary of the report's findings, three main areas of concern are singled out for priority consideration: vocational skill development, labour market information, and job creation.

Manpower training in Canada, says the Council, has the potential to fill current and projected manpower requirements and to reduce unemployment caused by skill deficiency. But the system must be better aligned to the changing employment needs of various sectors.

An effective information program is essential to the successful operation of a national training system. And workers looking for jobs, employers searching for manpower, and decisionmakers planning future strategy all need precise, up-to-date data. Unfortunately, says the Council, our present capacity to produce and project detailed occupational information is limited.

". . . a highly skilled and efficiently allocated labour force is viewed as essential if Canada is to realize its potential for growth in the upcoming decade."

While part of the joint problem of joblessness and skill shortages may be solved by more effective information and by skill training, another part requires action on the demand side of the Canadian labour market. As the Council notes, a comprehensive manpower policy package requires job creation programs serving individual and social needs, not just as a Band-Aid but as a long-range prescription to maximize access to work and to skill formation.

That Canadians recognize the significance of vocational training is demonstrated, says the Council, by past government expenditures in this area. In terms of dollars spent, public training programs have represented the single largest slice of the labour market policy pie.

Despite this, Council research suggests that past efforts have not really been effective. The critical shortages of skills in the Canadian labour market underline the failure of the system to meet all the demands of that market. Nor does it appear that existing programs have been very successful in improving the chances of Canadians experiencing long-term joblessness and other employment-related problems.

With this in mind, the Council has recommended action in the following areas:

- creation of local councils to identify training needs in their areas and to set up appropriate programs – these councils to include representatives from labour, business, education, and the federal and provincial governments.
- government support for training in industry to focus on high-level, long-duration programs for technical and trades occupations.
- increased government funding for nontraditional training for women.
- incorporation by provincial governments, within their apprenticeship facilities, of an agency to promote placement of aspiring apprentices within industry; other measures are recommended to streamline apprenticeship training.
- Canadian ratification and implementation of the International Labour Organization (ILO) convention on educational leave.

Concerning information, the Council observes that labour markets do not, of their own accord, always produce the most effective matching of people and jobs. Nor does labour market information. And since information is an essential element in the process of labour market adjustment, its shortcomings have contributed to the current imbalances.

The Council notes that, not only is more and better information required, but also it is essential to provide information specific to four categories of users: workers, employers, labour market analysts, and policymakers.

As a result, the Council has recommended the establishment of an independent research institute to develop and co-ordinate a labour force information network to meet the needs of these information users.

In addition, the Council suggests that the federal and provincial governments give high priority to the regular provision of information on employment, vacancies, workers, and wages – by occupation – supplemented by a continuing skill shortages survey.

Finally, the Council recommends a long-term survey of the behaviour of labour market participants, with availability of hiring and separations data on a regular and continuing basis.

Job creation programs by themselves, says the Council, should not be considered a panacea for all the ills of the Canadian labour market. For example, they should not replace, but rather complement, other policy measures that affect the process of labour market adjustment. Some problems may best be addressed by training, while others lend themselves more ideally to job creation. In some cases, a combination of the two may be the best way to help certain groups.

At the same time, the Council does view job creation programs as a legitimate component of overall public labour market policy, with scope for such programs in both the public and private sectors.

"Canadian labour markets have not always produced the quantity and quality of information considered ideal by participants in those markets."

Considering the short-term and long-range aspects of the question, the Council has recommended that the federal government institute a short-run direct employment creation program in the private sector, targeted to those groups bearing a disproportionate burden of unemployment. In the longer run and to complement this, the federal government should establish a system of direct cash wage subsidy to private employers for the purpose of job creation. These steps would also help ensure a mix of private and public sector action in the field of job creation.

Summing up, the Council emphasizes that "we view these policy options and recommendations as mutually supporting elements of a policy framework. That is, they are designed to address, simultaneously, certain aspects of both the demand and supply side of the labour market, and the information requirements to effectively reconcile the two."

NEW TECHN
NEW CHALLE

The papers summarized below look at issues raised in the course of the Economic Council's ongoing research technological change, productivity, and

How useful is research and development?

Research and development is seen by many as the most promising route to stimulating the future growth of Canada's economy.

The federal government recently confirmed its belief in this approach by announcing a policy that sees Canada's expenditures on R&D reach the target of 1.5 per cent by 1985. In comparison, the actual spending on research and development in Canada in 1977 represented 0.9 per cent of gross domestic product.

The cost of this policy will be about $1 billion per year, or about $40 yearly for every man, woman, and child in Canada.

In a study prepared for the Economic Council of Canada, economists Kristian S. Palda and Bohumir Pazderka examine the aims of this new policy and the means envisaged to achieve it.

The authors conclude that the analysis used to arrive at the 1.5 per cent target is deficient. Aside from questioning the comparisons drawn between R&D expenditures in Canada and elsewhere, they also question the assumption that increased R&D always and everywhere leads to significant improvements in economic growth.

The Science Council of Canada, they remind us, also concluded after studying the matter that contrary to current assumptions the astonishing industrial success of Japan was not founded on R&D. Its real basis was the adoption and diffusion of available technology.

The key to growth in firms and industries is innovation, say the authors.

"R&D is, of course, a necessary but not by any means a sufficient factor in bringing forth innovation. It is likely that those policies that enhance innovation also, ineluctably, raise the level of research and expenditures."

The authors consider the setting of a general target for R&D expenditures as an illogical and futile exercise.

They base their results on a systematic examination, one industry at a time, of what explains why R&D spending is high or low. They consider factors like the investment climate, the tax burden, the level of foreign ownership, and the scientific base. The approach the authors recommend to stimulate innovating, and thus research, in Canada is for the government to consider each industry individually.

Some industries, such as the manufacturing of electrical machinery, may benefit from government programs to promote R&D while others will be adversely affected by such a policy.

The use of a general target for R&D spending would be effective, the authors state, only if the target were built up industry by industry, taking into account the peculiarities that make each industry more or less responsive to such an approach.

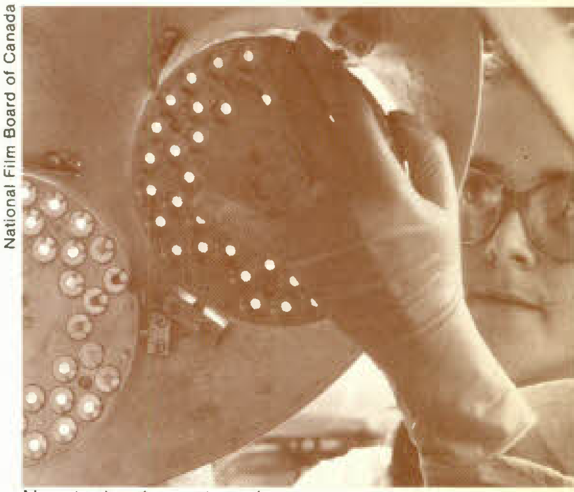
The study also demonstrates that the grants or tax concessions to stimulate research and development are not equally effective in all industries.

Also, when a comparison is made between research and development in Canada and that in other industrialized countries, some important Canadian industries are found to be doing better than expected. Further, the common belief that a low level of research and development or its absence is directly related to foreign ownership does not hold up under scrutiny. Some foreign-owned enterprises in Canada have high levels of R&D, while others do not.

Government policy to stimulate R&D should concentrate on those industries where a true shortfall is identified.

About the current federal policy, the authors conclude: "We believe that we show conclusively that an aggregate, economy-wide target of research intensity is neither valid nor useful."

Approaches to an International Comparison of Canada's R&D Expenditures, by Kristian S. Palda and Bohumir Pazderka (EC22-107/1982E).



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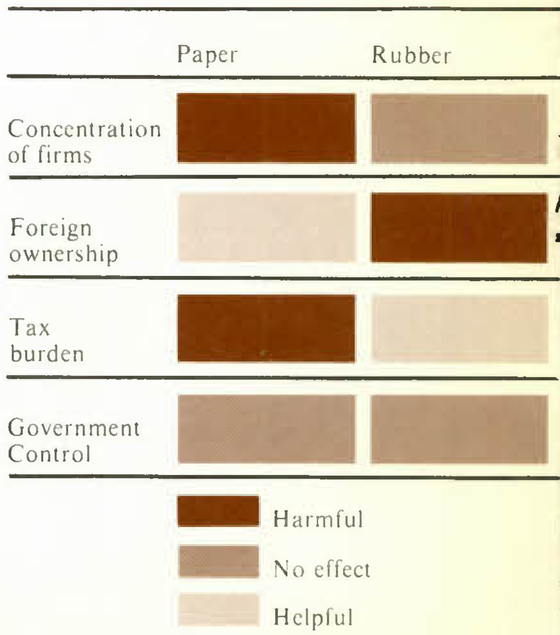
New technology at work

How spending on research and

Forces affecting R&D spending in cer



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Taking risks can pay off

Canadian companies adventurous enough to invest in risky new technology are often rewarded for their daring by bigger profits. By the same token, firms that bet only on a sure thing have to be content with smaller returns.

So concludes a new Economic Council paper, in which author K. E. McMullen develops an economic model to assess the time lag between the first world use of a new product or process technology and the date of its first use by firms in Canada.

As the basis for her analysis, the Council economist had access to new data from a survey conducted by the Economic Council as part of its ongoing research into technological change.

development can be influenced

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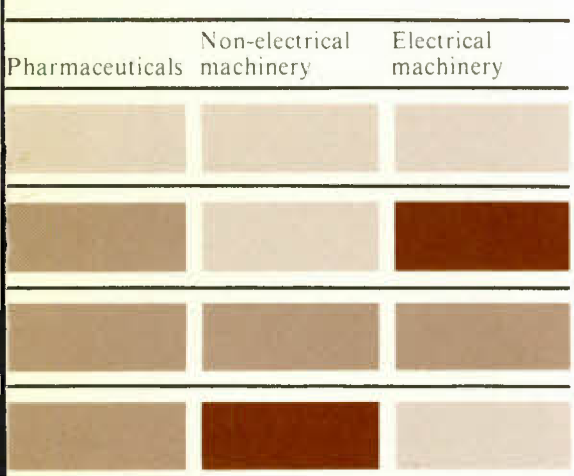


A large sample of manufacturing firms was asked to report on innovations which contributed most to their profitability during the period from 1960 to 1979.

McMullen's interest lay in finding out what motivated these firms to adopt new technology first used elsewhere, and what explained the length of time they waited before taking the plunge. This matters a lot since, as McMullen points out, 99 per cent of Canadian technology comes from abroad. Using the sample data and theories advanced by earlier research into the spreading of innovations, the author tests a number of hypotheses, including how big a difference riskiness makes and, especially significant for Canada, how much it matters if the firm is a multinational branch plant.

A number of considerations affect how quickly a firm will adopt new ideas, McMullen says. First, it must be aware the innovation has been developed. Acquiring this knowledge can be an expensive pursuit, so companies with reliable sources of information may have an advantage – the more technologically oriented firms, especially those doing their own research and development, for example, or large diversified corporations such as multinationals with extensive, centralized research facilities to monitor technological developments in a number of fields and countries.

But firms may also bide their time when they're not certain of a good return on their investment. Radically new, relatively untested ideas appear a less sure bet than products or processes that have proved themselves on the market. So, McMullen theorizes, "as perceived risk increases, lag lengths increase." For much the same reason, firms tend to be keener to acquire improvements to familiar products and processes than to gamble on innovations representing major departures from current practice.

The cost of brand-new technology could be an obstacle to its adoption as well. Companies are understandably reluctant to tie up a good deal of capital in a single, risky venture – and so may hesitate to take on innovations that are expensive relative to firm sales. And they may be more receptive to new technology that is already returning a good profit elsewhere; so, "as perceived rate of return increases, the length of time from first world use of an innovation to adoption by firms should decrease," McMullen suggests.

It follows, too, she says, that government subsidies, by reducing adoption costs, may spur firms on to invest more rapidly in new technology.

Where companies are getting their new technology could influence the speed of adoption as well, McMullen reasons. A Canadian subsidiary of a large multinational may have an advantage over domestically controlled competitors in this respect. The parent companies are in a much better position to know about new technological developments and to handle research and development expenses. And they can pass on the fruits of their learning to other firms within the corporation. "Hence," the author argues, "technology acquired through intra-corporate channels should also show shorter lag lengths . . ."

Systematic testing of these assumptions with the real world data confirms their accuracy, although McMullen cautions that "lag lengths . . . are estimated by the respondent firms . . . (and) as a result, they are subject to inaccuracy introduced by human error in recall, and in awareness of the true first date of innovation commercialization elsewhere in the world."

That said, several interesting conclusions emerge from her analysis. First, although firms often prefer to take a "wait and see" approach to new ideas, risk takers gambling successfully on technology new to the market pay off their investment more rapidly.

Secondly, there may be a role for government support to reduce the risk of innovation, although McMullen stresses the need for more analysis here. "The question of the level of risk faced by firms and the level faced by society and the case for intervention is a theoretical argument . . . beyond the scope of this paper," she says.

The paper ends on a rather controversial note. Subsidiaries of multinationals appear to have an edge in so far as innovating is concerned, implying that "policies toward multinationals in Canada could have an impact on the length of adoption lags at a given level of risk and rate of return." Contrary to current opinion held in some quarters, the author concludes, her research suggests that "foreign-controlled firms . . . play a positive role in the process of technological change in Canadian industry . . ."

"A Model of Lag Lengths for Innovation Adoption by Canadian Firms," by K. E. McMullen. Discussion Paper No. 216.

Reforming Regulation

Public gains from airline deregulation

Judging from U.S. experience, Canadians would be paying dramatically lower air fares if airline regulation were cut to a minimum.

Successful airlines would have much lower operating costs under deregulation, too, while their profits would remain at today's levels, says William Jordan of York University, in a paper on the performance of regulated Canadian airlines between 1975 and 1978, written for the Economic Council's study on government regulation of the economy.

Virtually all commercial air activities in Canada, from the largest airline to the smallest flying club, have been tightly regulated by federal commissions since 1938, Jordan points out. By virtue of this regulatory monopoly, new airlines have been prevented from starting up, and fares have had to conform to commission-approved guidelines. As it stands, airlines compete only in the quality of the in-flight service they offer.

The impact these regulations have on air fares, operating costs, productivity, and profits can only be tested, Jordan argues, by looking at how airlines have done under a less regulated system – where carriers complying with federal safety requirements can enter the industry, fly their choice of routes, and set their own fares.

Ultimately, the recent U.S. move to deregulate its airline industry will provide a good basis for this comparison, but not for some years to come. Meanwhile, though, the existence until recently of more than one system of regulation for airlines in the United States provides an invaluable source of information for this purpose, Jordan says.

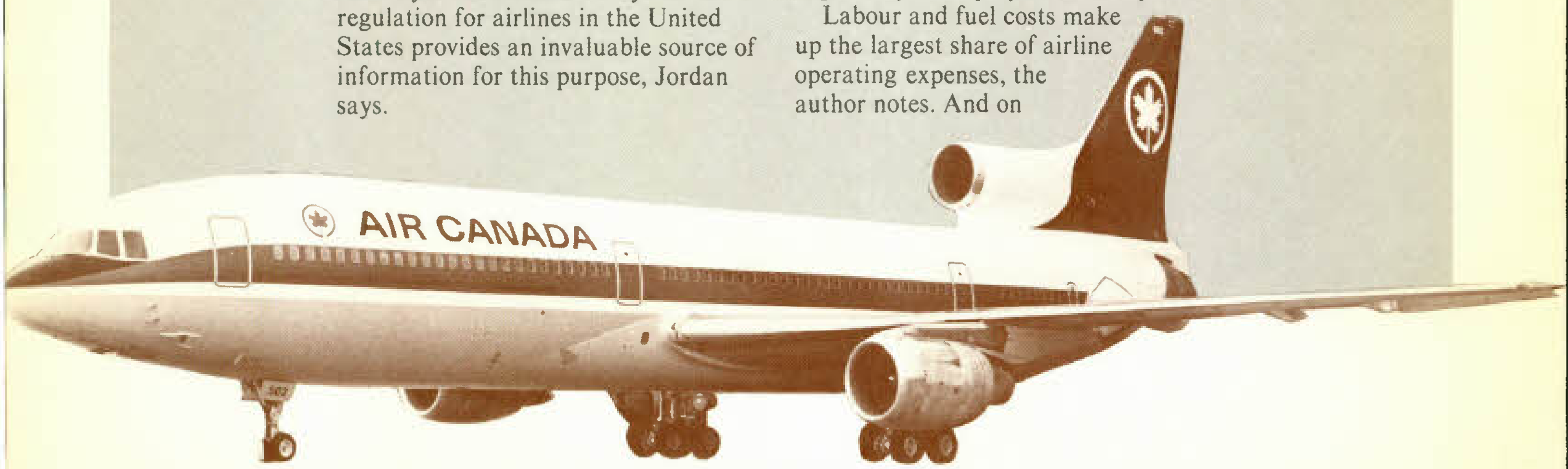
Until 1979, most U.S. airlines came under a federal regulatory system similar to Canada's. But in the large American states of California, Florida, and Texas, a more competitive set-up was in play. There, state airlines flying to points within their own borders came under state, rather than federal, jurisdiction, and hence under much looser regulatory controls. Intrastate carriers, using large aircraft similar to those of the federally regulated airlines, and flying the same routes, were permitted to cut fares in order to compete successfully.

This situation afforded Jordan an excellent opportunity to carry out a comparison, not only between deregulated and regulated U.S. airlines, but also between federally regulated carriers on both sides of the border.

His analysis shows that, throughout the 1975 to 1978 period, the performance of federally regulated airlines, whether U.S. or Canadian, didn't differ very much. In contrast, the intrastate carriers did a truly outstanding job, offering air fares at much lower rates than their federally regulated competitors. The latter, Jordan says, charged fares as much as 180 per cent higher than the intrastate airlines. Profits, though, ran at about the same levels for all the airlines. So operating costs must have been substantially higher, too, for federally regulated airlines.

Finding out why loosely regulated carriers can operate more cheaply than tightly regulated ones should cast some light on the economic effects of a regulatory monopoly, Jordan says.

Labour and fuel costs make up the largest share of airline operating expenses, the author notes. And on



both counts he finds that the intrastate carriers strikingly outperformed Canadian and American federally regulated airlines. Their labour costs were much lower, the author says, partly because they paid smaller salaries, but primarily because their employees were between 67 and 118 per cent more productive than those working for federally regulated airlines.

The same proved true for fuel expenses. While fuel prices were about the same for all U.S. airlines, the intrastate carriers had lower fuel expenses overall, through better fuel utilization. Canadian airlines also scored high marks in this category, but were required to pay significantly higher fuel prices – the result of higher taxes and fuel-related airport fees charged by federal and provincial governments – with the net result that fuel expenses were about the same for federally regulated airlines in both countries.

The unavoidable conclusion, Jordan says, is that the intrastate carriers made better use of labour, fuel, and aircraft than did their competitors. Canadian airline executives, he observes, have attempted to explain performance differences of this nature in terms of geography and climate, arguing that Canadian carriers operate in more difficult weather conditions and serve sparsely populated areas, so their productivity inevitably suffers. But Jordan did not find any evidence to support this contention. Federally regulated airlines in Canada and the U.S. put in about the same performance on all counts, despite differences in weather and traffic patterns, he says.

In addition, he debunks the myth that larger airlines can operate more cheaply and efficiently than smaller ones. In his view, the intrastate experience clearly demonstrates that very small airlines operating four or five planes of a suitable type can compete successfully with the giants.

A better explanation for the success of the intrastate carriers probably lies in their tendency to greater specialization, the author contends. Unlike federally regulated airlines, intrastate carriers seldom operated more than two types of plane at one time, served relatively few cities and routes, offered only economy service, and kept their schedules and fare structures uncomplicated. Their declared intent to "keep it sweet and simple" (the motto of one carrier) extended to every aspect of airline management, resulting in greater productivity in many areas. For example, Jordan says, keeping fares and schedules simple and straightforward has more than halved the amount of time that agents need to spend on the phone with prospective customers.

There's a clear message here for Canadian airlines, Jordan concludes. If the intrastate example is anything to go by, deregulation of the Canadian industry should reduce air fares by as much as 50 per cent, simplify fare structures, substantially reduce the operating costs of successful airlines, and boost employee productivity – at no greater cost than some reduction in services.

"Canadian Airline Performance Under Regulation," by William A. Jordan. Working Paper No. 29.

Protecting wildlife

National Film Board of Canada

Vanishing species?

Hunters, beware! If steps aren't taken soon to enforce and strengthen present-day wildlife regulations, there may be no game left in the forests to shoot.

And people who enjoy watching animals roam freely through Canada's parks may be deprived of that pleasure, too, before very long.

J. E. Peters of Cariboo College, in a paper written for the Economic Council's study on government regulation of the economy, finds serious problems in the way that regulations have managed wildlife concerns to date. Certain species are dying out, and the area set aside for wildlife is shrinking rapidly due to population pressures, old-fashioned attitudes, and encroaching new technology. And current regulations, as enacted by wildlife agencies, aren't keeping pace with these new developments.

The roots of the present problems reach far back into the past, Peters claims. Over centuries, wildlife – particularly game – has been universally regarded as common property. Most Canadians look on hunting as a personal recreational pastime, unrelated to the ordinary market forces of supply, demand, and price. But "what has no price," he argues, "is often considered to have no scarcity value and hence is likely to be excessively exploited."

So it's the job of provincial and federal regulations to see to it that existing species aren't wiped out in the process. As well, regulations have to protect wildlife from the perils of modern-day society – the snowmobile, for instance, or pollution, such as acid rain.

More and stricter regulations are imperative, Peters says, but instead the reverse appears to be happening. Current rules, while numerous, are often poorly enforced. Poaching is commonplace, for example. And judges tend to be unusually lenient in sentencing offenders, when a stiff fine would act as a deterrent. As well, even though game is dwindling in some areas, the wildlife agencies have been hesitant to reduce the hunters' entitlement accordingly.

Before measures can be taken to protect wildlife adequately, the problem areas have to be identified. In Peters' view, two key concerns merit particular attention: "the absence of an acceptable economic evaluation of wildlife, and the lack of a land use policy based on ecological principles."

To begin with, wildlife habitat must be preserved if species are to survive. Meeting this goal will require a change in land management policies, Peters claims. Ideally, ecological concerns would be the guiding principle behind any future land use decisions but, for practical purposes, more immediate methods to protect the environment have to be found. Government purchases of land for parks or wildlife preserves are an expensive solution to the problem; but a cheaper and yet effective approach might be to zone existing agricultural and forest land so that it remains in a condition compatible with effective wildlife management. Provinces could also convert some of their crown land into multiple-use areas, requiring users to satisfy specific requirements laid down by government wildlife agencies.

Secondly, an economic price tag should be put on wildlife. "Very few statements are as impressive in our society as proof of a high economic value. It is in this area that existing wildlife rules and management could be changed to allow for the generation and expression of information on the economic value of wildlife." Unfortunately, he adds, 44 federal-provincial wildlife conferences have failed to come to grips with that important question.

Licence fees, for example, could be an effective weapon in protecting species. The present system of low nominal charges has resulted in "increasing herds of hunters" chasing declining herds of game, with little success. And the agencies get scant resources for management and protection purposes.

So a hefty raise in fees would have several benefits, in Peters' view. The number of hunters would drop, the season could be open longer, and the agencies would have larger incomes to deal with pressing concerns.

Alternatively, a change in agency goals and activities could open up new sources of income. In the past, an agency's first concern has been to manage game for the benefit of hunters. But if their prime objective became protecting and restoring wildlife for present and future generations, Peters argues, then an excellent case could be made for giving them greater revenues out of general taxes.

"Wildlife Management: Adequacy of and Problems in Regulation," by J. E. Peters. Working Paper No. 27.

Canada/U.S. conference raises key issues

Canadian and American experts on the reform of regulation swapped views at a major two-day conference held recently in Toronto.

Sponsored by the Economic Council of Canada, The Institute for Research on Public Policy, and The American Enterprise Institute for Public Policy Research, the conference, on "The Impact of Regulatory Reform in Canada and the United States," attracted over 180 delegates from government, universities, and the private sector across North America.

During the first day of the event, distinguished speakers discussed changes in broad areas of regulation, and their impact upon the two countries. Topics included the reform of economic regulation in telecommunications and transportation, regulation of the environment and the workplace, and the role of antitrust or competition policy following deregulation.

In a lunchtime address, William Niskanen, a member of President Reagan's Council of Economic Advisers, talked about the pressing need for thoroughgoing regulatory reform in his country. The Reagan administration, he said, has not yet succeeded in its declared intention of providing Americans with "regulatory relief." Niskanen called for more stringent measures to achieve deregulation, including the development of "regulatory courts" where plaintiffs could bring class action suits against existing regulations.

In a press conference following his speech, Niskanen referred to current economic conditions in the United States, saying that interest rates should ease there this year, and the economy move into a "fairly robust" recovery.

Consumer advocate Ralph Nader, of the Center for Study of Responsive Law, in Washington, treated delegates to a hard hitting after-dinner discussion on the consumer interest in deregulation. Reformers of regulation need to pay a good deal more attention to the best interests of the public at large, he declared, rather than to the relative merits of abstract theories and concepts. In his opinion, the helpless victim of "the corporate bias which threads its way through American life" is only too frequently the consumer, whose life, health and safety are often at stake. Not only must consumers themselves work to change this situation by organizing into informed and active groups, he said, but also regulators must begin to work alongside those most affected by current measures.

The second day of the conference was devoted to concurrent sessions on the impact of regulatory changes, or proposals for reform, in specific industries and sectors: the environment, the workplace, airlines, telecommunications, surface transportation, and energy.

Max Ward, president of Wardair International Ltd. of Edmonton, took issue with Air Canada's executive vice-president, Pierre Jeanniot, during the session on the airline industry. Ward disagreed with Jeanniot's stand in favour of airline regulation, arguing that a Canadian airline's financial results are determined by the regulatory protection under which it operates, not on its ingenuity, or on its success or failure in serving markets. If there is instability in the Canadian airline industry, it is because of regulation, he said.

A highlight of the afternoon's proceedings featured a debate among panelists participating in the session on energy, which was chaired by the deputy minister of Energy, Mines and Resources, Marshall Cohen. Yale University economics professor, Paul MacAvoy – whose indictment of Canada's National Energy Program was recently published in the New York Times – argued that restrictive government policies, such as oil and gas price controls and high taxes, were to blame for the recent drop in oil and gas production in this country, and cautioned Canadians to "wake up before it's dark." He was challenged on a number of his assumptions by Economic Council chairman David Slater, vice-president of TransCanada Pipelines Ltd., Richard Walker, and managing director of the Independent Petroleum Association of Canada, John Porter.


Energy session provokes debate


Ralph Nader speaks out

Donald Johnston, president of the Treasury Board of Canada spoke to delegates over lunch on "The Challenge of Regulatory Change for the North American Economy." He pointed to one particular area where Canadian government regulations have an adverse effect on the working of the marketplace – the system of marketing boards, designed to give farmers a better return for their products. Quoting at length from an Economic Council report on this area, Johnston concluded: "To me, this area of regulation is perhaps the least defensible of all the measures in the regulatory catalogue . . . That we have moved so far along this road bears testimony to the fact that our governments understandably listen much more to groups – particularly those bearing blocs of votes – than to the average Canadian who pays the bill."

Discussing airlines

Reforming farm policy

The business of growing, harvesting, processing, packaging, transporting, selling, and serving food in Canada employs 9 per cent of our workers and represents one-sixth of total economic activity in Canada.

Furthermore, the importance of farm exports for Canadian trade and of food prices in the Consumer Price Index (CPI) means that the performance of the food industry has a direct impact on the balance of our international payments and on price stability in the domestic economy.

It is with these figures in mind that economists James D. Forbes, David R. Hughes, and T. K. Warley undertook an evaluation of the current health and future prospects of agriculture in Canada.

Their study, published jointly by the Economic Council and The Institute for Research on Public Policy, concludes that, though agriculture in Canada is "performing quite well" overall, there is a need to reform certain aspects of farm policy if the growth and efficiency of the agricultural sector are to be maintained in the future.

National Film Board of Canada

Governments in Canada at present commit over $1 billion a year to support and regulate agriculture. Canadian consumers spent $25 billion on food in 1979. This was 17.3 per cent of personal disposable income.

Some of the marketing boards that are the object of regulatory expenditures and the recipients of consumer dollars abuse their regulatory power, the authors conclude.

"By any standards, the income transfers being made every year to producers of eggs and broiler chickens – and probably turkeys – are unconscionable."

The per capita transfer to producers of fluid and industrial milk is smaller but still too large.

"Furthermore, these transfers are being made by cost-ineffective and socially regressive instruments, with no time scale to their duration."

The concern expressed by the authors is not only for the prices that consumers pay for these products but also for the long-term survival of these agricultural sectors.

Further prospects will not be rosy for producers, as a result of present marketing board practices. "For, while the industries are flushed with profit in this generation, they will be burdened with costs in the next."

The authors oppose the creation of additional marketing boards, specifically for red meats, until supply management systems have been reformed in such a way that they no longer pose a threat to farmers and to the national economy.

The authors recognize the need for support and stabilization policies, particularly in the grains industry, which is important to our balance of trade, although it is susceptible to the instabilities of the world market.

Government intervention in this area could include : expanding production capacity; encouraging the product mix required by markets; upgrading the grain handling system; integrating grain transportation into a broader commodity transportation policy; devising price and income stabilization arrangements that will offset short-term market variations and encourage steady grain production and the orderly development of livestock and meat production; and avoiding distortions in interregional comparative advantages.

National Film Board of Canada

The authors support government intervention and regulation to enhance stability in the food system.

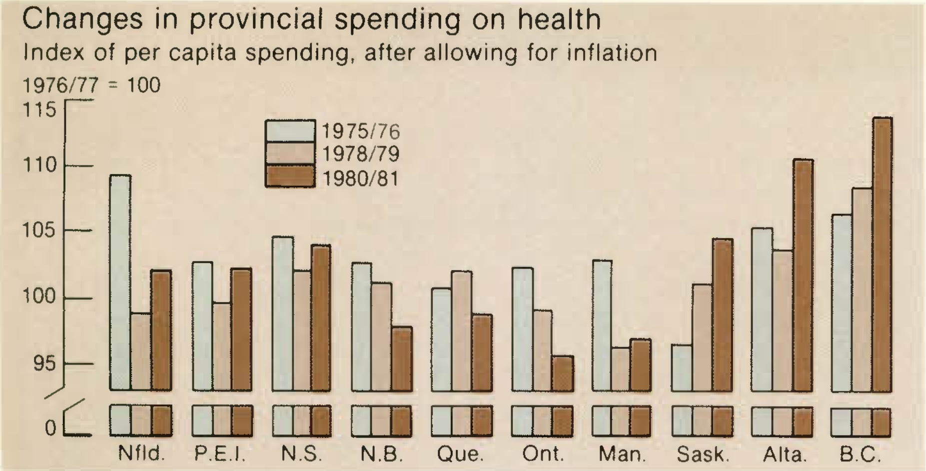
"A major task facing Canadian policy would seem to be to devise a set of instruments that will stabilize key economic variables in agriculture while resisting the temptation to move into regulated systems that isolate the Canadian food system from competitive market conditions."

The authors view the current drift from competitive systems with foreboding. "For, on the evidence provided by this enquiry, we find it impossible to believe that such a trend is in the best interest of the nation or, ultimately, of this and future generations of Canadian farmers."

This study was prepared as part of the Council's research project on government regulation. The final report of that study, *Reforming Regulation*, was published in 1981.

Economic Intervention and Regulation in Canadian Agriculture, by J. D. Forbes, R. D. Hughes and T. K. Warley (ECC2-102/1982E; $7.95 in Canada, $9.55 elsewhere).

No impact from funding changes



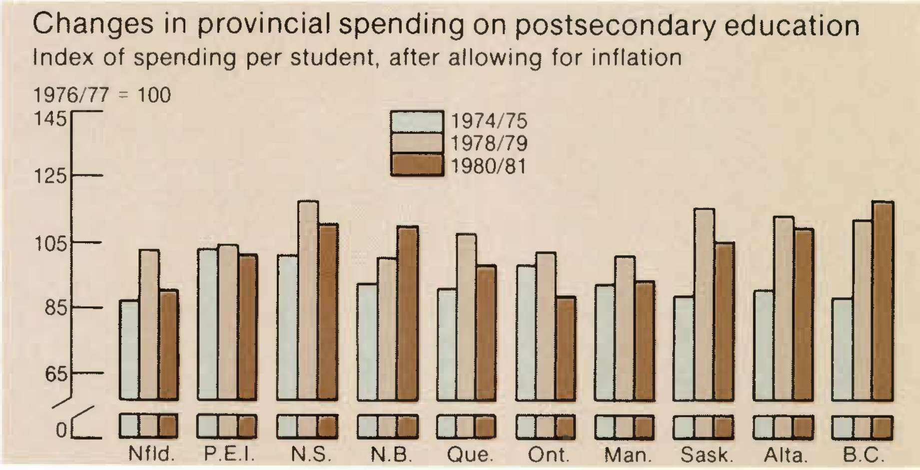
The notion that provinces collectively have reduced their spending on health care and postsecondary education in response to 1977 changes in federal funding methods doesn't hold up under close analysis, claims a recent Economic Council paper.

As background for the Economic Council's report on fiscal arrangements between Ottawa and the provinces, published earlier this year, economist Constantine Kapsalis looks at past and present funding of social programs in the fields of health care and postsecondary education.

Although these two areas fall under provincial jurisdiction, the federal government plays a major role in financing them. Prior to 1977, the provincial and federal governments shared the operating costs of these programs, on what amounted to a fifty-fifty basis.

But when the Fiscal Arrangements Act was renegotiated in 1977, the system of federal-provincial cost-sharing was replaced with block funding under the term "Established Programs Financing" (EPF). Under these arrangements, the federal government provides each province with a "block fund" in the form of a federal income tax reduction and cash payments, which it can then allocate to the various programs.

Recently, though, public interest groups have expressed fears that this approach has led provinces to reduce the level and quality of their services. Once the federal government agreed to pay one dollar regardless of whether the provinces spent two dollars or one dollar, the argument goes, the provinces were bound to pull back on their own contribution, and the programs would suffer.



There is some concern, too, that the increased financial burden on hospitals and postsecondary institutions may force them to impose surcharge fees for hospital care and increase tuition fees.

But Kapsalis's analysis shows that in fact the EPF funding method did not generally have such an effect. Some provincial governments did restrain the growth of spending on social programs in recent years. But current provincial spending restraint cannot be attributed to the introduction of EPF, he says, first because there is no indication of significant overall funding cutbacks by provinces since the introduction of EPF; and second, because it is questionable whether the change from cost sharing to block funding made provinces less inclined to spend on social programs.

The accompanying charts bear out Kapsalis's first point. They show that, at the national level, provinces have reduced their spending on social programs only slightly – if at all – since EPF began, although the picture varies somewhat from province to province.

The author argues his second point on two grounds. First, he says, as far as hospital and medical insurance are concerned, under the cost-sharing agreement the provinces did not in fact receive 50 cents from the federal government for every dollar they spent. Cost-sharing for medical expenses, for example, was based on 50 per cent of the *national* per capita cost. So no matter how much or how little the provinces spent in this area, their allotment under the cost-sharing program was barely affected by their own behaviour, even in the largest provinces.

Further, he says, even when the provinces did work from "50 cent dollars," as was the case for postsecondary education, other factors diluted the effect. For instance, Kapsalis points out that in 1972 the federal government imposed a 15 per cent ceiling on the annual rate of the increase in grants for postsecondary education. Because provincial spending was already curtailed in this way, the introduction of block funding probably didn't have much additional impact.

Admittedly, Kapsalis concludes, provinces now are running into difficulties with some of their programs, notably health insurance plans and postsecondary education. These problems may well justify a change in the nature and extent of federal involvement, he says – such as tying stricter health program conditions to federal grants. But there is no need to change the funding system.

"Block Funding and Provincial Spending on Social Programs," by Constantine Kapsalis. Discussion Paper No. 210.

Council launches western project

The Economic Council has begun a major study of the economies of the four western provinces.

The mandate given the Council by Parliament specifically enjoins it to include regional development among its concerns. The study of the Newfoundland economy, published in 1980, is the latest in an extensive body of work the Council has undertaken in the past to increase understanding of the economies of Canada's regions.

Current plans for the new western study call for research in ten areas – transportation, the effects on incomes of changing energy prices, forestry, agriculture, mining, export marketing, migration to the West, service sector developments, interactions of western energy developments with the rest of the Canadian economy, and the meaning of balanced regional development as far as the West is concerned.

Neil Swan, an economist with the Council, developed the research project and has been appointed its director. *Au Courant* interviewed him recently to find out more about the western study.

Au Courant: *The obvious question, at first, is to ask why the Economic Council of Canada is undertaking a study of western Canada?*

Swan: It is hard to sum it up in a few sentences but basically the Economic Council is uniquely placed to examine objectively some of the crucial questions that will affect the West, and incidentally the rest of Canada, over the next decades. A key question might be, is long-term, sustainable growth a realizable objective for the West?

Another way of looking at it is that the Canadian economy as a whole, and the West in particular, has grown through a series of resource booms. We had the fur trade, the fishery, building up of the forest industries, the wheat boom, oil, and gas. Europe, in contrast, developed through the same period from agriculture to manufacturing, and then on to sophisticated manufacturing and services. That was not the pattern in Canada at all.

Now, the question is, have we reached the end of the road in the process of Canadian development, moving from one kind of natural resource to another until they are all exploited and the economy becomes stagnant?

Are these recent fillips – the boom in oil and gas, the growing demand for coal and wheat – the last in the series and do we ring down the curtain afterward?

I think that is the sort of question that the Council is able to raise and try to answer. There are many others, but this is a key one.

We may find that this conclusion is wrong and the truth is that both Canada in general and the West in particular are now large enough that, like the countries of western Europe, their growth can be self-sustaining, irrespective of resource endowment. If so, then we may conclude that balanced regional development within Canada is attainable.

Au Courant: *Is there a distortion inherent in the Easterner's view of the West?*

Swan: There is a risk of seeing the West as completely homogeneous, which it certainly is not. On the other hand, the western provinces do share some characteristics, such as dependence on resources and transportation.

Au Courant: *In working out what research to do, what sort of consultation was carried out?*

Swan: We went out West with our original proposal and discussed it with top officials in the provincial governments of British Columbia, Alberta, Saskatchewan, and Manitoba. We listened to their reactions and adjusted our proposals accordingly. Then we also consulted people in universities in the West.

Au Courant: *Will the Council have a permanent presence in the West throughout the course of the research project?*

Swan: We have opened an office at the University of Alberta, run by a senior economist, Michael Percy, who will also be personally responsible for the important work we do on forestry.

We will also look at the general importance of transportation and transportation rates as an issue. Is it in fact as big and important a matter for the West as it is often cracked up to be? In other words, what effect would changing the rates have on western GNP?

Au Courant: *What are some of the individual research areas that will comprise the study?*

Swan: This is in no logical order, but let's start with forestry. As I see the issue there, the industry has been growing in British Columbia because there has been enough wood to make that growth possible. But we may soon be coming up against what they call maximum sustainable yield. A lot of people believe that the prosperity of British Columbia is tied to the forestry and, as long as that industry was growing like mad, then British Columbia followed suit. If it now levels off, that will likely have implications for British Columbia's future growth. Now what we do about that is a major issue.

What is going to happen to the forestry sector, and what can we do about

Log loading in British Columbia

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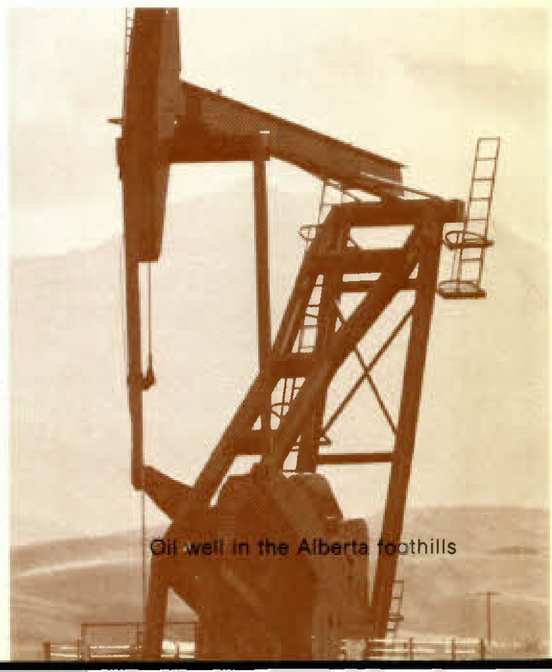

Oil well in the Alberta foothills

it? The answer will affect the whole economy of British Columbia and, to a lesser extent, Alberta. What is important to note here is that this topic does not appear to have been researched. What has been looked at is the forestry itself, forest management, sustainable yield, etc. But no work has been done on the effect on the economy as a whole of a slowdown in the growth of the forest sector.

Au Courant: *What about oil and gas resources?*

Swan: We are doing some work on the income effects of the oil boom. And much more will be done in the course of the Council's new energy study. The idea is to ask questions such as, What is the size of this boom in terms of the effect on incomes in Alberta? How are the revenues distributed? And how big is the current boom in comparison to previous booms such as that in wheat? Attention will be paid particularly to the distribution of income gains and losses, if any, among several groups, including original western residents, people arriving from the rest of Canada in response to the boom, people arriving in the West from outside, non-Westerners in Canada, and nonresidents of Canada.

Au Courant: *Transportation has been an important issue in the West. What part will it have in your study?*

Swan: In principle, we will examine all modes of transportation but more specifically rail, trucking, and seaway transport. This area has been studied in some detail, but we hope to shed light on several important issues. For example, there is the question of the capacity bottlenecks, in the shipment of items such as grain, because those will be with us for a long time, despite what happens to related issues such as the Crow rate.

Au Courant: *The boom has attracted a great many people to the West. How does that enter into your study?*

Swan: What we will be examining is the phenomenon whereby the oil boom is attracting a tremendous number of people to the West but, once it is over, these people remain there. How many will eventually go back home? This raises an issue that a lot of people are worried about. If you lower provincial taxes out there and provide government services out of the oil revenues, then in effect you make it more attractive to live in the West than is really warranted by the underlying economic conditions.

Au Courant: *Does a boom like this have an effect on the rest of Canada?*

Swan: Yes, and as a crude example, we can consider a case where the West has a lot of oil to export to the East and does export it. The East then must export something in return. You have to balance your trade within nations just as you do between nations. Now, just what is it that the East would have to export to the West? It can only be manufactured goods or financial services. That means that you have less manufacturing in the West. So an oil boom implies that the West could become more specialized in energy production and their manufacturing could suffer – exactly the opposite of what Alberta, in particular, would like to see happen.

So you can ask in this kind of study, Suppose the Alberta government tries to industrialize by using the Heritage Fund, for instance, what does that do to this balancing process, and what effects will it have on Alberta and on the rest of Canada?

Au Courant: *Will you look in greater detail at what's going to happen if one day the West can no longer rely on resources?*

Swan: This question particularly interests me. Now about two-thirds of any economy is services. You could argue that, as an economy gets larger and its population grows, parts of its service sector get relatively more efficient. It is a question of scale. It is even conceivable that, when a place gets big enough, there is an improvement in efficiency that really drives the economy along, and natural resources can become less crucial.

You can begin to see this in a place like Ontario, which was once dependent on natural resources but no longer relies on that source as the engine to drive its economy. The same would be true in West Germany or Japan. There comes a time when an economy can become self-sustaining and prosperous irrespective of its endowment in natural resources.

Au Courant: *Is the West anywhere near that size?*

Swan: That brings us to the big issue of the whole project. The Albertans sometimes express it by saying, "Is there life after resources?" In British Columbia they worry about what will happen when the inevitable slowdown in forestry growth takes place. Manitoba has long felt this, because the wheat boom came, reached a crest, and levelled off.

Au Courant: *Is the future for the West as the resources wind down the same as it was for the Maritimes?*

Swan: Or is it like Ontario, a take-off into self-sustaining growth? The future of the West is tied up with the question of how vital natural resources are in the long run.

Such a question is far removed from the practical concerns of western governments, but this "vague idea" possibly contains the answer to the evolution of the western economy over the next 20 years. Whatever the answer is, it will be interesting.

Saskatchewan wheat

National Film Board of Canada

Manitoba rapeseed

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