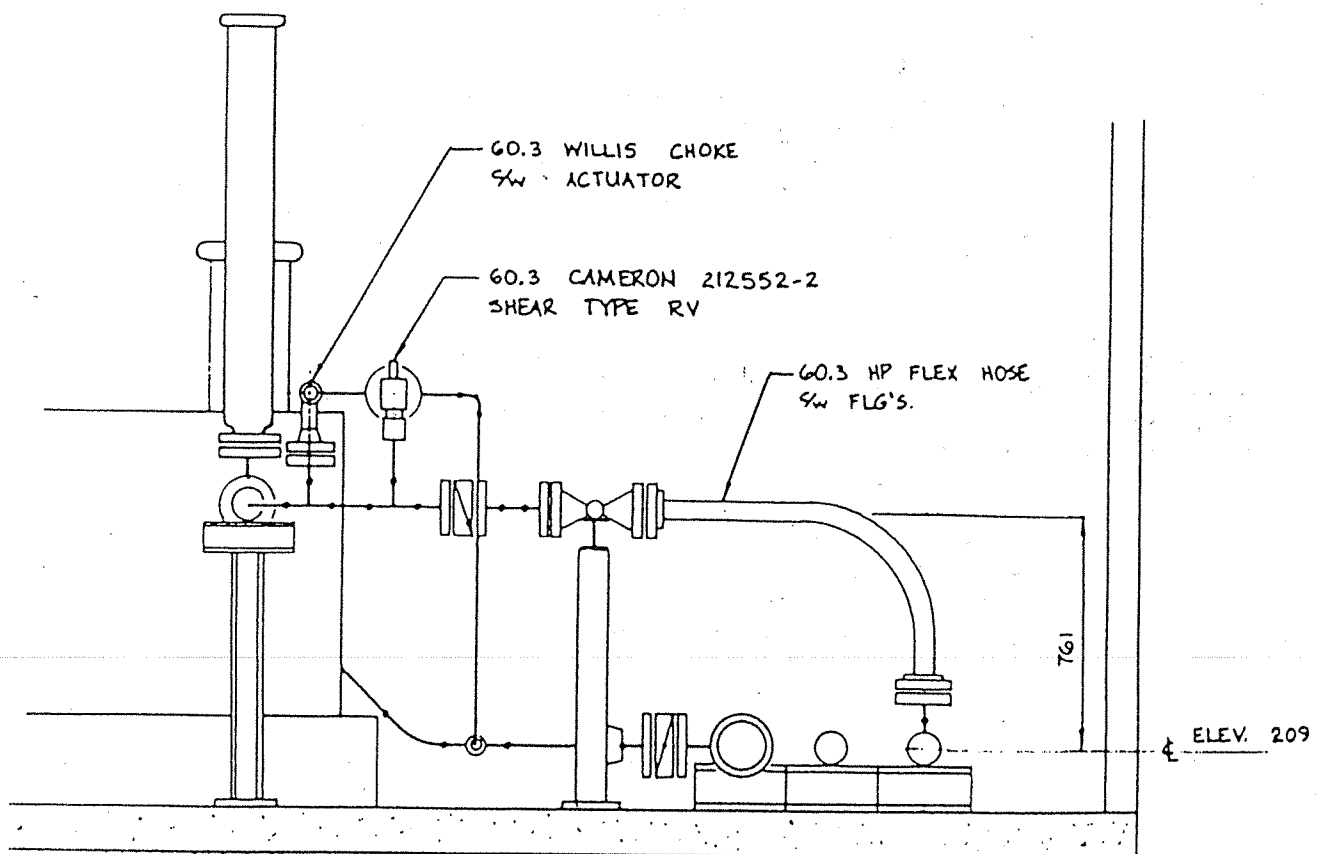


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# A Framework for the Development of Industrial Policy in Canada\*

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## 1.1 INTRODUCTION

In recent years there has been considerable discussion about the role of government in the area of industrial development.

Historically, government has played an active role in matters of industry and trade. The nature of government intervention or involvement has varied significantly among countries at their different stages of growth. Since World War II there has been an intensification of this involvement in the form of public ownership, control and regulation of industry. There has also been more government planning and direction of industrial development. This latter involvement has had a number of styles, ranging from detailed direction and control in communist states, indicative planning in France, and the provision of government contracts and financial and fiscal support in the United States.

The purpose of this paper is threefold: firstly, to review the historic development of industrial policy in Canada; secondly, to analyze the rationale for and practice of selected governmental intervention; and finally, to discuss the adequacy of Canadian economic and

political institutions to address the issue of industrial policy development.

## 1.2 REVIEW OF INDUSTRIAL POLICY IN CANADA

Canadian governments have been actively involved in the process of stimulating industrial development. Canada's sparse population and unique settlement pattern necessitated government involvement in the provision of infrastructure. As well, government intervened, through Sir John A. MacDonald's National Policy of 1879, to develop the manufacturing base[1]. With the establishment of foreign branch plants to produce for the Canadian market, under the tariff protection provided by the Federal Government, a substantial industrial base was developed, especially in central Canada where the main markets have been located.

In the 1930s, the Federal Government concentrated its efforts on developing the domestic communication and transportation sectors, in part, to further promote national unity. This was highlighted by the Government's participation in establishing

the Canadian Radio Broadcasting Commission and Trans-Canada Airlines.

World War II saw the government target many companies as essential to the war effort, thereby ensuring them of substantial support and assistance. One such company selected for assistance was Polymar Corporation Limited (now Polysar Limited). Other manufacturing industries also benefitted from assured government assistance in production and marketing of their products during this period. The Federal Government has also employed commercial policy as an instrument for selective industrial development in addition to the blanket tariff protection under the National Policy. Since the 1920s there has been, essentially, free trade in agricultural equipment between Canada and the United States. The Automotive Trade Agreement of 1965 is the most significant sectoral agreement to stimulate development. There have been other uses of commercial policy for selective development purposes, including duty remission programs for automotive parts and radios and T.V.s.

Both the Foreign Investment Review Act and the National Energy Program were attempts to strengthen the Canadian-owned sector of the economy. They were introduced in the belief that there was a direct link between ownership and behaviour, and presumably that greater Canadian ownership should or could lead to enhanced economic development.

Canada's most recent economic development plan, Economic Development for Canada in the 1980s, released in conjunction with the November 12, 1981 Federal Budget, set out the principles and priorities for Federal policies and programs aimed at economic development. The strategy's main thrust was based on growth in the resource sector, such as energy and energy-based

industries, agriculture, forest-based industries, and mining, which were expected to provide major opportunities for economic development. Linked to expansion in these resource sectors would be spin-off opportunities for Canadian manufacturers related to supplying foods, and those involved in further processing of resource products. In retrospect this plan, although seeking to build on what appeared to be Canada's national advantages, gave inadequate consideration to the opportunities and problems of the manufacturing and service sectors[2].

The Ontario Government and other provincial governments have also created development corporations to help finance businesses which have not been able to obtain suitable financing from private financial institutions.

### 1.3 THE THEORY AND PRACTICE OF INDUSTRIAL POLICY

In the market system the multitudinous decisions about what and how to produce are made for the most part by the many separate businesses. They do this, essentially, to make a profit, a return on their capital, which requires them to supply at competitive prices the goods and services being demanded by consumers, other businesses and government. To meet the price competition in a competitive market situation they are required to be productive and efficient. If they are not, they do not make adequate returns on their capital or general additional funds for investment and further development.

The market system has been seen by many as the optimal means for allocating and developing resources and for supplying the goods and services demanded by society. For the distribution of goods and services

in the economy to meet the demands of society, the market system has to be competitive so that suppliers are responsive to changing market demands and conditions. However, concentration of resources and market power has often been needed to reduce the risks of new ventures, product and market development, and to gain the economies of mass production and marketing. Despite the existence of imperfect competition in many markets, overall the system retains a high degree of sensitivity to market forces.

Despite its allocative efficiency in many areas, the free market system and the separate businesses of which it is composed have been criticized for their inability to develop new technologies and products, and to bring about the industrial modernization and change necessary to maintain a dynamic competitive economy with high levels of stable employment and rising living standards. Whatever the justification of much of this criticism, undoubtedly government can, in certain circumstances, beneficially supplement market forces and help to facilitate or promote industrial development. Classical economic theory would suggest that the normal operations of the free market would lead to the goals of employment and real income growth. However, a number of market failures have been identified which may inhibit the economy from reaching satisfactory performance levels.

Specifically, the following types of market failures have been identified:

- a. market gaps in the provision of public goods;
- b. imperfect markets, e.g., from concentration or government regulation;
- c. externalities such that social benefits and costs are not equal to private benefits and costs;
- d. infant industry theory; the need

to protect an industry during its growth phase;

- e. the competitive practices undertaken by foreign jurisdictions to support their industries.

These market failures individually or collectively can seriously impair the free market system from reaching desired performance levels.

It must be stressed that there are other arguments for intervention beyond the purely economic. For social-political reasons society may prefer moving jobs to people, rather than people to jobs. The trade-off between regional development and national, indeed international, efficiency of capital investment is an issue for many jurisdictions. The resolution of this issue is ultimately political; how much efficiency/productivity is society prepared to forego in order to sustain economic activity in designated regions.

A second, non-economic rationale for government intervention is the "symbolic" impact of public policy[3]. Policies do more than effect change; they also help to create unifying goals and maintain an orderly state. Government must be seen to care about the key issues of the day, and be prepared to intervene to assure its citizens of this concern. Hence the symbolic nature of public policy.

Nevertheless, such interventions may impose costs on society as well as provide benefits and in the longer run must be seen to have been successful in meeting their goals.

Government has, essentially, five major approaches with respect to stimulating economic growth. The first is the development of macro-economic policies which foster growth but do not distort, unintentionally, the efficient allocation of resources. The second approach is to have the market allocate

resources but utilize Keynesian demand management techniques to "fine tune" the economy to ensure sufficient aggregate demand and, therefore, targetted levels of income and employment.

The apparent failure of macro policies to treat stagflation and restore higher levels of growth in recent years has resulted in supply-side theories being proposed to alter the macro allocation of resources in such a way as to promote investment in areas such as energy and for purposes of restructuring industry. The hypothesis has also been that enhanced investment will result in improved productivity performance and international competitiveness. However, Reich has argued that this causal link between capital formation and productivity improvement has not been proven. For example, the growth of the service sector and knowledge-intensive industries may lessen the requirement for fixed-capital formation[4]. As a result, capital investment may not be required in order to secure productivity improvements and, therefore, to become more competitive.

Fourthly, commercial policy can be employed to stimulate development. The National Policy and the Canada-United States Auto Pact have been discussed. European development under tariff protection was based on Friedrich List's infant industry argument[5]. List introduced a time dimension to the theory of international comparative advantage. Comparative advantage could be created, but time would be required to acquire scale economies and learning curve benefits.

In fact, as Hiroya Ueno pointed out recently "conditions for comparative advantage and disadvantage as the decisive factor for specialization and international competition have changed gradually from the classical criteria - to a new

criteria based on human creative power, foresight, ability to choose and ability to adjust to structural changes."[6] Japan and the United States have effectively utilized tariff protection to develop a comparative advantage in manufacturing.

Finally, micro intervention can be employed to stimulate economic growth. Reich argues that the aggregate level of investment is less important than the allocation of capital among sectors. We argue that the allocation of capital among sectors is the critical factor in the development of interventionist industrial policy. The following section discusses methods for industrial policy development, based upon alternative approaches to allocating investment capital.

#### 1.4 INDUSTRIAL POLICY DEVELOPMENT

Government micro policy initiatives can be designed to promote and support potentially competitive firms and industries or to protect those which lack competitive advantages. It may assist the weak ones with the phasing out of their operations or to carry out the adjustments necessary for entry into the viability in alternative markets.

Both forms of micro interventions are based in part on failures in private sector markets. These market failures are sometimes stated to take place mainly in the capital and labour markets. For example, it is commonly hypothesized that the "winners," particularly in the high technology sector, do not receive sufficient support from the private sector capital markets - because these markets cannot properly evaluate these new technologies. As well, the private rate of return on these investments may be much smaller than the social rate of return. This may occur because the

innovating firm may not receive pay-back on the technological developments for many years, whereas the economy as a whole may benefit through spin-offs and other inter-industry effects.

With regard to industrial adjustment, capital markets may not be functioning effectively because sufficient funds are not provided to facilitate transition. This transition may mean movement of resources out of the firm or sector, or conversely, the movement of resources into the adjusting sector. In both cases, with the movement of resources in or out, the fundamental restructuring will ultimately occur. But the capital market, and likely the business management itself, cannot always evaluate the time scale and the nature of the readjustment process for sufficient resource mobility to occur in the short-term.

In formulating plans or strategies for long-term industrial development, countries have been giving more attention to identifying new technologies and products, and future market opportunities. However, they have not always given as much attention to the prospective actions of their competitors. A major thrust or strategy, especially in Japan, has been the attempted development of internationally competitive industries capable of exploiting domestic and foreign markets, especially for new, high technology products.

Government programs to promote industrial development take a variety of forms. They may be broad in application, such as investment incentives or research and development support. They may also be highly selective in their application in order to promote or support particular firms, industries, regions, products or projects.

The major questions which have to be addressed in the preparation of

industrial development policies are:

- a. When (under what circumstances) should government intervene?
- b. What are the priorities for intervention?
- c. How should this intervention occur?

When addressing industrial planning and strategy, the main aims have been:

- a. to provide information and direction on which ways industry can and should be developing;
- b. to coordinate and assist with implementation of strategy;
- c. to promote selected activities, sectors, firms and products and sales in particular markets, when it is considered that the private response would otherwise be inadequate;
- d. to assist firms, sectors, etc. undergoing restructuring or adjustment, essentially to speed up adjustment and use the resources more productively;
- e. to encourage and promote phase-out of non-competitive firms and industries, but in a controlled way, to avoid aggravation of unemployment and associated problems.

Obtaining satisfactory data and information for any planning process is extremely difficult and sometimes impossible whether the planning is undertaken by a firm, industry or government. Reliable forecasting encounters the greatest difficulty whether it be of technological and product developments, market growth, costs and prices, or the reactions of potential competitors. For instance, we have seen in recent years the consequences of inaccurate forecasting both at the industrial and government levels with regard to the availability and price of oil.

Government can play a useful role helping to develop and supply strategic data and forecasts but great caution is needed if it is to be used as a basis for large structural changes and development thrusts. At the least, plans should be flexible or reversible to respond to new, hopefully correct, information, and the changes in markets and competitiveness.

If an industrial development plan or strategy is to be pursued, there might be a catalytic role for government to play. For purposes of practicality, morale, coordination and commitment, it would seem desirable to involve all participants in the forecasting and planning as well as the implementation process. The problems of implementing a strategy are more demanding than its planning, particularly because of the commitment of human and capital resources and the necessity to sustain the thrusts over a long period of time. This requires leadership, agreement and commitment from the planning stage right through the whole process of implementation, review and adjustment. The implementation of an industrial development plan has to be carried out for the main part by the industry itself. Government planning will be ineffective if it does not involve and get the approval of industry and labour.

In this paper, we identify five techniques for implementing industrial policy: firm specific, sectoral, community based, product oriented and project specific. These instruments are not mutually exclusive and various combinations can be, and have been, employed in industrial strategies.

#### 1.4.1 Firms

The decision to intervene at the firm level has a number of significant advantages. Government officials and politicians have real management to work with. It is possible to evaluate specific products and their market potential, and production processes and technology, as well as profit and loss statements and balance sheets. This provides a basis for planning. Also, it is possible to negotiate firm-specific performance contracts and performance can be subsequently monitored.

The disadvantages are that such an approach may appear to be discriminatory. As well, there may not be enough clients to affect the desired level of change. In a recent article entitled Threshold Firms: Backing Canada's Winners, Steed discussed the potential benefits of supporting selected, Canadian-owned organizations[7]. Steed identifies approximately 165 threshold firms. These firms are defined as "potentially or actually in the transition between the state of small - medium enterprise and large enterprise." Steed indicates that only 10 of these firms had employment greater than 1,000 (as of 1976). If job creation is a high priority, then this approach can form only a part of an industrial policy framework. Nonetheless, such an approach could represent a significant component of a series of policies oriented to the creation of jobs as top priority but including other goals such as Canadian ownership, technology development and exports.

Steed, at least implicitly, calls for a closer working relationship between threshold firms and government. Such closer cooperation is likely, in itself, to be desirable. As well, closer consultation should likely include bankers and venture

capitalists, particularly insofar as these threshold firms are in the high technology sector. Steed focusses on a number of potential federal government initiatives with respect to these threshold firms. Without commenting on the effectiveness of these proposals, perhaps an equally useful approach is to try to address the presumed market failures in terms of closing some of the information gaps that may exist.

If the capital markets cannot adequately assess potential at the firm level, then perhaps a role for government is the provision of consultative mechanisms whereby these informational market failures can be reduced, if not eliminated. Having tried to address market failures by means of providing data, information and consultation, it might then be possible to better articulate the specific types of government programs that might be required to address any remaining market failures that may exist, such as the pooling of risk.

#### 1.4.2 Sectors

Statistics Canada aggregates industries on the basis of the "Standard Industrial Classification Code" (SIC). That is, operating units such as companies or establishments which are engaged in the same or similar kinds of economic activity are grouped and defined as an "industry." The broadest level of aggregation, the one digit SIC class, represents the entire spectrum of firms comprising the "manufacturing sector." At the more disaggregated two digit SIC level, there are 20 industries which make up the manufacturing sector. Similarly, at the three and four digit SIC class, 174 industries together make up the manufacturing sector.

Each industry, even at the three-

and four-digit SIC level, contains a variety of firms and products. Certain industries such as "pulp and paper" consist of firms producing a fairly homogeneous range of products. The 37 establishments which comprise this industry in Ontario produce only a narrow range of products, such as wood pulp, newsprint, paper and insulation board. On the other hand, other industries such as the "office and store machinery" group comprising 38 establishments in Ontario, produce a heterogeneous range of products from computers to vending machines and cash registers.

Any attempts to select sectors, based on SIC data, must recognize the complexities and characteristics unique to each industry. It is possible within the same sector that certain industries and/or product areas will be performing well, while at the same time others will be performing poorly. As such, companies in declining industries may offer very good opportunities, while others in high growth industries may turn out to be poor investments. In addition, an evaluation of industries on this basis may ignore important inter-industry linkages.

A number of attempts have been made to develop industrial policies on a sectoral basis[8]. However, the methodological problems are significant, as well as the institutional constraints to be discussed in the following section. For example, Lerner analyzed trade data for the Canadian manufacturing sector at the two digit (SIC) level and concluded that specialization occurred in eleven of the twenty sectors[9]. In an attempt to formulate sectoral policies, the Ontario Ministry of Industry and Trade reproduced this analysis at the three digit level. The results depended heavily on the time periods analyzed, and the general conclusion was that industries could not be usefully aggregated on

the basis of this trade methodology[10].

#### 1.4.3 Communities

Given the nature of the problem it may be possible and desirable to focus micro intervention at the community level. Advantages of direct community intervention can relate to the creation of positive community attitudes, which help to improve the local investment climate.

Unfortunately, there are a number of drawbacks to this approach. One drawback is that it can only be effective in relatively small and homogeneous areas. If a metropolitan area is chosen with a large number of firms in different industries, with different problems and opportunities, and with wide variations in the socio-economic characteristics of the labour force, then it is unlikely that a community based approach will achieve the desired benefits.

Nonetheless, for appropriate geographic areas, policy aimed at the identification of local entrepreneurs and import replacement programs have proved to be successful as a technique for micro intervention.

#### 1.4.4 Products

It is possible for intervention to be directed in a product-specific sense. Such an approach is based upon the theory of the product life cycle. The important implications of this approach for Canadian industrial policy relate to:

- a. the traditional concentration of Canadian production at the mature end of the product life cycle;
- b. the variation in the basis of competition over the life cycle.

At the front end of the cycle

(introduction and growth), competition centres primarily on research, design and development, marketing and distribution. As the product approaches the stage of maturity and decline, costs become increasingly important and vulnerability to international competition intensifies.

Assistance to new ventures for small businesses can, to a large extent, be seen as an attempt to move production to the front end of the product life cycle where there is less vulnerability to international competition. The introduction of global product mandates in multinational enterprises represents a complementary approach to the attempt to position Canadian-owned manufacturers at the growth phase of the product life cycle.

Assistance for expansion and new investment should be seen in light of the need to move to the front end of the cycle but will also, realistically, move part way into the mature phase where other considerations (such as import replacement, employment opportunities, and spin-offs) supersede the innovation focus. It would, however, be counter-productive to encourage expansion in declining industries.

Cost-competitiveness is critical throughout all phases of the cycle. However, in terms of mature products, or industries, it is the overriding consideration, and would be the focus of assistance, such as the promotion of rationalization and specialization.

The case of declining products and industries is more difficult with regard to this approach. Decline is a natural phase of the cycle, and primary reliance must be on market forces to trigger a reallocation of resources to other sectors of the economy. However, resources may not exhibit the degree of mobility required and the government may need to intervene in order to

facilitate the adjustment process.

Inter-industry linkages may be neglected in this approach. As well, two firms may have similar types of products at similar stages in the product life cycle, but the capacity of the two firms may differ markedly. The capability of management may be sufficiently different that support of one firm is defensible, whereas support should not be provided to the other firm. An inflexible policy which concentrates solely on products and does not recognize these other factors is unlikely to be successful.

Particularly in the high technology area this focus and framework places heavy reliance on the capability of civil servants and politicians to pick the "right" high technology products. In rapidly changing markets, where even firms in the private sector are continually amazed by the pace of change, the ability of public sector officials to pick winning products will be constrained. In rapidly changing technologies and markets, the selection criteria must be uncertain and highly variable. In practical terms the use of this approach must be viewed as a high risk strategy and there must be explicit recognition that public funds may be lost in ventures which do not ultimately prove to be successful.

The selection of specific technologies or firms to receive targeted assistance in the high technology field can be risky[11]. Nonetheless, as Klein has noted:

... industrial policy is not like a day at the races picking the winners, but it is improving the breed ... Primarily, that means channelling support into R and D[12].

#### 1.4.5 Projects

In this approach the emphasis is on desirable outcomes. Based upon analysis of the environment one or more criteria will be selected as the paramount goal or goals. For example, jobs, exports, skill training, R and D, etc. could be selected. There may be one goal with a higher ranking and sub-goals with rankings of lesser importance.

Projects would be evaluated with respect to their ability to directly achieve the paramount and sub-goals. Any of the micro intervention techniques identified could be utilized. For example, community-based projects that will lead to job creation would be considered.

The advantage of this technique is that the government can focus on desirable benefits. It provides a reasonable amount of flexibility in terms of the kinds of stimulation and techniques that will be employed. As well, demonstration effects can accrue as a result of projects being undertaken across a wide spectrum of activities.

A disadvantage is that while the objective of, say, job creation is clear, the approach tends to ignore the full range of costs and benefits associated with the project and the alternative foregone. Also, sufficient projects may not emerge in order to achieve the stated goal. Finally, as priorities change it is necessary to have sufficient flexibility to be able to change the criteria, so that projects will be evaluated on the basis of changing priorities. The ability to change the focus of existing programs may be difficult given the constituencies that grow up around existing programs and the criteria associated with these funded programs.

### 1.5 INSTITUTIONAL FRAMEWORK FOR INDUSTRIAL POLICY

Successful policy implementation requires an appropriate institutional framework. Clear goals and objectives are required; some consensus is necessary to provide direction and commitment in terms of the desired outcomes and the preferred policy instruments.

French has documented the many attempts to develop a national industrial strategy[13]. Regional priorities and Canada's lack of institutional mechanisms to address industrial policy issues, have mitigated against the type of strategies envisaged by Reich and others. In fact, Reich laments the similar lack of mechanisms to deal effectively with industrial policy issues in the United States[14].

An inability to formulate national goals inhibits the development of co-ordinated, national, industrial policy initiatives. In a recent study of sectoral performance in the United States, Garn and Ledebur concluded:

Unfortunately national industrial policies will not be effective in achieving their objectives. To be effective, these policies will need to emphasize different industries in different regions[15].

The dimension of the regional problem in Canada is at least as severe as in the United States.

Another impediment to formulation of coherent national priorities is

the structural change taking place in the economy. Birch estimates that only 13 percent of the United States workforce is still engaged in actual manufacturing[16]. It is difficult to gain consensus on national priorities when the industrial structure is changing so dramatically, and the benefits and costs of these changes are distributed so unequally as between regions, occupation, industries, etc.

### 1.6 CONCLUSIONS

As society becomes more affluent there is more to lose, greater risk, with economic change. It is only natural that governments are expected to provide leadership in facilitating the adjustment process and mitigating the worst effects[17].

An economic rationale exists for intervention: the theory of market failure. However, it is very difficult to determine when and where market failure occurs and the benefits and costs of government intervention. As well, the techniques for micro intervention have strengths and weaknesses. Regional considerations may necessitate trade-offs between national and regional development plans.

Notwithstanding these obstacles, the trend appears to be to greater government intervention in the economy. Creation of the MacDonald Commission is an explicit recognition that Canada lacks the necessary institutional mechanisms to gain consensus and to formulate national development strategies.

## NOTES

\* The views expressed in this article do not necessarily reflect the policies and approaches of the Government of the Province of Ontario.

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# Universality and Restraint in Income Security\*

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## 2.1 INTRODUCTION

Government expenditures in Canada are quite sizable today. And should the federal or provincial governments move to moderate their expenditures, the temptation to cut back on social spending might be hard to resist. Nevertheless, there is still much poverty in Canada, in spite of large expenditures aimed at its reduction.

There are conflicting prescriptions about what to do. The Canadian Council on Social Development (1979:4) asserts that "the social security system ... must become more selective in choosing those it helps." In other words, governments should restructure programs to free resources for more explicit ways of combatting poverty. This suggestion would imply a rather dramatic shift for a large portion of Canada's system of social security. In effect, it would mean transforming programs now available to all Canadians into ones accessible only to those who meet certain criteria. A change such as this would cut to the very heart of the philosophy underlying Canada's social security system. The Economic Council of Canada (1980:101) bluntly acknowledges "that for some Canadians any breach

of the principle of universality ... would be ideologically unacceptable."

The debate whether income security programs should be universal or selective involves more than philosophy. Slow economic growth and fiscal restraint are forcing federal and provincial governments to consider alternative strategies. The reflex response to the perceived need to reduce the federal deficit and to moderate government expenditures could result in reduced federal transfers to the provinces for cost-shared social programs. But given some desire, or pressure, to maintain a certain basic level of support in assistance programs, the alternative of limiting benefits to those deemed in absolute need appears attractive. As a result, the universality principle is being re-examined. Too often, however, the policy trade-off is simply seen in terms of either reducing social expenditures or abandoning universality. Is there no compromise between these two extremes? And what exactly do Canadians understand as the universality principle? This essay examines the universality-selectivity issue and suggests a reason for the recent interest.

## 2.2 UNIVERSAL AND SELECTIVE ALLOCATION PRINCIPLES DEFINED

There are many views on the most effective way to reduce poverty in Canada and how government should redistribute income. But there is no agreement on answers to the following questions: Should everyone receive income transfers? If not, how should we determine who needs to receive them? To answer these questions we must distinguish between universality and selectivity.

Much confusion surrounds the concepts of universality and selectivity. At the most general level, universality conveys the idea that benefits should be given to everyone as a matter of right. Citizenship or community membership is sufficient to establish eligibility and no consideration need be given to individual circumstances. In contrast, selectivity suggests that benefits ought to be determined by individual need, or by some special status - which can range from the fairly uncommon, such as having fought in a war, to more common considerations such as having no earnings last month.

Selectivity properly refers to the principle of determining eligibility and benefit amounts according to the income of the recipient. That is, beneficiaries are determined by "selecting" that portion of the population whose income falls below a particular level by applying some form of income test. Selectivity should at all times be distinguished from those programs, labelled "categorical," which deliver transfers on the basis of individual characteristics or group membership[1]. Categorical expenditure programs, such as Old Age Security, may include universal transfers such as the Canada Pension Plan as well as income-tested programs such as the Guaranteed Income Supplement.

In this context, the term "universal" should be reserved to describe the absence of prior income testing[2]. In sum, selectivity and income testing are interchangeable; that is, selective programs are those which give benefits solely to those in need. And in Canada, need is typically specified in terms of low income.

The relationship between categorical programs and poverty deserves a further mention. If benefits are given on a categorical basis then such programs merely limit the recipient population as the specific eligibility criteria are enumerated, either individually or in combination. For example, the Family Allowances and Old Age Security programs are restricted in coverage since Family Allowance benefits are limited to families with children, and Old Age Security payments are restricted to individuals over 65 years of age. The programs are not "selective" however, as there is no prior income test. Consequently, the amount of poverty eliminated will depend upon the extent to which the categorized group and the low-income population overlap. It is desirable, of course, that categorical programs benefitting individuals who belong to certain groups do so on the basis of actual, as opposed to assumed, need. This is not always the case because considerations other than need often predominate, as in the case of Unemployment Insurance where a history of past contribution to the program is important. The lack of matching, then, between those who belong to a particular group and those with low incomes, may be quite substantial. The Economic Council of Canada (1980:96) in its Fifteenth Annual Review makes just this point. Noting both "the necessity of larger government expenditures on (unemployment insurance) benefits and the

favourable economic status of many receiving those benefits," the Council asks whether the Unemployment Insurance program could not deliver benefits to the poor "more effectively and at less cost." The Council (1980:97) proceeded to report, with equal measures of resignation and despair, that "the overlap between the individual and families who experience unemployment and those who are poor is relatively weak."

### 2.3 SOCIAL SPENDING AND THE PRESENT INCOME SECURITY SYSTEM

Universality versus selectivity is a recurring theme in the evolution of social security in Canada. Originally Canada's system was based upon a "residual" concept of social welfare in which government aid to citizens was gratuitous and minimal, and given only to those in absolute need. The residual concept originated with the view that the prime responsibility for income security should be borne by the individual, family and relatives, or private charity. Government should play a "residual" welfare role; that is, only as a last resort. Consequently, to determine the absolute necessity of government aid, the authorities made use of various means or income tests. Canada gradually adopted what is now called an "institutional" perspective, whereby benefits are conferred by right in recognition of the nature of modern industrial society. Benefits would no longer be based upon an income test but instead, be made available to all. With the move towards universality came a gradual shift of ideas regarding the responsibilities of government.

These shifts, however, have been neither smooth nor uninterrupted. Significant universal income

maintenance programs such as Family Allowances were introduced in 1944. But selective notions still existed; and ambivalence typified the 1960s as universal programs such as the Canadian Pension Plan were introduced side-by-side with unequivocal selective ones as the Canada Assistance Plan[3].

In the 1970s proposals for a guaranteed income for Canadians were seriously investigated by Ottawa; a major federal-provincial review of social security was undertaken; poverty in our midst was rediscovered and, in the process, the debate over the universality principle re-emerged. Willingness to increase social spending at the beginning of the decade turned to restraint at the end. In 1970, a White Paper on Income Security called for increased social spending. In 1971 the Unemployment Insurance Program was generously overhauled. In the same year a Senate Report (1971) urged the implementation of a national guaranteed income program to be financed and administered by the Government of Canada. But by the end of the decade such prominent organizations as the Economic Council of Canada (1980:Ch.6,7) and the Canadian Council of Social Development (1979:7) were calling for greater selectivity. What happened? To understand the shift that occurred, we briefly outline government expenditures in the last decade to show the changing share of social spending in total spending, the shift in composition between universal and selective programs, and the evolution of the federal and provincial shares of total spending.

During the 1970-79 period, Gross National Expenditure (GNE) tripled in size, government spending increased even faster, and transfers to individuals increased faster still. As a share of GNE, government expenditures grew from 36.4

percent in 1970 to 40.3 percent in 1979. Over a similar period total government spending on social welfare increased steadily from 18 percent of GNE in fiscal year 1970-71 to 23 percent in 1976-77 (CIGS 1980: Table C, p. 118). Therefore, over the last decade, social spending accounted for a large measure of the rapid growth in government spending[4].

A counting of expenditures on selected social programs reveals that from 1970 to 1976, an increasing percentage of expenditures was delivered through programs which set restrictions on eligibility by either household or individual incomes[5]. These data, admittedly sketchy, suggest that universal programs have declined in relative importance. However, there remains an important distinction between transfers by the two orders of government. Almost 90 percent of the federal government's transfers are through universal programs, but only 34 percent of the programs falling under provincial responsibility are universal.

During fiscal year 1977 all governments transferred \$16.7 billion - representing about 10 percent of total personal income in Canada, or about \$700 for every Canadian. Some fifty programs (41 provincial, 9 federal) delivered these income transfers. Three of every four dollars transferred were through federal programs. Separated by type of program, 75 percent of all income transfers were through universal programs, and 25 percent were through selective programs.

In summary, although the size of social spending has grown rapidly, Canadian governments have alternated between universality and selectivity in their design of transfer programs. Universality still characterizes Canada's federal income security programs, but a perceptible

shift away from universality can be discerned. The reasons for this shift are examined next.

#### 2.4 EXPLAINING THE SHIFT

The controversy concerning universality and selectivity can be summarized as follows:

...(The) universalists emphasize the values of social effectiveness as manifest in the preservation of dignity and social unity that obtain when people are not divided into clear-cut groups of givers and receivers. In their view, all claims to benefits are equal. Selectivists tend to stress the value of cost effectiveness as manifest in the savings to the community that accrue when social provisions are free only to those who could not otherwise afford them." (Gilbert and Specht 1974:55-6)

The conflict is therefore between the value of social harmony and an integrative community sense, and that of a more empathetic society in which limited resources are channelled first to those having the greatest need for income on grounds of efficiency. Although both sides often claim as their own the major virtues of the other, they frequently disagree on matters such as the overall costs of providing adequate support to the poor and the extent to which income should be redistributed. To understand why the universality-selectivity issue emerges repeatedly in Canadian policy discussions - and particularly at this time - we review the principal points of disagreement. Three basic differences exist. They concern the appropriate criteria by which to

judge transfer programs, the costs of transfer programs, and different emphasis on income equality.

#### 2.4.1 Philosophical Versus Cost-Efficiency Criteria

Universalists argue that selective programs stigmatize recipients and foster divisions in society. The income test, they contend, is demeaning and leads to loss of individual pride and self-esteem by those who must declare themselves poor to receive benefits. In a society stressing material success and imbued with the belief that anyone who works hard enough can escape poverty, selective transfers also create sharp distinctions between beneficiaries and non-beneficiaries. The income test, therefore, suggests that recipients are somehow unworthy, or lazy, or both.

The traditional argument favouring the selectivist principle concerns cost effectiveness. All transfer proposals, selectivists assert, ought to be assessed on the basis of their overall program costs, the amount of poverty eliminated, and the amount of "seepage" to the upper-income groups. By these criteria, income-tested programs are superior, since nearly all funds are directed to the lower-income population; no funds are given to those with incomes above a certain cut-off. By "targetting" funds only to those with low incomes, selective programs can be both efficient as well as equitable. For any given budget, income-tested programs reduce income poverty to a greater degree than universal programs. Furthermore, eliminating transfers to upper-income groups makes it possible to give larger benefits to those who really need them.

Both sides have their rebuttals. Universalists counter that cost

effectiveness, as opposed to social effectiveness, is too narrow and shortsighted a criterion. Universal accessibility is actually more cost effective in the long run, they add, because it encourages participation in income security programs and prevents future poverty. Selectivists counter that a more egalitarian society with less extreme poverty contributes to social harmony as well as being conducive to a sense of community - both hallmarks of social effectiveness.

The fundamental issue is really whether or not the selectivists' objective of cost effectiveness is pursued at too great an expense in terms of individual dignity and social cohesion and whether or not there are less costly alternatives. Is it possible to achieve selectivity without stigma? The rhetoric tends to confuse principle with practice. The principle of income-testing per se may be quite unobjectionable. For example, all Canadians undergo a yearly income test of sorts when filing their income tax return. The selectivity principle need not be applied so as to diminish individual self-worth, to invade privacy needlessly, or otherwise publicize the implication that recipients are unworthy or indolent. The income test is too often equated with a total lack of anonymity and confidentiality, a view conjured up by anecdotes of deserving individuals befelled by misfortune supplicating before prying bureaucrats. It is true that in the past, and frequently still, selectivity has been applied in an objectionable manner, but this need not be the case. To achieve selectivity without stigma is therefore one of the pressing challenges facing welfare reform today.

It should also be noted that selectivity refers to an application of the income test prior to giving

benefits. It does not mean applying an income test after receipt of income transfers. The taxable status of income transfers is often wrongly confused with selectivity. As Kesselman (1980:155) notes:

The term "selective" refers to the distribution of gross benefits and not the distribution of net benefits after considering the incidence of the tax system. A universal program can be highly "selective" in the latter sense... which is virtually synonymous with "redistributive." [6]

The sharp divergences between those emphasizing social effectiveness and those emphasizing cost effectiveness also extend to matters of bureaucratic organization and administration costs. Universalists feel that selective programs which single out the low-income population as beneficiaries deliver inferior services because this group is a powerless constituency. Universal programs provide better and more uniform services because middle- and upper-income individuals will demand the bureaucracy treat them with respect. This is another variation of the theme that universal programs mute class distinctions while selective programs accentuate them. It is still possible, however, for bureaucracies to administer universal programs, such as unemployment insurance, with discrimination and more harshness towards those with low income (Felder, 1979).

It is also asserted that universal programs have greater political stability on the grounds that they provide benefits to more people. This too, can be contested. At best, stability might refer to continuing existence of programs rather than absence of radical change. Those who have witnessed the

generous overhaul and subsequent tightening of regulations of Unemployment Insurance during the past decade, or the frequent changes to Family Allowances - both universal programs - cannot possibly agree that universal programs are stable. The blanket statement that universal programs are more stable and deliver more uniform treatment than do selective programs is, at most, an assertion.

Costs of administration also distinguish universal from selective programs. It is often argued that selective programs are costly to administer because of their complex eligibility regulations and greater management needs. In 1977-78, the administration of some fifty programs comprising the income security system in Canada cost \$543 million, or 3.2 percent of benefits paid. Administration costs as a proportion of total expenditures were lowest for universal government programs (0.5 percent); it was 3.5 percent for social insurance programs, and 7.5 percent for the more need or income-related programs (CIGS 1980:39). Since programs which deliver generous benefits incur larger total expenditures, we should perhaps compare costs per case. Administrative costs for Family Allowances were estimated to be approximately \$2.00 per case in 1976-77. Administrative costs for the Guaranteed Income Supplement (GIS) were estimated at \$15.00 per case (Mendelson 1979: 86). The GIS, it should be noted, is probably the simplest income-tested program in Canada. From this, two important points emerge. First, because administration costs are such a small fraction of transfer costs, the potential for large cost savings by making selective programs universal is simply not there. Second, and more important, we should ask whether the choice between universal and

selective programs should be dictated by minor differences in administration costs. When the principal issue is viewed as individual dignity and social unity contending with poverty reduction and cost-efficiency, one rather thinks not.

#### 2.4.2 The Cost of Adequate Benefits

Which programs - universal or selective - are more costly? Which programs provide more benefits to the poor? In advocating benefits without an income test, universalists frequently implicitly assume that benefit levels are "adequate" and constitute what society considers a "reasonable" social minimum. They state that, compared with a selective program having the same level of benefits, universal transfers are preferable to income-tested transfers.

This assertion has to do with the relationship between the marginal income tax rate imposed by Revenue Canada and the benefit reduction (or tax back) rate specified in income-tested programs. The marginal income tax rate is that rate applied to each additional dollar of taxable income. It is fairly low for low levels of taxable income but increases as taxable income rises in order to reflect the individual's increased ability to pay tax. The benefit reduction rate is the rate at which government reduces the transfer payment for each dollar of other income available; it is the counter part of the marginal income tax rate for income-tested programs. However, the benefit reduction rate is customarily set at fairly high levels in order to restrict the number of individuals eligible for benefits. Therefore, given two programs with identical levels of basic taxable benefits, beneficiaries are

better off with a universal program than an income-tested one because the marginal income tax rate is invariably lower than the benefit reduction rate; consequently the net (after tax) benefits for those with low incomes are greater with universal transfers than with selective programs[7].

Selectivists view the issue of costs and benefits in quite a different light. Rather than assume that basic benefits will be the same under either universal or selective programs, they often regard the total budget available to the government for transfers as limited to a set amount[8]. With this stipulation a selective program will give more transfers to low income groups than a universal program spending the same total amount. The income test limits benefits to those with income below some cut-off, and eliminates them for those with higher incomes. This conceptual approach leads to the notion of target efficiency as a criterion to rank alternative programs. Target efficiency is simply the proportion of the total transfer budget going to those with incomes below the poverty line. Although the measure is generally acknowledged as a legitimate criterion to rank programs when the total budget for transfers is fixed, it has been subject to strong criticism recently because of its failure to distinguish the manner in which the transfer budget is financed - a subject to be examined below.

Our discussion highlights the need for greater clarity in comparing universal with selective programs as to whether the basic benefit amount or the total transfer budget is held constant in the comparison. By redistributive criteria the preceding suggests that universal programs are superior if basic benefits are equal, and inferior if total budgets are equal. The basic

question for contemporary Canadian policy is which of these alternative scenarios - fixed benefits or fixed budget - is the Realpolitik of the 1980s.

#### 2.4.3 The Changing Consensus on Income Equality

Deciding between universal or selective transfers requires examination of the taxes required to finance them and, by implication, some judgment about the distribution of income in society. A given amount of transfers may be financed by taxes collected from the low- and middle-income groups rather than upper-middle- and high-income groups. There is no guarantee that the net effect will be significantly redistributive under either a selective or universal transfer of these funds.

Relating the choice between universality or selectivity to the issue of income redistribution is particularly useful. One insight is that the target efficiency measure overlooks the net burden to the taxpayer of both financing and executing the program. A possible anomaly exists whereby high income groups could receive greater benefits by a move towards selectivity. Since the target efficiency measure abstracts from the taxes required to finance the benefits, it is not a true picture of the net burden to the taxpayer. The problem is illustrated by the following example (Kesselman and Garfinkel 1978). Consider an economy with a single taxpayer and a single beneficiary. An income-tested program which gives a dollar to the beneficiary but is financed by a dollar of tax imposed on the taxpayer would yield a target efficiency measure of unity. On the other hand, a universal program which gives a dollar to everyone would

cost two dollars, and would require two dollars of tax from the taxpayer. The beneficiary receives the same amount under the two programs; namely, one dollar. But because the taxpayer also receives a dollar, the net burden on the taxpayer is the same as the income-tested program. Yet the target efficiency measure for the universal program is one-half that of the selective program. This tax-transfer formulation of the universality-selectivity issue reveals, it is contended, the erroneous consensus of the economics profession that income-tested programs are necessarily more redistributive than non-income-tested ones. However, it remains true that with a fixed gross budget for transfers the target efficiency measure will correctly rank alternative programs according to their redistributive impact.

When account is taken of the net burden to the taxpayer, it is quite possible that higher-income groups are net beneficiaries through a move towards greater selectivity. This might happen if a universal program financed by a highly progressive income tax were replaced by a less costly but selective program having highly targetted benefits. This is because increased income testing has two effects. First, it may increase transfers to the poor by raising basic benefits. Second, savings in overall program costs achieved by not giving transfers to everybody may result in a reduction of taxes for the high-income group so that they too are net winners. The losers in the move towards greater selectivity are, in all likelihood, the middle-income groups who must bear a relatively larger proportion of the financing (Mendelson 1980). Once again, it is clear that whether or not the total transfer budget is fixed is of great policy significance.

The combined tax-transfer formulation pushes income distribution disputes to centre stage. It is important to distinguish between egalitarian concerns and anti-poverty strategies. The former is concerned with inequality of income per se and egalitarians might well decry any proposals which incidentally make the higher-income groups better off as well. Anti-poverty objectives are first and foremost concerned with bettering the lot of those below the poverty line. The tax-transfer framework is equally relevant for both these positions. It makes everyone in the universality-selectivity debate explicitly acknowledge their stance with respect to income redistribution.

## 2.5 THE RECENT RESURGENCE OF INTEREST IN SELECTIVITY

Government spending on social programs grew rapidly during the last decade. Why has this growth in social spending had such a negligible impact on the distribution of income and why is there now a resurgence of interest in selective transfer programs?

The answer is due in part to the evolutionary pattern of transfer programs. There are "diminishing distributive returns" inherent in every government program[9]. Transfer programs pass through distinct stages in their stylized life cycle. Initially, limited transfers are targetted towards a small group of unambiguously "deserving" beneficiaries. This targetted group may or may not be the low-income population. Political support, fiscal caution and public acceptance are paramount during a program's infancy. Over time, benefits are raised and eligibility to receive benefits is extended. These changes are invariably accompanied by a widening

of the tax coverage to finance the program and they lead to a blunting of the progressive nature of the tax system. Accordingly, government spending on transfer programs increases without, to all intents and purposes, much redistribution of income.

The development of Canada's unemployment insurance program during the last decade is a classic illustration. The Unemployment Insurance Act establishing the program was passed in 1940. Although there have been many changes through the years, a number of significant revisions were introduced in 1971. Coverage under the program after 1971 was made virtually universal, (increased from 80 percent to 95 percent of the labour force), maximum weekly benefits were raised substantially (from \$53.00 to \$100.00 weekly), and many regulations determining eligibility for benefits were relaxed, including reducing the qualification period and broadening the grounds for claiming benefits to include maternity, sickness, retirement, and so on. The impact was quick and dramatic. The number of claimants rose from a monthly average of 7 percent of the labour force in 1971 to about 10 percent in 1978. Total net payments rose from 1 percent of GNP in 1971 to 1.8 percent in 1976 (Hum 1981). Following the 1971 revisions, expenditures on unemployment insurance more than doubled in the course of one year. The regressive character of the program - conferring net benefits which increase proportionately with higher incomes - also increased between 1971 and 1975 (Cloutier 1978).

The other major initiative in the last decade was in Family Allowances. Since the payments are available to all families, it is impossible to extend coverage. However, Family Allowance benefits were raised in 1974 to \$20.00 per child

and indexed annually. Taken together, the revisions to the Unemployment Insurance and Family Allowances programs during the first half of the 1970s resulted in a

... reinforcement of the incomes of the non-poor. Overall, the percentage of total government transfers directed towards family units with incomes below the poverty line dropped from 45 percent to about 29 percent ... (from 1971 to 1975).

(Economic Council of Canada 1978:93-4).

The Canadian experience, we may conclude, typifies the general evolutionary pattern of transfer programs. The familiar sequence of expansion of coverage, increasing benefit levels, and then, less progressive financing of programs eventually results in higher levels of government spending and, seemingly, little effect on the war against poverty.

Current policy thinking on income security matters is also heavily influenced by the federal deficit. Discussions concerning income security reform seldom take place without due regard for such traditional public finance matters as sources of tax revenues and deficit management. Income security specialists can no longer confine their analyses to such matters as the best way to deliver transfers, or merely to point out the reduction in poverty that might ensue. Arguments are now incomplete if unaccompanied by revenue particulars, the tax and benefit incidence patterns, and attention to the effect on the federal deficit. The tax-transfer formulation of social security questions is becoming standard. Social policy analysts now use terms like fiscal incidence and tax expenditure with as much

abandon as do public finance specialists.

## 2.6 CONCLUDING REMARKS

Any realistic projection for the 1980s must take account of slowing growth prospects, continuing inflation and unemployment, and regional tensions. The federal deficit will continue to set the tone for restraint. Under these circumstances what can governments do in the area of income security and tax-transfer policy? There are several observations one might make after reviewing recent events. It is possible that the debate over universality will continue throughout most of this decade. Social policies will likely be overshadowed by initiatives to increase supply productivity in the economy. And Canada will probably retain both universal and selective features in its overall income security system.

The conflict between universal and selective principles reduces to balancing considerations of social harmony against cost effectiveness. Although what society considers an equitable income distribution is a political matter, many Canadians would probably concede that an appropriate principle for redistribution should transfer net benefits from those with high incomes to those with low incomes. This can be accomplished if transfers are inversely related to income; that is, higher payments go to those with lower incomes. Alternatively, if transfer payments are made without regard to incomes, the taxes to finance the transfers should not be borne disproportionately by the lower-income groups.

Viewing transfers and taxes together makes it clear that income-testing the delivery of transfers and making the income tax structure

progressive perform similar functions in achieving redistribution. Consequently, any attempt to reform the way we deliver income transfers

to individuals should not ignore the way we tax them through the personal income tax system.

## NOTES

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- [1] Categorical programs which give benefits on the basis of demographic characteristics are called demogrants. The major demogrant programs in Canada are Family Allowances and Old Age Security.
- [2] The fastidious distinction between categorical and income-tested transfers is unavoidable. Social workers classify categorical programs among universal transfers (e.g., see Armitage 1979:27). Economists regard the essence of universality as absence of income-testing (e.g., see Garfinkel 1979:80).
- [3] The Canada Pension Plan is a universal program since payment of benefits is not determined by an income test. The Canada Assistance Plan replaced several cost-shared programs for provincial social assistance. Since a needs test is required to qualify for federal funding, programs consolidated under CAP are selective. Both Plans came into being in 1966.
- [4] Bird (1979:17-8) notes "Among the 'big three' - health, education and welfare - ... only welfare expenditures continued to expand significantly as a proportion of GNE after 1970, accounting for 51 percent of the total growth in government expenditure from 1970 to 1976."
- [5] These data from Bergeron (1979: 51) must be viewed with extreme caution. First, they refer to only nine (4 federal and 5 provincial) selected programs, although the major ones are included. Second, Bergeron classifies social insurance programs such as unemployment insurance and workmen's compensation as "income restricted," probably referring to the existence of some ceiling on income rather than the presence of income testing. Third, the expanding proportion going to programs with restrictions on household income (from 11.1 percent in 1970 to 12.3 percent in 1976) is principally due to the Guaranteed Income Supplement (GIS) program for the aged. Finally, expenditures on health and education are included in the category "without restrictions." Despite these flaws the overall conclusion is probably correct.
- [6] Governments perpetuate confusion between taxable status and selectivity. For example the government of Canada (1970:27) wrote of the Old Age Security pension "... (it) is already selective to a degree in that pensions are partly recovered from people with other sources of income through the income tax, since pensions are taxable income."
- [7] High benefit reduction rates in income-tested programs are also charged with destroying work incentives, especially if the cumulative rate obtained by combining several programs exceeds 100 percent, a not uncommon situation.
- [8] In what many regard as a remarkable shift for the traditionally

universalist-minded Canadian Council on Social Development (1979: 5) the CCSD policy statement admits that "... neither the political will nor public support exists to ... (pursue) the injection of new resources ... In the short run, i.e., the next two to five years,... restructuring programs to free resources is the preferred solution."

[9] The phrase is due to Morgan and Smolensky (1978:35-6). The Economic Council of Canada (1978:102) also appears to subscribe to this view.

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# Enhancing Employment and Income Opportunities in Agriculturally Based Regions\*

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Although agriculture continues to hold a declining share of national and provincial domestic product in Canada, it remains the dominant sector in significant portions of the country. Thus plans for enhancing income and employment opportunities in rural Canada often focus on expanded agricultural production and on additional processing of this production.

The various points made in this paper are a response to the tendency of agricultural planners to narrowly define problems with respect to the interests of agriculture, which can lead to suboptimizing, and to focus solely on physical production constraints to the exclusion of marketing and locational considerations when attempting to increase the level of income generated from agriculture. Although these points do not resolve the main issue of employment and income distribution, it is hoped that directing attention to them may at least allow their due consideration, so that programs to foster the development of rural agricultural regions can be guided according to realistic goals understanding of the consequences of competing policies.

While the problems of development discussed are general, the paper

makes use of southern Manitoba as a case study of agriculturally based rural development. The specific activities considered in Manitoba are not necessarily those appropriate to other areas but the issues methodology and principles transfer readily. The purpose of the Manitoba analysis is to show that single-minded concentration on the region can result in strategies that are irrational and possibly doomed to failure as a result of provincial and national forces.

## 3.1 AGRO-MANITOBA DEVELOPMENT ISSUES

Agro-Manitoba constitutes one of the three major regions of Manitoba, the others being the city of Winnipeg and the northern or resource region. Each of these regions have widely different resources and capabilities for growth and face a different set of economic problems. In each case the provincial government is committed to enhancing income and employment opportunities and to bringing about a higher standard of living that is roughly equivalent throughout the province.

Agro-Manitoba comprises a

relatively well-developed network of communities and infrastructure whose primary orientation is agricultural production, particularly grains, oilseeds and livestock. The communities in the region are primarily agricultural service centres whose economic function is to supply the farm sector with goods and services. Development in the region can thus be viewed as taking one or two primary forms. The first and most likely is an expanded role in an agricultural service capacity through vertical integration, either forward into agricultural processing or backward into input supply. The second is the introduction of new nonagriculturally based industries. Since the region has limited raw materials, other than agricultural products, and is distant from major markets, the most likely nonagricultural linked industries to locate in the region are those that have few locational restrictions. These are commonly referred to as footloose industries.

The focus of this study is on the former option since it is the most likely for significant expansion and is most amenable to systematic analysis. Agriculturally related industries make use of a known resource base and such agglomeration effects as are currently available. Footloose industries by contrast must rely on a specific matching of the firm's needs and a particular community's capabilities and can best be dealt with on a case-by-case basis.

Although a basic objective in selecting particular sectors for expansion through government stimulation is the desire to equalize development opportunities between rural Manitoba and Winnipeg, achievement of this objective is limited by the basic structure of the local, provincial and national economies. Local markets in Agro-Manitoba are limited in size, thus

any viable scale industry must be oriented towards either provincial or larger markets. The limited local market and Manitoba's distance from the major North American markets constitute major barriers for many types of industry. The local economy of the region is highly specialized in agricultural production, thus industries that are able to link into agriculture, either by providing inputs or processing outputs, will find the largest local market.

Sectors were chosen for analysis based on the likelihood of their being part of a growth scenario. The choice is more or less consistent with recent evaluations of agricultural opportunities in Manitoba, which have identified higher levels of beef production, value-added special crop production and food processing policy goals. Late in 1978, the Department of Regional Economic Expansion (DREE) noted "substantial opportunity for increasing production of special crops, improving the efficiency of the red meat industry, and expanding both commercial services and the processing of agricultural products in many of the larger secondary centres of Manitoba ... It is expected that the major thrusts in expansion and diversification of agricultural output will centre on increased output of livestock and livestock products and the production of crops related to livestock production and crops for processing industries." [1] DREE suggested that if the efficiency of farm production were improved, the processing sectors could be expanded in rural centres and "balanced" rural-oriented growth in the provincial economy could thereby be achieved. Our questioning will revolve around this hypothesis with reference to the following sectors: slaughtering and meat processing, feed milling, fruit and vegetable

canners and preservers, miscellaneous food processors, and, with less emphasis, sectors such as vegetable oil mills and agricultural implement manufacture.

The next task is to select performance criteria to use in evaluating the relative merits of expanding the different sectors. A basic objective is to increase income and employment in Agro-Manitoba without occasioning greater variability in annual income. DREE emphasizes the desirability of "balanced growth" by which is meant fairly equal rates of growth for the urban and southern-agricultural economies. Thus the criteria are based upon economic efficiency and spatial-sectoral income distribution plus stability of income. As income distribution within either sector, as contrasted to distribution between the sectors, is not addressed by DREE in the report quoted, it will be noted as an issue but not considered a selection variable in this paper.

While agriculturally linked industries appear to be the most likely vehicles for developing enhanced income and employment in Agro-Manitoba they have a number of inherent weaknesses. In the first place multiplier or linkage effects associated with either input supply or output processing industries are not high. Thus expansion of the food processing sector or the agricultural implement sector, to name two examples, would not result in a great deal of induced expansion in other sectors. In a related vein the value added in many of the agriculturally related sectors is not high. This suggests that regional income per unit of output will not be large. These two factors could be offset to a considerable extent if there was the potential for great expansion of the agriculturally related sectors. In such a situation, although the benefits per unit of

output were low, the volume of output would be such to provide a major boost to total income and employment. The potential for expansion of the various sectors is discussed below in detail. Some would appear to have reasonable prospects, others limited potential.

In a number of sectors expansion is limited by the fact that Manitoba possesses limited comparative advantage in the supply of a product or service beyond provincial boundaries. Ultimately the ability to expand an industry rests on its ability to capture a market. With a limited local market, export markets have to be developed in order to allow the development of these sectors. The task is to identify those sectors where the potential for comparative advantage in production can be identified.

### 3.1.1 Slaughtering and Meat Processing (SMP)

The SMP sector ranks first in value of shipments among agriculture-related industries in Canada, the Prairies and Manitoba (Appendix 2). In Manitoba, between 1974 and 1977, value of shipments increased at an annual nominal rate of 3.38 percent from \$361 million to \$398 million. This rate was well below the national rate of 6.33 percent, and less than the Prairies' 5.11 percent (Appendix 1a, 1b, 1c). For the 1977 to 1980 period the comparable figures for Manitoba are \$398 million to \$471 million, which is an annual increase of 6.13 percent. This compares to a rate of 12.70 percent for the prairies and 21.0 percent nationally. Thus in terms of value of shipments Manitoba's position has eroded at an increasing rate over the 1974-1980 period.

Is significant expansion of the SMP sector in Manitoba feasible?

Perhaps - if some difficulties can be overcome. The major problem appears to be a combination of low labour productivity (low value-added/labour ratio) and high input costs (Appendix 4). The evidence does not suggest that low productivity is caused primarily by inefficient scale of production. On the contrary, the proportion of small plants (employment less than 50) in Manitoba in 1974, 1977 and 1980 was 63 percent, 64 percent and 76 percent compared with the Canadian average of 76 percent, 74 percent and 79 percent (Appendix 3). Technical efficiency could have been poor for reasons other than insufficient scale of operations: the high cost of inputs, including labour, combined with low profits could have precluded significant productive investment, contributing to the obsolescence of the capital stock. Additionally, capacity utilization could have been too low or the technology employed sub-optimal. Clearly value-added has eroded significantly in Manitoba relative to national levels but the exact cause is difficult to determine. The evidence seems to be consistent with either explanation[2].

A capacity problem can result from insufficient or inefficient livestock production which affects input prices of the SMP sector, hence input demand. Manitoba farmers increased the supply of livestock considerably in the seventies, but the value of shipments in meat processing has grown slowly nonetheless. This could have resulted from beef production expanding in the direction of cow-calf production with feeder cattle exported rather than locally finished cattle production. If this was the case it would follow that relative costs and prices favoured cow-calf enterprises over stocker-feeder enterprises. The low relative profitability of Manitoba's

SMP sector indicates that it was in no position to offer higher prices to stimulate increased production. Elastic demand combined with relatively high input costs (Appendix 4) can preclude full-capacity operation of plants, regardless of the physical supply of livestock. In addition expansion in other provinces resulted in excess capacity, placing older and less efficient plants, such as those in Manitoba, at a disadvantage.

To summarize, recent performance indicates that Manitoba's SMP sector has remained relatively unprofitable and has grown slowly despite rapidly increasing provincial livestock production during the 1970s. Its spatial isolation and low degree of profitability suggest that considerable efficiency gains in livestock production would be required in order to expand export sales and operate closer to full-capacity.

Supposing that excess processing capacity could be profitably utilized if the primary livestock sector were made more efficient, would this lead to balanced regional growth? Probably not, considering that all but one of Manitoba's major SMP firms are located in Winnipeg (the remaining firm is in Brandon). If economies of scale and agglomeration are at all important, it is not likely that the small firms in rural centres could expand operations significantly, thereby capturing a greater share of value-added within Agro-Manitoba.

### 3.1.2 Feed Milling

Manitoba's feed milling sector, though much smaller than its SMP sector, in general has performed better and compares favourably with feed milling in the Prairies and the nation as a whole. In 1974 and 1977, profitability remained

somewhat above 15 percent, slightly higher than Prairie and Canadian rates although by 1980 it had declined to roughly the same level (Appendix 1a, 1b, 1c). However, at least part of this profitability appears to be at the expense of rewards to labour. Throughout the period labour's return, in Manitoba, expressed as wages as a percent of value-added were consistently less than prairie or national levels for the sector.

Over the period Manitoba's labour share rose from 16.42 to 20.39 to 20.84 percent of value-added. By contrast in 1974 the prairie and national shares were 22.71 and 23 percent respectively. Value-added per worker in Manitoba remained well above national and Prairie averages indicating labour productivity is high. Cost of materials and supplies, as a proportion of total value of shipments, was about the same in all three regions. Likewise, the trend toward fewer establishments seems about the same in Manitoba and Canada.

Feed milling activity has maintained a fairly constant relationship to SMP activity both in Canada, the Prairies and Manitoba, although this relationship differs among the three groupings. The ratio, in terms of value of shipments, was about 1:3 for all of Canada, 1:6 for the Prairies and 1:5 for Manitoba in 1974, 1977 and 1980. Manitoba had the greatest variability over the three time periods exhibiting a mild decline in the ratio of feed sales to slaughter and meat packing. A large part of the differences could be explained by regional differences in the extent of grain finishing in cattle production and in the use of own farm produced feeds. It is interesting to note for the SMP sector

that the rate of profit is higher in Ontario and Quebec than in the Prairies, and that feed milling activity is much higher in relation to SMP activity in these same two provinces than in the Prairies. The implication is that central Canada enjoys a comparative advantage in livestock finishing, livestock feed being derived from demand for finished livestock. Even within the prairies the other provinces would appear to be at an advantage in finishing cattle. This information is consistent with the observation that the cattle finishing sector in Manitoba is not performing well when compared to other provinces. It is possible that this advantage is strong enough to severely dampen Manitoba's efforts to expand the SMP sector, and that issues such as freight rate policy will have a much stronger bearing on Manitoba's SMP and feed milling sectors than will improved livestock production efficiency.

Growth opportunities in feed milling are strictly limited by the extent of growth of the SMP sector. Supposing Manitoba's meat exports were to grow rapidly, would value-added from feed milling, a primarily rural activity, significantly balance the value-added generated in Winnipeg's SMP sector, resulting in somewhat balanced growth? Considering that only about 20 percent of value-added from feed milling accrues to labour, compared with 51 percent for the SMP sector, income growth in Winnipeg is therefore likely to outpace growth in Agro-Manitoba. Only if capital's share of value-added is invested in high employment or income multiplier activities in Agro-Manitoba would balanced growth likely occur.

### 3.1.3 Fruit and Vegetable Processing (FVP)

According to Statistics Canada's criteria, only five Manitoba firms can be classified within this sector [3]. All are vegetable processors. Employment in 1977 of 534 was about twice that of the feed sector, although the value of shipments was \$20 million less than the feed sector's \$71 million (Appendix 1c). This indicates that activity in this sector is highly concentrated and labour-intensive compared to feed milling.

The FVP sector generates far more value-added than does feed milling (\$22 million vs. \$13.4 million in 1977) despite its lower sales volume. Moreover, value-added as a proportion of value of shipments was 43 percent in the FVP sector in 1977, compared with only 18 percent in the SMP sector. This is reflected in high profit rates of about 30 percent for this sector both for Manitoba and Canada (Appendix 1a, 1c). Confidentiality requirements preclude the release of data for the prairie region.

The combination of high value-added generation and high labour intensity in production would seem to suggest that FVP, if expanded, would result in substantially more employment and higher incomes in Agro-Manitoba. The evidence suggests the case is not so clear-cut. About 80 percent of value added (the nonlabour portion) is distributed among five firms: one in Morden, another in Carberry, a third in Winnipeg [4],

while the locations of the other two establishments are not listed by Statistics Canada because they are small businesses. This indicates that profits are concentrated in only three establishments, two of which are located in Agro-Manitoba. These large establishments are branch plants of corporations whose head offices are outside the province. The average level of profit per establishment (Table 1) of \$3.29 million, then, understates the profits of the largest establishments. Whatever the actual levels of gross profits are, it is clear that profits are far more concentrated in the FVP sector than in any of the others considered. In the absence of substantial local investments, this suggests considerable leakages of value-added from Agro-Manitoba if profits are returned to the corporate headquarters.

Labour's share in 1977 was distributed among 534 production workers whose average annual salary was \$8,477 [5], far less than salaries in other food processing sectors. In Carberry and Morden, labour's share of value-added remained in Agro-Manitoba, thereby contributing to regional development goals.

The absence of data reported at a provincial level for this sector before 1977 makes it difficult to detect trends (in Appendix 1c, data from 1977 and 1980 are compared). Thus, the following discussion about the feasibility and consequences of expanding this sector is highly qualified.

TABLE 1

Allocation of Value-Added by Sector in Manitoba, 1977

Sector	Value-Added	Empl.	Wage Bill	Profits	Annual Salaries	Profits Per Establishment
SMP	70,819	2,567	36,100	34,719	14,063	1,239,964
FVP	20,972	534	4,527	16,445	8,477	3,289,000
Feed Milling	13,459	244	2,744	10,715	11,246	345,645
MFP	15,279	381	4,636	10,643	12,168	709,553

The profitability alone of Manitoba's FVP sector suggests that growth potential exists. In both 1977 and 1980, profit rates in Manitoba exceeded those for Canada. Several factors could be involved. One is that, for large, multinational corporations final demand less directly affects the level of production of individual establishments than in the case of small, single-establishment firms. When demand shifts, production of the most efficient plant is expanded. Thus interplant costs play a more important role in production decisions than in the case of smaller firms in more competitive sectors. High levels of profits can be maintained by expanding production where production and marketing costs combined are lowest. Manitoba's low wage profile may be an attractive advantage for this labour-intensive industry. In 1977, annual production wages were on the average a full thousand dollars less than the Canadian average (\$8,477 vs. \$9,555). Lower wages, however, when coupled to a short operating season, result in an indeterminate

situation when looking at comparative advantage. The profitability of operating in Manitoba, relative to other prairie provinces augers well for expansion of production of existing firms, and may attract new firms to enter different types of processing, provided raw material can be supplied in sufficient quantity and low enough cost to maintain profits.

#### 3.1.4 Miscellaneous Food Processing (MFP)

The major establishments in Manitoba of this sector--those not classified by Statistics Canada as small businesses--are located in Winnipeg. The sector is comprised of a broad assortment of establishments manufacturing such products as powdered eggs, potato chips, spaghetti and honey, in addition to other products. It is included in this examination of Manitoba's food processing industry because it illustrates clearly the change in labour's share of value-added attendant upon a

shift to more capital-intensive production. Since this type of industry could be encouraged in Agro-Manitoba, it may be of some value to note how it appears to be changing.

Manitoba MFP data from 1974, 1977 and 1980 (Appendix 1c) show that over a six-year period, this sector experienced a sharp reduction in production labour while value of shipments remained steady. Comparable figures for Canada as a whole show an increased labour force and value of shipments. The production work force in Manitoba was reduced from 515 to 432 over the six years, an average annual rate of attrition of 2.97 percent. Yet, while value of shipments and value-added were stable over the period, value-added per worker and the total wage bill increased annually by 11.8 percent and 9.3 percent respectively. During this period the relatively high rate of profit rose from 19.70 in 1974 to 21.02 in 1980. National figures indicate similar increases in labour productivity and wage bills but a higher rate of profitability.

In short, the data indicate that a substitution of capital for labour over the six-year period shifted the functional distribution of income in labour's favour: a more productive labour force captured a higher proportion of value-added, despite the loss of 134 members. Average annual salaries swelled from \$7,072 in 1974 to \$12,168 in 1977. The cause for this increase is a mixture of inflationary effects, increased labour productivity and a shift in the mix of firms within the category.

### 3.1.5 Vegetable Oil Processing

Oilseed crop production in Manitoba grew prodigiously during the seventies. In the past one establishment alone has been involved in the processing of oilseeds in Manitoba (CSP Foods, Altona). A new oil seed crushing plant has, however, recently opened in Harrowby and is also operated by CSP Foods. Hence, published data for this sector are lacking at the provincial level, and national data must be used instead to sketch the recent performance of this sector[6].

The salient features of the vegetable oil mills sector are its small number of firms, its low rate of profitability and its high rate of increase in value of shipments between 1974 and 1980 (Appendix 1a). A 16 percent average annual increase in value of shipments was accompanied by the addition of two firms and 348 production workers to the sector, making a total of 10 firms and 904 production workers. While labour productivity (value-added per worker) increased at an annual rate of 7.2 percent over the time period, the average worker's annual salary increased by 208 percent, from \$9,410 to \$19,594. Predictably, the low profit rate of 9.98 percent fell to 8.74 percent in 1977, and increased marginally to 9.39 percent in 1980, the lowest of all the sectors we have examined.

The general picture is one of an industry with declining rates of profit during an expansionary phase. An explanation may be conjectured as follows: due to the widespread availability of substitute vegetable oils and trade barriers, export demand may be too elastic to enable the Canadian industry to offset a higher wage bill with higher product prices. Consequently, the rate of profit declines, forestalling the investment required to improve

labour productivity to compensate for higher wages. Increased market demand probably will be required to improve the performance of this stagnating industry.

Whether the Manitoba situation is comparable to Canada's is difficult to say. It seems safe to assume that the industry throughout Canada faces similar world market conditions, i.e., price elastic demand. Manitoba's relatively low-wage economy[7] may be attractive to firms seeking a wider cost-price margin in an industry facing rapidly escalating wages and declining profits. However, expansion of world markets will probably be required to initiate the investment required to substantially improve productivity and profitability.

Finally, it should be noted that, despite a recent wage increase, labour's share of value-added in this sector lags behind that of all others discussed above, except feed milling. Thus, a greater-than-average portion of the value-added generated by this industry probably leaves Agro-Manitoba.

### 3.2 SUMMARY AND CONCLUSIONS

Although the preceding analysis produced mainly tentative and qualified results, perhaps raising more questions than it answered, it is possible to at least suggest some general conclusions. Processing sectors were evaluated with respect to recent profitability and growth in value of shipments, which together can be used to predict growth potential, and with respect to location, concentration and labour's share of value-added, which together determine a large part of the spatial distribution of value-added, hence the balance between growth in Agro-Manitoba and Winnipeg resulting from expansion of one sector or

another. In summarizing the findings, sectors will be compared and contrasted according to these rough indicators and measurements of economic growth potential and the spatial-sectoral distribution of income.

In order to first evaluate growth potential, sectors can be divided into two general categories: relatively profitable and relatively unprofitable. The FVP and MFP sectors belong to the former category, and SMP and vegetable oil milling to the latter. Feed milling lies somewhere in between, but is more or less an adjunct of the SMP sector.

As a first approximation, farm production of raw materials will generate the highest proportion of value-added beyond the farm gate in those processing sectors experiencing high profits and rapid growth. In this respect, trends in the 1970s in Manitoba agricultural production appear to be misdirected. Farm production has increased most rapidly for cattle and calves, and oilseed crops, products for which the provincial processing sectors appear to be the least profitable - SMP and vegetable oil milling. These sectors remained unprofitable relative to others from 1974 to 1980, even though during this period nonlabour variable costs, as a proportion of value of shipments, declined slightly. Farm production was not necessarily misdirected, however, if it was produced for an export market offering a higher rate of return than the provincial processing sector or if seriously constrained by resource capability. Thus there would appear to be a conflict between increasing secondary processing within the province and maximizing returns to the primary producers of agricultural products. In the case of the SMP sector, efficiency gains of some \$11 million in beef production in 1977 would have been

required to raise the profit rate of Manitoba to the national level. But this kind of analysis presupposes that an efficiency gain in the feed grain production or livestock finishing stage translates directly into a cost reduction for the processing stage. It seldom does, of course, except in an accounting sense for vertically integrated stages. In the short run at least, farmers could potentially appropriate most of the extra value-added obtained from cost reduction resulting in limited cost reductions for the SMP sector. This means that efficient production of raw materials that are traded in export markets has little to do with growth of the local processing sector except that it ensures a local supply at world prices minus transport costs. Increased efficiency contributes to value-added, but mainly behind the farm gate. In short, farm production is misdirected or well directed only with respect to its own relative costs and prices, and not with respect to the conditions facing the local processing sector alone. The recent slow rate of growth and low profitability of Manitoba's SMP sector indicates that, at the margin, it is more profitable for farmers to export feed grain and feeder cattle than to use more grain for local beef finishing.

In vegetable oil milling, a wage rate increase without a corresponding increase in labour productivity was identified as a major factor contributing to lower profitability in a period of growth, at a national level. This raises the possibility that Manitoba's low-wage labour force could prove attractive for oilseed processors. However, the evidence indicates that, even with substantially lower wage rate increases, profitability still would have declined. For example, if the annual rate of wage increase had

been 16.25 percent instead of 33.38 percent, profitability still would have declined from 9.98 percent to 9.3 percent. The total wage bill would have had to fall by 1.6 percent a year to maintain profitability at close to 10 percent.

Thus it seems unlikely that even major reductions in salary rate increases or major efficiency gains in feed crop and livestock production would improve the performance of either of the two stagnating industries. Improvements on the demand side probably are more important than input costs.

Manitoba's two most profitable food and beverage sectors - fruit and vegetable processing and miscellaneous food products, together produced more than half the value-added generated by SMP on a third of the latter's sales volume. Value of shipments of the FVP sector grew at an annual rate of 14.38 percent from 1977 to 1980 compared to 16.72 for the feed industry and 6.13 percent for SMP. Value of shipments in the MFP sector grew at 15.45 percent; but this sector, concentrated in Winnipeg, need not be scrutinized here.

Focusing on the FVP sector, which does have establishments in Agro-Manitoba, we may ask whether more efficient production of vegetables could lead eventually to increased value-added generated in processing. The answer probably is yes, if it can be assumed that production of the greater portion of these crops is contracted by processors acting as local monopsonists. Then direct export sales of unprocessed vegetables by producers is not an option, contrary to the case of feed grain or livestock, and the growth of primary production will be strictly limited by growth in the processing stage[8]. If cost considerations play an important role in the production decisions of FVP firms, as

suggested above (refer to Section "Fruit and Vegetable Processing (FVP)" earlier in this article), then Agro-Manitoba's income growth could be enhanced by improving primary production efficiency. Monopsonists, by setting the contract price, can appropriate part of the gains in production efficiency achieved by farmers as long as production of vegetables remains at least as profitable as alternatives, particularly export crops.

Thus it is important to distinguish between farm products with national or global markets from those with highly localized markets when evaluating the effect of gains in primary production efficiency on the profitability of the processing stage. For the former, efficiency benefits are captured almost entirely by farmers; for the latter, the processor may appropriate a share. Therefore, if one wants to increase value-added in processing by improving the efficiency of primary production, one had better concentrate on primary goods with mainly local markets, but which through processing become secondary exportable goods that can be readily marketed.

The distinction relates to distribution as well. Farmers, by improving production efficiency of crops with national or global markets, generally may obtain a greater share of value-added than if costs are reduced on crops traded locally in monopsonistic markets. This will be especially true if efficient production methods for local crops are adopted at the same rate by most producers in the region.

The distributional issue of primary concern is the growth of income in Agro-Manitoba relative to Winnipeg. Given that absolute per capita incomes and the rate of growth of income in Agro-Manitoba lag behind those in Winnipeg, the distributional objective could be either to

narrow the gap or to reduce the rate at which regional incomes diverge.

The three main determinants of income distribution are: the location of processing activity, labour's share of value-added and the proportion of profits that are invested locally. (Other influences are exogenous to the problem as it is focused in this paper.) Considering that the FVP sector is the only one for which the data indicate high growth potential in Agro-Manitoba, it seems sensible to pose the questions of income distribution with reference to this sector.

Two of the major three establishments in the FVP sector are located in Agro-Manitoba. The largest of these specializes in potato processing, employs about 300 full-time workers and has head offices in Toronto[9]. The other, a locally owned firm, processes many kinds of vegetables and employs about 40 full-time workers. Thus capital's share of value-added, about 78 percent in 1980, was highly concentrated in a few firms with a degree of monopsonistic power. That portion of capital which is invested locally will, of course, stimulate the local economy. Significant leakages of value-added can be expected of multinational enterprises for which investment in Manitoba is a minor part of the firm's total investment. It would be useful to test whether highly profitable, monopsonistic food processing sectors generate more or less investment out of value-added over time than do more competitive sectors. If the answer is less, perhaps the growth of smaller enterprises or cooperatives should be encouraged, albeit at the cost of lower efficiency.

A related matter bearing on distribution is the correlation between capital-intensiveness and labour's share of value-added. If it is usually positive, as our limited

evidence suggests, then balanced growth might be enhanced by promoting investment in productivity improvements rather than job-creating investments. However, if factor markets are somewhat close to being perfectly competitive (well-informed in particular), this problem should take care of itself. The limited data available for the FVP sector in Manitoba are ambiguous regarding this relationship. Labour's share of value-added increased by 11.82 percent from 1977-1980 even though value-added per worker only increased by 3.33 percent (Appendix 1c). Whether labour's share would have increased even more if productivity had improved is an open question.

Aside from the problem of predicting the distribution of value-added among sectors and subregions, there remains the conceptually more difficult problem of ranking different distributional outcomes by some kind of welfare function. It might be practical to allow the distributional question to be subsumed under the efficiency criterion: any change in distribution favouring higher income growth in Agro-Manitoba would be a welfare gain irrespective of the effect on distribution and income distribution differences would be considered after growth is maximized. Suboptimization of this nature is, of course, the very dilemma one wishes to avoid by adopting a spatially limited efficiency criterion. The dilemma also subsumes a number of trade-offs involved in choosing one sector over another for inclusion in an economic growth scenario. Before discarding the distributional criteria altogether, it is instructive to examine more explicitly the trade-offs involved in such a decision.

It is assumed that inclusion of a sector as part of a growth scenario implies superior expected

performance of that sector relative to others by the criteria of efficiency, distribution and/or income stability. With respect to efficiency there is no difficult trade-off: more efficiency is always better than less, all else equal. The ranking of alternatives with respect to distribution and income stability however involves little beside the comparison of noncommensurable results.

Chief among such trade-offs is growth of the provincial economy as a whole vs. growth of the agricultural region. Others are growth of the primary sector vs. secondary processing, growth in total value-added vs. labour's share, and perhaps growth in labour income vs. growth in employment.

Agrologists tend to downplay the first mentioned trade-off: what is good for agriculture usually is assumed to be good for the province or nation. Why then must so much effort be spent diverting the economy from its apparent course in order to obtain a larger piece of the economic pie for agriculture?

Evidence and arguments presented above indicate that, for those farm products whose production expanded most rapidly during the 1970s, processing activity in Manitoba is limited and relatively unprofitable. It appears that, at the margin, oilseeds, feedstuffs and beef cattle can more profitably be exported for further processing than sold to local processors. It can be argued that this fact results from previous forms of intervention such as transportation subsidies or industrial grants which artificially lower processing costs outside the province. Nevertheless from the perspective of the decision maker, costs are higher in Manitoba than elsewhere and only if this relative cost structure changes will processing activity be expanded. Clearly such an

adjustment can occur in a number of ways, either through dismantling of subsidies outside the province, expansion of provincial subsidies, or some combination. Furthermore, we have argued that changes in demand, and not efficiency in production, will be necessary before our case study, Manitoba, can profitably expand the processing of raw farm products sold on national or world markets. Only for locally traded goods such as raw vegetables could gains in primary efficiency perhaps lead to the expansion of processing.

This suggests that the agricultural region's role is primarily that of a hinterland producing raw materials for export. In the context of the study area, a great deal of the growth in processing and services is likely to continue occurring in Winnipeg and Brandon, not in rural Manitoba. Moreover, in the case of the FVP sector, which would appear to have growth potential in Agro-Manitoba, concentration and profits are relatively high. The spatial destination of about three-quarters of total value-added is indeterminate. And, part of any gains in primary production efficiency must be transferred from the farmer to the processor for efficiency to lead to increased processing activity.

Thus it appears that by far the greatest portion of the value-added generated by production efficiency will be appropriated by the primary sector, just as most of the efficiency gains achieved in processing will be appropriated by that sector. Growth scenarios or other types of predictive models which ignore these realities are likely to be misleading and probably too optimistic regarding the growth potential of agricultural processing activities. If government programs such as water enhancement and location incentives are guided by the assumptions of

unrealistic growth scenarios, unexpected outcomes and resource misallocation are likely to result. Funds allocated to increasing the efficiency of corn production, for example, will benefit the corn producers and perhaps livestock feeders, but will not significantly benefit livestock processors, which often are concentrated in urban areas. More importantly, funds used to directly support unprofitable processing sectors may primarily benefit a few entrepreneurs and outside investors, while they could be used to greater advantage in less concentrated sectors with higher growth potential. The single-minded pursuit of growth in the processing sector within the region producing the primary product could well violate efficiency conditions both within the region and in the entire province, and could increase inequities in the distribution of income.

The third criterion, income stability, also has provincial and sub-provincial dimensions. In rural Manitoba income stability might not be achieved by directing funds towards "those development scenarios that include water enhancement." On the contrary, variability of income could increase even though plans are made for the contingency of drought. For example, in much of the Central Region crop failure due to excess moisture is a problem with a similar frequency to crop failure due to drought. By intensifying agricultural activities which depend on a common set of environmental and market factors, agricultural income could become less stable. This is true at the provincial level as well. A study of the United States Southwest suggested that the greater volatility and weight of farm income in this region were the primary causes of the relative instability of personal income and income per capita[10]. For Manitoba as a

whole, it is possible that the destabilizing effects of drought could be more efficiently reduced by fostering the growth of activities that are not highly influenced by local weather conditions, such as the production of agricultural implements. This sector's regional share of value-added increased from 66.27 percent in 1974 to 70.0 percent in 1977 (Appendix 2), which indicates growth potential. Probably most of the benefits from increased and more stable income from this activity would accrue to Winnipeg residents. However, there may be other sectors with high growth potential in Agro-Manitoba, such as recreation, which are not as highly influenced by the factors that affect agricultural activities. Decreasing the covariance of income from different activities should not be precluded as a possible drought-proofing measure.

In conclusion, the following

points can be drawn from the analysis. Any regionally based development strategy must consider the viability of proposed industries in a larger context. Export oriented industries must be competitive in the market place if they are to survive without perpetual subsidy. A focus on forward and backward linkages to the primary production at the region while intuitively appealing may be impossible to achieve due to limited markets, insufficient scale and similar production and marketing problems. In addition single-minded concentration on the problems of a particular sector may lead to recommendations for investment that have a lower rate of return than alternatives in other areas. Thus we argue that the partial equilibrium approach adopted in most analysis of rural development can result in significant costs to society.

## NOTES

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Any opinions or errors contained in this work are, of course, those of the authors.

- [1] Manitoba Department of Agriculture, 1978, p. 15.
- [2] Manitoba Department of Agriculture, 1978, p. 16.
- [3] Statistics Canada, 1978b.
- [4] Statistics Canada, 1978b.
- [5] Seasonal variations in employment may be the main reason.
- [6] Statistics Canada, 1974 and 1977.
- [7] Manitoba Bureau of Statistics, 1979.
- [8] Although there are a limited number of contracts placed by U.S. processors in Manitoba there would not appear to be significant potential for expansion in the number of contracts now for the creation of open markets.
- [9] Pembina Valley Development Corporation, 1978.
- [10] Geoffrey J.D. Hewings, 1977.

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APPENDIX 1a  
FOOD PROCESSING INDUSTRY STATISTICS  
CANADA - 1974, 1977, 1980

Slaughtering and Meat Processing

	1974	1977	1980	1974-77 Percent Annual Change	1977-80 Percent Annual Change
No. of Establishments	487	430	547	- 3.9	9.1
Employment	24,097	25,146	26,610	1.5	1.9
Wages (000)	231,702	334,641	458,464	14.8	12.33
Cost of Fuel, Elec. (000)	20,006	33,772	55,342	22.9	21.3
Cost of Fuel, Elec. : Value of Shipments %	.56	.79	.80	13.7	.4
Cost of Mat., Supp. (000)	2,919,992	3,400,472	5,719,259	5.5	22.7
Cost of Mat., Supp. : Value of Shipments %	81.59	79.85	82.36	- .71	1.0
Value of Shipments (000)	3,578,951	4,258,368	6,944,216	6.3	21.0
Value Added (000)	634,505	835,446	1,184,546	10.6	13.93
Value Added/Worker	26,331	33,233	44,520	8.7	11.32
Wages/Value Added %	36.52	41.25	38.70	4.3	- 2.06
Profitability %	11.25	11.76	10.46	1.5	- 3.7

Feed Industry

	1974	1977	1980	1974-77 Percent Annual Change	1977-80 Percent Annual Change
No. of Establishments	698	553	609	- 6.9	3.38
Employment	5,553	5,339	5,979	- 1.3	3.99
Wages (000)	46,169	62,876	92,528	12.1	15.72
Cost of Fuel, Elec. (000)	11,679	17,246	25,587	15.9	16.12
Cost of Fuel, Elec. : Value of Shipments %	.96	1.26	1.12	10.4	- 3.70
Cost of Mat., Supp. (000)	1,011,966	1,089,169	1,844,283	2.5	23.11
Cost of Mat., Supp. : Value of Shipments %	82.81	79.69	80.86	- 1.3	.49
Value of Shipments (000)	1,221,640	1,366,746	2,280,731	4.0	22.29
Value Added (000)	200,742	263,960	408,909	10.5	18.30
Value Added/Worker	36,150	49,439	68,391	12.3	12.78
Wages/Value Added %	23.0	24.0	22.63	1.5	- 1.9
Profitability %	12.65	14.71	13.87	5.4	- 1.9

## Fruit and Vegetable Processing

	1974	1977	1980	1974-77 Percent Annual Change	1977-80 Percent Annual Change
No. of Establishments	245	233	232	- 3.0	1.3
Employment	14,753	12,987	13,145	- 4.0	.41
Wages (000)	99,027	124,098	166,983	8.33	11.52
Cost of Fuel, Elec. (000)	11,403	19,429	23,332	23.33	21.21
Cost of Fuel, Elec. : Value of Shipments %	1.32	1.76	2.05	.11	5.49
Cost of Mat., Supp. (000)	549,984	650,042	958,642	6.0	15.82
Cost of Mat., Supp. : Value of Shipments %	63.56	59.05	61.69	- 2.37	1.49
Value of Shipments (000)	865,259	1,100,839	1,533,865	9.0	13.72
Value Added (000)	346,542	449,584	616,987	9.9	12.41
Value Added/Worker	23,489	34,618	46,937	15.79	11.86
Wages/Value Added %	28.58	27.60	27.06	- 1.12	- .65
Profitability %	28.61	29.57	28.96	1.12	- .69

## Vegetable Oil Mills

	1974	1977	1980	1974-77 Percent Annual Change	1977-80 Percent Annual Change
No. of Establishments	8	11	10	12.5	- 3.03
Employment	556	776	904	13.33	5.50
Wages (000)	5,232	10,471	17,713	33.38	23.05
Cost of Fuel, Elec. (000)	2,508	6,266	10,835	49.95	24.31
Cost of Fuel, Elec. : Value of Shipments %	.85	1.43	1.50	22.75	1.63
Cost of Mat., Supp. (000)	266,693	393,368	640,896	15.67	20.98
Cost of Mat., Supp. : Value of Shipments %	90.21	89.84	88.11	- .14	- .64
Value of Shipments (000)	295,628	437,857	727,390	16.0	22.04
Value Added (000)	34,761	48,681	85,930	13.33	25.51
Value Added/Worker	62,519	62,733	95,055	0.0	17.17
Wages/Value Added %	15.05	21.51	20.61	14.3	- 1.39
Profitability %	9.98	8.74	9.39	- 4.1	2.48

## Miscellaneous Food Processors

	1974	1977	1980	1974-77 Percent Annual Change	1977-80 Percent Annual Change
No. of Establishments	382	358	444	- 2.1	8.0
Employment	20,982	21,617	24,165	1.0	3.9
Wages (000)	168,079	250,606	347,732	16.4	12.9
Cost of Fuel, Elec. (000)	25,981	54,161	84,339	36.2	18.6
Cost of Fuel, Elec. : Value of Shipments %	.96	1.59	1.6	21.9	.2
Cost of Mat., Supp. (000)	1,947,450	2,200,008	3,414,558	4.3	18.4
Cost of Mat., Supp. : Value of Shipments %	72.03	64.73	66.2	- 3.4	.76
Value of Shipments (000)	2,703,703	3,398,824	5,160,355	8.6	17.3
Value Added (000)	818,753	1,174,740	1,729,368	14.5	15.74
Value Added/Worker	39,022	54,343	71,565	13.1	10.6
Wages/Value Added %	20.53	21.33	20.1	1.3	- 1.9
Profitability %	24.1	27.2	26.8	4.3	- .5

## APPENDIX 1b

FOOD PROCESSING INDUSTRY STATISTICS  
PRAIRIE PROVINCES - 1974, 1977, 1980\*

## Slaughtering and Meat Processing

	1974	1977	1980	1974-77 Percent Annual Change	1977-80 Percent Annual Change
No. of Establishments	106	112	148	1.9	10.71
Employment	7,758	8,615	7,563	3.69	- 4.07
Wages (000)	84,469	120,605	134,100	14.26	3.90
Cost of Fuel, Elec. (000)	4,093	9,517	12,234	44.16	9.52
Cost of Fuel, Elec. : Value of Shipments %	.28	.56	.53	33.33	- 1.79
Cost of Mat., Supp. (000)	1,177,329	1,412,264	2,080,054	6.65	15.76
Cost of Mat., Supp. : Value of Shipments %	80.56	83.78	89.36	1.33	2.22
Value of Shipments (000)	1,461,399	1,685,649	2,327,682	5.11	12.70
Value Added (000)	218,730	265,867	237,222	7.17	- 3.59
Value Added/Worker	28,194	30,861	31,366	3.15	.55
Wages/Value Added %	38.62	45.36	56.53	5.81	8.21
Profitability %	9.2	8.61	4.43	- 2.14	-16.2

## Feed Industry

	1974	1977	1980	1974-77 Percent Annual Change	1977-80 Percent Annual Change
No. of Establishments	150	123	135	- 7.32	3.25
Employment	1,001	923	1,123	- 2.82	7.22
Wages (000)	8,362	11,065	16,681	10.77	16.92
Cost of Fuel, Elec. (000)	2,214	4,346	6,491	32.10	16.45
Cost of Fuel, Elec. : Value of Shipments %	1.01	1.84	1.65	27.39	- 3.44
Cost of Mat., Supp. (000)	181,898	188,395	314,500	1.19	22.31
Cost of Mat., Supp. : Value of Shipments %	83.03	79.55	79.91	1.40	.15
Value of Shipments (000)	219,079	236,838	393,579	2.7	22.06
Value Added (000)	36,827	45,417	71,360	7.77	19.04
Value Added/Worker	36,790	49,206	63,544	3.67	8.07
Wages/Value Added %	22.71	24.36	23.38	2.42	- 1.34
Profitability %	13.0	14.5	13.89	3.84	- 1.4

\* Disclosure requirements do not allow publication of results for fruit and vegetable processors or vegetable oil mills for the Prairie region.

## APPENDIX 1c

FOOD PROCESSING INDUSTRY STATISTICS  
MANITOBA - 1974, 1977, 1980

## Slaughtering and Meat Processing

	1974	1977	1980	1974-77 Percent Annual Change	1977-80 Percent Annual Change
No. of Establishments	27	28	37	1.23	10.71
Employment	2,346	2,567	2,108	3.13	- 5.96
Wages (000)	24,012	36,100	37,649	16.78	1.43
Cost of Fuel, Elec. (000)	1,452	3,474	4,190	46.11	6.87
Cost of Fuel, Elec. : Value of Shipments %	.40	.87	.89	39.16	.77
Cost of Mat., Supp. (000)	305,845	324,075	398,278	1.99	7.63
Cost of Mat., Supp. : Value of Shipments %	84.67	81.47	84.57	- 1.26	1.27
Value of Shipments (000)	361,204	397,789	470,928	3.38	6.13
Value Added (000)	52,674	70,819	71,387	11.48	.27
Value Added/Worker	22,452	27,588	33,865	7.0	16.94
Wages/Value Added %	45.59	50.98	52.74	3.94	1.15
Profitability % *	7.94	8.73	7.16	3.32	- 6.0

\* Profitability is calculated as Value Added - Wages : Value of Shipments.

## Feed Industry

	1974	1977	1980	1974-77 Percent Annual Change	1977-80 Percent Annual Change
No. of Establishments	39	31	35	- 6.84	4.30
Employment	245	244	271	0.00	3.69
Wages (000)	1,942	2,744	3,849	13.11	13.42
Cost of Fuel, Elec. (000)	623	974	1,435	18.18	15.78
Cost of Fuel, Elec. : Value of Shipments %	.96	1.38	1.35	14.66	- .73
Cost of Mat., Supp. (000)	52,487	56,244	86,501	2.37	17.95
Cost of Mat., Supp. : Value of Shipments %	81.02	79.46	81.41	- .66	.82
Value of Shipments (000)	64,780	70,761	106,251	3.08	16.72
Value Added (000)	11,826	13,459	18,469	4.60	12.41
Value Added/Worker	48,269	55,159	68,151	4.76	7.85
Wages/Value Added %	16.42	20.39	20.84	8.06	.74
Profitability %	15.26	15.14	13.76	- .26	- 3.04

## Fruit and Vegetable Processing

	1974*	1977	1980	1974-77 Percent Annual Change	1977-80 Percent Annual Change
No. of Establishments		5	6		6.7
Employment		534	660		6.31
Wages (000)		4,527	8,630		22.5
Cost of Fuel, Elec. (000)		2,193	2,683		
Cost of Fuel, Elec. : Value of Shipments %		2.33	3.51		8.45
Cost of Mat., Supp. (000)		28,567	45,223		10.19
Cost of Mat., Supp. : Value of Shipments %		55.90	59.13		- 2.07
Value of Shipments (000)		51,105	76,480		13.07
Value Added (000)		22,096	30,127		14.56
Value Added/Worker		41,378	45,647		6.93
Wages/Value Added %		20.49	28.65		5.55
Profitability %		34.38	28.10		

\* Not published due to disclosure regulations.

## Miscellaneous Food Processing

	1974	1977	1980	1974-77 Percent Annual Change	1977-80 Percent Annual Change
No. of Establishments	14	15	16	2.38	2.22
Employment	515	381	432	- 8.67	4.46
Wages (000)	3,642	4,636	6,191	9.10	11.18
Cost of Fuel, Elec. (000)	724	1,676	2,724	43.83	20.84
Cost of Fuel, Elec. : Value of Shipments %	1.29	2.88	3.19	.53	3.59
Cost of Mat., Supp. (000)	44,245	42,230	58,914	- 1.52	13.17
Cost of Mat., Supp. : Value of Shipments %	78.96	72.47	69.08	- 2.74	- 1.56
Value of Shipments (000)	56,033	58,271	85,287	1.33	15.45
Value Added (000)	14,683	15,279	24,416	1.34	19.28
Value Added/Worker	28,510	40,102	55,824	13.55	13.07
Wages/Value Added %	24.80	30.34	25.67	7.44	- 5.07
Profitability %	19.7	18.26	21.02	- 2.4	5.04

Sources: Statistics Canada; (1) "Manufacturing Industries of Canada, National & Provincial Areas," 1974, 31-203 (2) "Manufacturing Industries of Canada, National & Provincial Areas," 1977 (3) "Fruit & Vegetable Processing Industries," 1978, 32-218.

## APPENDIX 2

RANKING OF SELECTED AGRICULTURAL-RELATED INDUSTRIES BY VALUE  
OF SHIPMENTS OF OWN MANUFACTURE - 1974, 1977, 1980  
FOR CANADA, PRAIRIE PROVINCES AND MANITOBA

## Canada

Industry	1974		1977		1980	
	Rank	Value Of Shipments	Rank	Value Of Shipments	Rank	Value Of Shipments
		-- (000) --		-- (000) --		-- (000) --
Slaughtering/Proc.	4	3,578,950	4	4,258,368	4	6,944,216
Dairy Products	8	2,083,008	8	3,082,715	8	4,309,194
Feed Industry	14	1,221,639	16	1,366,745	16	2,280,731
Bakeries	25	726,591	27	870,549	34	1,562,358
Fruit/Veg. Canners and Preserves	28	694,549	26	892,611	31	1,206,074
Agr. Implements	38	571,912	28	841,208	27	1,392,684
Fish Products	37	576,426	24	965,824	26	1,465,236

## Prairie Provinces

	1974		1977		1980	
	Rank	Value Of Shipments	Rank	Value Of Shipments	Rank	Value Of Shipments
Slaughtering/Proc.	1	1,386,762	1	1,685,648	1	2,327,682
Dairy Products	2	253,373	--*			
Feed Industry	4	219,078	3	236,838	5	393,579
Agr. Implements	5	174,847	2	243,266	3	504,041
Veg. Oil Processing	9	119,023	--*	--	3	--
Bakeries	14	86,153	12	106,628	13	162,550
Poultry Proc.	16	74,637	--	--		--

\* It must be assumed that non-ranking industries in 1977 had values of shipments of own manufacture less than \$11,973,000, the figure given for the lowest-ranking industry on the list. However, this seems quite unlikely. Errors or redefinition of industries may be at fault.

## Manitoba

Industry	1974			1977			1980	
	Rank	Value Of Shipments	Regional Share	Rank	Value Of Shipments	Regional Share	Rank	Value Of Shipments
		-- (000) --	%		-- (000) --	%		-- (000) --
Slaughtering Process	1	361,204	26	1	397,758	23.60	1	470,977
Agricultural Implements	2	115,865	66.27	2	170,249	70.0	2	326,474
Dairy Products	3	70,777	27.93	3	100,382	--	3	144,167
Feed Industry	4	64,779	29.57	4	70,760	29.89	4	106,251
Miscellaneous Food Proc.	5	56,032	45.51	7	58,271	--	11	85,287

## APPENDIX 3

TRENDS IN FIRM SIZE BY EMPLOYMENT  
CANADA AND MANITOBA - 1974, 1977, 1980

## Slaughtering/Processing

Employment Range	Canada					Manitoba				
	1974	1977	1980	74-77	77-80	1974	1977	1980	74-77	77-80
				Percent Annual Change	Percent Annual Change				Percent Annual Change	Percent Annual Change
1-4	152	114	225	-38	+111	8	9	15	+1	+6
5-9	76	74	69	-2	-5	4	4	5	--	+1
10-19	70	63	55	-7	-8	4	2	3	-2	-1
20-49	73	65	82	-8	+17	1	3	5	+2	+2
50-99	48	44	40	-4	-4	4	3	1	-1	-2
100-199	36	38	43	+2	+5	3	44	6	+1	+2
200-499	18	17	19	+1	+2	--	--	--	--	--
500-999	10	11	10	+1	-1	2	2	11	--	--
1000+	4	4	4	--	--	1	1	1	--	--
TOTAL	487	430	547	57	117	27	28	37	+1	+9

## Fruit/Vegetable Cannery/Preserves

Employment Range	Canada					Manitoba				
	1974	1977	1980	74-77	77-80	1974	1977	1980	74-77	77-80
				Percent Annual Change	Percent Annual Change				Percent Annual Change	Percent Annual Change
1-4	29	32	44	+3	+12	1	--	--	-1	--
5-9	22	25	26	+3	+1	--	1	1	+1	--
10-19	46	29	26	-17	-3	1	1	2	--	+1
20-49	45	38	42	-7	+14	--	--	--	--	--
50-99	25	26	24	+1	-2	1	1	--	--	-1
100-199	25	28	23	+3	-5	--	--	--	--	--
200-499	15	10	12	-5	+2	-1	-1	-1	--	--
500-999	1	1	1	-1	--	2	2	11	--	--
1000+	1	1	1	--	--					
TOTAL	209	190	199	-19	+9	4	4	4	0	0

## Feed Industry

Employment Range	Canada					Manitoba				
	1974	1977	1980	74-77	77-80	1974	1977	1980	74-77	77-80
				Percent Annual Change	Percent Annual Change				Percent Annual Change	Percent Annual Change
1-4	223	160	172	-63	+ 12	13	4	10	-9	+6
5-9	203	145	151	-58	+ 6	8	12	7	+4	-5
10-19	161	127	155	-34	+ 28	11	8	11	-3	+3
20-49	87	90	104	+ 3	+ 14	7	6	6	-1	--
50-99	16	22	21	+ 6	- 1	--	1	1	+ 1	--
100-199	7	8	4	+ 1	- 4	--	--	--	--	--
200-499	1	1	2	--	+ 1	--	--	--	--	--
TOTAL	698	553	609	145	+ 56	39	31	35	-8	+4

## Miscellaneous Food Processors

Employment Range	Canada					Manitoba				
	1974	1977	1980	74-77	77-80	1974	1977	1980	74-77	77-80
				Percent Annual Change	Percent Annual Change				Percent Annual Change	Percent Annual Change
1-4	38	32	73	- 6	+ 41	2	5	5	+3	--
5-9	41	32	37	- 9	+ 5	2	1	1	+1	--
10-19	44	36	42	- 8	+ 6	1	--	--	--	--
20-49	55	57	62	+ 2	+ 5	4	5	5	+1	--
50-99	37	45	40	+ 8	+ 4	2	3	4	+1	+1
100-199	21	19	23	- 2	+ 4	3	1	1	-2	--
200-499	17	17	22	--	+ 5	--	--	1	--	--
500-999	3	5	4	+ 2	- 1	--	--	--	--	--
TOTAL	256	243	312	13	+ 69	147	158	167	+1	19

# Analysts' Notebook

## Fiscal Federalism—A Primer

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### 4.1 INTRODUCTION

This paper serves as an introduction to the issues of fiscal federalism; the fiscal relations between the federal government and the provinces which have been under strain, particularly since 1973. Since that time, there has been major reform in these arrangements and numerous adjustments which have added to their complexity.

It is interesting to discuss the existing financial arrangements, how these arrangements have evolved, and how well they can respond to unexpected economic events. However, an introduction to fiscal federalism should not focus solely on the details of the current federal-provincial fiscal arrangements. Rather, it is appropriate to begin with a brief examination of the economic rationale for a federal system of government and the interjurisdictional problems that such a system implies. Following this, it is possible to discuss why a federal system requires a set of intergovernmental transfers. The type of financial arrangements most appropriate to the individual problems identified can then be discussed.

This format enables us to discuss the economic rationale for the specific arrangements which Canada has enacted and gives a benchmark against which to discuss the strengths and weaknesses of the current arrangement.

Section 1.2 discusses the economic rationale for a federal system of government. Sections 1.3 and 1.4 discuss the major intergovernmental financial arrangements between the Canadian federal and provincial governments. One of these, the current equalization program, makes unconditional transfers to provinces with deficient fiscal capacities. Others, the arrangements for providing federal financial assistance to health and higher education, make grants in support of specific program areas. Finally, in Section 1.5, some of the current issues in fiscal federalism will be raised, including the issue of a common market among Canadian provinces. Detailed references are avoided in the text, but a selected bibliography is provided for those readers who wish to read further on the major ideas presented in the paper.

## 4.2 THE RATIONALE FOR A FEDERAL SYSTEM

### 4.2.1 What is Fiscal Federalism?

In its broadest sense, fiscal federalism is concerned with the allocation and implications of assigning appropriate spending and taxation powers to various levels of government. In the economics literature, the discussion is not limited to constitutionally specified powers, such as those between the federal and provincial governments. Municipal governments, which are legally created by the provincial legislatures, are also an important part of the discussion. In fact, much of the discussion over the appropriate boundaries for a jurisdiction is more practically applicable to municipal or territorial governments than to provinces. Moreover, many of the ideas developed here which have been widely discussed in the context of federal-provincial relations are equally applicable to provincial-municipal and federal-territorial relations.

The ideal assignment of taxing and spending powers is unlikely to exist. Even if it did exist, there is unlikely to be a perfect correspondence between the beneficiaries of public spending and the people required to finance the public services in such a way that the resources in society will be used efficiently. Most likely there will be a need for conditional and unconditional transfers. Conditional transfers are payments from one government to another which may only be spent in a particular way or on a particular program. Unconditional transfers may be spent in any way that the recipient government desires, and may even be used to replace spending by the recipient government. In such circumstances, the recipient government may even reduce

its own taxation in response to the unconditional transfer.

Finally, fiscal federalism is concerned with the interrelationships of spending and tax structures among the various governments. In Canada, this has involved considering the implications of harmonizing the income and commodity taxes of the various levels of government. It has also involved considering the implications of various barriers to the free mobility of commodities and people within the nation.

Most of the existing literature on fiscal federalism focusses on economic efficiency from the perspective of the national economy. However, in a federation such as Canada, both the federal and the provincial levels of government have an independent constitutional existence with sovereign powers. Since the preferences of the provinces might not be the same as the preferences of the national government, it might actually be undesirable to focus on efficiency from the national perspective. In recent papers, both Hum and Strain (1983) and Bird (1984) begin to consider fiscal federalism from the perspective that provinces also have sovereign preferences on matters of economic policy. However, as a primer to the existing literature, this paper adopts the framework prevalent in the literature and focusses on the efficiency issues from the national perspective.

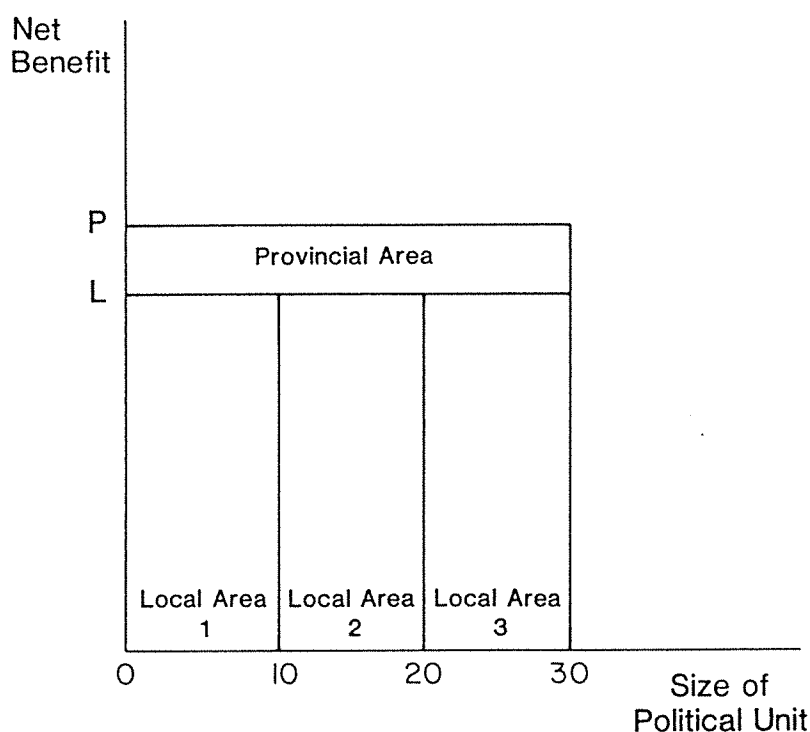
### 4.2.2 Which Services for Which Governments?

Governments provide public services to the people within their boundaries. Some public services are private goods, some are public goods, and most are in between. The assignment of functions has been developed using the theory of public

goods and so it is useful to discuss the characteristics of public goods. Pure public goods are goods which can be simultaneously made available to all people in the jurisdiction. There is not diminution of benefits as additional people are added. Furthermore, no person can be excluded from the enjoyment of the good. In practice, pure public goods are difficult to find since

adding people usually leads to congestion, but assume initially that there is no congestion over a certain geographic area and that no benefits exist outside this geographic area. This assumption can be relaxed to show how the problem becomes more complicated as congestion, decision costs, and mobility are introduced.

Figure 1



Assume that there are two types of these pure public goods: a "local" public good and a "provincial" public good. The "local" public good, such as a fire station, has benefits spread over a relatively small geographic area. The benefits from the "provincial" public good, such as a highway system, extend over several of these small geographic areas. The geographic range of the benefits from the public

goods are illustrated in Figure 1. The benefits from the "local" public good are 0L and the benefits are available for a jurisdiction of size 10. Consequently, if there are 30 people in total, the local public good may be provided three times in three separate locations. Also in Figure 1, the benefits of the "provincial" public good are 0P and the benefits extend over a jurisdiction size of 30.

In this simple framework, it is possible for the ten people who live in one of the small geographic areas to have a "local" government provide them with the efficient quantity of the "local" public good. All of the people living within the local government jurisdiction benefit from the public good and government can use its coercive power of taxation to require everyone to share in the costs. However, these same ten people cannot provide the efficient quantity of the "provincial" public good: highways. Although one local government could provide highway services, the benefits also accrue to people living outside its jurisdiction. Consequently, it does not have the right to use its power of taxation on them. With the ten people in the one local government jurisdiction providing services for all 30 people, and with the ten people bearing all the costs, it is reasonable to predict that the optimal quantity of the "provincial" public good will not be provided. This conclusion continues to hold even if all the local governments choose to provide some highway services, with people simultaneously paying for some highway services and "free riding" on others. The spillover benefits are unlikely to offset each other.

By extension, this discussion can lead to a possible case for numerous (overlapping) levels of government, all providing the public goods which uniquely benefit the people living within their jurisdictions. It illustrates how a federal system could potentially ensure that just the public goods and services are provided that people desire. However, a federal system of government is not necessary to ensure this objective. A unitary state could choose to provide the correct quantity and mix of local public goods, and impose taxes on the people in the

geographical areas that benefit from the services. While it is helpful to consider the spatial pattern of public good benefits, other factors must be introduced to build the case for distinctly different levels of government. Consequently, attention has begun to focus on the costs involved in organizing and coordinating separate government units, the various costs involved in expressing preferences for public services, and the costs involved in making decisions. When the additional benefits and the additional costs from increasing the number of jurisdictions are considered, it is possible to develop a case for an optimal number of separate jurisdictions.

Why go through the difficulty of maintaining separate junior levels of government? There are several reasons independent of the organizing and coordinating costs. First, the existence of a number of local governments provides signals to voters, politicians and bureaucrats about the best way in which public services can be provided. There is more pressure to adopt a superior delivery mode if it is clear from experience in other jurisdictions that such a delivery mode is more efficient. The much-studied refuse collection service is an example. The relative desirability of public versus private provision, contracting out, one-man versus two- or three-men trucks have all been studied since all of the various arrangements are found in one jurisdiction or another. The recent interest in private provision of a number of public services largely derives from the signals that a superior delivery mode is available.

Second, people have different preferences for public goods as well as for private goods. The different perspectives of various provincial and municipal governments in Canada reflect the different perspectives

of Canadians on the public sector. Separate governments allow individuals to choose different quantities and compositions of public goods in different locations. This can result in all people in the country being better off than if they are forced to agree on a single quantity of the public good. Under majority rule, it is likely that the quantity chosen will be the quantity desired by the median voter. Both people with a high and a low demand for the public good will be dissatisfied with the quantity chosen by the median voter. Local autonomy allows people with a high (low) demand for public goods to live in a community where other people also have a high (low) demand for the same goods.

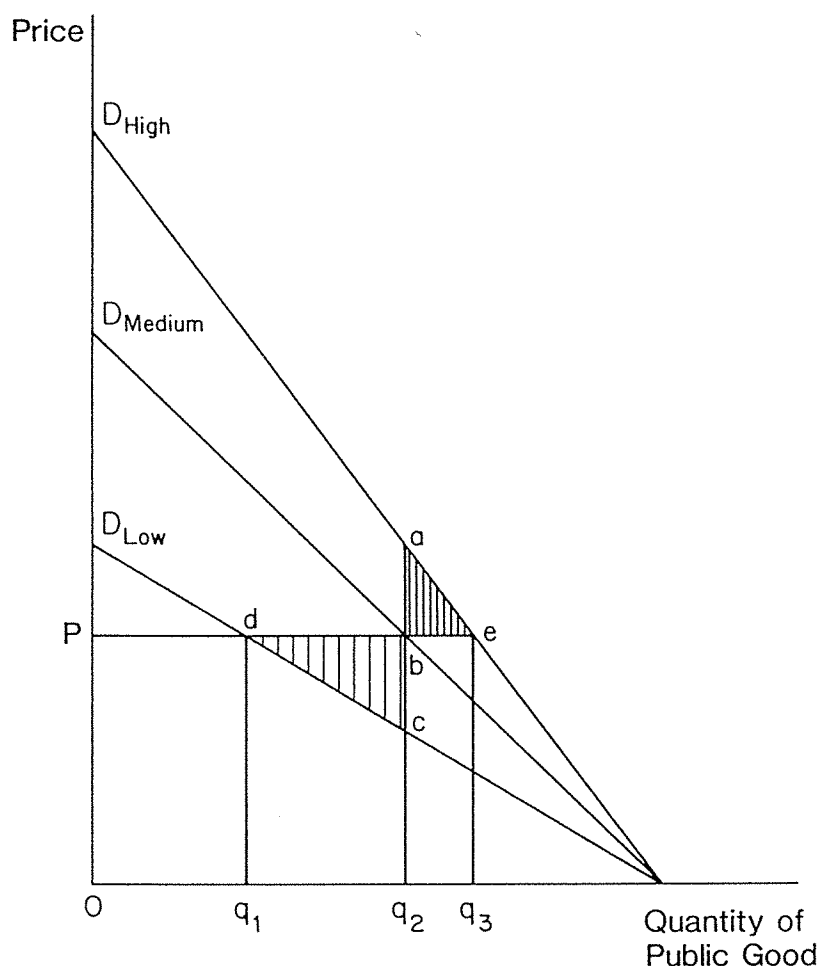
The loss from uniform provision is illustrated in Figure 2. For simplicity, three people with low, middle and high demands are shown for a publicly-provided private good. If all people were required to pay the same price ( $P$ ) for the public service, then they would demand  $q_1$ ,  $q_2$  and  $q_3$  respectively. In the case of a private good, publicly provided, these quantities are the efficient quantities as well. Under majority rule, where the quantity chosen is the quantity desired by the median voter, the quantity chosen will be  $q_2$  for all three people. This is more than the low-demand person desires, and results in a net loss from overconsumption (the shaded area  $bcd$  in Figure 2). For the high demand person, who consumes less than would otherwise have been chosen, the net loss is the area  $abe$ . Diversity within the federation can enable  $q_1$ ,  $q_2$  and  $q_3$  to be provided in three separate jurisdictions. A unitary government may face political pressure to provide a uniform level and mix of services to all the residents of the nation. Since junior levels of government respond to different groups of

voters, they are better able to ensure that diversity in preferences is manifested in diversity in services.

When there is unhindered mobility in the federation, people can move to the jurisdiction where their preferences are best satisfied. In early contributions to fiscal federalism, the decentralized coordinating role of mobility was overemphasized. One hypothesis, the Tiebout hypothesis, held that mobility could ensure that people moved until the efficient quantity of public goods were provided. This is called "voting with your feet." It has since been recognized that mobility has some severe limitations in ensuring efficiency in public sector services. One of the major limitations relates to congestion in public services.

Congestion arises when an additional person moving into a jurisdiction reduces the benefits available from public goods for the existing residents, such as congestion of highways. In a federal system, new residents are not required to compensate the existing residents for the extra or marginal damage the new residents do when they move into a jurisdiction. That is, there is a "fiscal externality" arising from their decision to move into the jurisdiction. Since new residents ignore the "fiscal externality" they make their decision on the basis of the average benefits that accrue in the new jurisdiction rather than the marginal benefits. A private club is able to overcome this problem by charging "membership fees" for new members, but in a federation, people cannot be charged for the right to move to another jurisdiction. Consequently, mobility does not automatically ensure that people move in such a way that the benefits to the whole federation are maximized.

Figure 2



#### 4.2.3 Why is There a Need for Fiscal Transfers?

The description of the simple model in Section 1.2.2 does not include many of the numerous problems found in a federation. The model can be modified to provide a rationale for a system of fiscal transfers. First, the public goods provided by some governments provide benefits to people who live outside the boundary of those jurisdictions. For example, in Canada, provincial governments have responsibility for higher education, and finance up to

80 percent of the costs of operating a university system. However, students are free to move after completing their studies and, in practice, students finishing their studies appear to be the most mobile group in Canada. Consequently, some provinces consistently subsidize students, but experience a net out-migration of these students to other provinces. In effect, they are training people to work elsewhere. For example, the Atlantic Provinces are consistent losers of university-educated people. Other provinces can expect net immigration of

university graduates and have less need to educate people within their own system. British Columbia, for example, is a consistent recipient of educated migrants from elsewhere in Canada, and also has the lowest participation rate of university-age people in the university system of any province.

This problem is endemic to a federation. It is unlikely to be an efficient use of our scarce resources to construct such a complicated system of overlapping jurisdictions that no benefit spillovers occur. Even if it was possible, the pattern of jurisdictions would change as tastes and technology evolved over time. Consequently, some set of compensating financial arrangements may be needed to ensure that junior levels of government have the correct incentives to provide public services.

Second, it is not efficient for people to decide where to live on the basis of public services alone. In Tiebout's classic article, public services were decisive since people had no locational preferences and derived their incomes from dividend sources unrelated to where they lived. In practice in Canada, most people are dependent on wage income. Furthermore, there is not a uniform distribution of job types throughout the country. Some provinces have a disproportionate number of the low-income jobs, partly as a result of the diverse natural resource endowment of Canada and partly as a result of economic forces set in motion long ago.

In the simple model of fiscal federalism developed above, public services are financed by benefit taxes on the people living in the jurisdiction. Such a system of benefit taxes gives efficient results only if the distribution of income is uniform across jurisdictions. The reason is that people choose

where to live on the basis of both the benefits from their jobs plus the benefits from public services. Areas with a preponderance of low-income jobs would be required to impose higher income taxes on each resident in order to provide similar levels of public services as higher income areas. This implies differences in the cost of public services for different areas. However, these differences are fundamentally different than the differences in the real resource cost of providing private goods. Differences in the price of private goods that reflect real cost differentials encourage an efficient location of people. Dissimilar benefit taxes for people in otherwise identical circumstances encourages people to move from areas where their net benefits are low to areas where their net benefits are high. In practice, this is likely to encourage people to move from areas east of the Ottawa Valley to more western provinces. If people move until the net private benefits from each location are equalized, then people will no longer be located so that their net social benefits are equalized. Consequently, a principle known as the principle of fiscal equity can be used to justify transfers to areas with a preponderance of low-income jobs. The principle of fiscal equity says that identically situated individuals should receive identical net benefits (fiscal residuum) from the public sector, ensuring that there are no purely fiscal reasons for people to move.

In practice, mobility is not perfect and people do not move until the net private benefits from each location are equalized. Regional disparities in Canada have remained surprisingly constant for 90 years. Consequently, it has been argued that transfers to low-income provinces discourage the otherwise

desirable movement of people from the disadvantaged regions to other areas in Canada. It is true that the intergovernmental transfers discourage mobility, but it discourages mobility for fiscal reasons only. Real income differences still exist and still provide an incentive for people to move. Denying transfers justified by fiscal equity is equivalent to imposing a tax on low-income areas to encourage migration at a rate faster than would occur on the basis of income differentials alone.

Third, there is congestion associated with more people moving into new jurisdictions. These give rise to "fiscal externalities" since the new residents reduce the benefits available to the existing residents. Since the new residents will not consider these "fiscal externalities" when they make their decision, there is likely to be the wrong distribution of population among the various provinces. There is a rationale for intergovernmental transfers to discourage mobility for fiscal reasons alone.

Fourth, some areas of the country may have substantial resource rents[1]. In Canada, the difficulties during the 1970s with the intergovernmental transfer system, were largely attributable to the resource received by the three western provinces. These rents could be appropriated, in part, either in lower taxes or better public services, only if people were resident in the beneficiary provinces. Consequently, there was an incentive for people to move to the natural resource rich provinces until their net private benefits, including the benefits from the public sector, were equalized. It can be argued that this inefficient migration will continue until wastage from the migration equals the benefits from the natural resource rents. In such an

event, the rents would be fully dissipated. Consequently, there is a sound economic rationale for ensuring that the intergovernmental transfers within the federation eliminate the differential fiscal benefits arising solely from the differential endowment of natural resource wealth.

This discussion implies that two different types of fiscal transfers are needed in a federation. First, unconditional transfers are required to ensure that fiscal equity is achieved. Unconditional transfers compensate poor provinces for their deficiency in tax capacity whether due to lack of natural resources or other factors. Equalization is such a program of unconditional transfers. Conditional transfers are needed to correct distortions caused by the non-correspondence between the people who benefit from public goods and the taxpayers who are required to pay for them. Higher education is an example of such a good. In practice, both types of transfers are used in Canada.

#### 4.3 EQUALIZATION PAYMENTS

An efficiency basis exists for unconditional transfers to junior levels of government with deficient tax capacity. For provincial governments, these unconditional transfers from the federal government, called "equalization payments," are now guaranteed by the Canadian Constitution. Although similar payments are made by the provinces to their municipalities these payments are ignored in the following discussion in favour of a fuller discussion of the federal-provincial financial arrangements.

Canada has never accepted that equalization will ensure that there are no net fiscal differentials between provinces. To do so requires

that the provinces should have the fiscal capacity to provide comparable levels of public services at comparable levels of taxation. Official statements of this principle avoid precision by talking about "similar" levels of public services and "undue" levels of taxation. The reason the federal government has not committed itself to full equalization is that to do so requires that all provinces have the same fiscal capacity as the province with the greatest fiscal capacity, and no federal government has been able to accept the revenue implications of such a program. There are, however, some striking parallels between the current Canadian equalization program and the type of program justified on theoretical grounds.

The current Canadian program compensates provinces which are unable to raise adequate revenue from their own revenue structure. It does this by defining a representative tax structure for Canada. The representative tax structure system calculates the revenue that a province would receive from a standard tax base if it imposed taxes at an agreed-upon standard rate. This calculation is made for each of 34 revenue sources which represent all of the major revenue sources open to provinces in Canada. The program then calculates the difference between the potential tax revenue that a province has at the standard tax rates, and the potential revenue at the same rates if the province had a proportionate share of the potential tax bases in Canada. The difference is calculated for each revenue source and represents that province's entitlement to equalization from that revenue source. The province's total entitlement from all revenue sources is the sum of the positive and negative entitlements from each of the 34 revenue sources, if positive, and zero otherwise. No

province is required to pay into the program regardless of how lucrative their tax bases might be. The program is entirely financed by the federal government.

Under the 1982 equalization program the agreed-upon standard is the average tax base and average tax rates of five provinces - Quebec, Ontario, Manitoba, Saskatchewan and British Columbia. The choice of this standard has no theoretical justification, but it has the political advantage that it maintains the appearance of independence. That appearance was under strain in the negotiations leading up to the 1982 revision, when the federal government proposed that Ontario become the standard in the current agreement. The provinces maintained that the standard should not be determined by one province and the five-province standard was easier to accept as approximating a national standard. More importantly, the choice of the specific five provinces addressed some of the deficiencies which had developed in the equalization program since 1973, without unacceptable revenue implications to the federal government.

The national average standard, which had been in effect since 1967, had been increasingly undermined by arbitrary amendments to the program. These amendments were designed to minimize federal liability as a result of the increase in energy prices. Indeed, because of the entitlements under the resource revenue categories, Ontario was technically eligible for equalization by 1977, and only a unilateral amendment by the federal government continued to keep Ontario from being classified as a "have-not" province. Courchene has estimated that if the federal government had not modified the program, the federal government would have had to raise its personal income tax by 25 percent in order to

finance its increased liability under the program. Furthermore, the arbitrary amendments introduced undesirable incentives for "have-not" provinces to develop some revenue sources at the expense of others. A standard which eliminated Alberta also eliminated a large share of the natural resource revenues received by all provinces, and so reduced entitlements from these revenue categories. In the end, agreement was reached on the five-province standard that excluded Alberta, but the debate again focused attention on the question of what an appropriate standard should be.

Some people believe that equalization is only meant to ensure that "have-not" provinces are able to provide comparable levels of basic services. Under this interpretation, a large increase in wealth in one part of Canada does not change the basic level of services which should be provided in other parts of the country. However, the rationale for equalization developed in Section 1.2 does not differentiate between "basic" services and other services provided by government. Equalization ensures that net fiscal differentials from all sources are eliminated. A bonanza of riches in one part of the country introduces net fiscal differentials which encourage inefficient movement of factors. It is the relative and not the absolute level of services that is critical to the calculation.

#### 4.3.1 The Natural Resource Issue

The natural resource issue is central to the problems that have arisen in the equalization program. When oil prices began to rise, the combination of a large increase in provincial revenues occurring in a relatively small province, resulted in a substantial increase in federal

government liabilities under the program. Unfortunately, the federal government had only limited access to the oil and gas revenues that were creating the problem. It is important to note that no serious problems would have arisen if the federal government owned the resources. The revenues would have automatically accrued to the federal coffers to be spent in all the provinces. However, since the federal government does not own the resources, it had limited success in raising differential revenues in the province with the differential wealth. Only about 10 percent of income tax revenues come from Alberta, so increasing the income tax mostly raises revenue from Ontario and Quebec.

The federal government responded by limiting its liability from resource revenue entitlements. It did this by including only one-third of any increased revenues from non-renewable resources. For the 1977-82 program, this was modified to include one-half of all revenues from non-renewable resources. This treatment continued to equalize non-renewable resource revenues at a rate different than all other included revenues and so continued to be a source of disagreement about the program. In particular, renewable resource revenues continued to be included and equalized at a 100 percent rate. The incentive for have-not provinces to expand their non-renewable resources at the expense of renewable resources is obvious. The 1982-87 program, by adopting a standard which excludes Alberta, is able to include 100 percent of the revenues from all types of resources without increasing the cost of financing the program. Consequently, the most obvious bias in the treatment of resource revenues has been eliminated.

Resource revenues continue to

account for a large share of the net fiscal differentials among provinces. Consequently, the focus should be on including more of the revenues rather than developing innovative schemes that effectively exclude most resource revenues. The problem here is that the federal government, rather than the resource-rich provinces, is liable for the equalization payments. Alberta rejected a proposal for a provincial "rent-sharing" pool in the negotiations leading up to the 1982-87 program. Such a pool would effectively amount to a transfer directly from resource-rich provinces to resource-poor provinces. The difficulty caused by resource differentials will persist as long as the federal government has limited access to resource revenues. In light of this discussion, it is possible to understand the federal government insistence on its ownership of the natural resources offshore in the Arctic and the Atlantic continental shelf.

The modified treatment of resource revenues under the 1982-87 program is the reason that Manitoba suffers a large loss relative to its entitlement under the 1977-82 program. Choosing the five provinces so that Alberta is excluded means that resource revenues are a less important part of the revenues eligible for equalization. Courchene (1983) estimates that 40 percent of the equalization entitlements for Manitoba arise from resource revenue sources, so reducing the amount of resource revenues included in the formula hits Manitoba hard. The resource revenue problem has not disappeared although it will cause less revenue problems for the federal government during the 1982-87 agreement. Resource revenues continue to be an area in which major work needs to be done.

Of course, failure to fully equalize net fiscal differentials is

a serious efficiency problem only if people do move in response to such differentials. There is now some evidence that people do respond to net fiscal differentials. Winer and Gauthier (1982) estimate that the increased natural resource revenues in the West resulted in increased in-migration to Alberta by between 10 and 13 percent in 1977. Dean (1982) estimated that a one point increase in the Manitoba personal income tax increased out-migration by five percent. There is reason to be concerned with a program that accepts the continuation of net fiscal differentials.

#### 4.4 ESTABLISHED PROGRAM FINANCING (EPF)

The second major source of funds to be transferred from the federal government to the provinces are funds in support of health care and higher education. These are areas of specifically provincial jurisdiction. The federal government has an interest in what spending occurs and has transferred funds to ensure that an adequate level of services is provided in these areas.

In the theory of fiscal federalism developed in Section 1.2, the rationale for such transfers is found in the spillover of benefits from some public goods, since the beneficiaries of such programs do not live solely within the province providing the service. Such a rationale can lead to a case for the federal government cost-sharing such programs. The federal government would, in effect, make a contribution to compensate the province for the share of costs that should be borne by non-residents. In fact, the federal government did cost-share hospital insurance, medicare and post-secondary education, at a national average rate of 50 percent,

prior to 1977. The federal government continues to cost-share the Canada Assistance Plan which provides aid to a variety of welfare and social services.

A second rationale for such transfers is that there is a fiscal imbalance between the spending responsibilities and access to revenues for the provincial governments. Consequently, the federal government should transfer funds to redress the fiscal imbalance faced by all or some provinces, but not specifically to influence provincial spending priorities. This rationale is more consistent with the direction of federal transfers for EPF since 1977.

Beginning in 1977, the federal government transferred one-half of its previous EPF payments to the provinces in the form of tax room. This meant that the federal government reduced its tax rates and the provinces increased their tax rates by an equal and offsetting amount. The other one-half of the federal transfer is paid to the provinces in an unconditional transfer indexed to the growth in GNP and unaffected by provincial decisions about how much to spend in the specified area.

The change from cost-sharing to block-funding has been characterized as a shift from provinces spending 50-cent dollars to spending 100-cent dollars. Consequently, the provinces could be expected to reallocate spending away from health and higher education, since the relative cost of these programs has increased. Such an interpretation is seriously misleading. The federal government paid 50 percent of the national average costs, but for health programs, the formula was constructed so that any one province had little impact on the actual federal transfers to themselves. In effect, the cost sharing rate was much less than

50 percent for all provinces. Higher education was cost-shared at the rate of 50 percent of the operating costs for that province. Although transfers for higher education were subject to a ceiling of not more than 15 percent growth per year, that limit applied to total spending by the federal government. Consequently, provinces were being cost-shared at or near the 50 percent rate prior to 1977.

Some work has been done estimating the provincial response to the change in institutional arrangements for financing health and higher education. The Economic Council of Canada (1982) estimated hospital and medicare spending declined by four percent in real terms from 1976-77 to 1980-81. The Economic Council of Canada also estimated that post-secondary education spending per student declined by 2.5 percent from 1976-77 to 1980-81. There were substantial provincial variations within these national averages, but the picture presented suggests that the switch to block-funding had a small but negative effect on expenditures in these areas.

There is still a rationale for cost-sharing based on the spillover of benefits to non-residents. Reform in this direction involves refining the cost-sharing ratio for each province to reflect the externalities applicable to that province. Ideally, the Established Program Financing should be used to internalize externalities. That is, EPF should be used to ensure that one area does not "underinvest" in education because it is able to "import" educated people. The Equalization Program is used to ensure that the provinces have an adequate level of revenues to finance their expenditures.

#### 4.5 FISCAL HARMONIZATION

A federation is likely to have different governments attempting to achieve their individual objectives using different tax systems. This may lead to conflicting treatment by the various governments, reducing the overall efficiency of the federation. Following the discussion by Thirsk (1982), it is useful to identify both the major tax principles and the rationale for fiscal harmonization in a federation. It is important to note that the following discussion assumes that it is desirable to maximize the output available to a nation, and so concentrates on how to achieve economic efficiency in the nation. In a world where provinces have different preferences from the federal government such a goal might be undesirable. This problem is ignored here and the interested reader is referred to Bird (1984).

The two major tax principles are the source and residence basis for taxation. The source principle taxes an economic activity in the location where the economic activity occurs. The corporate income tax is a source-based tax, since the tax base is distributed among provinces in relation to the employment and sales attributable to each province. The resident principle taxes the owners of factors in the province in which they reside. The personal income tax is a residence-based tax.

The source principle is particularly well suited to taxes designed to finance services provided to the economic agent being taxed. The residential property tax, for example, is viewed largely as a benefit tax, and so is not seen as distorting the location of economic activity. The source principle is also suited to taxing factors that will not move in response to tax differentials. An example is natural

resources such as oil and gas deposits.

The residence principle is well suited to taxing factors which are mobile. People and capital move in response to tax differentials. Consequently, it is appropriate to impose the personal and corporate income tax in the province in which the income-earner resides. The tax will not change as a result of rearranging income-earning activities among provinces. Only a change in the residence will affect the tax liability. Second, the residence principle is desirable on equity grounds, since individuals are taxed equally if their circumstances are equal. Under a source principle, individuals who are identically situated may pay different taxes depending on the location in which their income was earned.

Canada has a mixture of source- and residence-based taxes. Furthermore, the appropriate tax principle is not always applied to each tax source. The corporate income tax should be a residence-based tax since new capital is sensitive to tax differentials, yet it is allocated in such a way that it is a source-based tax. Provinces have begun to use the small business tax rate as a tool in interprovincial tax competition, and appear to be competing the small business tax rate to zero. If the source-base is to be used for the corporate income tax, then the provinces should harmonize their treatment of this tax source.

The fiscal federalism problem is that fiscal harmonization requires each jurisdiction to give up some of its autonomy in order to maximize the benefits to all. Provinces have been able to agree on rules to allocate personal and corporate income tax bases, but more work is needed in this area.

#### 4.6 CONCLUSION

This is a short introduction to fiscal federalism. It does not discuss a myriad of important extensions and qualifications. In particular, it has ignored such issues as provincial marketing boards, and their impact on the free flow of commodities within Canada. Also, the tax collection agreements have been the subject of extensive scrutiny, but the issues have not been addressed in this paper.

Most of the discussion here considers how to organize a federation so that economic efficiency is achieved. However, governments have preferences for the redistribution of wealth as well as the creation of wealth. Traditionally (Oates, 1972), the redistribution question has been assigned to the federal government since provincial redistribution encourages people to move

to take advantage of net fiscal differentials induced by such policies. In a recent contribution, Hum and Strain (1983) take issue with this interpretation. Provinces also have unique preferences for redistribution. The inefficiency induced by such provincial policies is simply the cost of having a federal system of government.

Federalism is a unique opportunity to ensure that there can be the diversity that a pluralistic society requires. Fiscal transfers, both conditional and unconditional, are an integral part of a federal system. The transfers are not welfare payments to "have-not" provinces. They are required to ensure that the federation achieves maximum output, consistent with the constraints within which it operates. Equalization is one case in which egalitarianism increases efficiency while eliminating inequities.

## NOTES

- [1] Here the term "rent" refers to economic rent, the difference between the total payment received for a resource (land, labour or equipment), and the next best alternative for that resource.

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## Book Reviews

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Evaluating the Deficit: the Case for Budget Cuts, by Neil Bruce and Douglas D. Purvis, Toronto, C.D. Howe Institute, 1984. (36 pp.)

Evaluating the Deficit is number 4 in the C. D. Howe's Policy Commentary Series, produced to complement the Institute's own study by Edward Carmichael, Tackling the Federal Deficit. In their commentary, Bruce and Purvis explain why deficits matter; they derive a measure of what they call "fiscal prudence," and then break down the projected federal deficit into a fiscally prudent part and a residual which is imprudent and must be removed. Their commentary ends with a brief discussion of what spending might be cut or what taxes might be raised, but they do not go into any detail.

Thirty-six pages is not much to tackle this subject, a little over a page per billion dollars, but the authors do contribute usefully to the great deficit debate. Their contributions are to introduce arguments for deficit reduction which do not depend on the misleading or misapplied analogy to household borrowing ("No household can borrow forever, so how can the government do so?"), and to produce from those arguments recommendations which do not emasculate the stabilization role of fiscal policy. Truly, Bruce

and Purvis have staked out the middle ground in a debate which has seemed hopelessly polarized between right and left (with both sides championed in the financial press by an economist named John McCallum).

Bruce and Purvis also provide a good example of careful but easily intelligible analysis of the ingredients of the measured deficit. They go painstakingly through their deficit breakdown to apply their criteria of prudence as fairly as possible. This is no ideological polemic, and may raise the standard of debate hereafter.

That said, I came away from their commentary unsatisfied. They break the deficit down into two parts, but their dividing line is, in the end, arbitrary. The arguments advanced for what constitutes a limit on financially prudent deficits are just not convincing. Without a firm basis for the dividing line they draw, identification of the fiscally imprudent part of the deficit becomes merely a matter of personal taste; each participant can use their procedure to come up with a different measure of the extent of fiscal imprudence.

Bruce and Purvis try to anchor their definition of fiscal prudence to an appropriate size of the debt which deficits pile up. No fixed total of debt would be appropriate for long, so they focus on the debt/GNP ratio instead. After some unconvincing arguments that high debt/GNP ratios entail high social costs, they pick the 1979 ratio as an approximate limit or target and then calculate how large a federal deficit could be for 1985-88 and still get us back to the 1979 ratio by 1988. All deficits projected in the federal fiscal plan (part of the April 1984 budget package) which are above that limit are called imprudent.

Why the 1979 ratio of 15.1 percent as a limit? Why not the 1975 ratio of 5.5 percent, or the 1960 ratio of 20 percent, or the 1954 ratio of 30 percent? There must be a compelling rationale if this is not to be just a matter of taste. True, the 1979 ratio is approximately equal to the average of the years 1969-84, but why should an average of any period make a good upper limit? Surely a ceiling should in general be higher than an average, unless it is argued that the above-average years of that period were all years of imprudent debt/GNP ratios. No such argument is made in the commentary.

Bruce and Purvis spend some time discussing the long-term costs caused by high debt/GNP ratios, and therefore the high deficits that lead there. These arguments are better than the argument by analogy to household borrowing, but they are still not tight enough. For instance, it is argued logically that larger debt means either less private capital formation by the private sector ("crowding out") or else more foreign borrowing ("selling out"?). They then infer that both are bad. To reach that conclusion,

however, one must believe the extra spending not to be worth the future loss of income or the future payments of income abroad. That in turn requires acceptance of the view that extra spending via deficits is wasteful - indulged in by governments for reasons other than a concern for social welfare. No such case is made, convincing though it might have been.

The best of their mixed bag of arguments is that tax distortions rise with the level of tax rates, which of course must rise somewhat with the level of interest expense, which in turn is tied to the debt/GNP level. This is a valid argument, but not one which enables us to recognize any clear dividing line between prudence and imprudence in debt to GNP ratios. The costs of tax distortions rise fairly smoothly with tax rates; there is no abrupt jump when debt/GNP ratios rise above the 1979 level.

One of their arguments is, I believe, backwards. A high debt/GNP ratio implies a large interest burden, which is both non-discretionary and sensitive to changes in nominal interest rates. Nominal interest rates in turn are sensitive to expectations of future inflation. Bruce and Purvis argue from here that this uncertainty will constrain governments in their stabilization role. However, they could as well have argued that the uncertainty and exposure of the government to inflation risk is likely to motivate governments to keep their deficits down and their monetary growth rates low. In other words, it is likely to remove some of the inflationary bias from stabilization policy. If this is perceived by financial markets, then it could also lead to lower inflation premiums being built into nominal interest rates. Note that this effect requires high debt/GNP ratios, not low ones.

Even with these criticisms, the Bruce and Purvis commentary is a useful contribution to the great deficit debate. It is obviously not

the final word, so we can look forward to new, improved arguments in the near future.

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The Welfare State in Canada, A Selected Bibliography, 1840 to 1978. Allan Moscovitch, with the assistance of T. Jennissen and P. Findlay. Waterloo: Wilfred Laurier University Press, 1983, (246 pp.)

The social welfare state is an amorphous subject. Consequently, writers on the topic are to be found among historians, economists, political scientists, sociologists, social work professionals as well as social reformers, parliamentarians and royal commissioners. A volume which gathers together the vast listings of Canadian material in English and French, published and unpublished, and which classifies the material in a methodical fashion, is welcome indeed. Furthermore, the range of source material included is extensive, including government documents, periodicals, other bibliographies and, in some instances, private individuals' manuscripts. A chronology of the major social welfare legislation in Canada is provided in an appendix, as well as a subject and author index.

The bibliography is organized in two parts. Part one is concerned with such matters and major themes as the origins of the welfare state, its ideological evolution, as well as the organizations and method of administration of the welfare state. Part two, comprising five sections, is devoted to "area(s) of social welfare policy." Social welfare policy is defined to exclude industrial welfare policy (having to do with conditions of work such as

minimum wages, hours of work, health and safety) as well as fiscal welfare policies (taxation and administration and all that). Social welfare policies, then, are those affecting the social conditions of Canadians and the five sections of part two group the source material according to whether the discussion concerns (1) people out of work, (2) people who cannot work, (3) people who are "outsiders," (4) women, children, and the family, and (5) policies whose main characteristic is to "maintain the labour force."

Bibliographies have their own special class of readers. Scholars, policy analysts, students and teachers in the field of social welfare cannot be but overjoyed at the prospect of a bibliography compiled with such effort and care. True, there will be some disagreement over classifications and sub-headings; and there may even be the odd omission (I noted some), but to voice these criticisms is to be mean-spirited and ungrateful. A bibliography such as this one should simply be received with cheer.

Still, I experienced some disappointment, upon the assumption that the bibliography is intended for an audience wider than reference librarians. Teachers and students will find the concentration of

Canadian sources in part one to be somewhat limited in terms of material necessary for pursuing theoretical or analytic perspectives. And others might have wished a "non-categorical" approach to classification in part two. Rather than classify by types of people - a fetish in Canadian social welfare - a more useful approach might have focused upon social conditions directly, classifying material under headings more likely useful to the modern day scholar such as income maintenance, social services, intergovernmental relations, and the like. Furthermore, the various citations are not annotated, understandably. Consequently, tyros will still need to have pointed out to them the more significant documents, the essential government reports, the indispensable references, et cetera. In sum, for students and teachers, the bibliography is an excellent starting point but it does not represent a stand-alone document.

Buttressing this last comment is my reaction to the contribution of an all-too-short introduction to the bibliography. Entitled Social Welfare and Social Policy in Canada: Historical Background and Sources, some ten pages attempt to summarize the development of social security in Canada from pre-Confederation days to modern times as well as indicate some of the more important contributors in the advocacy tradition of social research. No one could possibly expect the social welfare history of Canada to be anything but sketchy in four or five pages and Canadians are fortunate that Dennis Guest's The Emergence of Social Security in Canada (Vancouver: University of British Columbia Press, 1980) has now filled this

gap. But Guest's comprehensive chronicle is not mentioned because its publication date falls just outside the period covered. The decision to end the bibliography at 1978 is also unfortunate for students interested in the immediate past, such as the social security review. It was precisely at this time that assessments and interpretations of the review began to appear. But it must be acknowledged that any end date presents its share of problems.

The second half of the introductory essay notes the sources of writing in the tradition of social research, the historical analyses available and points out the contributions of several important writers. The discussion never progresses beyond name-dropping. No assessment or criticism is offered and, much to my regret, this represents a wasted opportunity as the chance to render an exceptional service to Canadian scholars and students is passed over. This bibliography would have truly benefitted from an extended discussion of the methods of major social historians, the techniques of research throughout various periods and the like. An attempt at historiography, however sketchy, would have provided essential guidance to the user, as well as interpretation for the scholar, thereby fulfilling the volume's stated purpose - "to encourage and facilitate the examination of the social welfare state" (p. xiii). Where else would the context and occasion for historiography be more appropriate than introducing Canada's first readily accessible bibliography on the welfare state in this country?

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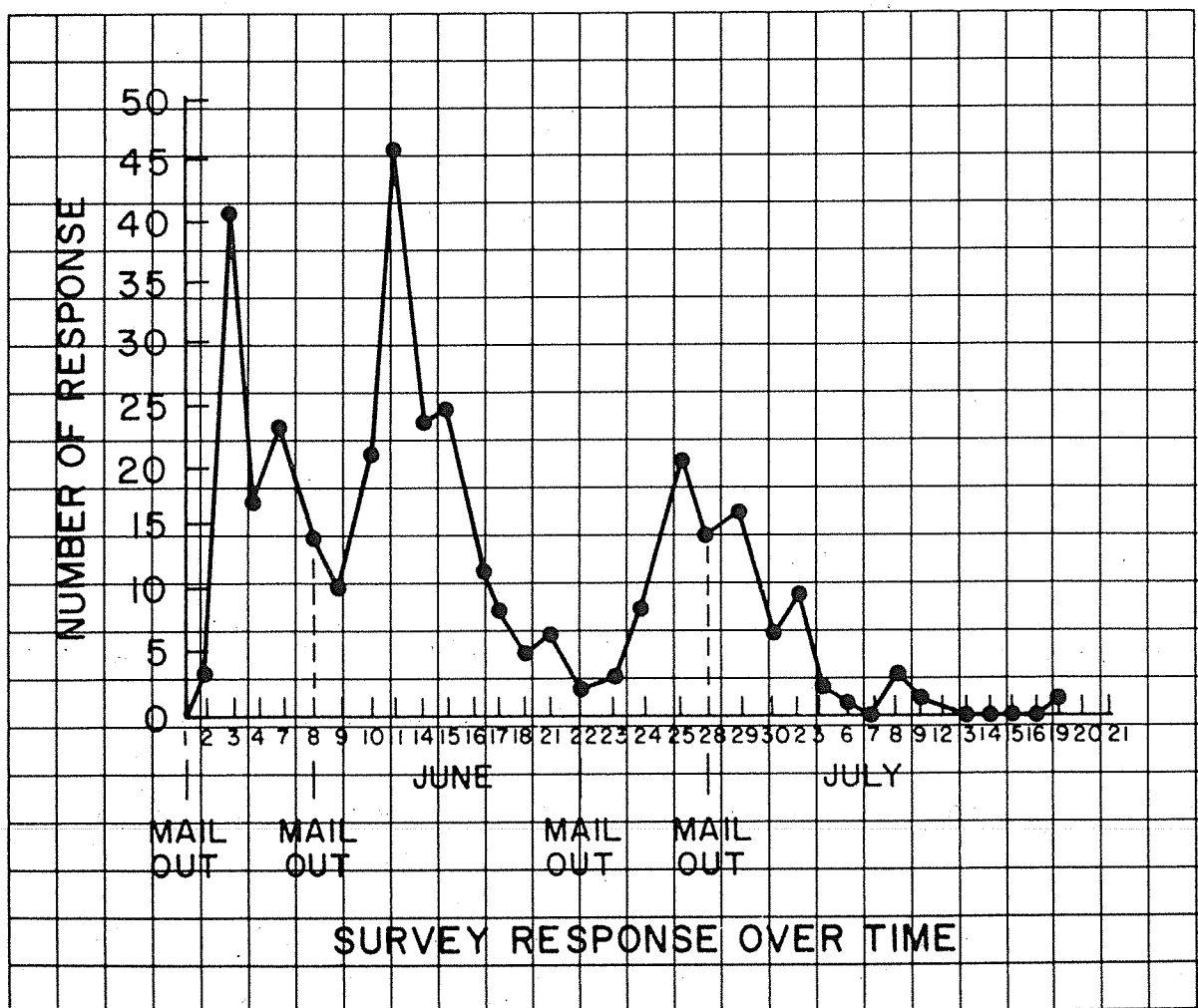
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