Livestock

AN ANALYSIS OF THE AMENDED AGRICULTURAL STABILIZATION ACT WITH SPECIAL REFERENCE TO THE LIVESTOCK INDUSTRY

by Larry Martin

School of Agricultural Economics and Extension Education
Ontario Agricultural College
University of Guelph

ISSN 0318-1812

September 1976 AEEE/76/11

AN ANALYSIS OF THE AMENDED AGRICULTURAL STABILIZATION ACT WITH SPECIAL REFERENCE TO THE LIVESTOCK INDUSTRY

by

Larry Martin

School of Agricultural Economics and Extension Education
Ontario Agricultural College
University of Guelph

ISSN 0318-1812

September 1976 AEEE/76/11

FOREWORD

This study attempts to come to grips with the objectives and potential economic impacts of federal agricultural stabilization policy as it relates to the livestock sector. The intent of the manuscript is to provide information to those affected by stabilization policy and those involved in policy formulation. In this respect, every effort has been made to refrain from technical terms.

While the manuscript is not technical, many of the impressions and conclusions have been reached in research conducted for the Ontario Pork Producers Marketing Board and the Ontario Cattlemen's Association, for whose support I am grateful. In addition, much of the direct focus of the report results from analysis conducted for the Policy Analysis Group of the Federal Department of Consumer and Corporate Affairs.

I acknowledge with thanks the helpful comments on earlier drafts of the manuscript of my colleagues; S. H. Lane, K. D. Meilke, E. L. Menzie and A. C. Zwart as well as Graeme Hedley of the Ontario Cattlemen's Association and Jerry Bluhm of the Ontario Pork Producers Marketing Board.

While I am grateful to the people and organizations listed above, the interpretations and conclusions reported here are mine solely.

Larry Martin
Guelph
September 1976

TABLE OF CONTENTS

TABLE OF CONTENTS continued

A CRITICAL ANALYSIS OF THE AMENDED AGRICULTURAL STABILIZATION ACT WITH SPECIAL REFERENCE TO THE LIVESTOCK INDUSTRY

Larry Martin

1.0 INTRODUCTION

In late 1975 Parliament passed Bill C-50, An Act to Amend the Agricultural Stabilization Act of 1958. Bill C-50 contains several major provisions which substantially change the earlier legislation.

Both before and since the passage of Bill C-50, there has been considerable debate about its potential economic effects. Although much has been written about stabilization policy in recent years,[1/] most of the material has either been of a descriptive nature, dealing with various approaches to stabilization, or has raised many questions about stabilization programs with few answers. Such questions include: Who benefits from stabilization programs? How are the benefits distributed among market participants and through time? What are the objectives of stabilization programs - i.e. what is being stabilized and for whom?

1.1 Objectives

To date, no single document has been forthcoming which contains an attempt to analyze the potential economic effects of programs developed under Bill C-50. This paper has the general objective of providing such an analysis, particularly with respect to the pork and beef sectors. The pork and beef sectors are emphasized here for two reasons. First, they are extremely important commodities to both Canadian producers and consumers. Second, markets for these commodities have unique characteristics - particularly their cyclical nature and their international orientation.

The specific objectives of this paper are as follows:

1) To explain the changes in the Agricultural Stabilization Act that will take place as a result of Bill C-50.

2) To discuss the implied objectives of Bill C-50.

3) To analyze the ability of programs formulated under Bill C-50 to attain its objectives in the pork and beef sectors.

1.2 Outline of the Paper

The remainder of the paper is organized around the three objectives.

1/ See for example [1], [15], [14] and [16].

Changes made in Bill C-50 are described in Section 2.0. The objectives of the amended Act are discussed in Section 3.0. Section 4.0 contains an analysis of the potential economic effects of the amended Act with emphasis on the ability of programs developed under Bill C-50 to attain their objectives. Section 5.0 contains a summary and suggestions for improvement of the Act.

2.0 CHANGES IN THE ACT

2.1 The 1958 Act

In January 1958, a minimum price support level was guaranteed by the federal government in the Agricultural Stabilization Act. This act guaranteed producers of nine named commodities a minimum, in a given year, of 80 percent of the average price over the previous 10 years. The named commodities were; cattle, hogs, sheep, butter and cheese, eggs, and wheat, oats and barley produced outside the designated area of the Canadian Wheat Board. Provision was also made for including other "designated" commodities under the Act on a short-term basis. As a result, about 35 commodities received support between 1958 and 1974.

The Agricultural Stabilization Board was established to carry out the provisions of the Act. Three members, appointed by the Governor-in-Council, are designated as executive officers of the Board. At present, the executive members are all senior employees of Agriculture Canada. The Minister of Agriculture is empowered to appoint a seven member Advisory Committee to the Board, composed of farmers and representatives of farm organizations.

The Board is empowered to:

a) purchase any agricultural commodity at the prescribed price;

b) pay to producers of an agricultural commodity, directly or through such agents as the Board may determine, the amount by which the prescribed price exceeds a price determined by the Board to be the average price at which the commodity is sold in such markets and during such periods as the Board considers appropriate;

c) make such payment for the benefit of producers as the Governor-in-Council may authorize for the purpose of stabilizing the price of an agricultural commodity at the prescribed price;

d) sell or otherwise dispose of, package, process, store, ship, transport, export, insure or otherwise deal in any commodity purchased by the Board;

e) enter into contracts or appoint agents to do anything authorized under the Act;

f) purchase at the request of any department or agency of the Government of Canada any agricultural commodity required by such department or agency; and

g) do all such acts and things as are necessary or incidental to the exercise of its powers, duties or functions under the Act.[1/]

1/ Source [13].

In summary, the 1958 Act attempted to provide price and income support through the alternative mechanisms of offer to purchase or deficiency payment programs at or above the level of 80 percent of average prices over the preceding 10 years.

2.2 The 1975 Amendments

As the 1970's progressed, it became increasingly evident that the 1958 Act was ineffective as a means for providing support to producers. The 80 percent level of support and the 10 year base period meant that the Act provided little support during periods of rapidly escalating input costs. At the same time, the ineffectiveness of the federal Act led a number of provincial governments to introduce stabilization programs. Some of these were designed for specific commodities and often were introduced for limited periods during which market returns were temporarily depressed. Others were more comprehensive in nature and were established on a long-term basis. The result was a plethora of programs with varying levels of support across the country.

Given the above, the federal government recognized the need to strengthen its stabilization legislation to reflect the realities of the day and to provide a mechanism whereby provision could be made for joint federal-provincial stabilization plans which would provide consistent and uniform programs for agricultural producers across Canada. The result was Bill C-50. Its major provisions are described below.

2.2.1 Changes in Named and Designated Commodities

Under Bill C-50, eggs, wheat, butter and cheese were deleted and corn, soybeans, industrial milk and industrial cream were added to the list of commodities receiving mandatory minimum support. As with the 1958 Act, the amended Act provides the Governor-in-Council with power to designate other natural or processed agricultural products under the Act (including oats and barley produced in the designated area of the Canadian Wheat Board but not marketed through the Wheat Board).

2.2.2 Change in the Base Price

The base price in a given year was shortened from the ten year average to the five year average price at representative markets.

2.2.3 Change in the Prescribed Price

The prescribed price is the minimum support price under the Act. The prescribed price was increased from 80 to 90 percent of the base price. Further, the Agricultural Stabilization Board was given the responsibility of recommending a cost index calculation by which the base price is adjusted to reflect changes in production costs in a given year.

There are three points regarding the prescribed price which are worth mentioning in light of the discussion to follow. First, the 90 percent level of support is a minimum. It is possible for the Governor-in-Council to place the level of support at more than 90 percent.

Second, the Act does not specify the manner in which cost adjustment calculations are to be made. It simply states that the base price is to be adjusted in a given year "by an index calculated in such a manner as may be prescribed by the Governor-in-Council to reflect the estimated production costs of the commodity in the year as compared with the average of production costs for the five years immediately preceding the year" [12, section 8.2(1)(a)]. Bill C-50 does not indicate what costs are to be included, how they are to be estimated nor the weights attached to each variable in the cost index. However, it would seem that, at least initially, the cost index is to include only cash costs (as differentiated from the costs of land and other capital assets) (see Kerr [7]).

Third, any payments to be made under the Act will be made on an annual basis - i.e. payments will be made if the average market price <u>in a year</u> falls below the prescribed price.

2.2.4 <u>Differential Application Among Regions</u>

The amended Act provides that the powers, duties and functions of the Act may be exercised in relation to a commodity throughout Canada or <u>in any region of Canada</u> when, in the opinion of the Governor-in-Council, the market situation for the commodity in that region is substantially different from the market situation in the rest of Canada. The amendment does not define procedures nor provide examples which would guide the Governor-in-Council in forming his opinion.

2.2.5 <u>Provincial Topping-Up</u>

The amended Act allows the Agricultural Stabilization Board to enter into agreements with provinces and/or producer groups whereby a higher support level than the prescribed price may be guaranteed. Under such agreements the province or producer groups involved would, of course, provide part of the cost of the program.

Joint federal-provincial programs may only be initiated if the Governor-in-Council is of the opinion that such joint programs would not give one group of producers "a financial advantage in the production and marketing of the commodity not enjoyed by other producers of the commodity in Canada" or would not give "an incentive to the producers of the commodity ... to over-produce the commodity". [12, section 10.1].

2.2.6 <u>Eligibility Limits</u>

The amended Act gives the Governor-in-Council the power to establish eligibility limits on the quantity or value of a commodity eligible for minimum support. No guidelines are presented for the establishment of these ceilings.

3.0 OBJECTIVES OF THE STABILIZATION ACT

From the wording of Bill C-50 as well as from other official and semi-official documents issued by the federal government and its employees, it is difficult to determine its precise objective or objectives. A number of possible objectives were suggested in the February 1974 Speech from the Throne which preceded the introduction of Bill C-50. The Throne Speech stated in part:

> "The Government is developing a policy on food based on the following objectives:
>
> -- an adequate and dependable supply of quality food for a growing population in Canada enjoying a rising standard of living;
>
> -- reasonable food prices:
>   -- for the consumer, in not requiring an undue proportion of income for Canadians to secure a sufficient and balanced diet;
>
>   -- for the producer, in providing a return adequate to encourage production of food items which can be economically and efficiently produced in Canada;
>
> -- a continuing supply and increasing production of those food products in which Canada has a competitive advantage for export to commercial markets and also for a contribution in international food aid programs.
>
> The producer must be ensured a fair income for his work. His confidence in long-term market opportunities is an essential element in the Government's policy. The producer should have access to all markets in Canada. He will also be encouraged to expand food exports".

From the above at least five objectives can be identified: 1) to provide a "fair income" to the producer; 2) to stabilize prices to producers - i.e. to promote "confidence in long-term market opportunities"; 3) to encourage an increasing and relatively stable supply of farm products; 4) to stabilize prices to consumers; and 5) to encourage expanded food exports. Each of these will be discussed below with the intention of discussing how they could theoretically be attained under the legislation. In section 4.0, a closer, more critical look will attempt to evaluate how well the legislation will attain the objectives in reality.

3.1 The Income Support Objective

The preamble of the Agricultural Stabilization Act of 1958 was not changed in Bill C-50. The preamble states that the intention of the Act is:

> "to stabilize the prices of agricultural commodities in order to assist the industry of agriculture to realize fair returns for its labour and investment, and to maintain a fair relationship between prices received by farmers and the cost of goods and services that they buy, thus to provide farmers with a fair share of the national income" [13].

Given this statement and those included in the Throne Speech of 1974, it would appear that provision of income support (i.e. "fair returns") is the major objective of the legislation, as opposed to what might be termed "pure" stabilization. The difference between income support and income stabilization is difficult to define. However, many people feel that "pure" stabilization implies the reduction of both cyclical peaks and troughs of income or prices, while support implies only the reduction of troughs. Using this distinction, Bill C-50 should be viewed as an income support program since it provides deficiency payments to effectively increase prices when market returns are low but includes no provision for lowering prices when returns are high.

While income support has always been the major objective of the legislation, the emphasis has been shifted from gross to net income under the amendment. Clearly, the production cost indexing mechanism resulting from the inflationary pressures on farm input costs over the past few years is the factor that points out this change in emphasis. If income support is a justifiable objective, this change of emphasis to net rather than gross income is a logical step. For example, it is quite obvious that a program based on historic prices would not have provided any cushion to pork producers during the first half of 1974 nor to beef producers during most of 1974 and 1975, despite the fact that some producers were experiencing severe financial losses in the marketplace. The losses were not a result of low (in an historic sense) product prices, but rather from extraordinarily high input costs - particularly feed costs. Certainly, a price deficiency program incorporating some form of cost index could have reduced financial losses during this period.

In summary, the major objective of the amended Act is to support producer incomes during periods when the marketplace provides low returns. The policy is designed to stabilize the distribution of prices of named commodities over time by supplementing them during low points in a particular income cycle.

In essence, any stabilizing effect emanating from the policy would be a side benefit of the more basic income support objective.

3.2 Producer Price Stabilization or Harmonization of Producer Price Expectations and Actual Market Price Outcomes

The price stabilization objective has been interpreted somewhat differently than just price stabilization in a recent paper by several Agriculture Canada employees. They said, "the preferred policy will bring farmers' expectations ex ante closer into line with the actual market outcome ex post" [2]. That is, the implied objective is to reduce the difference between expected and actual market prices or margins. Strong arguments can be made in support of this objective.

Because of the lags in agricultural production, farmers' decisions must be based on expectations. A hog man's decision about the number of sows to breed or the number of gilts to add to the breeding herd this year depends on his expectation of hog prices next year - when the offspring of those gilts and sows will be marketed. Similarly, the cow-calf operator's decisions about the number of heifers and cows to breed during the summer of 1976 depends on his expectations of stocker calf prices during the Fall of 1977. And the feed lot operator's decisions regarding the number of cattle to place in the feed lot this Fall - and the price he can afford to pay for them - depend on his expectations of the price of slaughter cattle next Spring and Summer.

The fact that these decisions are based on expectations implies that producers must forecast the future. Often the best information they have today - to forecast the future - is today's price. Hence decisions made today are usually in response to today's price - which means, by implication, that producers expect next year's price to be the same as this year's.

Unfortunately they are often wrong. Hog prices were high in 1973. Hence producers expanded their breeding herds so that by mid-1974 prices were driven down. Then because of low prices in 1974, large numbers of sows were slaughtered and by 1975/76 hog supplies were decreased considerably and prices driven up. It is because farmers respond to today's price, as an expectation of next year's price, that production and price cycles exist in agriculture.

The logic behind the objective of harmonizing producer expectations with the actual market outcome is clear from the discussion above. If expectations formed in 1974 could have been closer in line with the actual market outcome in late 1975 and early 1976, then sow and gilt slaughter in 1974 would not have been so large, and more market hogs would have been available in 1975-76. To complete the logic, since those expectations formed in 1974 were based on current depressed market conditions, then had a deficiency payment been made during that period (thereby improving market conditions), producer expectations would have been higher for 1975-76 as, in turn, would have been production. In effect, programs designed under Bill C-50 are intended to reduce the risks which producers face when making production decisions.

3.3 Stabilization of Supply

The rationale for this implied objective is closely related to the objective discussed above. If producers' expectations can be improved at a time of depressed market conditions, then marketings in a later period will be correspondingly greater. Thus, supply over time will be smoothed out or stabilized.

There are usually two major reasons given for making stabilized supply an objective of stabilization policy. First, an assured and stable supply of food products is beneficial to the consumer. Second, providing agricultural product processors - i.e meat packers - with a stable supply of raw material should allow processors to make better decisions regarding plant capacity and plant operations and, hence, processing efficiency can be enhanced. This, in turn, could be beneficial to both producers and consumers because processors' costs and margins would be reduced.

3.4 Stabilization of Consumer Prices

Again, this objective is closely related to that of harmonizing producer expectations with actual market outcomes. If producers' expectations can be increased by making a deficiency payment during a depressed period, thereby encouraging larger supplies in later periods, then consumers will benefit by lower prices in the later period.

3.5 Encouraging Expanded Food Exports

This objective also relates to the harmonization of expected and actual market returns. If deficiency payments made during a period of low returns are sufficient to hold some producers in the industry, then, over time, the Canadian industry would be encouraged to adjust toward a new, higher level of production more in line with the trend in growth of demand. This would, in turn, result in a level of production which would make Canada more competitive in world markets. Furthermore, since the cyclical nature of Canada's livestock industry is closely in line with those of competing countries, deficiency payments made in periods of low world market returns would encourage expanded production in later periods of high world prices and Canada would be in a position to export more under the most favourable terms of trade - i.e. when prices are highest.

3.6 Equity Considerations

Imposition of eligibility limits in Bill C-50 implies that the Government has some sort of equity objective. Unfortunately, since we are not told how the eligibility limits are to be imposed, the equity objective can't be ascertained. If the eligibility limit places an absolute ceiling on the number of units which are marketed, and if the limit is placed at a relatively low level, then it must be interpreted that the objective is to provide income support to small production units. For example, if an individual hog producer can claim payments on 500 hogs or fewer, then the program is obviously aimed at the small scale producer.

On the other hand, if the limit is imposed such that an individual producer can receive support this year on some portion of the number marketed last year, then the program is focused more on reducing the price risk faced by larger scale commercial producers. Clearly, under these circumstances, commercial producers will reap the major financial benefits since deficiency payments are made on a per unit basis. It can be argued that eligibility limits established on the latter basis are more in line with the objective of reducing risk in production planning; the larger scale commercial producer typically has more capital invested in a specific enterprise and his total net income is more likely to depend on the financial outcome of that one enterprise. Hence he faces more risk than the smaller more diversified producer, not only because of his greater investment, but also, because he is specialized.

Which of the two alternative objectives discussed above does the federal government have in mind? The answer to this question will not be known until programs under the amended Act are operationalized.

4.0 ANALYSIS OF PORK AND BEEF STABILIZATION PROGRAMS AS ESTABLISHED UNDER THE AMENDED AGRICULTURAL STABILIZATION ACT

While the preceding section discussed how the objectives of the Stabilization Act could be attained in theory, the present section turns to the more practical matter of assessing how well they will be attained in reality.

The most prominent feature of Bill C-50 is its almost total lack of specificity. As indicated above, even its objectives are not specified, but are, rather, implied. Similarly, many of the operational procedures are left to the discretion of the Agricultural Stabilization Board or the Governor-in-Council.

In itself this lack of specificity results in several sources of uncertainty which seem paradoxical in an Act which portends to stabilize. Such uncertainty will have serious implications for the amended Act's ability to attain its objectives.

4.1 The Income Support Objective

It is evident that the amended Act can provide a floor under the incomes of hog and beef producers. However, it is not possible to determine the level at which the floor will be established. There are three major reasons which preclude any reasonable estimate of the level of support.

First, the details and mechanics of the cost indexing procedure are not delineated. Therefore, the costs to be included in the index are not known, nor are the weights which will be applied to each cost category. Furthermore, it is possible that the indexing procedure could vary from one year to the next.[1/]

Second, since the Act specifies a minimum percentage of the prescribed price but no maximum, it would not be possible for a producer to calculate the support level even if the indexing procedures were clearly laid out. For example, a beef support program introduced in 1974 was 90 percent of the prescribed price, while the beef support price announced at the end of 1975 was based on 100 percent of the prescribed price. (These were both "interim" programs since Bill C-50 was not passed until late 1975).

Third, the eligibility limits are not specified. Hence, the producer does not know the number of beef cattle or hogs for which he will receive support. Past programs have shown that eligibility limits are subject to change over time. When relatively large payments were made for hogs in 1971-72, the eligibility limit was 500 hogs per producer. Under the interim hog stabilization program of 1974 (under which no payments were finally made)

1/ For example, the author has been told by a fairly reliable source that the indexing procedure for beef cattle changed from 1974 to 1975.

the limit was 1500 hogs per producer.[1/]

In addition to difficulties in gauging the actual level of support, a further potential problem with programs initiated under the amended Act is that they provide support for only the final producer of pork or beef. Yet both the hog and beef sectors are characterized by at least two "layers" of producers. In both cases, some producers sell feeders and some sell finished animals. Prices of feeder animals are determined in the open market. If the buyers of feeders are faced with declining prices of finished animals or increasing feed costs, they can pass these on to the producers of feeder stock by bidding the price of feeders down. As a result, the producer of feeders is subjected to a financial "squeeze" that he can avoid only if he has the capital, expertise and productive capacity to feed the animal to slaughter weight. Since the hog and beef programs make payments only to the final seller, the producer of feeder animals is not directly offered any measure of financial support.[2/] Under recent market conditions, this raises important equity problems between each "layer" of production.

In summary, the lack of specificity in domestic beef and pork stabilization programs ensures that while these programs <u>can</u> provide a significant income transfer from taxpayers to producers, the level of support is difficult to determine since many of the basic program factors can be adjusted to provide a range of pay-outs.

As an aside, the lack of specificity in the programs and, thus, the opportunity for government to tailor financial pay-outs to suit its purposes has created a good deal of cynicism among producers. The current attitude among many is that the real objective of such programs is to make it appear that government is doing something about depressed producer incomes without spending much money - i.e. the true objectives are short run and political. If this is true, stabilization programs would simply provide an additional source of uncertainty and instability in the marketplace.

4.2 Harmonization of Producer Expectations with Actual Market Outcomes

This objective has much to commend it from a producer point of view. Potential benefits can be illustrated by taking as an example, the hog industry during the first half of 1974. From September 1973 to June 1974, as hog prices declined and feed prices increased, Dawson [3] has shown that the returns above feed costs for Alberta pork producers fell from around $75 per head to practically zero.[3/] As a result, there was a sharp increase in sow

---

1/ Some cynics have suggested that the limit was lower in 1971-72 because it was quite clear that payments would be made in that year, while it was doubtful that any would be made in 1974.

2/ However, the feeder producer may benefit indirectly if the program is properly established. This will be discussed in section 5.3.

3/ These figures are taken from Dawson's paper. While they represent conditions in Alberta, margins changed in similar proportions throughout North America.

slaughter during the second half of 1974 and marketings of finished hogs declined markedly during the latter half of 1975 and early 1976. If a domestic stabilization plan had been in operation during early 1974 which had paid substantial deficiency payments, it may well have provided sufficient financial incentive for producers not to cut back hog production to such an extent and, therefore, more hogs would have been marketed in 1975/76 when hog prices were high. Canadian hog producers would have benefitted materially, not only from the deficiency payments, but also because they would have had more hogs to sell when prices were high. Furthermore, hog prices would still have been high despite larger Canadian supplies since prices are determined in the total North American market of which Canadian supply represents only a relatively small fraction (about 10 percent). Hence, even a twenty percent increase in Canadian supply resulting from a program would only increase North American supplies by 2 percent. Therefore, there would have been little effect on hog prices in 1975/76.[1/]

The benefits described above are conceptually possible if the deficiency payment programs have an effect on producers' decisions. However, it seems likely that they will not be realized for a number of reasons related to the manner in which programs will be established under the amended Act. These are discussed below.

4.2.1 Annual Nature of Programs

The most important factor is the annual nature of the programs. Most livestock producers simply do not make production decisions based on annual average prices. As the foregoing example of hog production in 1974 indicates, such decisions often rest on short run price movements. If a producer is taking a financial loss on hogs or cattle sold in the first half of a year, and if he has opportunity costs (for example, the opportunity of marketing his grain), it seems doubtful that: a possible deficiency payment (which won't be known for nine to twelve months), of unknown size, and which is not collectable until the following year will have any impact on his decision to maintain his herd.

Under Bill C-50, deficiency payments are based on the average price in a year relative to the prescribed price in that year. This means that if a producer is selling in a depressed market during April, he has no idea what level, if any, of deficiency payment he will receive because the size of the payment is dependent upon prices throughout the remainder of the year. Hence, if prices are depressed in April but subsequently recover, any payment will only marginally reflect the market condition of April. The 1974 interim hog program illustrates this point. During the three months when feeding

---

1/ Two points are of interest to this discussion. First, Martin and MacLaren [9] have shown in detail the potential effects of an increase in Canadian hog supply from a deficiency payment program on the level of hog prices. Second, during much of 1975 Canadian exports to the U.S. were limited by trade restrictions. Had these trade restrictions limited exports to the U.S. (which they did not since Canada was importing from the U.S.) then increased hog supplies could have affected Canadian prices.

margins were at their lowest - April, May and June - the interim plan would have provided payments of $2.05 per hog in April, $7.87 per hog in May and $2.14 per hog in June if the program had been on a monthly basis. However, by the end of the year, hog prices had strengthened and no payment was made. Hence, those producers who sold hogs in the period from April to June received no support. And it was immediately after this period of depressed prices that producers sent large numbers of sows to slaughter which, in turn, resulted in a much smaller supply of market hogs in 1975-76.

The conclusion should be fairly obvious. For a deficiency payment program to have an affect on producers' expectations and therefore, on their decisions, the program should be timely enough to provide support <u>at the time when market conditions are depressed</u>. Given the manner in which production decisions are made and the possibilities for fairly extreme fluctuations in prices to occur within a twelve month period, an annual payment program, rather than providing producers with a better basis on which to form expectations, merely becomes a new source of uncertainty. Under these conditions, this writer can see no way that an annual program will affect producers' decisions.

The rationale for instituting annual rather than quarterly or monthly programs is that a shorter period payout could disrupt the flow of hogs or cattle to the market. It is argued that if a producer knows he will receive a payment in a given month but is not sure one will be forthcoming in the next month, then he will market his hogs or cattle in the former month causing a "bunching up" of slaughter at the end of that month. Further, the producer may market the animals at lighter weights than "normal" to take advantage of the payment.

This argument seems questionable. If the basis for calculating the support level is known and if it is based on historical data, there is only one reason for a producer to expect a lower payment this month than next. That reason is that he expects market prices to be higher next month. Such an expectation would surely provide an incentive to <u>hold</u> animals rather than sell them. Furthermore, in an on-going, historically based program, a monthly program would effectively place a floor under market prices. With a floor the producer would have assurance that conditions will not become worse and may become better. Again this should encourage him to hold livestock rather than selling them.

4.2.2 <u>Operational Vagueness</u>

In addition to the annual nature of the stabilization programs there are three supplementary factors which will limit supply response resulting from the support payments. These are linked to the nature of the calculations used in deriving the prescribed price, the lack of prior information on eligibility limits and the timing of announcements about the level of support.

Since neither the method of calculating the prescribed price nor the percentage of the prescribed price representing the support level are specified, producers cannot know the actual level of support from one year to the next. Hence, they have a guarantee of some level of support, but not enough "hard" information on which to base production decisions. As a result, they have no choice but to form price expectations and make decisions as they have in the past - from the marketplace, with a heavy weighting on current prices. As an example, consider again the beef stabilization programs of 1974 and 1975. A support payment was instituted to cover the period from August 11, 1974 through August of 1975. The support level was $45.42 per hundred weight at 90 percent of the previous five year average price and indexed for changes in costs. A second program was announced to cover the period from August through December, 1975. The support level was $43.94 per hundredweight at 100 percent of the previous five years average price and indexed for changes in costs. Note that the percentage was changed from one year to the next and, in each case, the formula for adjusting for changes in costs was not made public.

The lack of prior information on the number of livestock per farm eligible for support means that the individual producer faces uncertainty about the absolute level of support he can expect to receive. Again, historical precedent suggests that eligibility limits may be variable. As noted earlier, the eligibility limit was 500 hogs on payments made to hog producers in 1971/72. The eligibility limit was 1500 hogs for the interim hog plan of 1974. This represents a substantial difference. Data from the Ontario Pork Producers Marketing Board indicate that in Ontario in 1974, 48.04 percent of hogs sold were from farms which marketed more than 500 hogs, while only 13.04 percent were from farms marketing more than 1500 hogs. Clearly, the lower the eligibility limit, the less effect a program will have on decisions. If limits change from year to year, there would be almost no effect on decisions.

For a program to have a positive impact on producer decisions in the formative years, announcements of the support level should be made well in advance.[1/] For example, breeding decisions made by hog producers in March or April of 1976 will determine hog supplies at year end. For beef producers breeding decisions made in mid-1976 determine the supply of cattle for market in 1979, while today's purchasing decisions by feed lot operators affect the supply of cattle from four to twelve months hence. Since current decisions are based on producers' price expectations for next year, the support level for next year should be known in advance if it is to have any effect on producers' decisions. The government has not seen fit to devise programs which allow this kind of advanced notice. At the time of this writing (July 1976), the support price for hogs in 1976 has been announced, but not for 1977. For beef cattle, the support price for 1976 is not yet known.

In summary, the annual nature of the programs and their operational vagueness will most likely not have a substantial effect on producers' decisions. Therefore, their ability to attain the objective of harmonizing

---

1/ Over the long run, advanced announcements may not be of major importance. If the method of calculation were known, consistent and based on publicly available information, producers would be able to ascertain future support levels over time with a fair degree of reliability since they are based on historical data.

producers' expectations with actual market outcomes will be severely limited. If they will have any effect on the formation of expectations, it will be to disrupt them because of their operational vagueness and the opportunity to change many of the variables inherent in the programs.

4.2.3 Risk Response and "Over Supply"

An issue related to that of improving price or margin expectations is risk response. Many[1/] have expressed the fear that if stabilization programs are specified on less than an annual basis with the indexing formula announced, then much of the "downside" price risk will be removed from the market. This could result in an incentive to overproduce, necessitating the introduction of supply management.[2/]

There are a number of conceptual and pragmatic arguments which relate directly to these expressed concerns. First, the oft-stated objective of the programs, as has been pointed out, is to reduce price risk so that producers can make better decisions. By definition, if this objective is to be achieved, there will be a supply response - i.e. stabilization programs will, to some extent, provide an incentive to some producers.[3/] However, as was discussed above, the annual and operationally vague nature of the programs seem designed to make them of limited value in affecting production decisions. Government can't have it both ways! Programs either will affect decisions or they won't. If they are expressly designed not to affect decisions, they should not be called stabilization programs - or, at least, should not be dressed up with all sorts of high sounding objectives. Such programs are simply producer subsidies, designed to transfer income from taxpayers to producers.

A second argument relating to the potential for oversupply has to do

---

1/ For example, see Kerr [7].

2/ More formally, the concern follows the argument of Just ([5] and [6]), that price risk can be viewed as a cost to producers which affects both internal and external capital rationing, which, in turn, affects the investment decisions of the individual firm. If price risk is reduced, then the aggregate supply function would shift to the right and, perhaps become more elastic.

3/ The term "incentive" has been tossed around mercilessly in the debate on stabilization. Being opposed to an "incentive" program seems politically and rhetorically akin to being in favour of motherhood! But no one has bothered to define it, nor to realize that for a program to have a significant stabilizing effect on the market, it must be able to provide at least some producers sufficient incentive to remain in production when they are losing money. Hence the concern with oversupply is not whether a program provides an incentive, but rather, with how much incentive it provides.

with the level of support. As indicated above, oversupply can be a potential problem if the degree of incentive (i.e. level of support) is sufficiently high. In the early debate on Bill C-50, the position from Ottawa was that support was to be set at a level which would provide "stop loss" insurance for producers. This was to be accomplished by establishing support levels below full production costs. Given the government's indication that the actual cost indexing procedures presently in use include only non-capital costs, the stop loss concept is apparently still in vogue. If so, it would seem doubtful that payments, even on a monthly basis, would cause vast quantities of pork and beef to be produced in Canada.

A third argument is that even if the programs, by reducing price risk, caused sufficient structural change in the Canadian livestock sector to provide increased production, it is not immediately apparent that increased supply would be a "bad thing". Since Canada is a relatively small component of the North American and world markets for pork and beef, a significant increase in Canadian supply would not be a significant increase in total supply and would not have a significant effect on market prices - except perhaps to reduce Canadian prices in some periods from the world price plus transport costs to the world price minus transport costs. That is, under some circumstances stabilization programs could cause sufficient supply response to move us from being net importers to being net exporters.

There is a potential problem here if competing countries - e.g. the U.S. - perceive that Canadian programs provide an unnatural incentive to produce and to infringe upon their markets. Such a perception could cause oversupply problems in Canada only if the perception were translated into trade restrictions - in which case Canadian supply intended for export would be forced back into the domestic market and force prices down. Three factors suggest that this potential problem will not occur. First, if support is set at stop loss levels a serious oversupply problem will not likely occur. Second, any supply response resulting from payments made in low price periods will occur and be available for export in later high price periods. Most countries do not impose trade restrictions on their trading partners when prices are high! Third, it is illegal under the General Agreement on Trade and Tariffs to impose trade restrictions in retaliation for domestic stabilization policies.

Given the above, it seems apparent that the concern about "oversupply" has been overplayed. However, even if it is an important consideration, a strong argument can be made that Bill C-50 actually has a ready remedy to combat over supply resulting from a "too rich" program. That remedy is the eligibility limitation.

In cyclical markets, like those for hogs and beef, programs established under the amended Act, would normally only make payments in periods of heavy supply. In other words, payments will be made in a given year only if market prices are relatively low <u>because supplies are greater than in a previous year of relatively high prices</u>. Given this, instead of placing eligibility limits at some arbitrary level as in the past, they could be established based on each individual producer's historical production pattern. For example, the number of animals eligible for support for any individual producer could be set at some fraction (say 90 percent) of the number he marketed the previous year (or in some earlier period of high prices). If carried out in this way, support is made available to a base herd, but the additional production, which contributes to the downward pressure on prices, would not be supported. Clearly, this would not provide producers with an incentive to expand production beyond the base, but would allow them to do so at their own risk.

An additional feature of this method of establishing eligibility limits is that it provides more equity for the more consistent (and probably more efficient) producer relative to the "inner and outer". The consistent producer, who would have had the good judgement to market livestock during the period of high prices, would receive support for his base herd while the "inner and outer" who, by definition, was likely "out" during the period of high prices but was "in" during periods of low prices would not be supported. In cyclical markets like those for pork and beef, it is the inner and outer who, at least to some degree, causes the cycle. He is the person who enters production when prices are high, thereby increasing supply and forcing prices down. It would seem to be in the long run interest of the livestock sectors to discourage this type of behaviour while encouraging sensible long run adjustment by the consistent producer who is the backbone of the industry.

A negative aspect of imposing eligibility limits as suggested here is that it would provide no support to the new entrant who has the misfortune of entering the market at a time when prices are low. This problem could be alleviated administratively by imposing an upper limit (say 1000 hogs or 500 steers) upon which a bona fide new entrant could receive support.

4.3 Stabilization of Supply

The analysis presented in the previous section indicates that present stabilization programs will not provide producers with a better basis for making production decisions and, therefore, will not act to stabilize supplies of beef cattle and hogs. However, even if programs were established in such a way as to provide a better decision-making basis, two additional factors should be given consideration.

First, it is unlikely that any financially acceptable program would have a stabilizing impact on Western Canadian pork supply. Recent research [10] has reconfirmed what most students of the Canadian livestock sector have long known - that the level of pork production in Western Canada is much more closely related to the grain economy than to hog prices. When grain is abundant (particularly when grain production exceeds Canadian Wheat Board quotas) and relatively inexpensive, many Western farmers have tended to market their surplus grains through hogs. For example, during the period of grain surpluses in 1970/71, Western hog production increased dramatically. Western hog marketings in 1971 were 60 percent greater than in 1967. Eastern Canadian marketings in 1971 were only 6 percent greater than in 1967.

Conversely, when the grain market is buoyant western farmers tend to sell their grain directly and stay out of hog production. For example, Western hog production during late 1975 and early 1976 was down from year earlier levels by from 25 to 35 percent. This is in spite of the fact that substantial payments were made to Alberta and Saskatchewan hog producers under provincial stabilization programs in 1974 when grain prices were high. In the East during this period, hog production declined by only about 10 percent.

A similar argument can be made for beef production in Eastern Canada. At least half the cattle finished in the East are imported as feeder cattle from the West. Haack [4] has shown that the single most important determinant of the number of feeder animals imported is the availability of feed in Eastern Canada. Much of the Eastern feed lot industry relies mainly on corn and corn silage. When corn production is high (as it was in 1975) feeder cattle imports increase substantially.

Given the nature of hog supply response in Western Canada and beef supply response in Eastern Canada, it is unlikely that even large, well timed deficiency payments would have much effect on the stability of supply. Because of the interrelationships between the livestock and feed grain sectors, stabilization of the latter would likely have more effect on the livestock sector than any level of deficiency payments which are affordable by the Canadian treasury.

The second factor which must be considered is that, despite the efficacy of stabilization programs, there would be little impact on the supply of meat available to the Canadian consumer. Again, this is because both the beef and pork sectors are internationally oriented. If deficiency payments resulted in increased Canadian production, these additional supplies would merely be substituted for imports or exported. Hence, available supplies to the Canadian consumer would be little affected.

4.4 Stabilization of Consumer Prices

As indicated earlier, one apparent objective of the amended Act is to stabilize consumer prices for meat. This objective was supposedly to be attained by reducing "downside" price risk, thereby increasing production by providing an incentive for producers to remain in production and, finally, by reducing later price peaks.

Two major factors are important in assessing the ability of the amended Act to attain this objective. First, given the present ineffective nature of the programs, this cannot and will not occur because they will not alter production decisions. Second, and more fundamentally, it is extremely doubtful that programs would result in substantial consumer benefits even if they were effective in altering production decisions. Again, this is because of the international orientation of the livestock sector. If international trade did not occur, there would most likely be substantial consumer benefits from an effective deficiency payment program since Canadian demand for meat is relatively inelastic - i.e. a relatively small increase in supply results in a relatively large decrease in price. In fact, without trade, consumers might well reap the major benefits of such programs because additional supplies resulting from deficiency payments would force prices down substantially along the inelastic demand function.

In the real world, and under normal trading conditions, beef and pork prices in Canada are closely related to world price levels. Domestic prices can vary above or below those in Omaha (the major center for U.S. livestock production) by no more than transport and modest tariff costs.[1/] Variations in prices beyond these limits provide an incentive for trade. Thus, even if programs developed under Bill C-50 were effective in eliciting supply response, they would have very little benefit for Canadian consumers. As has been pointed out several times, any additional supplies resulting from the programs would either substitute for imports or be exported. At best consumers would gain in periods of relatively high prices only if enough additional supply were induced by deficiency payments to lower Canadian prices below the import ceiling (i.e. Omaha plus transfer costs). It is, however, highly unlikely that gains to consumers would exceed the costs borne by them through the taxes necessary to pay for the deficiency payments.[2/]

4.5 Encouraging Expansion of Exports

As indicated in section 3.5, this objective is conceptually attainable under the amended Act if, over the long run, stabilization programs assisted the Canadian livestock sector to adjust to a higher level of production and efficiency and, in the short run, if payments during a period of cyclical low market prices held some farmers in production so that increased supplies would be forthcoming in subsequent periods of high prices.

The attainment of this objective depends, of course, on whether programs will be successful in eliciting a supply response. As we have seen in the foregoing, there is little probability of eliciting a supply response with existing programs. Hence there is little reason to expect that the amended Act will contribute to expanded exports.

1/ The tariff on U.S. pork imported to Canada was unilaterally removed in the federal budget presented by the Hon. Donald MacDonald in May 1976.

2/ Consumers could benefit marginally in another way from stabilized supplies. Stabilized supplies could result in increased efficiency in the meat packing industry which might result in marginal reductions in processors' margins which might result in marginally lower retail prices.

5.0 SUMMARY, CONCLUSIONS AND SUGGESTIONS FOR IMPROVEMENTS IN HOG AND BEEF STABILIZATION PROGRAMS

This report attempts to accomplish three objectives - 1) to describe changes in the Agricultural Stabilization Act that will take place as a result of Bill C-50; 2) to discuss the objectives of Bill C-50; and 3) to analyze the ability of programs formulated under Bill C-50 to attain its objectives in the pork and beef sectors.

A summary of the analysis is presented below along with suggestions for improvements.

5.1 Summary and Conclusions

Under Bill C-50, the Agricultural Stabilization Act was changed in six important ways. First, the list of named commodities was amended by dropping eggs, wheat, butter and cheese and adding corn, soybeans and industrial milk and industrial cream. Beef cattle, hogs, sheep and oats and barley produced outside of the Canadian Wheat Board's designated area were, and still are, named. Second, the base price upon which deficiency payments are calculated, was changed from the previous ten year average market price in Canada to the previous five year average market price. Third, the prescribed price was increased from a minimum of 80 percent to a minimum of 90 percent of the base price and is adjusted for changes in production costs. Fourth, the amended Act allows for differential application in provinces or regions of Canada if the market situation therein is different than in the rest of Canada. Fifth, the amended Act provides a mechanism whereby Provinces or producer groups can enter into agreements with the Federal Government to provide support at levels higher than the minimum prescribed price. Finally, the amended Act provides the power to limit the number of units of the supported commodity upon which individual producers are eligible for support payments.

Although the objectives of the amended Act are not specified, five major objectives can be inferred from the legislation and from documents which have emanated from the Federal Government or its employees. These are as follows.

1) to support farm incomes during periods of low market returns.

2) to harmonize producers' expected prices or margins with actual market outcomes so that better production decisions can be made.

3) to stabilize supplies of food.

4) to stabilize consumers' food prices.

5) to encourage expanded food exports.

This report arrives at the following conclusions regarding the ability of programs developed under the legislation to attain its objectives.

5.1.1 The Income Support Objective

Programs developed under the amended Act can provide a floor under farmers' incomes by making deficiency payments during periods of low market returns. However, it is impossible to determine at what level incomes will be supported because: the cost indexing procedures are not specified; a minimum percentage of the prescribed price is specified (90 percent) but the Governor-in-Council can set the support level at more than 90 percent and; eligibility limits are not specified. Not only are these factors left unclear in the legislation, but past experience suggests that they are all subject to change from one year to the next. Therefore, it is concluded that, rather than adding a stabilizing influence to the livestock markets, stabilization programs will be an additional source of uncertainty.

5.1.2 Harmonizing Producer Expectations with Market Outcomes

This objective could conceptually be attained under the amended Act if stabilization programs were effective in placing a floor under market prices or margins so that producers would have a minimum expectation of prices or margins upon which to base production decisions. However, stabilization programs will not provide such a floor for several reasons. First, deficiency payments are based on average annual prices. Past experience has shown that livestock producers in the aggregate do not make decisions based on annual averages. They tend to make them on much shorter run price variations. Hence, a guaranteed minimum annual price may tell the producer nothing which will affect his expectations and production decisions.

Second, even if payments were made on less than an annual basis, the lack of specificity discussed above regarding the cost indexing procedures, eligibility limits, and the actual percentage of prescribed price to be used in calculating the support level, and the possibility that any or all of these can be varied, would still leave the producer with substantial uncertainty about what he is guaranteed. Hence, it must be concluded that stabilization programs will not be instrumental in helping producers to better formulate their expectations in order to arrive at improved production decisions.

5.1.3 Stabilization of Supply

Attaining this objective depends upon the ability of stabilization programs to improve producers' expectations. Since it was concluded that the programs would not improve expectations, it follows that they will fail to significantly contribute toward a stabilized supply of pork and beef. Furthermore, it is questionable to what extent deficiency payments the federal treasury could afford would be helpful in stabilizing hog production in Western Canada and beef production in Eastern Canada, even if the programs contributed materially toward improving expectations. The reason for this conclusion is that Western hog production and Eastern beef production are so closely related to events in the feed grain sector that relatively substantial deficiency payments would probably not have much effect on production decisions.

Finally, even if deficiency payments were helpful in stabilizing Canadian production, more stable Canadian production would not mean that supplies of meat available to consumers would be more stable. Because of the international market orientation of the livestock sector, additional Canadian supplies would merely substitute for imports or be exported. Thus the availability of supplies would be little affected.

5.1.4 Stabilization of Food Prices

Again, the attainment of this objective depends to some degree upon the ability of stabilization programs to affect producers' expectations and therefore, to elicit additional supplies. Since the foregoing indicates that this is unlikely to occur, it is unlikely to have an appreciable effect on consumer prices.

Even if production decisions were altered by the programs, there would be few consumer benefits because of the international orientation of the livestock markets. At most, Canadian prices would be decreased below the price ceiling set in Canada by world prices plus transport and tariff costs if sufficient supplies were forthcoming to stop Canada from being a net importer. It is highly unlikely that benefits to Canadian consumers would begin to approach the costs of operating the programs through the tax systems.

5.1.5 Encouragement of Exports

As with the preceding three objectives, this objective can only be attained if the programs affect producers' decisions. Again, it is highly unlikely that current programs will have a material effect on the objective.

5.2 Who Benefits from Agricultural Stabilization Policy?

As was indicated in the Introduction, this question is basic to the debate on stabilization. For the pork and beef sectors, it should be clear from the foregoing that the major beneficiary of stabilization programs is the farming population. If programs were established which could attain the implied objectives of Bill C-50, farmers would benefit in two ways. Clearly they would benefit from the transfer payments of consumers' tax dollars through government. But also, if payments made during periods of cyclically low market returns were able to decrease the rate of liquidation of the breeding herd which takes place when returns are low, then during subsequent periods of high cyclical returns, Canadian producers would have more livestock to sell. Since livestock prices are determined in a North American or world market and since Canadian supplies are only a fraction thereof, additional Canadian supplies would not materially affect prices (so long as international trade can take place). Hence producers would benefit from having more to sell at high prices.

Under there circumstances, the benefits to consumers would at best be marginal. They might be benefitted only if additional supplies resulting from stabilization payments reduced Canadian prices below the import ceiling established by world prices. It is not probable that, in dollar terms, consumer benefits would approach the costs to them which would occur because of the tax costs of paying for stabilization programs.

To illustrate this, a simulation model of the North American pork sector which has been developed at the University of Guelph was used to evaluate a specific stabilization program from 1963-1974. The program in this case was one similar to the interim margin stabilization program introduced in 1974. The program was established to make quarterly deficiency payments during periods when actual margins above feed costs to pork producers fell below 95% of the five year moving average margin. The results showed that over this eleven year period, the program would have resulted in benefits of approximately $175.5 million additional revenue for Canadian producers, $6.4 million in additional "consumer surplus" for Canadian consumers and would have had a tax cost for deficiency payments of $146.5 million.[1/]

These figures are indicative of the foregoing argument. Producers would have benefitted by $146.5 million in deficiency payments plus an additional $29 million in additional sales during periods of high prices. Consumers would have benefitted by $6.5 million but would have paid most of the $146.5 million in taxes for the deficiency payments.[2/] Hence, over this period consumers would have incurred a net loss of $140 million.

If programs are established in such a way that production decisions and, therefore, livestock supplies are not affected by deficiency payments, producers are the only beneficiaries. Benefits would accrue to them in terms of the deficiency payments. Consumers would be net losers because of the tax costs of the programs.

The foregoing indicates that producers would gain from deficiency payment programs, but a question still remains regarding how benefits would be distributed among producers. The answer to this question depends entirely on specific operational procedures in the programs. One critical variable is the eligibility limit. If eligibility limits are set at relatively high levels, it should be clear that large scale producers will receive the most since payments are made on a per hog or per steer basis. The more an individual sells, the more benefits he will receive.

1/ This analysis is reported in detail in [9].

2/ Under this program, most of the program costs for deficiency payments would have occurred in early 1974. The analysis reported above and in [9] terminated at the end of the first half of 1974 - before deficiency payments made in early 1974 would have had an affect on supply. The analysis has subsequently been extended through 1975. The results showed an additional increase of $13 million in producer revenue and an additional increase of $1.8 million in consumer surplus. These occurred because of added pork supplies that would have been produced in response to the 1974 deficiency payments (mostly in Eastern Canada) and sold on the high priced markets of 1975.

A second critical variable is whether payments are made on an annual basis or on a shorter term basis - e.g. monthly or quarterly. This was alluded to in sections 4.1 and 4.2. If payments were made on a monthly basis, the program would guarantee an effective floor price to the seller of finished animals. Since the price of feeder animals is determined by the price of finished animals and the price of inputs (mainly feed) used in the finishing process, an effective floor price would mean that some of the program benefits would be indirectly received by the producers of feeder animals. If, during a period of low steer prices, the program provided a guaranteed floor price to the feed lot operator, the feed lot operator could use this floor price to determine the price he could afford to pay for feeders. When the floor price is higher than the market price, the producer of feeders would clearly benefit. However, under an annual payment program which does not guarantee an effective floor price, it is doubtful that producers of feeders would benefit.

There seems to be considerable debate in some quarters on the issue of whether payments to feed lot operators would be passed on to cow-calf producers. The logic of the contention that they would be passed on should be readily apparent from the following example. Consider a situation in which finished steers are priced at $40 per cwt. Most feed lot operators use the current price of steers and their expected cost of grain to determine how much they can afford to pay for replacement stockers. Assume that, under our situation with a steer price of $40, the cost of gain is such that stocker prices are bid at $38 per cwt. Now assume that a deficiency payment of $4 per cwt. is made to the feed lot operator. For a 1000 pound steer, this would provide the feed lot operator an additional $40 per steer. At the extreme (assuming no change in the expected cost of gain) this extra $40 would represent an additional $40 which the feed lot operator could pay for a replacement stocker. Since stockers weigh in the neighbourhood of 450 lbs., this means that he could now afford to pay up to an additional $8.88 per cwt. for the stocker, or he could now afford to pay a total of $46.88 per cwt.

This is not to suggest that the entire deficiency payment would be passed on, but rather the above represents the maximum that would be passed on. In reality, a number of factors would cause the maximum to be discounted. However, Haack [4] has shown that over the past fifteen years, on a quarterly basis a 10 percent increase in steer price on average has ultimately resulted in a 13 percent increase in stocker price. This implies that a large amount of the increase in steer price is ultimately passed on to the cow-calf man. There seems to be no reason, given the competitive nature of the market for stockers, to expect that a deficiency payment for steers would not be passed on in a similar fashion.

5.3 Suggestions for Improvement

If the federal government is serious about the objectives of bringing expectations closer in line with actual market outcomes, stabilizing supply and encouraging expanded exports, this writer offers the following suggestions which might improve existing programs.

1. Establish programs such that payments are made on a quarterly or

monthly basis. Shorter term payments will provide support at the time market conditions warrant it and, therefore, will affect production decisions. Furthermore, by providing an effective floor price, shorter term payments will allow some of the program benefits to be bid back to producers of feeder animals.

There is at least one potential problem that would be encountered by moving to a shorter pay out period. There are apparent seasonal price patterns in the livestock markets. For example, February hog prices tend to be seasonally high and April prices are seasonally low. One reason for seasonal price patterns is seasonal supply patterns. Using a simple five year average to set the support price could exacerbate the seasonality by establishing artificially high support prices during periods of seasonally low market prices. This problem could, of course, be circumvented by adjusting support prices to reflect the inherent seasonality.

Changing the programs to make payments on a quarterly or monthly basis would obviously mean that for any given level of support the government would incur greater costs than with the existing annual programs. This should be obvious from the example of the interim hog stabilization program discussed in section 4.0. Had this program been established on a quarterly basis, the government would probably have made payments in the order of \$12-\$15 million in 1974 instead of no payment under the annual program (see [8]).

Since it has become quite apparent in recent years that there are constraints on the amount of money available for government to spend on agricultural programs and since changing the programs to make quarterly or monthly payments is more costly, it may become necessary for government to examine the possibility of lowering the level of support - or requiring producers to assist in financing the programs (see below). Of course, this author realizes that these alternatives would not be politically popular. However, if government is truly interested in adding some degree of stability to the livestock markets but has limited funds, small but timely payments will do so more effectively than relatively large but untimely and uncertain payments. MacAulay [8] has shown this rather conclusively in his analysis of the beef industry.

2. Government should publicly announce the cost indexing procedure used in determining the prescribed price. If the cost indexing procedures were known, and if they are based on readily available data, producers or their organizations could determine, in advance, the likely level of support in the future.

A fundamental question is, what costs should be covered in the indexing procedure? Although the indexing procedure is not known, the prevailing philosophy from Agriculture Canada has been that long run capital costs will not be included. There appears to be two reasons for this. First, the objective of improving expectations implies that the program is aimed at providing a cushion against adverse short run market conditions - not to ensure a long run return on investment. Second, if capital costs were covered, any benefits from the programs would ultimately be capitalized into the value of land and capital assets and, most likely, would result in a "ratchet" effect in the program. That is, if program payments were large enough to make farming seem attractive, they would attract more people to farming or give existing producers an incentive to expand more rapidly. This would increase the demand for land and capital assets, thereby increasing prices of these assets. With prices of these assets included in the cost indexing procedures, an increase in these prices would cause an increase in the support level and so on, nearly ad infinitum!

Such considerations and concerns are very reasonable. Even if capitalization of program benefits was not a problem, it may be well to ask those who want higher support levels including all production costs why consumers should be asked to provide a guaranteed return on investment to farmers through the tax system. The difference between removing some of the inherent price risks in agricultural markets through government <u>stabilization programs</u> and guaranteeing a return on investment through <u>government income support programs</u> is great - budgetarily, operationally and philosophically.

Furthermore, the dangers of capitalizing benefits of income assurance plans into long term assets has already become apparent in some Provincial programs and the supply management programs of some marketing boards. It is axiomatic that some limit exists on the amount of money that governments are willing and able to sink into farm stabilization programs. Instituting programs which cover full production costs would soon make that limit very apparent.

Given the above arguments, it would seem reasonable that the costs to be included in the indexing procedures for livestock programs should be variable costs - i.e. the costs of feed, interest on short term borrowed capital, hired labour and relatively minor expenses such as veterinary and drug costs.

3. <u>Eligibility limits should be standardized on the basis of production in previous years</u>. To reiterate the points made earlier, there are potential equity problems if eligibility limits are set at a fixed number of animals for every producer. First, if limits are set at a relatively low level, the program caters to the small-scale producer, while the large-scale producer, who faces the greater financial risk, receives inconsequential support. Second, with a constant eligibility limit, when support payments are made because of relatively low market prices, the producer who has expanded or entered the market, and, thereby, contributed to the over-supply problem, is not penalized with a lower eligibility limit. If the limit is linked to each producer's past production pattern, the consistent producer is supported while the "inner and outer" is not.

In addition to the above points, eligibility limits linked to past production would reduce the potential for over-supply if support payments were "too rich". Expanded production would be priced at market prices instead of at the support price. Hence, the market would be allowed to allocate resources at the margin in the short run, while long term adjustment would be facilitated by the program.

For hogs, the eligibility limits in a monthly or quarterly program could be established by limiting eligibility for a specific period at some fraction (say 90 percent) of the number of hogs marketed during the same period in the previous year. For cattle, because of the longer cycle and the flexibility the feed lot operator has to adjust the weight at which cattle are marketed, it may be necessary to set the limit during a particular period at some fraction of average marketings during the same period over the past several years.

One remaining problem that relates to this method of setting elibibility limits is how to provide protection to new producers. As mentioned earlier, this could be overcome by setting a quantity limit (say 1000 hogs and 500 cattle) for bona fide new producers. Naturally, the alternatives suggested here would require more administrative costs than a simple quantity limit.[1/]

4. Programs should continuously maintain support at a fixed percentage of the prescribed price - support should not vary from 90 percent one year to 100 percent the next. There are two reasons for this. First, changing the support level adds unnecessary uncertainty in production planning. Second, and more fundamentally, since the foregoing analysis shows clearly that most of the benefits of the programs accrue to producers, it is necessary to question why society should be expected to provide more than a stop loss floor price to avert market disasters. Beyond this, it seems reasonable to expect producers to be responsible for providing additional support themselves (as is possible under the legislation). The analysis reported earlier and published by Martin and MacLaren [9] indicates that benefits to producers of an effective program would be greater than just the deficiency payments. Hence, it follows that producers would still receive net benefits if they contributed to the program themselves.

5.4 A Concluding Comment

This analysis has been rather critical of the federal government's stabilization policy. The criticism arises, in the first instance, from the operational vagueness of programs developed. But the operational vagueness is symptomatic of a more fundamental problem. That is, there appears to be no consistent long term objectives of the policy. Rather, the programs are geared to allow government to manipulate them to accomplish short run political

---

1/ Some of the reviewers of this manuscript received the impression that this suggestion about eligibility limits would "lock in" a producer at an historical level of production. It would not. The idea is that if a producer marketed 1000 hogs in 1975 and 1200 hogs in 1976, he would be eligible for support on 1000 hogs in 1976 and 1200 hogs in 1977. Such a procedure would facilitate long term growth by supporting a base herd for the established producer, but would not reward him for extra growth in a year which contributes to depressed prices. The provision of maximum quantity limit for a bona fide new producer is in lieu of historical information. After one year of marketings, he would have an eligibility limit based on past marketings like any other producer.

objectives. This philosophy of policy formulation appears to be characteristic of much of federal agricultural policy in recent years. In addition to stabilization policy, consider the following. 1) Between 1973 and 1975 there were no fewer than 12 changes in trade policy affecting the beef industry. 2) Within a period of less than two years, federal dairy policy shifted from having an all-out expansionary orientation to an orientation of cutting back production. 3) Western feedgrain policy has undergone at least three major overhauls since 1972 and, at present the machinery is being constructed to have a producer referendum on feedgrain policy in late 1976 which could be the precursor of another major change in policy in 1977.

The results of such major shifts in policy orientation among producers are confusion, uncertainty and instability. Until such time as specific long term policy objectives are defined and specific, consistent, long range programs are put in place and left in place, these results will continue to obtain. And government policy will continue to be one of the chief sources of uncertainty in agriculture.

REFERENCES

[1] Canadian Journal of Agricultural Economics, Workshop Proceedings, March 1976.

[2] Chin, S., D. Hedley, G. MacAulay and B. Paddock, Recursive Models and Stabilization Policies: Some Problems and Techniques in Evaluation, Contributed paper presented to the American Agricultural Economics Association Annual Meeting, Columbus, Ohio, August 1975.

[3] Dawson, J. L., An Evaluation of Hog Stabilization Programs in Canada", Canadian Journal of Agricultural Economics, Workshop Proceedings, March 1976.

[4] Haack, Richard A., An Analysis of the Economic Implications of Supply Management and Stabilization Programs on the Canadian Beef Sector, Unpublished M.Sc. thesis, University of Guelph (in progress).

[5] Just, Richard E., "Risk Response Models and Their Use in Agricultural Policy", American Journal of Agricultural Economics, Dec. 1975, pp. 836-844.

[6] Just, Richard E., Econometric Analysis of Production Decisions with Government Intervention: The Case of California Field Crops, Giannini Foundation Monograph 33, University of California, Berkeley, 1974.

[7] Kerr, T. C., "Federal Agricultural Stabilization Programs", Canadian Journal of Agricultural Economics, Workshop Proceedings, March 1976.

[8] MacAulay, T. G., Stabilization Schemes: Some Myths and Economic Theory, Paper presented to the Canadian Agricultural Economics Society, Halifax, June 1976.

[9] Martin, Larry and Donald MacLaren, "Market Stabilization by Deficiency Payment Programs: Theoretical Analysis and Its Application to the Canadian Pork Sector", Canadian Journal of Agricultural Economics, July 1976 (in press).

[10] Martin, Larry and Anthony C. Zwart, "A Spatial and Temporal Model of the North American Pork Sector for the Evaluation of Policy Alternatives", American Journal of Agricultural Economics, February 1975, pp. 55-66.

[11] Martin, Larry and A. C. Zwart, "Toward an Optimal Level of Stability for Canadian Agriculture", Canadian Journal of Agricultural Economics, Workshop Proceedings, March 1976, pp. 218-232.

[12] Parliament of Canada, An Act to Amend the Agricultural Stabilization Act, Ottawa, Queen's Printer, 1975.

[13] Parliament of Canada, An Act to Provide for the Stabilization of the Prices of Agricultural Commodities, Ottawa, Queen's Printer, 1958.

[14] Proceedings of the O.A.C. Agricultural Conference '76, Extension Bulletin AEEE/76/2, School of Agricultural Economics and Extension Education, University of Guelph.

[15] Proceedings of the Ontario Institute of Agrology Annual Meeting, April 1976.

[16] The Agrologist, Winter 1976.