THE UNIVERSITY OF MANITOBA

THE REGULATION OF HANDLING AND STORAGE TARIFFS IN THE CANADIAN COUNTRY GRAIN ELEVATOR INDUSTRY

by

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ABSTRACT

The thesis examines three aspects of the grain elevator industry; the vertical integration of country and terminal elevators, the storage orientation of the country system, and the regulation of handling and storage tariffs for country elevators.

Williamson's theory provides a framework for analyzing the reasons for the development of the vertically integrated firm. Vertical integration reduced risk since the transfer of grain from country to terminal elevators was done with the same effect as long term complete contracts as opposed to short term or spot contracts. The study also concludes that pecuniary savings from hedging and commission operations were available through vertical integration.

It has been hypothesized that the storage tariff caused the storage orientation of the country elevator system. The study examined the long run development of the system and concludes that federal government policies such as accelerated depreciation and the Temporary Wheat Reserves Act were the cause but that the storage tariff was instrumental in its maintenance.

While tariffs have been regulated since 1912, their impact upon the industry has changed substantially over time. The tariffs set in 1912 were those previously

established by grain firms and which were shown to be non-compensatory by the Saskatchewan Elevator Commission of 1910. The study concludes that the tariffs set by grain firms prior to 1912 encouraged farmers to sell grain on a street basis. The regulated tariffs of 1912 had the effect of limiting the potential development of marketing mechanisms to compete with the vertically integrated companies.

From 1912 to 1974 the regulation of tariffs appears to have been void of a detailed philosophy. From 1945 to 1973 the Canadian Wheat Board controlled industry profit levels through the handling agreement. It is unclear, however, if the Board had a target profit level it considered adequate and if so, adequate for what purpose.

In 1974 the Canadian Grain Commission developed a detailed regulatory philosophy which included that tariffs should be compensatory. The study concludes that the handling and storage of grain are interdependent functions, that recent tariffs tend to violate the philosophy and that tariffs should not be regulated.

ACKNOWLEDGEMENTS

I would like to express my sincere appreciation to Dr. Om P. Tangri who, as an advisor, provided direction and encouragement during my graduate program and as a friend displayed patience and understanding.

I wish to thank Professor R. Harris, Dr. E. Tyrchniewicz and Dr. A. Wood, who acted on my advisory committee and provided valuable advice and criticism. I would also like to thank Dr. J. Heads who accepted and more than adequately fulfilled the role of external examiner.

I was privileged to have worked with Mr. J. W. Channon in Ottawa where my interest in the regulation of grain elevator tariffs heightened substantially. I would like to thank John Channon for the many hours we spent discussing various aspects of the industry.

Over the past several years I have been fortunate in having met persons either in, or interested in, the grain trade. Through those individuals I was given an opportunity to learn more about the industry than would otherwise have been the case. In this regard, I would like to specifically thank Mr. S. Searle Jr., Mr. A. McLeod and Mr. D. N. Kennedy.

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CHAPTER I

OBJECTIVES OF THE STUDY

This thesis examines three particular features of the grain elevator industry; the vertical integration of country and terminal elevators, the handling versus storage orientation of the country elevator system, and the regulation of handling and storage tariffs at the country elevator level. All three features are steeped in the history of the industry having their beginnings around the turn of the century and continue at the present time, although in modified forms.

The vertically integrated structure of country and terminal grain elevators in Canada developed around the turn of the century, largely by American interests who had marketed grain in the United States with that organizational form. Subsequent major entrants into the grain industry, such as the United Grain Growers and the three pool elevator companies developed integrated elevator systems and became effective competitors to the privately owned grain companies by the mid 1920s. The fact that the vertically integrated structure has dominated the industry, and has existed for some eighty years leads one to believe that this structure is more efficient than others which could have existed. The study develops the

efficiency attributes of the vertically integrated structure of the industry.

Over the long run, the country elevator system has turned over its storage capacity about two times per year. From time to time, the country elevator system has displayed the ability to turn over its capacity double that of its long run average. Individual grain elevators, under the proper conditions of supplies of grain and of grain cars, are able to achieve storage capacity turnover several times that maintained by the system. The relatively low turnover of storage capacity, or handling to capacity ratio, is indicative of a storage orientation of the country elevator system. The study examines the reasons for the development of the storage orientation of the system.

The handling and storage tariffs for country grain elevators have been regulated since about 1912. It was not until 1974 that a major review of the philosophy of tariff setting was undertaken by the Canadian Grain Commission. This review resulted in a substantial relative shift in the structure of the handling and storage tariffs. The study examines the philosophy of tariff setting by the regulatory agencies as well as the impact the tariffs have had on the industry since 1912.

A. Vertical Integration

The development of the country elevator system, particularly after the first decade of the twentieth century, was a function of private firms as well as farmer owned companies. Competition among grain companies, be they privately or farmer owned, for elevator sites and for the patronage of farmers was exceptionally keen during the formative years and by the end of the 1920s the basic system was in place. The growth of the farmer cooperatives developed only after significant attempts by farm organizations for direct government involvement in the elevator industry. Probably the most vocal supporter of such involvement was A. E. Partridge. The Partridge Plan (1908), as it came to be known, was succinctly described by Colquette[1] and required the government of each province to take over and operate all country grain elevators within the boundary of a province and for the federal government to take over and operate all terminal and transfer elevators. The plan fit neatly into the separation of powers under the British North America Act and presumably would free farmers from what had been popularly termed the "syndicate of syndicates." The term referred to the practice of the private vertically integrated elevator companies establishing daily prices in Winnipeg and then

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[1]R. D. Colquette, The First Fifty Years, Winnipeg: The Public Press Ltd., 1957, p. 86.

sending one telegram to a delivery point, in essence ensuring a common price among elevator agents.[2] This was the "proof" that farm organizations needed to show that there was no competition among country grain elevators. The Plan was presented to both levels of government and while non accepted the plan in its ultimate form, that is the nationalization of the grain elevator industry, both levels of government experimented with public ownership of elevator facilities. The rejection by governments ultimately led to the formation of the producer owned companies.

The government of Manitoba, in 1910, yielded in part by acquiring 174 grain elevators at 100 delivery points in that province. The role of the public in country elevator operations ended two years later with substantial losses caused by poor management, poor locations, overpayment for facilities and a lack of producer support.[3] The Grain Growers Grain Company, which had lobbied for public ownership through the Partridge Plan, acquired a windfall from this experiment by being granted lease rights to the elevators. For the company, which had hitherto operated solely as a selling agency, this was the beginning of what was to become a farmer owned fully integrated company which became the United Grain Growers in 1917.

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[2]C. F. Wilson, A Century of Canadian Grain, Saskatoon, Saskatchewan: Modern Press, 1978, pp. 26-27.

[3]Colquette, op. cit., pp. 92-93.

Colquette summarized the events in the following manner. "It finally cured the Organized Farmers of the obsession that government ownership of elevators was the panacea for the grain marketing ills and it put the Grain Growers Grain Company into the elevator business."[4] The second point made by Colquette is correct, but his conclusion regarding the panacea is open to question. A more tenable conclusion might be that the Manitoba incursion into the elevator business showed farmers the unwillingness of government to proceed with full nationalization of an industry which was probably not a natural monopoly and was one which served the farmers' interest in the main.

The Saskatchewan government reacted to the Partridge Plan by appointing a Royal Commission in 1910. While the appointment of Royal Commissions, over the years, has become a national pastime, this one was instrumental in shaping the future structure of the industry. The report of the Commission envisaged a plan for the development of a cooperative to be set up in each of the provinces. The final sentence of the report: "This plan avoids many of the risks and limitations of the other plans and is pregnant besides with possibilities for the future."[5], proved particularly prophetic. Currently,

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[4]Ibid., p. 91.

[5]Report of The Elevator Commission of the Province of Saskatchewan, Regina: Government Printer, 1910, p. 98.

the United Grain Growers and the three provincial pool elevator companies operate about 75 percent of the country grain elevators. The conclusions of the Commission's report are attached to this study as Appendix A.

The federal government, after the passage of the Canada Grain Act of 1912, which empowered the construction of terminal elevators by the federal government, built a terminal elevator at Port Arthur. This allowed farmers to ship directly to that elevator, potentially relieving them from dealing with the fully integrated grain companies. The failure of the Port Arthur terminal, like that of the Manitoba government country elevators, was due in part to a lack of producer support. The efforts of both levels of government, albeit possibly halfhearted efforts, to offer alternatives to producers dealing with vertically integrated companies and the entry of the farmers' companies into the industry on a fully integrated basis indicate the economic superiority of this form of structure. Otherwise the government programs may have proven more successful or the farmers' companies might have organized in an alternate organizational form.

With the entry of the farmer owned companies into the industry on a fully integrated basis (United Grain Growers 1917, the three pool elevator companies by 1925), the issue of vertical integration was put to rest and did not resurface until the 1960s when Channon linked the regulated tariffs for handling and storing grain to the

issue of vertical integration. Channon argued that because of the inappropriate levels at which the tariffs for handling and storing grain were regulated, the grain companies have commonly practiced cross subsidization between country and terminal operations.[6] Channon's argument has been both supported and refuted by members of the grain industry. McLeod argued that if terminal elevators were profitable enough to cover deficits of country operations, then there would be the incentive to construct more terminal space while reducing or discontinuing construction of country elevator space.[7] Searle argued that even if one could eliminate transfers among divisions, the company directors would accept in their own mind such offsets. Searle further contended that the only way to prevent such internal cross subsidization would be by way of non-integrated companies, but that there was little likelihood of this occurring.[8]

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[6] J. W. Channon, "Towards a Revitalized Economy in Western Canada," Paper presented at a seminar on Wheat sponsored by the Saskatchewan Branch of the Canadian Agricultural Economics Society, Regina, February 1968, p. 9.

[7] A. McLeod: "Comment: How Canadian Wheat is Handled," Wheat, Canada and the World, Proceedings of the 1969 Workshop of the Canadian Agricultural Economics Society, Regina, June 1969, p. 108.

[8] S. A. Searle Jr., ibid., p. 103.

While McLeod's point has some validity, it is somewhat over simplified. The fact that terminal operations are profitable is not a sufficient condition for their expansion. Terminal elevators are supplied by country elevators and if increased flows through one's country system are not contemplated, the investment in increased terminal capacity would be unjustified. This would be the case regardless of the level of profits in the terminal division. In fact, large profits at the terminal level could dictate the need for increased investment at the country level, if terminal facilities were not fully utilized.

Searle's point is correct from at least two perspectives. There is no obvious reason why grain companies should voluntarily operate in only one of the country or terminal positions and as shall be indicated, the vertically integrated structure provided for efficiency gains to the firm. The second point is that the federal government has no power to force divestiture from one of the markets. The Combines Investigation Act, which empowers the federal government to deal with issues of competition, is silent on the issue of dissolving vertical integration. For the federal government to take such action would require new legislation which would no doubt be vigorously opposed as was the case in 1911 when a similar issue was dealt with.

The vertically integrated structure has existed for some eighty years in the grain elevator industry. It can be argued, therefore, that a structure which has such a record of survival must have some efficiency advantages over other forms of marketing, or it would not have withstood challenges over those years. In Chapter II, the theoretical framework developed by Williamson is used to analyze the efficiency attributes of the vertically integrated structure of the grain elevator industry. In this regard, the study provides a rationale for the development of the vertically integrated firm in the grain elevator industry.

With a sense of irony, it is noted that the issue of vertical integration has reappeared in the 1970s and will continue into the 1980s. The current issue, however, is vastly different from that which occurred during the first decade of the century. Whereas in the past it was the producer organizations who were opposed to the common ownership of country and terminal elevators, it is now the producer organizations which may be expected to oppose what may be the next technological breakthrough within the industry. The technology referred to is the inland terminal which could replace several hundred country grain elevators; furthermore, with adequate grain cleaning facilities and unit trains, they could replace terminal elevators as well. Whereas the private companies argued against the breakup of the vertically integrated firm at

the turn of the century, the farmer owned pool elevator companies can be expected to resist the development of inland terminals today. The reason in both cases would appear to be the same. Just as it was the private companies which had the most to lose in the past, so it is the case for the pool elevator companies today.

B. The Handling Versus Storage Orientation

The Canadian grain handling and transportation system is one of the most studied and regulated sectors of the Canadian economy. At the same time, it is likely one of the most difficult sectors to understand in its totality. In large measure, this difficulty lies in the dynamic nature of the industry and the high level of interdependence among those involved in the system. The movement of several hundred million bushels of grain, of many types and grades, from over 150,000 farms to some 4,000 country grain elevators by truck, and then by rail to terminal elevators located at port positions for export, offers a passing glance at the complexity of the system. The high degree of variability in production and exports inevitably shifts the grain handling system from one that is geared to the mass movement of grain to one that is storage oriented, only adds to the complexity. As Gilson has stated, "Every decade since the beginning of this century has been confronted with a wheat

crisis."[9] Gilson's comment, while made at a seminar on wheat, applies contemporaneously to all grains.

The following estimate of wheat exports, made by agricultural economists, is indicative of the difficulty in allocating scarce resources in the grain elevator industry. Gilson, in 1970, indicated that the long term normal annual exports of Canadian wheat could be expected to be 560 million bushels.[10] Bjarnson, in 1967, anticipated that Canadian wheat exports would be some 720 million bushels on average by 1980.[11] Huff predicted, in 1969, that Canadian wheat exports would be 397 million bushels in 1980.[12] These predictions, or educated guesses, in a sense mirror the highly variable circumstances under which the grain handling and transportation system must operate.

The allocation of scarce resources is further complicated, particularly in the grain elevator industry,

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[9] J. C. Gilson, "An Appraisal of Wheat Policies With International and National Inferences," Seminar on Wheat, Department of Agricultural Economics, University of Manitoba, Winnipeg, October 1970, p. 222.

[10] Gilson, ibid., p. 213.

[11] H. F. Bjarnson, "Marketing Possibilities for Canadian Grains," Proceedings of the Grain Transportation Workshop, Grain Transportation Committee, Winnipeg, 1967, p. 25.

[12] H. B. Huff, "Marketing of Canadian Wheat, An Economic Analysis with Projections to 1975 and 1980," Department of Agricultural Economics, Michigan State University, East Lansing, 1969, p. 171.

by the very long useful life and the singular purpose of country and terminal grain elevators. For example, it is not uncommon for country elevators to provide continuous service, with some modifications, for over forty years. Under such conditions, it is not unusual for a capital asset which may appear to be technologically outdated, to be functionally adequate. In this regard McLeod, of the Saskatchewan Wheat Pool, stated: "It is fairly common for elevators, handling the amount of grain they have in the past, to last about 40 years. Indeed, some plants built before the turn of the century are still in operation, having been re-equipped, electrified and often substantially overhauled."[13]

It is with respect to the "crisis" nature of grain production, exports, and inventories and the long useful life of country elevators that the second major interest of this study emanates. In Chapter III the events, and the policies of the federal government which were instrumental in shaping the storage orientation of the country elevator system, are analyzed. In particular, the storage orientation of the system is examined for its relationship to competition, government policies, and the structure of tariffs for the handling and storing of

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[13] A. D. McLeod, "Handling Grain in Country Elevators Now and In the Future," Proceedings of the Grain Transportation Workshop, Grain Transportation Committee, Minaki, September 6-8, 1967, p. 50.

grain. In respect of the tariff structure, it is hypothesized that the storage tariff, which is generally acknowledged to be higher than the costs of storage,[14] was not the cause of the storage orientation of the country elevator system, but rather a means of perpetuating the storage orientation.

C. Handling and Storage Tariffs

The third aspect of the country elevator system examined in this study are the tariffs for the handling and storing of grain. The basic hypothesis underlying the study of the tariff structure is that the handling tariff does not cover the cost of handling grain, whereas the storage tariff is greater than the cost of providing storage. Channon, who has probably done more than anyone to prod the regulators regarding the inappropriateness of the tariff structure, argued that whereas the revenue from storage to grain companies was one cent per bushel per month, that the cost of providing storage was about one-third of a cent per bushel per month.[15] McLeod stated the following regarding the tariff structure.

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[14] McLeod, ibid., p. 54.

[15] J. W. Channon, "Towards a Revitalized Economy In Western Canada," Paper presented at a Seminar on Wheat sponsored by the Saskatchewan Branch of the Canadian Agricultural Economics Society, Regina, February 16, 1968, p. 8.

> ...It is generally conceded in the trade that the handling charge does not cover costs associated with grain handling, with the result that storage earnings contribute a disproportionate share of total revenue. This fact has tended to encourage building of facilities with emphasis on capacity for storage rather than ability to achieve a high rate of through-put. It has been suggested in some quarters that an upward adjustment of handling charges, together with a downward adjustment in storage rates would contribute to a more realistic basis of compensation related to services rendered.[16]

Pound, the Chief Commissioner of the Canadian Grain Commission, which is the regulatory body which sets the maximum tariffs, described the storage tariff, while not necessarily agreeing, as follows.

> Despite the fact the rates haven't changed since 1912, it has been argued that the rate for storage of one-thirtieth cent per day has been too high and that it has encouraged the building of elevator space that is now a needless cost.[17]

It is not the purpose of this study to confirm or refute the hypothesis regarding the tariff structure. The purpose is rather to use the hypothesis to further understand the role those tariffs have played within the country elevator system at various stages of the history of the industry. The demarcation of periods relate to points in time where the regulation of the handling and

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[16]McLeod, op. cit., p. 54.

[17]D. H. Pounds, "Plain Facts About Handling and Storage Tariffs," Proceedings of the Grain Handling and Transportation Seminar, Sponsored by the Canada Grains Council and the University of Saskatchewan, Saskatoon, March 8-9, 1973, p. One-26.

storage tariffs may be considered of major consequence to the grain elevator industry. The first period relates to the initial setting of maximum tariffs by the Board of Grain Commissioners in 1912. The second period spans the years from 1912 to 1945, which covers those years prior to the Canadian Wheat Board operating as a monopsony purchaser of Board grains. The third period spans those years in which the Canadian Wheat Board and the Board of Grain Commissioners were involved in setting maximum tariffs. The fourth period, beginning in the crop year 1974-75, witnessed the Canadian Grain Commission becoming the sole regulatory body involved in the setting of maximum tariffs (the Board of Grain Commissioners was renamed the Canadian Grain Commission in 1971).

As the maximum tariffs for the handling and storage of grain have been regulated since 1912, the study of the philosophy of the regulatory agencies and the changes in that philosophy may be as important an area of study as the tariffs themselves, and the impact the tariffs have had upon the industry. Of particular importance is the apparent philosophy of the Canadian Wheat Board and the possible consequences regarding the structure of the industry, and the post 1974 philosophy of the Canadian Grain Commission and the consequences regarding the performance of the industry. In respect of the latter, the theory of tariff regulation relevant to the grain elevator industry

is employed to evaluate the tariffs set by the Commission as a result of the new philosophy.

D. Overview

Much of the regulation currently existing within the grain industry has roots dating back to the turn of the century. The Canadian Wheat Board had its inauguration in 1919 and possibly 1916 if one considers the role of the Board of Grain Supervisors at that time. The discontent and agitation of farmers which was instrumental for some of the regulation was brilliantly observed by Patton.

> The farmer was, indeed, in very much the same economic position as the unorganized, unskilled labourer in relation to a great industrial corporation. In all such cases, where economic power is unbalanced, friction and strife are bound to arise and persist until a new equilibrium is established. On the one side, strategic domination affords almost irresistable temptations to arrogance and abuse, even where no such deliverate intent exists. On the other side, the sense of dependence, and ignorance of the risks and responsibilities involved in highly organized undertakings, induce an attitude of inflamed suspicions and immoderate antagonism. The very secrecy of the dominating interests, and their unwillingness to lay before the aggrieved parties the economic facts determining their policies and methods, inevitably aggravate the friction. In default of a voluntary taking of the interested public into confidence, there are two other means by which these facts may be learned by the latter. One is a compulsory government investigation. The other is by the dissatisifed individuals organizing and undertaking themselves the functions whose performance by other interests

> they have claimed to be prejudicial. The grain growers of Western Canada resorted to both of these alternatives.[18]

The grain farmers used both methods and to great effect. The federal government, through the use of Royal Commissions to investigate the concerns of farmers, responded by way of passing the Manitoba Grain Act in 1910 and the Canada Grain Act in 1912; the latter often being referred to as the Magna Carta of grain farmers. In 1925, freight rates for export grain were set at the level existing in 1897 and while continue today, are a matter of substantial debate. The freight rate structure and the tariffs for handling and storing grain in country elevators have had an impact upon the location, size and number of country grain elevators.

The grain handling and transportation system has been in a constant state of change since the turn of the century and this dynamism is perhaps nowhere more pronounced than in the country grain elevator sector. The external manifestation of the ubiquitous nature of country grain elevators leaves one with the impression that this sector has by some miracle managed to stop the march of time somewhere around 1930. Nothing could be farther from the truth. The country grain elevator system has responded to the economic, political and social stimuli with

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[18] H. S. Patton, Grain Growers Cooperation in Western Canada, Harvard: Harvard University Press, 1928, p. 19.

which it is confronted. If the stimuli can be judged to be "wrong", then the country elevator system has developed in a manner that will itself be judged to be "wrong."

The science or art of economics, the terminology depending upon one's persuasion, teaches one to think in terms of optimization by making selections at the margin; that is by equating marginal cost to marginal revenue or benefits. At a slightly higher level of sophistication, the presence of externalities requires analysis of the system or several economic entities rather than only one part of the system. The MacPherson Royal Commission of 1961 had a profound impact upon the grain handling and transportation system by concluding that the railways were not being adequately compensated for moving grain from country elevators to terminal elevators.[19] This conclusion started a long run process, the goal of which is the rationalization of the grain transportation and handling system.

Subsequent to the report of the MacPherson Royal Commission, a process of branch line rationalization was initiated which met with substantial resistance, ostensibly because of the piecemeal approach being taken, from virtually every group which interfaced with the railway companies. The process of branch line rationalization was

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[19] Royal Commission on Transportation, Vol. 1, Ottawa: Queen's Printer, March 1961, pp. 60-66.

halted in the mid 1960s pending several years of study of the implications of such rationalization, and the systems approach to this issue was born. In 1969, the Minister in charge of the Canadian Wheat Board established a body known as the Grains Group to study in detail all facets of the grain handling and transportation system. The Grains Group carried out some thirteen studies of various aspects of the system. The most controversial of these studies was one which provided cost comparisons of the present system with progressive stages of rationalization culminating in an eighty unit inland terminal system.[20] The study which depicted the present system as being relatively inefficient was naturally not well received by some western Canadians. The "suggestion"[21] that Ottawa was preparing a master plan for the grain handling and transportation brought an end to the Grains Group which was eastern based. The reports of the Grains Group were turned over to the Canada Grains Council, also established in 1969, for further assessment. The Canada Grains Council, unlike the Grains Group, is a western Canadian organization comprised

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[20] P. S. Ross, Grain Handling and Transport Costs in Canada, Grains Group, Ottawa, 1971.

[21] D. A. Dever, "Capabilities and Cost Structure of the Existing Grain Handling and Transportation System," Proceedings of the Grain Handling and Transportation Seminar, Sponsored by the Canada Grains Council and the University of Saskatchewan, Saskatoon, March 8-9, 1973, p. One-10.

initially of a very wide range of groups with interests in the grain trade.

In 1975 the federal government appointed two Commissions; the Snavely Commission which investigated the cost of transporting grain by rail, and the Hall Commission which investigated the possible abandonment of some 6,300 miles of branch lines (a process, as was mentioned above, which had its beginnings in the 1960s). The Snavely Commission concluded, as did the MacPherson Commission in 1961, that the railways lost money on transporting grain. The Hall Commission recommended that 2,165 miles be abandoned, 1,813 miles be maintained as permanent, and 2,344 miles receive further study.[22] In a rather limited way, the issue of branch line abandonment remains today much the same as it was in the mid 1960s. The grain elevator system has changed dramatically since that time, however. For example, the number of companies operating 100 or more country elevators was reduced from ten to five between 1965 and 1973. This structural shift provided for substantial savings of cost to the industry. Tangri et al,

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[22]The Report of the Grain Handling and Transportation Commission, Ottawa, Minister of Supply and Services, 1977, pp. 520-521.

in 1973, have shown other means by which the elevator companies have increased productivity.[23]

System type studies have not been limited to organizations such as the Grains Group, the Canada Grains Council and Royal Commissions. The University of Manitoba and the Canadian Transport Commission have completed studies which indicate that aggregate savings would exist for a rationalized grain handling and transportation system.[24,25] Both studies proceeded by way of selecting a specific area of the prairies and estimating cost changes through simulations techniques. Similarly, the concept of a system of inland terminals to replace the country grain elevator system is not unique to the Grains Group. In 1967 the Barnett-McQueen Company presented a plan consisting of 72 inland terminals to a committee of parliament.[26]

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[23] O. P. Tangri, D. Zasada and E. W. Tyrchniewicz, "Country Grain Elevator Closures: Implications for Grain Elevator Companies," Center for Transportation Studies, University of Manitoba, Winnipeg, Research Report No. 10, January 1973, p. 61.

[24] E. W. Tyrchniewicz and R. J. Tosterud, "A Model For Rationalizing the Canadian Grain Transportation and Handling System on a Regional Basis," Canadian Journal of Agricultural Economics, August 1973, pp. 805-813.

[25] M. S. Fleming and P. A. Yansouni, Prairie Grain Handling and Transportation System Efficiency, Canadian Transport Commission, Ottawa, Research Report No. 10-78-18, September 1978.

[26] Standing Committee on Agriculture, Forestry and Rural Development, Minutes of Proceedings and Evidence, Ottawa: Queen's Printer, February 10, 1967, pp. 1394-1411.

Very few, if any, industries have been as open to research the reports of which become public documents, as has the grain elevator industry. The studies conducted since 1960, with their background paperwork, would fill a small library. While the studies are no doubt useful in a variety of ways, such as the systems studies which indicate cost differences under various handling techniques, the studies will not, in themselves, be a vehicle for change. Change will come from the actions of participants in the system. Since the system is not operated by a monopoly, the theoretically ideal solution, as possibly portrayed by the study by the Grains Group, is unlikely to be attained even in the long run. The "optimal" solution will be attained only if the participants are able to make choices which are primarily based upon the correct economic signals. Moffat, who was the General Manager of Manitoba Pool Elevators at the time, refuted the concept of central planning to obtain an efficient handling and transportation system.

> We are convinced that any one plan for western Canada is completely impractical. In fact I think 'ridiculous' is the only word to use for any proposal to devise a plan that can be applied to the three provinces. For this reason Manitoba Pool has never taken much part in theoretical studies of general principles. In the future we will probably take even less part, because we simply can't afford to waste the time and staff on studies of general theories which don't apply to the Swan

River Valley or to Grandview or to Deloraine or to the area between the Assiniboine River and Riding Mountain Park.[27]

This study does not deal with the entire grain handling and transportation system, but rather with one participant; the grain elevator system. It has probably been argued on more than one occasion that to know where you are going you should know where you have been. It would be somewhat presumptuous to assume that this study will add substantively to the future direction of the industry. We trust, however, it is not presumptuous to assume that this study provides a deeper understanding of those features of the industry which are the object of the thesis.

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[27] R. E. Moffat, "The Grain Handling Companies," Grain Handling and Transportation Seminar, Canada Grains Council and the University of Saskatchewan, Saskatoon, March 8-9, 1973, p. Two-10.

CHAPTER II

THE EFFICIENCY ATTRIBUTES OF VERTICAL INTEGRATION IN THE GRAIN ELEVATOR INDUSTRY

The country and terminal grain elevator systems in Canada have been vertically integrated since the earliest days of the grain industry. This chapter develops the possible reasons why the industry organized in this fashion by making use of theory developed in the field of vertical integration.

The grain elevator system functions in such a way that the principal use of country elevators is to receive grain by truck from farmers for shipping by rail to terminals. Terminals receive grain from country elevators in preparation for sale to intermediate or end users. Terminal elevators, as appropriate to their function, are very much larger, handle commensurately larger volumes of grain and have maintained a higher handling to capacity ratio than have country elevators. For the crop year 1975-76, for example, the average storage capacity of a country elevator was slightly under 90,000 bushels, whereas the average storage capacity of a terminal elevator was about 5 million bushels.[28] The functions and relative sizes of the two types of elevators demonstrate that:

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[28]Statistical Handbook 76, Canada Grains Council, Winnipeg, p. 184.

1. country elevators are feeders for terminal elevators, and
2. several hundred feeders, or country elevators, are necessary to supply the needs of a terminal elevator.

It further follows that if a grain company is to integrate vertically from the terminal system to the country system, it must be horizontally integrated in the country elevator system as well. The reason for this is simply that given the relative sizes of terminal and country elevators, it would not appear that any economic advantage could be gained from a terminal elevator company owning and operating one country elevator. It does not follow, however, that if a firm were horizontally integrated at the country elevator system that it would necessarily be integrated into the terminal elevator system. The reason is that a firm with a fairly large line of country elevators could operate at that level alone if reasonable terms of trade with terminal elevators could be acquired. Around the turn of the century there were country elevators operating without being tied to a particular terminal. However, by the 1920s, virtually all country elevators were integrated vertically to terminal elevators or to end users such as flour mills.

For our purposes, the definition of vertical and horizontal integration provided by Kohls are sufficient. "Vertical integration occurs when a firm combines

activities unlike those it currently performs but related to them in the sequence of marketing activities."[29] "Horizontal integration occurs when a firm gains control over other firms performing similar activities at the same level in the marketing sequence."[30] Implicit within Kohls' definition of vertical integration is that a firm which is vertically integrated transcends the market mechanism through managerial fiat. It is this feature of the vertically integrated firm which has created interest among economists generally and for us within the Canadian grain elevator industry.

It is interesting to note that much of what might be termed the theory of vertical integration emanates from efforts by economists such as Coase, Robbins, Robinson, Marshall, Clark and Robertson in defining a firm.[31] Coase defined a firm as consisting of "the system of relationships which comes into existence when the direction of resources is dependent on an entrepreneur."[32] Coase argues that the "main reason why it is profitable to

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[29] R. L. Kohls, Marketing of Agricultural Products, Third Edition, New York: The Macmillan Co., 1968, p. 32.

[30] Ibid., p. 32.

[31] R. H. Coase, The Nature of the Firm, Readings in Price Theory, Stigler and Boulding, editors, Homewood, Illinois: Richard D. Irwin, 1952, pp. 331-351.

[32] Ibid., p. 339.

establish a firm would seem to be that there is a cost of using the price mechanism."[33] In this regard, the pursuit of profit maximization by an entrepreneur will encourage the development of the firm to the point of indifference between expanding in a vertical, horizontal or conglomerate direction or making use of the price mechanism as the resource allocator among functions. Or as Coase stated:

> We may sum up this section of the argument by saying that the operation of a market costs something and by forming an organisation and allowing some authority (an 'entrepreneur') to direct the resources, certain marketing costs are saved. The entrepreneur has to carry out his function at less cost, taking into account the fact that he may get factors of production at a lower price than the market transactions which he supersedes, because it is always possible to revert to the open market if he fails to do this.[34]

Emanating from the work of Coase, the theory of vertical integration progressed first in the direction of technical complimentarities for cost savings and then into a more generalized search for cost savings. Bain, for example, in speaking on the former states that:

> ...the cases of clear economies of integration generally involve a physical or technical integration of the processes in a single plant. A classic case is that of integrating iron-making and steel-making to effect a saving in fuel costs by eliminating a reheating of the iron before it is fed to a steel furnace. Where integration does not have this physical or technical aspect--as it does not, for example,

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[33] Ibid., p. 336.

[34] Ibid., p. 338.

> in integrating the production of assorted components with the assembly of those components--the case for cost savings from integration is generally much less clear.[35]

Williamson, in speaking on the latter, states that:

> In more numerous respects than are commonly appreciated the substitution of internal organization for market exchange is attractive less on account of technological economies associated with production but because of what may be referred to broadly as 'transactional failures' in the operations of markets for intermediate goods.[36]

It is the latter position of Williamson which is germaine to an analysis of vertical integration in the Canadian grain elevator industry. Before examining Williamson's theory it is useful to outline several characteristics of the industry which are pertinent to the study of vertical integration.

A. Output, Cost and Concentration Characteristics of the Grain Industry

i) Country elevators

As indicated above, country elevators act as feeders for terminal elevators. The size of a country elevator is determined to a large degree by the amount of grain it can expect to acquire from the area it is planned

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[35] J. S. Bain, Industrial Organization, New York: John Wiley and Sons Inc., 1959, p. 381.

[36] D. E. Williamson, "The Vertical Integration of Production: Market Failure Considerations," American Economic Review, Vol. 61, No. 2, May 1971, p. 112.

to service. At the turn of the century, when the country elevator system was in the developing stage, the size of an elevator was basically limited by the ability of farmers to deliver grain by horse and wagon and by competition from other elevators at a particular, or nearby, site. As a result, country elevators were built with a storage capacity of about 30,000 bushels and could expect to handle less than 100,000 bushels of grain in a year. Over the ensuing several decades, country elevators were expanded in size due to several factors which include federal government storage policies, improved transportation methods and infrastructure, improved technology of grain elevators and various programs undertaken by grain elevator companies which were designed to improve productivity within the country elevator system.[37] These factors have resulted in country elevators being (in 1975) on average about 90,000 bushels in storage capacity and handling slightly greater than 200,000 bushels. A common characteristic of country elevators, throughout their history, is their ability to handle several times the volume that has been generally handled. For example, whereas over the long run the country elevator system has

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[37] In regard to the latter point, see: O. P. Tangri, D. Zasada, and E. W. Tyrchniewicz, Country Grain Elevator Closures: Implications for Grain Elevator Companies, Center for Transportation Studies, University of Manitoba, Winnipeg, Manitoba, Research Report No. 10, January 1973, pp. 7-10.

attained a handling to capacity ratio of about two, it has been claimed, as will be discussed in Chapter III, that a ratio of from four to six could be sustained.

Because of the highly variable nature of Canadian grain production and export demand, the output of the country elevator system and of each grain elevator tends to be highly variable. For example, receipts of grain at country elevators were 835 million bushels in 1966-67, fell to 583 million in 1968-69 and rose gradually to a peak of 1.02 billion bushels in 1971-72.[38] As will be shown in Chapter V, the operation of a country grain elevator exhibits a very high level of fixed costs. These factors result in a per bushel operating cost which is low in relation to average total cost and net revenue which can vary substantially year by year. As a result, the pricing of services, whether established by the industry, or after 1911 by the Board of Grain Commissioners, is complicated by the problem of falling short run operating cost. A further problem related to the pricing of services is that the handling and storage functions exhibit a high degree of common costs. As a result, the determination of price for the separate services by the regulators has not been based upon marginal cost criteria.

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[38] Canada Grains Council, "State of the Industry," Winnipeg, September, 1973, Exhibit 3.

A further characteristic of country grain elevators is their specific use and extremely long useful life. It is not uncommon for grain elevators to last for forty years. The decision to invest in the construction or purchase of an elevator by a company is undertaken, therefore, with an added risk factor relative to many other uses for the money of the owners or shareholders. In recent years some very old and small grain elevators have found an alternate use by being purchased by farmers for on farm use. This phenomenon, however, does not in any significant sense reduce the risk to owners or shareholders.

ii) Terminal elevators

Terminal grain elevators were developed to collect, store and prepare grain to export standard for loading into boats for final sale. By their very nature of acting as an assembler from country elevators, they are much larger than the feeders they serve. As a result, there are far fewer of them and at least in the very early days of the industry their ownership was much more concentrated than that of the country elevator system. As is the case of country elevators, terminal elevators exhibit a high degree of fixed costs resulting in a relatively low

average operating cost.[39] As well, several functions within a terminal elevator, such as handling and storing, exhibit common costs. These factors have resulted in the pricing of these services on something other than a marginal cost basis.

The terminal elevator system is subject to the same vagaries of world demand and domestic grain production in respect to the output of the terminal system. Using the same three years as we did for the country elevator system, as an example, the primary receipts of the terminals at Thunder Bay and the Pacific Coast combined were 975 million bushels in 1966-67, 418 million bushels in 1968-69 and 921 million bushels in 1971-72. As with the country elevator system, the net revenue from the handling and storage of grain is highly variable because of the cost and output characteristics.

B. Williamson's Theory of Vertical Integration

The theory developed by Williamson regarding the economic rationale for vertical integration falls under two broad headings; internal organization and market failures.[40]

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[39] P. S. Ross and Partners, Cost Ascertainment Study of Thunder Bay and Pacific Coast Terminal Grain Elevators, Prepared for the Grains Group, October 1970, Exhibits V and VI.

[40] D. E. Williamson, "The Vertical Integration of Production: Market Failure Considerations," American Economic Review, Vol. 61, No. 2, May 1971, pp. 113-122.

i) Internal organization

With respect to the internal organization of a firm, Williamson identifies three areas under which internalization may be commended as a substitute for a market; incentives, controls and inherent structural advantages. The incentive to internalize will exist where transactions conducted at arm's length by independent firms would result in difficult and protracted bargaining. Control features relate to the ability to enforce results. In an interfirm setting control is determined by the nature of the contract established between firms, whereas in the intrafirm setting, control is determined through management. With respect to what is termed the inherent structural advantage, Williamson cites the possible economy of information exchange. For example, in complex matters communication is facilitated by common training and experience.

ii) Market failures

Market failures as defined by Williamson refer only to situations whereby transaction costs are economized through internalization relative to market exchange. In this regard, three possible areas for market failure are identified: static versus dynamic markets, contractual incompleteness and the risk of strategic misrepresentation.

With regard to static markets, Williamson argues that provided small numbers exist (bilateral oligopoly), vertical integration through merger or bargaining with

respect to contract terms and conditions is likely to be an indifferent solution. Parties to such bargaining are essentially equals and therefore setting a long term agreement somewhere along a contract curve is probably not substantively more difficult than determining the asset valuation for a merger between firms. According to Williamson, the same condition may not hold, however, in a dynamic market.

Contractual incompleteness may occur in situations which are essentially dynamic in nature such as with technically complex products or where substantial volume changes take place in a changing environment. The problem which occurs is that contract terms cannot be stipulated exactly for the changing conditions. As a result, a long term contract must make way for what Williamson terms an adaptive, sequential decision-making process. Short term contracts will accomodate such a process, but a series of short term contracts would be encumbered if the investment required is specialized, has a long use life and if the first contract results in less than satisfactory terms for one of the parties. This could occur where one party has access to superior technical knowledge or if other "first mover" advantages exist.

Strategic misrepresentation as defined by Williamson occurs when there exists both ex ante and ex post uncertainty. Under such conditions, enforcing the terms of

a contract could be impossible and therefore internalization is encouraged because the firm's access to data ex post is superior than in the case of market exchange between firms. Internalization will circumvent the possibility that contract terms will be opportunistically exploited by one or both parties to a contract.

C. Williamson's Theory Applied to the Canadian Grain Elevator Industry

The study of vertical integration in the Canadian grain elevator industry must be conducted with a view to the conditions which existed at the time the integration occurred, which was about eighty years ago. Mr. F. B. Wells, representing the Peavey interests, stated the following in his brief to the Senate Committee studying Bill Q in 1911.

> Not only has our fixed investment in Canada increased with great rapidity during the past five years, but because of our known financial responsibility and long experience as grain merchants and warehouseman, we have been able to extend credit to our Canadian corporations, which has made it possible for them to aid materially in the marketing and handling of the grain crops in the territory which they serve.
>
> Much of our country construction up to date has been of a pioneer nature; in some instances, the elevators being built in advance of the opening of the railroad, thus affording the farmer a market for his grain; and in such a development we have naturally been obliged to count upon future rather than immediate profit.[41]

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[41]The Senate Select Committee, Minutes of Proceedings, Bill Q, "An Act Respecting Grain," Ottawa: Government Printing Bureau, 1911, p. 14.

The comments made by Mr. Wells indicates two features of the elevator industry important to the analysis.

1. For the time period in which integrated firms were establishing their presence in the industry, the conditions were dynamic.
2. The building of facilities in advance of the opening of rail lines indicates the existence of "first mover" advantages.

As well, it is important to realize that while the output of the elevator industry (either country or terminal) is grain, the output is not a homogeneous product. Within the various grains such as wheat, oats, barley, etc. there exist several grades which results in a large combination of products which make up the output. The farm output of grain can change in quantitative terms by type or by grade rather quickly during the growing season, making the flow of information from country to terminal locations a valued commodity.

i) Internal organization applied to the grain elevator industry

With regard to the issues raised by Williamson, regarding internal organization, all three points can be related to the grain elevator industry as yielding inducements to internalization through vertical integration. An incentive to internalize exists where protracted bargaining between parties can be expected. As we have

already indicated, a terminal elevator will require supplies of grain from hundreds of country elevators in order to achieve a sufficient volume of grain to be profitable. Even if the country elevators were owned by a few firms, the number of transactions among firms is likely to be large unless arrangements are made for country elevators to forward virtually all purchases from farmers to a particular terminal. While it is conceivable to imagine such a tie-in between independent firms, the high degree of harmonization necessary regarding such issues as:

1. price spreads between farm and country elevator and country and terminal elevator,
2. which grains should be purchased at the country elevator level, and
3. which grains should be moved out of the country elevator to the terminal at what point in time,

would appear to favour internalization.

Because of the complexity and the number of transactions which would occur, internalization offers greater control of the process than would the market. The integrated firm has full control of internal resources such as manpower, recordkeeping, financial statements and management as a conflict resolution mechanism. Conflict between firms cannot be resolved in a fashion similar to that within a firm and therefore may take the form of costly and time consuming litigation or bargaining. Since the country and terminal elevators are totally mutually

interdependent, any mechanism which would offer control efficiencies, as would vertical integration, would, other things being equal, be preferred.

In regard to inherent structural advantages, Williamson cites information exchange and communications as offering efficiency gains for vertical integration. Accurate and timely information provides an invaluable ingredient to any segment of the grain trade in attaining its goals. In cases such as country and terminal elevators which are totally interdependent, information regarding available stocks at all locations and estimates of stocks and production at the farm level would tend to reduce the possibility of divergent expectations among the two levels of grain elevators. Vertical integration also offers the control to audit such information across the successive marketing stages increasing the confidence of users of the information. By reducing the possibility of divergent expectations and by increasing the potential for accuracy and timeliness of information, vertical integration would appear to reduce risk and uncertainty over market transactions. This is most likely to be the case where the sequential markets are highly interdependent as is the case of country and terminal grain elevators.

ii) Market failures applied to the grain elevator industry

With regard to static markets, Williamson argues that in cases of bilateral monopoly or bilateral oligopoly

long term or once-for-all contracts would prove to be no more difficult than vertical integration through merger. As we have stated above, the time period of concern here, regarding the grain elevator industry, was anything but static. Vertical integration did not, in the main, transpire by way of merger in the development stage but rather by elevator companies building country elevators to service their terminal elevators. A rationale for this form of development was offered by Adelman and it would appear to apply to the grain elevator industry.

> ...If we start with an industry in its earliest years, when it is an innovation, it is at first adapted to and fills a niche in the existing structure of markets and of factor supply. It is essentially a rearrangement of known and available resources. Few can discern its large possibilities of growth and for pushing the capacity of supplying industries and firms. ...A sluggish response will often force the growing firm to provide its own supplies and/or marketing outlets.[42]

The comments made by Adelman and Wells indicate that for rapidly developing industries vertical integration, given certain conditions, may very well be inevitable. In the Canadian grain elevator industry, the opportunities for growth and profit were seen by American interests which were already operating in a fully integrated manner in the

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[42]M. A. Adelman, "Concepts and Statistical Measurement of Vertical Integration," Business Concentration and Price Policy, A Conference of the Universities --National Bureau Committee For Economic Research, Princeton: Princeton University Press, 1955, p. 319.

United States. In this sense, vertical integration of the Canadian industry was a natural occurrence.

Williamson's concept of contractual incompleteness relates to the problem of contract specification which results in an incentive to integrate vertically. The argument appears to apply very well to the dynamic nature of the grain elevator industry. In regard to the argument of contractual incompleteness, the use of the word dynamic refers not to the growth period of the industry as discussed above, but rather to the yearly or seasonal fluctuation in output and prices which add to the risk of operating within an industry.

If we assume that vertical integration did not exist, the market structure could have been either an oligopsony at the terminal elevator level and an oligopoly at the country elevator level or an oligopsony versus a highly competitive country elevator system. The latter, however, would not likely exist for long. If the oligopsony was able to extract what might be regarded as more than favourable terms of trade from the competitive country elevator operators, the country operators would form an oligopoly either through horizontal integration or by commission agents operating on behalf of a great number of country elevators. The structure of the market, because of the total interdependency and the need for countervailing power on behalf of country elevators, would in our opinion, tend to become one of bilateral oligopoly.

Regardless of the concentration at either level of the industry, as long as the country and terminal elevators were not vertically integrated in an ownership sense there would exist the necessity of the transfer of ownership of grain from country to terminal elevators by contracts. The transfer of ownership from country to terminal elevators could take the form of spot sales or short term or long term contracts.

Spot sales offer maximum flexibility to firms since changing conditions of supply, price and demand can easily be translated into the buying or selling plans of firms. This flexibility, however, adds uncertainty and therefore cost, particularly at the terminal level, where sales are arranged months in advance. The expertise needed to analyze changing markets and to translate the changing conditions into price offers to country operators would exist with terminal operators because of their involvement with export markets. It is doubtful that similar expertise would exist at country elevator operations except in the case of substantial horizontal integration at that level of operation. The necessity to translate world prices as indicated by prices on the Winnipeg Grain Exchange at the country level would be essential to the financial viability of a country elevator. The need for pricing expertise would therefore encourage integration at the country elevator level. As country elevator operations became larger through horizontal integration, risk would increase

because of the greater volumes of purchases of grain from farmers which must be financed and because of the large capital investment in country elevators. Because of the inherent uncertainty involved with spot transactions, this form of ownership transfer would not likely endure for either country or terminal elevator operators.

The ownership transfer of grain on a spot basis also has disadvantages related to the number of transactions which must be formed. Each transaction adds to the cost of doing business and the cost will be borne domestically on the assumption that exporters of Canadian grain cannot influence world prices. A further argument against spot transactions lies with the nature of the investment in country and terminal elevators. Investment in either country or terminal elevators involves a long run commitment because of the exceptionally long use life of facilities and because of the specialized nature of the facilities. Under these conditions, spot transactions are unlikely to suit the particular needs of the grain elevator industry.

Short term contracts between terminal and country elevator operators retain the advantages of spot transactions in being flexible and adaptive to changing market conditions. They retain, as well, the disadvantages related to supply continuity, investment risk and the number of transactions or drawing up of numerous contracts. In addition to the number of contracts there is the

difficulty of specifying what is in the contract. The contract would have to specify such things as price, quantity, grade, dockage and delivery terms. If the contract deals only with grain in store, the difficulties may be no more severe than spot sales. However, if the contract involves future flows from farms, then contingency arrangements must also be provided. Divergent expectations as to what the terminals believe their needs will be and what country operators can expect to receive from flows, will complicate the drawing up of terms of the contract.

Long term contracts would appear to suit the problems related to investment in facilities and continuity of supply. However, the longer the term the more difficult it becomes to specify the contract because of divergent expectations and contingency provisions. The longer the term of the contract the greater becomes the probability of opportunistic behaviour by parties to the contract. With market conditions changing frequently as occurs in the grain business, opportunities for either party to achieve greater gains outside the contract are bound to exist. Under these circumstances, the terms of a contract can only be reached through a great deal of time and effort devoted to specification which must include all possible contingencies. A contract would likely specify, for example, actions which would follow a default by either party. However, litigation or haggling which would follow

a default may turn out to be what one might term a negative sum game; that is, everyone loses. In this respect, an ounce of prevention is worth a pound of cure, and parties to a contract would probably provide for audit procedures to monitor the performance of the terms of the contract by the parties. The complexity of establishing a contract, particularly under conditions of dynamic markets and a high level of interdependency between successive stages of production, favours internalization through vertical integration where joint profit maximization becomes simplified.

Williamson's argument, in regard to the risk of strategic misrepresentation, pertains to difficulties in ex post evaluation of, for example, broken terms of a contract. The probability of the occurrence of strategic misrepresentation would be directly proportional to the degree of opportunistic behaviour available to the parties to a contract. Opportunistic behaviour in turn would be directly related to the dynamic nature of the industry, the degree of difficulty in contract specification, the degree of difficulty in controlling contract performance, and the type of contract (i.e., short term, long term). The greater the degree of difficulty in ex post evaluation the greater is the incentive to internalize. It may be the case that the issue of misrepresentation has a greater moral as opposed to economic content. Nonetheless, if vertical integration reduces risk of strategic

misrepresentation at a cost less than the cost of bearing the risk, integration will be encouraged.

D. Williamson's Theory in Conclusion

Williamson's theory in support of vertical integration is based upon the premise that transaction costs can be reduced, in certain cases, by substituting the market with internal organization. The simple rule of profit maximization demands that output be increased to the point where marginal revenue equals marginal cost. In principle, the decision of a firm to expand to a forward or backward function of the same industry is no different than the decision as to whether or not to produce one more unit of output at a particular level of production. Williamson has provided a framework for the marginal decisions which must be made. In this regard, we have attempted to make use of his framework to make judgements respecting the development of vertical integration in the grain elevator industry. On the basis of the theory one cannot conclude with certainty that internal organizational advantages and market failures, taken in the narrow sense, are the reasons for vertical integration within the industry. Nonetheless, given the characteristics of the grain industry, we would conclude that the framework at least provides plausible reasons for the argument that the incentives to operate the industry in an integrated manner existed at the time that the industry organized in that fashion.

While the conclusion is not definitive, two forms of transaction costs which are likely reduced because of vertical integration are offered below.

i) Hedging costs

If the terminal and country elevators were divorced in ownership, it is probable that both levels of elevators would hedge purchases to reduce risk. Dual hedging could be circumvented if agreements were made to the extent that the terminal operator would purchase everything that was made available by the country elevator operator on a cost plus basis. Contracts of this type would be most unlikely given the nature of risk within the industry. The hazard of such an open contract is that the country operator could pay any price merely to obtain volume. The contract could be refined to the point where the terminal operator would specify the price to be paid by the country operator and offer a margin above the set price. The specification of price may not be an insurmountable barrier to a non-integrated industrial structure, but when coupled with the great variety of types and grades of grain, we contend the problems are significant. Clearly as one refines the argument, we enter back into the problems of specification, opportunistic behaviour and control of performance which we indicated encourages vertical integration. As a result, if an extremely tight contract cannot be reached at other than excessive cost and risk, the parties will operate

closer and closer to a spot basis and dual hedging would likely result. Vertical integration circumvents the added cost.

ii) Commission merchant's fee

The role of the commission merchant and the fee paid for the service is described by the Grain Markets Commission of 1914 as follows.

> The commission merchant is generally credited with earning the easiest money in the grain trade. His actual investment of capital is small. He conducts his business largely upon a line of credit at the bank from which he pays advances to his clients upon the security of the bills of lading of the grain which is consigned to him for sale. As he need neither buy nor sell for his own account, he is considered to carry no risk and to be in a position to do the cleanest kind of business in the trade. Unlike the line elevator companies, he has not the large capital expenditures involved in the construction of elevators, nor has he the grief and uncertainty attached to the operation of them. Unlike the exporter, he has not to take a certain amount of risk as to the movement of prices, the vagaries of freight rates and his ability to make deliveries on them. Unlike the miller, he has no particular concern as to whether the price is high or low; his commission is the same in any case. Doubtless the commission man has his troubles, and among them he probably counts the fact that his earnings are fixed by a rule of the exchange which places his commission at one cent per bushel. All of the evidence, however, goes to show that in making this rule the exchange dealt generously with the commission merchant.[43]

Assuming that vertical integration did not exist and that longer term contracts cannot be struck between

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[43] Report of The Grain Markets Commission of The Province of Saskatchewan 1914, Government Printer, Regina, 1914, p. 31.

terminal and country elevator operators, there would be vast potential for the role of the commission merchant in arranging sales between the two levels of elevators. Through vertical integration the role of the commission merchant is virtually eliminated for the firm. Under separation of ownership the commission merchant would likely operate on behalf of country operators but the terminal operator would also maintain personnel for the buying of grain. Under an integrated structure that staff would be deployed to the efficient transfer of grain from country to terminal elevators and in this respect would assume the role of the commission merchant. It is likely that a very large proportion of the one cent per bushel commission fee that was fixed by rules of the Winnipeg Grain Exchange is saved by internalization of the selling and buying functions. Considering that the large integrated firms were dealing with several million bushels of grain per year, the savings would be substantial.

E. The Defense of Vertical Integration by the Grain Elevator Companies

The review of Bill Q by a Senate Committee in 1911 which concerned itself, in part, with vertical integration witnessed the following comments regarding the integrated structure of the grain elevator industry.

> The investments so made have been increased in the succeeding years, until they now represent some millions of dollars. The beginning of the elevators dates from 1902, when the Canadian Elevator was organized, and has grown from building new elevators and acquiring those

already built, until the company doing country business has on the list owned and operated, or did until the government of Manitoba purchased some of those elevators, over three hundred country grain elevators, representing an investment of over two million dollars. Now, when a man builds a country elevator his investment becomes fixed; he cannot move it like a stock of groceries or lumber or implements, to some other town, in case competition becomes severe, or as his investment becomes injudicious; but he must seek his return from that community by fixing and building up a trade tributary to it. We find ourselves, therefore, in a way, citizens of three hundred different towns, to the extent at least that our money is invested there, and all our interests lie in the prosperity of these communities. There are two ways of conducting a grain business: one by a system of independent buyers, commission men, terminal elevators and carriers, and the other by one interest from the farmer to the miller or exporter.

Under the first system the interest of the farmer ceases when he sells his grain in the country; the country elevator buyer when it is loaded on a car and a draft drawn on the Commission house in Winnipeg; the commission man when he has made his sale and secured his commission, the miller when he has closed the purchase at the best price which a man not interested financially in the grain is willing to take in order to secure that commission; the terminal elevator operator (if he is not owner of the grain) when he has taken in and loaded out the grain and received his storage and handling charge; the exporter when he has deposited his foreign exchange and the lake carrier when he has received his freight.

Please note that the only parties who have any permanent investment dependent on grain only, are the owners of the country houses and the terminal elevators.

The second method of handling grain is the one which we pursue, viz., the purchase from the farmer and carrying of the investment in the grain either in the country or at the terminals until it is finally sold to the miller for use, or to the exporter for shipment. Believing that as an economic question this is the right way, we have constructed two terminal elevators--one, the Empire Elevator at Fort William, and one, the Thunder Bay Elevator at Port Arthur.

> While the principal reason for building these elevators was to carry out the second method of doing business, there were others. When the Empire elevator was built, nearly all the storage at Fort William was of wood, and the total elevator capacity there was, in our opinion, too small to handle the prospective crops of the Northwest to the best advantage. Furthermore, there was no system for the registration of grain in terminal elevators. By building our own grain in our own fireproof bins and to carry it until marketed, paying the terminal elevator charges to our own elevators.[44]

The following are questions and answers at the Senate hearings.

> Q. He left the impression on my mind that the Canadian Northern people would not have gone into that lease without there was an undertaking on the part of your people to build a certain number of elevators, through the country? --A. I will explain that and I will go into detail a little. I was in New York--in the first place Mr. Peavey himself had been approached, through his life, by the bankers to go into Canada. Twelve years ago I went up there to investigate. Three of the principal line companies that are now quoted here were for sale, offered to us. The conditions surrounding the business at that time were not advantageous, because we are bankers and warehousemen, and we won't go in where we cannot absolutely sell our grain for future delivery. We do not speculate at all. So the conditions at that time were not auspicious. It had been talked by some of our friends in Canada to the Mackenzie & Mann interest several times, so that they were familiar with us and our business, and name, and I met Colonel Davidson in New York five years ago, and he said the Mackenzie-Mann people would like to have us take one of their terminals. I said we would not consider going into Canada at all unless we had a terminal. He said, 'I think if you will take the matter up with them you may be able to obtain a lease of those terminals.' I said, 'All right, I will take it up with my associates.' When I got home, Mr. Wells and I wired to them that we would be very glad to confer with them;

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[44]The Senate Select Committee, op. cit., p. 8.

> and we went to Toronto, and one of the conditions, we would not even investigate the business unless we had a lease of those terminals, knowing the general trend of the business, knowing what ultimately must take place. They finally agreed to that, and in our written agreement we agreed to build fifty country elevators to start with; before we would even consider that we must have the negotiations settled with regard to the terminals.[45]
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> Q. It gets down to this; the volume of business done by a terminal elevator is contingent upon the energy thrown into the volume of business done through the country elevator? --A. Yes.
> Q. Cut off your connection and you have nothing to rely upon? --A. No.[46]

The comments by those in the grain trade noted above claim that for purposes of assured supplies, reduced cost and the reduction of risk, vertically integrated operations were essential. The comment made by Wells, as noted above, implies further that the integrated structure provides for the availability of lower financing costs because of the experience and knowledge of those who had been involved within the American grain trade. The arguments by the industry are consistent with Williamson's theory. The following comments made by Mitchell, while applied to the oil industry, are also applicable to the grain industry in our opinion.

> ...businessmen do not usually couch their arguments for vertical integration in terms of contractual or communication problems. Typically, they will think in terms of the importance of reliable

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[45]The Senate Select Committee, ibid., p. 25.

[46]The Senate Select Committee, ibid., p. 42.

supplies, assured markets, the reduction of risk, and lower financing costs. Yet, while what he says is seemingly different, the businessman is in fact saying the same thing as the economist. When the businessman says he must acquire an upstream supplier to assure reliable supplies he is saying that it is impossible to write an ironclad and complete contract with an upstream supplier that gives him the assurances he needs to run his plant efficiently, or that no upstream company knows exactly what he requires and none is likely to know it in the near future. In brief, because of the impracticability of perfect contracting or the lack of communication of his needs, it is cheaper and more timely for the businessman to do it himself.

The lower risks and reduced costs of capital often cited as an advantage of certical integration must also stem from the transactional advantages of the integrated firm. The integrated firm can be viewed as a chain of business entities that are able to enter into longterm complete contracts, while the nonintegrated firm can be viewed as one of a chain of business entities that is constrained to deal more often in spot markets because of contractual problems. Because the firm possesses long-run assurances on the terms of the supply of its raw materials and the demand for its product, each department of the integrated firm can plan for and realize a less variable level of output and less variable unit costs in the face of fluctuations in demand and supply at each stage of the market. Knowing its future level of operations with relative certainty permits the integrated firm (1) to incur lower average costs since knowledge of future rates of operation generally permits more specialized (less flexible) facilities, and (2) to incur smaller variations in levels of output and hence smaller variations in average unit cost. This second advantage results in less variable profits and hence a less risky investment for the stockholders and bondholders of the integrated firm.[47]

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[47] E. J. Mitchell, "Capital Cost Savings of Vertical Integration," in Vertical Integration in the Oil Industry, E. J. Mitchell, editor, American Enterprise Institute for Public Policy Research, Washington, D. G., June 1976, p. 80.

The integration of country and terminal grain elevators was an innovation to the Canadian grain industry. As we have argued above, integration likely provided for substantial efficiency gains within the industry. The country elevator transformed the handling of grain from a labour intensive to a capital intensive operation by replacing flat warehouses and the bagging or shovelling of grain. The common ownership of country and terminal elevators provided further innovation and efficiency gains by facilitating the transfer of grain to terminal positions. That change is resisted might be regarded as a human failing and to be expected when significant transformations occur within a particular field of endeavour. The complaints by farmers against integration per se, were likely misguided in that they did not take account of the efficiency gains made possible through integration. Assuming that the value of Canadian grain is determined in a competitive world market it is expected that mistrust of the sharing of that value by the various sectors involved would occur as a particular sector becomes concentrated.

F. Vertical Integration and Anticompetitive Effects

As we have noted previously, if vertical integration takes place between country and terminal operations, there will also be substantial horizontal integration at the country elevator level. Because of the size economies of terminal elevators and their role as assemblers of grain

from country elevators, the industry can support only a small number of terminal elevator operators. With fully integrated firms the small numbers will be translated directly to country elevator operations as well. Without entry barriers, particularly at the country elevator level, a fringe group could possibly operate at that level. This occurred in the very early years of the elevator industry as is evident from the statements made by members of the grain trade mentioned above (see ff 13, 14). In respect of the concentration created because of the development of fully integrated firms, three possible anti-competitive effects are examined.

i) Output and price

Economic theory indicates that the price-output relationship between highly competitive versus highly concentrated industries is that, other things being equal, output is reduced and prices rise as markets move away from perfect competition. Output within the grain elevator industry relates to the amount of grain moving through country and terminal elevators. The output of the industry is dependent upon grain which is produced on farms and upon domestic and foreign demand. Within the ranges of output that country and terminal elevators have operated over the long run, it would appear that per unit operating cost decline rapidly at low levels of output and less rapidly at higher levels of output. Marginal revenue, on the other hand, could be considered to be constant

because of agreements made within the grain trade. Provided that marginal revenue is greater than per bushel operating cost, there would be no incentive for grain companies to restrict output.

Revenue within the grain elevator industry is determined by handling and storage charges, buying margins and related volumes of grain. As will be explained more fully in Chapter IV, handling and storage charges were fixed by the elevator companies prior to 1912 and subsequently by the Board of Grain Commissioners. Buying margins were established by the elevator companies on the basis of the closing prices on the Winnipeg Grain Exchange. As is mentioned in Chapter IV, the practice of price quotations at country points based upon the decisions of members of the grain trade led to the belief by farmers that they faced a virtual monopoly in the selling of their grain. The following exchange which took place between a member of the Senate and a member of the grain trade during review of Bill Q provides the rationale of the grain trade in the fixing of grain prices. The Q and A refer to questions and answers.

> Q. Does not the grain exchange arrange the price of the grain every day? --A. The grain exchange does not. The market price is made in open competition. There is a certain price, the closing market price, and the price is sent out.
>
> Q. If you were operating an elevator in a town, the grain exchange would send you the price? --A. No, I do not think the grain exchange has anything to do with it. There is some association sends out the price.

> Q. They all get the one price? --A. Yes.
> Q. And it emanates from one source in Winnipeg? --A. Yes. You can only have the one price in the market, no matter who fixes it.[48]

However, even if the price set for a given type of grain (by grade) was the only price offered by country elevator operators, competition existed respecting grade and dockage which affects the ultimate return to the farmer. As well, non price competitions such as the competency and honesty of the agent, various other services offered by the particular grain company such as sales of fertilizer and the provision of credit, would all be involved in attracting patronage from farmers.

The fixing of prices to be offered farmers by the grain trade would nonetheless provide for highly predictable margins for the elevator companies. If the grain companies could agree in the first instance to fix margins, there would probably not exist any difficulty in ensuring that the margins were not shaded by any of the firms. Shading of margins by offering a higher price than that established would quickly be matched by competitors. On the other hand, any attempt to raise margin by one firm would not be followed as farmers would quickly learn of the action taken and no sales or drastically reduced sales would likely prevail for that company. The various companies being aware of the probable reactions which would ensue from any deviation to the set price would

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[48] The Senate Select Committee, Minutes of Proceedings, Bill Q, "An Act Respecting Grain," Ottawa: Government Printing Bureau, 1911, p.37.

adhere to the pricing schedules. The general adherence to such a pricing policy by the grain elevator industry would be because each firm believed that the demand curve for their services was "kinked"[49] at the set price for grain. The kinked oligopoly demand curve is generally related to price rigidity. The reference here is not to rigidity in the price of grain but to the rigidity in the buying margins of grain companies.

One cannot prove that buying margins were absolutely adhered to by members of the grain trade. However, there are various pieces of evidence or assumptions that lead one to believe this was the case:

1. the quotation provided above regarding "one price in the market,"
2. there is no discussion whatsoever in the Senate proceedings regarding Bill "Q" by members of the grain trade that the buying margin was not adhered to,
3. complaints by farmers indicate that prices were fixed and adhered to (see Appendix B),
4. it is most unlikely that a grain elevator operator could unilaterally disregard the price list which was received from his head office on a daily basis, and

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[49] P. M. Sweezy, Demand Under Conditions of Oligopoly, American Economic Association, Readings in Price Theory, Homewood, Illinois: Richard D. Irwin, 1952, pp. 404-409.

5. the principle of fixing the country elevator price relative to the terminal price which was basically setting the buying margin was adopted by the Board of Grain Supervisors (see Chapter IV), indicating the industries acceptance of the practice.

It might be argued that because competition was based upon grade and dockage and other non price items, that the marketing margin was not strictly adhered to by members of the grain trade. There is clearly some validity to the observation. However, grade is not as precise a concept, as is price, as an indicator of what any particular elevator agent or elevator company is offering as an inducement to farmers. In this regard, it is possible that if competition on the basis of grade got "out of hand" this could be reflected by agreeing to increase the buying margin at a later date. The Canada Grain Act (1912) also provided that farmers could sell on a street basis to an elevator subject to official grade and dockage. If farmers were generally aware of the provision and made use of it, the competitive element, based upon grade and dockage, would not exist and buying margins would be intact.

ii) Barriers to entry

It is most unlikely that vertical integration could act as an absolute barrier to entry. If profits were at monopoly levels entry by firms from other industries which

could acquire technical expertise and arrange for capital either internally or externally could enter the grain industry regardless of the entry costs involved.

It would appear that the only significant new entrants on a fully integrated basis after the entry of the American interests (up to about 1910) were the farmer owned companies; the Grain Growers Grain Company in 1912 and the three prairie pools in the mid 1920s. More recently Cargill Grain entered the industry in the 1970s. The history of the grain trade since the 1930s, however, has been one of consolidation as opposed to new entry growth. From the pattern described, one is encouraged to conclude that monopoly profits did not exist or did not exist for long during the early years of the grain trade. The entry of the farmer owned companies might be reflective of monopoly profits but it was as well a natural outgrowth of the mistrust that many farmers held for the private grain trade.

If vertical integration of the grain elevator industry caused barriers to entry, albeit transitory in nature, those barriers probably took the form of capital requirements and knowledge. The vertical integrated structure of the dominant firms in the industry made it virtually impossible to operate on a small scale at the country elevator level only. In terms of capital requirements, therefore, to exist within the grain elevator industry an integrated structure of terminal facilities

with significant numbers of elevators was necessary. By raising the capital requirements the ability of those not operating on an integrated basis and those who operated as intermediaries between formerly unintegrated operations were placed in jeopardy. However, to concern oneself totally with the casualties of a market which undergoes dramatic innovative change is to indulge in concern respecting competitors as opposed to competition.

Vertical integration increased the barrier to entry also by increasing the technical knowledge to operate efficiently within the grain elevator industry. Whereas prior to the integrated structure it was possible to operate solely at the country elevator level without necessarily taking ownership of grain, the integration innovation demanded that the role of grain buyer, commission agent, terminal operator and seller of grain be brought together under one controlling interest.

The knowledge necessary to operate within an integrated structure is a form of first-mover advantage raised by Williamson. The first-mover advantage relates to the proposition in Williamson's theory that the inherent internal organization advantages of vertical integration as well as the possibility of market failures at the interface of the two systems of grain elevators, provided for efficiency gains which were unavailable to unintegrated firms. If the knowledge requirement was not a scarce resource to the grain industry in Canada,

then it is difficult to explain why it was American interests that introduced the innovation of vertical integration and why it took several years for others to copy their efforts. No doubt, the answer, in part, lies in the fact that the American grain industry was more mature than the Canadian grain industry at the turn of the century. The American grain interests had already developed the "knowhow" and were willing and able to transfer the knowledge gained to the Canadian industry. If the vertically integrated firms were able to produce a higher level of profit than the unintegrated grain companies, they did so, at least in part, because of being first movers in innovating greater efficiency in grain marketing.

The development of the farmer owned grain companies is a clear example of the principle of learning by doing and likely had the effect of gradually reducing the economic rent achieved by the American innovators. The Grain Growers Grain Company was formed in 1907 and as its first undertaking acted as a commission agent for grain consigned to it by farmers. As a commission agent, the company was successful and subsequently entered the field of export sales. The success in both fields of endeavour was due, in part, to the large volumes of grain consigned to the firm. With large volumes of grain under its control the commission fee of one cent per bushel proved highly profitable and provided the company with the ability to be a reliable supplier. The success of the company in

those two fields no doubt created the impetus to become fully integrated. By 1912 the Grain Growers Company was fully integrated. In 1917 the company became known as the United Grain Growers which continues in existence today.

G. Vertical Integration in Conclusion

By way of theory and actual events which occurred, we have attempted to provide a rationale for the development of vertical integration within the Canadian grain elevator industry. Williamson's theory provides a framework for analyzing the reasons for vertical integration. Comments made by those involved with the integrated companies at that time could be regarded as either statements of fact or statements made to protect narrow self interest. Given the climate of the day, both are likely. More importantly, however, those statements tend to support Williamson's theory as do the conditions which existed within the grain industry around the turn of the century.

If the integrated companies were able to attain profit levels above those which existed prior to the development of fully integrated firms, those profits were due, in part, to economic rent available to innovators. The integrated structure held out no lasting natural or artificial barriers to entry. The barriers which existed were transitory in nature as was evidenced by the rise to maturity of the farmer owned companies. While it is difficult to prove conclusively that efficiency gains were

created by fully integrated elevator companies, the survival of this organizational form for the past 80 years provides few, if any, alternative hypotheses. If the innovation of integration and its attendant profitability created the incentive for this organizational form, surely a superior alternative would rise if it existed.

CHAPTER III

THE COUNTRY ELEVATOR SYSTEM: HANDLING OR STORAGE ORIENTED

This chapter examines the handling versus storage orientation of the country elevator system. For the purposes of this study, the determination of whether the system is handling or storage oriented is based upon the potential handling to capacity ratio as opposed to the actual handling to capacity ratio of the elevator system. As is indicated below, many who have commented on this subject, either directly or indirectly, have claimed that excess storage capacity exists, and therefore that the elevator system is storage oriented.

One hypothesis given for the storage orientation of the system is that the storage tariff is in excess of the cost of storage, therefore encouraging the building of excess capacity. By examining the development of storage capacity over several decades, the hypothesis is analytically tested.

Table I shows the handling to capacity ratio for the country elevator system since 1903. Over the long run the system has managed to handle only about twice its storage capacity per year. If one assumes that the average stocks in store were in the order of seventy percent, then on average, every bushel handled would

TABLE I

HANDLING TO CAPACITY RATIO OF THE COUNTRY GRAIN ELEVATOR SYSTEM: 1903-04 to 1980-81

Year	Primary Receipts (Bushels x 10^6)	Storage Capacity (Bushels x 10^6)	Handling to Capacity Ratio
1903-04	36.60	27.21	1.4
1904-05	39.23	28.49	1.4
1905-06	59.17	31.32	1.9
1906-07	64.14	36.60	1.8
1907-08	40.51	39.78	1.0
1908-09	59.13	43.04	1.4
1909-10	115.08	54.46	2.1
1910-11	103.49	57.49	1.8
1911-12	157.43	62.07	2.5
1912-13	172.98	70.88	2.4
1913-14	199.41	80.04	2.5
1914-15	134.03	86.65	1.6
1915-16	373.77	94.32	4.0
1916-17	265.86	103.51	2.6
1917-18	230.45	117.34	2.0
1918-19	178.16	124.86	1.4
1919-20	195.53	126.95	1.5
1920-21	263.94	129.01	2.1
1921-22	316.19	130.81	2.4
1922-23	389.27	133.75	2.9
1923-24	503.72	133.96	3.8
1924-25	276.89	138.32	2.0
1925-26	412.14	141.32	2.9
1926-27	381.14	146.64	2.6
1927-28	459.83	155.12	3.0
1928-29	548.64	178.62	3.1
1929-30	286.30	192.86	1.5
1930-31	363.04	193.33	1.9
1931-32	305.23	192.38	1.6
1932-33	424.25	192.45	2.2
1933-34	278.85	192.75	1.5
1934-35	278.63	191.07	1.5
1935-36	268.62	189.93	1.4
1936-37	219.58	189.36	1.2
1937-38	184.55	189.25	1.0
1938-39	354.47	189.71	1.9
1939-40	488.85	190.76	2.6
1940-41	517.22	201.33	2.6

(Continued)

TABLE I (Continued)

Year	Primary Receipts (Bushels x 10^6)	Storage Capacity (Bushels x 10^6)	Handling to Capacity Ratio
1941-42	217.25	197.09	1.1
1942-43	494.74	196.95	2.5
1943-44	578.08	197.34	2.9
1944-45	572.96	196.91	2.9
1945-46	419.80	197.15	2.1
1946-47	512.41	197.16	2.6
1947-48	404.91	198.12	2.0
1948-49	482.83	201.47	2.4
1949-50	463.53	206.24	2.3
1950-51	564.64	283.06	2.0
1951-52	737.40	292.54	2.5
1952-53	844.86	306.59	2.8
1953-54	608.34	319.84	1.9
1954-55	524.55	333.70	1.6
1955-56	567.30	345.20	1.6
1956-57	585.44	357.54	1.6
1957-58	583.08	365.80	1.6
1958-59	548.48	374.46	1.5
1959-60	519.69	381.95	1.4
1960-61	555.28	362.91	1.5
1961-62	418.27	370.36	1.1
1962-63	672.35	367.47	1.8
1963-64	743.14	368.78	2.0
1964-65	675.56	376.61	1.8
1965-66	769.50	381.33	2.0
1966-67	835.42	384.55	2.2
1967-68	609.00	389.68	1.6
1968-69	583.22	392.41	1.5
1969-70	660.74	396.34	1.7
1970-71	785.16	398.83	2.0
1971-72	952.25	393.99	2.4
1972-73	993.11	377.80	2.6
1973-74	877.84	368.03	2.4
1974-75	734.38	362.27	2.0
1975-76	880.60	355.47	2.5
1976-77	23.18*	9.63*	2.4
1977-78	27.62*	9.32*	3.0
1978-79	22.61*	9.25*	2.4
1979-80	27.34*	9.05*	3.0
1980-81	27.03*	8.75*	3.1

(Continued)

TABLE I (Continued)

* Indicates figures recorded in millions of tonnes.

SOURCE: Canadian Grain Commission except 1903-04 to 1908-09 which are from the Report of the Elevator Commission of the Province of Saskatchewan, 1910.

remain in storage for about 4.2 months. With regard to the handling or throughput potential of the country elevator system, the length of storage is excessive. For example, as far back as 1915-16 the handling to capacity ratio was four. Assuming average stocks at seventy percent, it results in an average length of storage of 2.1 months. The study by Fleming and Yansouni[50] indicates that a ratio of 6.5 to 1 might be the maximum turnover rate depending upon capacity. They also state in their report that, "although operators claim that under ideal circumstances throughput ratios could be much higher, overall system constraints and inefficiencies such as those imposed by rail operations, climatic or market conditions, are unlikely to permit much higher system-wide average throughput ratios."[51] It should be obvious that a discussion of throughput ratios abstracts from the issue of the number and the location of country elevators. These factors become determinable only if one specifies the size or sizes of grain elevator. Putting this problem aside and using a ratio of approximately 6 to 1, as suggested by Fleming and Yansouni, and further assuming the utilization of storage space at seventy percent results in an average length of storage of 1.4 months.

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[50] M. S. Fleming and P. A. Yansouni, "Prairie Grain Handling and Transportation System Efficiency," Report No. 10-78-18, Canadian Transport Commission, Ottawa/Hull, September 1978, p. 25.

[51] Ibid.

With regard to how much storage space is essential in the country elevator system, several views have been expressed. The Chief Commissioner of the Canadian Wheat Board was questioned in 1959 about the amount of commercial storage available in relation to on-farm stocks. The question asked by a federal Member of Parliament was:

> ...Is there not some line of demarcation between the two that the farmer could profit from and which would not discourage the shipping position?

The Chief Commissioner's response was as follows:

> Yes there is, and I shall give you a personal opinion. In my personal view the point of demarcation has just about been arrived at. I think we have just about provided a balance between commercial position and stocks on the farm. That is why I suggest that I would not advocate an increase in commercial capacity and store less grain on the farm.[52]

In 1969 the Chief Commission of the Canadian Wheat Board made a similar comment upon questioning.[53] During that ten year period, exports of wheat were at least fifty percent higher than they were around the mid to end 1950s while the capacity of the country elevator system had increased by about ten percent.

In 1960 the president of the Saskatchewan Wheat Pool was questioned as to whether there was adequate

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[52]Standing Committee on Agriculture and Colonization, Minutes of Proceedings and Evidence, Ottawa: Queen's Printer, June 23, 1959, p. 274.

[53]Standing Committee on Agriculture, Minutes of Proceedings and Evidence, Ottawa: Queen's Printer, May 27, 1969, p. 1602.

storage space in Saskatchewan. His reply was: "I think we are very much overbuilt."[54] While it is the case that in Saskatchewan the handling to capacity ratio of country elevators is generally lower than in the other two prairie provinces, his comment indicates that the storage space available was above that which was sufficient. It would not be presumptuous to assume that the president of the Saskatchewan Wheat Pool and the Chief Commissioner of the Canadian Wheat Board had quite different views on the storage requirements of the elevator system.

The Report of the Canadian Grain Marketing Review Committee which reported to the Canadian Wheat Board in 1971, stated that stocks of all grains in store in country elevators should not exceed 250 million bushels.[55] The level of utilization at which one assumes congestion will take place will determine the total space necessary. At eighty percent, for example, about 310 million bushels would be necessary, at ninety percent about 275 million would be necessary, whereas at seventy percent about 360 million bushels would be required. In 1977 the country elevator system contained about 344 million bushels of

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[54]Standing Committee on Agriculture and Colonization, Minutes of Proceedings and Evidence, Ottawa: Queen's Printer, May 20, 1960, p. 208.

[55]Report of the Canadian Grain Marketing Review Committee, Submitted to the Canadian Wheat Board, Winnipeg, January 12, 1971, p. 23.

storage capacity which was a reduction of about 55 million bushels since 1971. At the time the review committee wrote its report, the country system was overbuilt as measured by the need estimated by the committee by between 40 and 100 million bushels. Since that time the country elevator industry has significantly reduced the total storage space available and is well on its way to having what the Review Committee would have considered the necessary amount of storage.

The study by Fleming and Yansouni, as mentioned above, estimated that a handling to capacity ratio of about 6:5 to 1 would be sustainable and would be sufficient to successfully forward grain to meet terminal demands. At a projected demand for country elevator output of one billion bushels, a handling to capacity ratio of six, and seventy percent utilization, about 240 million bushels of space would be sufficient.

Heffelfinger, in a paper discussing the rationalization of the country elevator system, concluded the following:

> The commercial country elevator system should be made up of somewhere between 200 and 240 million bushels of licensed capacity. Each elevator facility would have between 400 and 450 thousand bushels of licensed capacity. This would require some 500 elevators, handling in the neighbourhood

> of 1½ million bushels each per year, located at approximately 180 central marketing locations.[56]

Heffelfinger's estimate was made for a handling of about 750 million bushels. To put this in terms of one billion bushels, the needed storage capacity at the country elevator level would be in the order of 270-320 million bushels.

These estimates tend to differ from the estimate or opinion of the Chief Commissioner of the Wheat Board made in 1959 and again in 1969. This is not to be unexpected, however, as the Wheat Board would, in our opinion, opt for more accessible stock than might be necessary. The reason is that the inability to deliver to waiting ships or to terminal position leads to demurrage charges and lost sales for which the Wheat Board is often criticized.

If one is looking to the future when the country system may very well be forwarding one billion or more bushels as a long term average, the amount of storage capacity which exists presently, about 320 million bushels, may not be terribly excessive. However, going back into the 1950s and early 1960s, when country elevator shipments were 700 million bushels or less, the country

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[56] G. Heffelfinger, "The Long Range Rationalization of the Grain Collection System in Western Canada," presented to the graduates of the Farm Business Group Programme, Manitoba Department of Agriculture, March 31, 1970, pp. 7-8.

elevator system was overbuilt and storage oriented, particularly when viewed from the point of view of the potential handling to capacity ratio of the system.

The development of the country elevator system, to the end of the 1960s when the storage capacity was pushing 400 million bushels was a function of several factors. The primary factors appear to have been: competition, policies of the federal government, and the handling and storage tariffs.

A. Competition

The primary function of the country elevator system is to act as a feeder to terminal elevators, and in this regard the country-terminal interface has been vertically integrated from the turn of the century. In order to maintain a profitable vertically integrated system, large volumes of grain purchased on a street basis at the country level was necessary. To attract patronage, a line of country elevators could not be broadly spaced, but rather close together to draw farmers whose mode of travel was limited to horse and wagon. The factors of competition and a limited travel range resulted in grain elevators becoming ubiquitous across the prairie landscape. The growth of the country elevator system followed closely the development of railway trackage as shown in Table II below.

The competition for deliveries of grain from Farmers was conducted not only by the grain companies but by the railway companies as well. The need for volume and

TABLE II

DEVELOPMENT OF THE RAIL NETWORK AND COUNTRY GRAIN ELEVATORS IN THE PRAIRIE PROVINCES 1906 to 1935

Year	Total Miles of Line	No. of Country Elevators[1]
1906	5,966.1	1,049
1910	7,640.9	1,766
1915	12,998.5	2,753
1920	15,098.3	3,730
1925	16,560.3	4,294
1930	18,192.2	5,734
1935	19,285.2	5,729

[1]Canadian Grain Commission.

SOURCE: Canada Grains Council, State of the Industry, Winnipeg, September 10, 1973, p. Exhibit 5A.

turnover of capital equipment was as necessary for the railways as it was for the grain companies. With the invention of the country elevator and their introduction into the prairies, the railway companies embraced the technical superiority of the grain elevator over flat warehouses and loading platforms by granting space at a nominal fee for their construction and use, to the exclusion of the latter. This practice, however, was prohibited in the Manitoba Grain Act of 1900 and the right of farmers to the use of loading platforms continues to exist today.

As the railway companies were some of the first to construct terminal facilities at the head of the Lakes, their lease or ultimate sale to the private grain trade was used as a lever to have country grain elevators built along their railway lines. The following information given in 1911 by Heffelfinger at Committee stage regarding the debate of Bill Q (Canada Grain Act) provides detail on the role of the railway companies in soliciting expansion of country grain elevator facilities.

> The railroad company were desirous of having ample facilities along their road, and provision for additional elevators and grain markets as fast as new lines were constructed. The provisions of this contract obligated the Atlas Elevator Company, Limited, and the Security Elevator Company, Limited (the former owned by the Douglas interests and the latter by the Peavy interests), to construct each a total of 80 country elevators (making a total of 160), within five years. This meant an investment of one million dollars. They also required that an additional ten per cent (or 16 elevators) should be placed at contiguous points, also in addition elevators must be built

> at all junction points with other railroad lines where there is another elevator in the competing line. These two latter items would require an additional investment of from $150,000 upwards. I might add that in almost all cases these latter would mean unprofitable investments for the elevator companies, being built as they were for the protection of the railway company's business and at locations which the line elevator companies try to avoid.[57]

The actions of the railways in the formative years of the grain elevator industry no doubt contributed to the over-building of the system in order to maximize the movement of grain along their own lines. The encouragement given by the railways to build grain elevators in some respects has the effect of treating possible elevator sites as a free good. The return to the railway was the volume of grain to be shipped along their line as opposed to site rentals and as a result it was not in the interest of the railways to ration sites.

The development of farmer owned country elevators became significant only after the passage of the Canada Grain Act of 1912, by which time it was evident that governments would not nationalize the elevator industry as was lobbied for under the Partridge Plan. At the turn of the century there were about 447 country elevators of which only 26 were owned by farmers.[58] By 1926, among the

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[57] Bill (Q), "An Act Respecting Grain," Minutes and Proceedings before the Select Committee, Evidence provided by F. T. Heffelfinger, Ottawa, 1911, p. 23.

[58] C. F. Wilson, A Century of Canadian Grain, Saskatoon, Saskatchewan: Modern Press, 1978, p. 15.

United Grain Growers and the three prairie Pools, farmers owned and operated about 1,050 country grain elevators out of the approximately 4,400 operating at the time. By the time of the depression, the farmer owned companies operated about 2,100 out of the 5,600 that existed. Therefore, during the first twenty-five years, the growth of the elevator industry was predominantly in the hands of the private companies, whereas for the succeeding five years it was predominantly in the hands of the farmer owned companies.

The growth of storage capacity of the country system followed along similar lines increasing from 12.8 million bushels in 1900 to 141.3 million bushels by 1925-26 and to 192.9 million bushels by 1929-30. The average size of elevator throughout the first 30 years of this century was in the order of 30-35 thousand bushels. During the period 1910-29, average handlings per elevator seldom rose above 100,000 bushels per year, but with the size of plant in existence the handling to capacity ratio was three or better on four occasions. The drive for patronage among elevator companies, while providing competition for farmers, at the same time deprived the country elevator system from achieving the handling efficiency of which it is capable. For example, Patton relates the following incident:

> During 1926-27 the pool elevator at Sperling, Manitoba (of 60,000 bushel capacity) showed a turnover of 400,000 bushels. Revenues from handling, storing and cleaning charges, grade

> gains and overages, sales of screenings and premiums, yielded a net surplus to members equivalent to the entire cost of the elevator. This represents, of course, an exceptional showing.[59]

While the case is no doubt exceptional, it displays the tremendous potential of the country grain elevator to handle grain. A major factor inhibiting grain elevators from reaching a greater proportion of their handling efficiency was the overbuilt system.

B. Federal Government Policy

Federal government policy regarding the storage of grain, predominantly wheat, has shifted from crisis to crisis. It has, from time to time, developed programs to encourage the building of storage facilities and at other times to reduce the storage and production of grain. The storage of wheat has, in the past, been linked to the problems relating to the income of farmers and more generally, with marketing problems created by world conditions. The time period from World War I to the end of World War II set in motion the centralized marketing, through the Canadian Wheat Board, which continues today.

During World War I the policy of the federal government was to ensure that wheat stocks beyond domestic needs were made available to Britain. The country elevator system was operated as a warehouse for the Board of

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[59] H. S. Patton, Grain Growers Cooperation in Western Canada, Harvard: Harvard University Press, 1928, p. 262ff.

Grain Supervisors during 1917-1919 and fixed charges for services performed were paid to the grain elevator companies. While the federal government was not favourably disposed to control the marketing of wheat and had intended to reopen the Grain Exchange following the 1918-1919 crop year, world conditions did not permit this course of action to be pursued. Open market trading in Europe had not resumed and as a result of central purchasing there, the government of Canada established the Canadian Wheat Board to handle the 1919-1920 marketing of wheat. As agents of the Board, the grain companies were paid for their services in a manner similar to that under the Board of Grain Supervisors.

Due to fortuitous events and intelligent marketing by the Canadian Wheat Board, wheat farmers achieved very high returns for the 1919-20 crop. The initial payment was $2.15 per bushel while the participation certificate (final payment) yielded 48 cents per bushel.[60] The results achieved by the Canadian Wheat Board, fortuitous or otherwise, preceded the drop in price coinciding with the resumption of futures trading and led farmers to lobby for the reinstatement of the Canadian Wheat Board. The denial of this, on the part of the government, was consistent with the federal government stance since the very late 1800s.

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[60]Wilson, op. cit., p. 165.

Even though the federal government did not actively pursue a policy regarding the grain handling system at the country level at that time, indirectly there was a significant effect. The refusal to appoint a permanent Wheat Board, following the success of the 1919-20 venture, led to the development of the Pool Elevator companies. By mid-year of 1929 the assets of the three Pool Elevator companies included 1,642 grain elevators with a storage capacity of almost 58 million bushels.[61] While the development of the Pool Elevator companies resulted in some needless duplication of facilities, from a technical efficiency point of view, the position taken by the government left little choice for those farmers who felt strongly against the fully integrated privately owned companies and the Winnipeg Grain Exchange.

While the federal government took no active role in country elevator facilities to 1930, this was not the case with terminal facilities. The Partridge Plan and the Senate Committee hearings regarding Bill Q concerned themselves with the involvement of the federal government at the terminal level. Subsequent to the Senate Committee hearings, the Canada Grain Act was passed without the controversial divorcement of vertical integration provision which had been deleted by the Senate. As a compromise, the Canada Grain Act of 1912 empowered the government to

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[61]F. W. Hamilton, Service at Cost, Saskatoon, Saskatchewan: Modern Press, p. 91.

build and operate terminal elevators. The government moved quickly with that power and built terminal elevators at Port Arthur, Vancouver, Halifax and Prince Rupert. Interior elevators were built at Moose Jaw, Saskatoon, Calgary, Edmonton and Lethbridge.

The terminal at Port Arthur was of most immediate use and resulted, within a few years, in displaying the benefits to be derived from vertical integration. Of the functions to be played by the terminal, of great importance was that of giving farmers a terminal position for grain without the necessity of being tied to an integrated firm. It also allowed the Board of Grain Commissioners, by actually operating a terminal elevator, the ability to more effectively set terminal tariffs. However, because the grain companies doubled terminal capacity at the Lakehead between 1916 and 1920, and because the government terminal elevator did not have a line of country elevators from which to receive grain, the terminal operated with highly variable receipts of grain on a year by year basis. As a result, the elevator did not prove effective in either regard.

The government terminal was eventually leased to a fully integrated grain company which could more effectively make use of the facility. The general manager of the government elevator wrote the following regarding the terminal elevator: "The complaints that the farmers were not getting a fair deal from the line companies were not

borne out, inasmuch as during the early years of operation, no more than ten percent of the grain received in any one year represented direct shipments by farmers."[62] The comments by the general manager of the government terminal are interesting as the little made use of the elevator by farmers could not have been due to a lack of knowledge of its existence or that farmers were not making use of producer cars from which grain could be directed to that terminal elevator. The urgings of the Grain Growers Association for the federal government to take over the terminals and as a result, divorce terminal and country elevator ownership must have been widely known by farmers. In the same regard, the reluctance of the government to take such action and the subsequent building of the Port Arthur terminal and its potential for use by farmers must also have been well known. The lack of use of this terminal by farmers was also not as a result of farmers not making use of platform loadings. During the period subsequent to the elevator becoming operable in 1913, platform loadings were never less than 20 million bushels and were as high as 65 million bushels up to the mid 1920s.

The inland terminals, on the other hand, have had a very spotty existence with the major obstacles being that the grain in store is not in export position and because

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[62] Report of the Interdepartmental Committee on Grain Storage and Handling in Canada, Volume 1, Ottawa, September 1962, p. 352.

of the double handling charges that are incurred by their use. In times when storage facilities are at a premium these facilities have been used for storage purposes. Otherwise the grain companies would obviously prefer the use of their own facilities whereby revenues are gained at both the country and terminal positions. The federal government has recently sold all the inland terminals and their use should be increased as they become integrated into the new owners' marketing methods.

The grievances of grain farmers received a great deal of attention by the federal and provincial governments between 1900 and 1920. During this period, several Commissions had reported that the Grain Exchange was an efficient price discovery mechanism and that regulatory activities should be established which would maximize the alternatives for farmers to markets their grain. The federal government and the government of Manitoba, acquiesced to producer demands by experimenting with ownership of terminal and country elevators, respectively. That both attempts were unsuccessful was, in part, because the experimental elevators did not operate in a fully integrated manner as did the private grain elevator companies.

If the period of the 1920s was one of growth within the grain industry, the period of the 1930s was the exact opposite. The depression brought falling prices, falling world trade in wheat and accumulation of stocks. Table III shows the average farm price for, and the total

TABLE III

AVERAGE FARM PRICE FOR WHEAT AND
TOTAL FARM VALUE OF WHEAT
1928-29 to 1939-40

Crop Year	Average Farm Price ($ per bushel)	Total Farm Value ($ 1,000s)
1928-29	0.78	424,039
1929-30	1.03	287,671
1930-31	0.47	187,279
1931-32	0.37	112,480
1932-33	0.34	144,333
1933-34	0.47	123,198
1934-35	0.60	159,027
1935-36	0.60	159,677
1936-37	0.92	185,580
1937-38	1.03	161,016
1938-39	0.58	196,380
1939-40	0.53	264,145

SOURCE: C. F. Wilson, A Century of Canadian Grain, Saskatoon, Saskatchewan: Modern Press, 1978, p. 246.

farm value of, wheat during the period 1928-29 to 1939-40. The fall in the farm value of wheat from 1928-29 to 1931-32 is indicative of the problem facing western farmers during that time period and resulted in federal policy searching for ways to shore up farm income.

The three prairie Pools, operating much as did the Canadian Wheat Board of 1919-20 by way of giving producers initial payments upon delivery of grain and a share in any profit from pooled sales, encountered financial difficulties during this period. The initial payments given to farmer members for 1928 and 1929 were too high relative to the world price and as a result governments, first provincial and then federal, stepped in to guarantee the bank loans of the Pools in order to help them remain solvent. Overpayments by the three Pools on their 1929 initial payments were about $22.9 million, virtually all of which was eventually repaid to the respective provincial governments.[63]

The role of the federal government in attempting to support producers was one of price support, but in a rather unique fashion. The Central Selling Agency of the three Pools was disbanded and the federal government instituted its own central agency under J. I. McFarland. For four and a half years McFarland bought wheat on a

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[63] C. F. Wilson, A Century of Canadian Grain, Saskatoon, Saskatchewan: Modern Press, 1978, pp. 305-306.

special government account to support prices whenever such action was deemed necessary. A detailed account of this period is provided by Wilson.[64] Because the actions taken by McFarland were indirectly supportive of price, it was impossible to calculate the benefits to producers on a per bushel basis. With a direct stake in the cost of carrying stocks, McFarland questioned the storage tariff at elevators as established by the Board of Grain Commissioners. It was at his urgings that the storage tariff was reduced.

The decision of the government to support the market for wheat through the traditional free market mechanism (the Grain Exchange futures market) was consistent with government policy since the turn of the century. The operation of the Board of Grain Supervisors and the Canadian Wheat Board during the period 1916-1920 was under exactly opposite circumstances to those of the early years of the depression. The problem during the 1916-1920 period was to distribute short supplies while the depression period witnessed excess supply relative to a depressed world trade in wheat.

It is somewhat ironic that after the support given to futures trading in those difficult years that it was the Exchange itself that was partly responsible for the reintroduction of the Canadian Wheat Board. With large carryovers of wheat, the government was considering a

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[64]Ibid., pp. 416-448.

wheat acreage reduction scheme and McFarland sought the support of the Exchange. The Exchange not only refused to give support to the reduction of acreage, but spoke in rather glowing terms about how it had "functioned continuously and, on the whole, smoothly, under the abnormal strains of the past three or four years."[65] McFarland, who had developed and carried out the support program, and the Prime Minister who had supported his work in what can only be described as trying political times, were disappointed by this lack of support.

The Canadian Wheat Board of 1935 was established, not as a monopsony agency, but rather as a voluntary one much in the same line as the Central Selling Agency that the Pools had established. The now traditional operations of initial payments and participation certificates were employed and this mechanism operated along with the private trade which used the exchange mechanisms for hedging, speculation and the setting of street prices. The need for a Board was accepted by all political parties of the day, in part because it was felt that large stocks could be held by the government without the disastrous low prices that would likely occur on the futures market. Though the federal government of 1936 was intent upon the demise of the Wheat Board, it could not announce its intentions until the report of the Turgeon Commission, which was appointed

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[65] Wilson, ibid., p. 455.

in 1936, was tendered. With the potential for large surpluses occurring for the 1938-39 crop year, the Turgeon Commission recommended the Wheat Board continue in operation to meet the conditions which might arise. Under pressure from farmers, the government maintained the Wheat Board and set an initial payment of 80 cents for 1 Northern and as a result of low prices as determined on the futures market, suffered a loss of some 62 million dollars.[66]

For the 1939-40 crop year the government announced a 70 cent per bushel initial price, but with maximum deliveries of 5,000 bushels of wheat per farm. The changes from the preceding year were important since the quota of 5,000 bushels per farm would place an upper limit, at least volume wise, regarding the possible losses to the treasury, and it was the first time also that quotas were used. As well, the initial price was made statutory, possibly with the hope that this would make the government decision regarding initial prices simpler if the Board were to continue in existence beyond the crop year. The depressed markets due to the war and the exceptional crops of 1939 and 1940 resulted in record carryovers of wheat. This was to set the stage which embarked the Canadian grain

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[66]Wilson, ibid., p. 565.

TABLE IV

STOCKS OF WHEAT AND ALL GRAINS IN STORE
AS OF JULY 31: 1939 to 1943

Year	Wheat	Total All Grains	Total Storage Capacity	Country Elevator Storage Capacity[1]
	(Thousands of Bushels)			
1939	98,229	119,472	424,290	190,759
1940	283,187	304,891	510,158	273,813
1941	466,175	482,659	601,191	307,065
1942	413,306	343,530	604,254	309,608
1943	397,419	469,744	605,988	309,986

[1]Canada Grains Council, State of the Industry, Winnipeg, 1973, Exhibit 4B.

SOURCE: Canadian Wheat Board Annual Report, Winnipeg, 1956-57, Table VII.

handling industry upon a storage program which was to last at least three decades.

Table IV shows the dramatic turn of events regarding grain stocks and storage capacity from 1938 to 1943. With wheat crops of over one billion bushels in total for 1939 and 1940 and the limited export markets open during times of war, the government had little option but to arrange for the storage of surplus grains which burgeoned from 119 million to 469 million bushels at the beginning of the 1939 and 1943 crop years, respectively. The problem of storage was particularly acute and as described by Wilson[67] was attacked on basically two fronts; farm storage and country elevator storage.

The farm storage program, which was established for the crop years 1940-41 and 1941-42, operated in such a way that farmers were paid to store wheat on farm, at the same tariff that applied at country elevators. The storage payments were earned by way of the initial payment rising through time, thereby helping to defray the costs to farmers for the building of storage bins. During 1940-41 the cost of the farm storage program was slightly over six million dollars. The Minister in charge of the program rightly stated that this fee would have been paid to the elevator companies if not to farmers. However, had the

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[67] C. F. Wilson, A Century of Canadian Grain, Saskatoon, Saskatchewan: Modern Press, 1978, p. 660.

grain been placed in commercial storage immediately rather than spread through time by backing it up on farms, and if farmers had been paid an initial payment, the funds for those payments would have been borrowed, thereby incurring additional carrying charges. Therefore, the program to back up grain on the farm saved the government those interest costs which theoretically could have been written off against the farm storage program.

With regard to commercial storage space, the government made use of accelerated depreciation programs to increase storage capacity. The program which allowed for the two year write-off of capital cost resulted in the building of 100 million bushels of temporary space. The temporary space does not appear in Table I above, as the figures relate to permanent space. It does appear, however, in Table IV above. This space became incorporated into the permanent system around 1950 and became an important source of revenue to the grain companies for the next thirty years.

Another aspect of the storage policy during the period in which the Wheat Board purchased wheat from farmers, was that the Board entered into handling agreements with the elevator companies to handle wheat sold to the Board by farmers. The Board of Grain Commissioners, since 1912, had established the maximum tariffs for handling and storing grain and this resulted in both Boards negotiating with the grain companies. As in 1932

(when McFarland had argued that due to large inventories the storage tariff was excessive) the storage tariff was adjusted down during the second World War because of large inventories. For the crop years 1940-41 to 1942-43 the storage tariff was 1/45 of a cent per bushel per day, for 1943-44 and 1944-45 the tariff was 1/50 of a cent per bushel per day. These tariffs had been reduced from the long term "normal" rate of 1/30 of a cent per bushel per day. As in previous cases the manipulation of the storage tariff was done as a form of profit control as opposed to any concept of the cost of storage. The decreases in the storage tariff during this time period were the most substantial and covered a relatively long period of time in comparison to any other adjustments. It must be recalled, however, that country elevator storage capacity had increased by 100 million bushels which was significantly aided by the two-year capital write-off program indicating that profits from storage were considerable. The accelerated depreciation program could be considered a necessary condition for increases in storage capacity but not necessarily sufficient. To ensure that the capital project would add to profit, it would be sufficient that the companies are, or at least feel, assured that grain will be stored in the facilities that are built and that a reasonable storage tariff will be set.

The difficulties during the crop years of 1940-41 and 1941-42 merely compounded that of 1939-40. In 1940-41

the quota policy changed from an upper limit on deliveries to the Board to one based upon acreage seeded, in order that the available storage space could be more equitably divided among farmers. With the increase in storage space constructed, accommodation of larger carryovers in commercial position was possible. The availability of commercial storage was necessary as it was on the basis of delivery to commercial storage that initial payments were obtained by farmers. The difficulty for farmers for the 1941-42 crop year was that deliveries were to be greatly restricted because of a lack of space. For example, deliveries to country elevators were 517 and 297 million bushels for the 1940-41 and 1941-42 crop years respectively. The difficulty during the crop year 1941-42 was not only to ensure equitable access to commercial storage by farmers, but also to maintain farmers' incomes at a reasonable level because of the large reduction in grain delivered.

For the crop year 1941-42, the government program of maintaining aggregate income and reducing wheat stocks was carried out in the form of acreage payments for withdrawing land from wheat. The acreage reduction program offered $4 per wheat acre that was put to summer fallow and $2 for wheat acrea put into coarse grains, grasses or clover. An income maintenance program that was proposed but not carried out, was for the government to take over the carrying costs of wheat stocks in commercial storage.

The ideas from policy advisors during the early period of the war were particularly innovative and the two mentioned above were to be repeated in the future; the latter with less than desirable results, however.

Up to the 1941-42 crop year, the role of the Wheat Board had largely been to control deliveries of wheat. The acreage reduction program, together with a poor wheat crop in 1941, allowed for more manageable stock levels. At this time the war effort was in greater need of meat, feed grains and oilseeds than wheat, per se. The quota system, government pronouncements to farmers regarding agriculture policy, wheat acreage reduction payments and guaranteed initial payments were measures used to induce farmers to change farming activities in accordance with national needs and processing capacity. Starting with the 1942-43 crop year, initial guaranteed payments were applied to coarse grains and flax as well as wheat. Due to the stress that the war effort had placed upon the transportation system, the Wheat Board and others became involved in coordinating the allocation of rolling stock among competing demands. In many respects, the Canadian Wheat Board was gaining the expertise during war time controls which it would make use of during peace time. As events would have it, the Wheat Board was not to be discontinued after the war and the Board continued to operate on a year to year basis until 1967 when it was made a permanent institution.

The trading of wheat futures on the Winnipeg Grain Exchange was suspended in September 1943, and such trading has never been resumed. The suspending of futures trading in 1943 was surrounded by conditions similar to those in 1917. Rising futures prices in both years, which could have seriously disrupted the Canadian government's ability to provide wheat and flour in support of the war effort, was a major reason for suspension. The suspension in 1917 was supported by the Winnipeg Grain Exchange because of an inability of some grain companies to deliver on their contracts. In 1943, however, this was not the case, and the Exchange members resented the implication that somehow they were responsible for the increased spread between terminal and street prices which was occurring.[68] It was contended by the Exchange that the problem of spreads was due to transportation and manpower shortages which caused grain to back up into the country elevator system.

The Grain Exchange has been very much in the same position as the messenger who gets blamed for the content of the message. The closing of the exchange mechanism in 1917 and in 1943 was not done primarily because of the exhortations of farm organizations, but rather to satisfy government needs of the day. In 1943, the potential for a significant price increase for wheat would have had serious consequences for the wage and price control

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[68] Wilson, ibid., p. 779.

program. Furthermore, rising prices could have resulted in deliveries to the Wheat Board dropping off, hence reducing Canada's ability to supply wheat under the Mutual Aid program.

While certain farm organizations had lobbied for the closing of the Exchange since virtually the turn of the century, this was achieved at their own expense at least in the short term. The notion of a tradeoff between short term high prices and a government guaranteed floor price was the crux of government policy in the five year post war period. The following address by the then Minister of Agriculture to the members of the House of Commons, explains the government's position.

> It is in the interest of Canada and of Canadian wheat growers that the importing countries should continue to obtain Canadian wheat at prices not in excess of those prevailing at the end of hostilities. Accordingly the government, by order in council, has instructed the Canadian Wheat Board to offer wheat for sale for export overseas at prices not higher than the current export price of $1.55 per bushel, basis No. 1 northern, in store Fort William/ Port Arthur or Vancouver.
>
> In asking Canadian producers to forgo such benefits as might be realized in the short run through higher export prices, the government recognize the paramount need for relative stability of income to wheat producers. Toward this end, the government undertakes that in the five-year period ending July 31, 1950, producers will receive not less than $1 per bushel, basis No. 1 northern, in store Fort William/Port Arthur or Vancouver on the authorized deliveries for each crop year. For the balance of the 1945-1946 crop year, at least, the Canadian wheat board initial advance will continue at $1.25, where it was set two years ago. By providing a long-term floor price of not less than $1.00 the government will protect producers against the consequences of

> any sharp reversal in the world wheat position during the next five-year period.
>
> The government, in adopting this policy of a maximum price for overseas shipments for the present and a floor price for five years, is asking the producers, in their own interests, to forgo exceptional short-run advantages in favour of a long-run stability of income. In arriving at its decision on this policy, the government had the following fundamental considerations in mind:
>
> Any further increase in wheat prices now would aggravate the problems of economic and political readjustment of the liberated areas to Canada's detriment in future trade with those areas. There is a moral obligation not to take advantage of our recent allies in their time of compelling need.
>
> Higher wheat prices would encourage the importing countries in a hurried return to wheat production and pre-war policies very directly to the detriment of the wheat exporting countries, particularly Canada. Moreover, production in a number of exporting countries would be unduly encouraged.[69]

With the guarantee provided to farmers, the government set out to ensure long term sales agreements with Britain. Any such agreement which would result in significant yearly volumes would necessitate the continuation of the Canadian Wheat Board and the monopoly position which it would entail. If the bilateral agreement was insufficient to ensure the continued existence of the Wheat Board, the promise of multilateral agreements such as the first of the International Wheat Agreements would add to this likelihood.

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[69] C. F. Wilson, A Century of Canadian Grain, Saskatoon, Saskatchewan: Modern Press, 1978, p. 824.

By 1950 the Canadian wheat economy had passed through almost two decades dominated by surpluses. The "surplus psychology," a term used by the President of the Saskatchewan Pool,[70] prevailed over the wheat economy and was instrumental in the policy of the federal government to attempt to ratify medium term quantity-price agreements. The attempts to ratify such agreements were wholeheartedly supported by the prairie Pools. The fact that the Pools were willing to sacrifice possible short term income gains for longer term stability indicates their general mistrust of and discontent with the futures market mechanism.

The federal government grappled with the role of the Exchange for almost the entire half century up to the end of World War II. As stated previously, the closing of the Winnipeg Exchange in 1917 and 1943 was primarily to facilitate government policy. After the second World War the government had the opportunity to dismantle the Wheat Board and allow for futures trading in wheat as was the intent, be it either a Liberal or Conservative administration. Year end stocks of grain in commercial position which averaged almost 400 million bushels from 1940 to 1945, averaged less than 90 million bushels from 1946 to 1949. The bilateral and multilateral agreements assisted in the maintenance of the Canadian Wheat Board. However, the federal government had to respect the wishes of the

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[70] Ibid., p. 795.

producers organizations which lobbied for the continued monopoly position of the Board and had supported government price policy during the war.

The surpluses which had diminished during the immediate post war era, reappeared in the early 1950s. The rather sudden turnabout of stocks in store led to federal government policy regarding the storage of grain. The Canadian Wheat Board which was initially established as a marketing agency also became the administrator of the new grains policy.

Of particular interest to the country elevator system during the 1950s were the Temporary Wheat Reserves Act, the Advance Payments Act and the program of accelerated depreciation to encourage the construction of elevator storage capacity. The accelerated depreciation program was introduced for a one year period commencing with the 1953-54 crop year, and thereafter it was extended on a yearly basis until its termination at the end of the 1960-61 crop year. The program allowed for the writeoff of 95 percent of the cost of new elevators in a four year period.[71] During the period from 1952 to 1961 the capacity of the country elevator system increased by about 75 million bushels.

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[71]Report of the Interdepartmental Committee on Grain Storage and Handling in Canada, Volume I, Ottawa, September 1962, p. 388.

It was shown previously that the storage tariff was changed from time to time to reflect the change in stocks held and the revenues derived therefrom. During the 1950s the storage tariff was reduced from 1/30 to 1/35 of a cent per bushel per day for the crop years 1955-56 to 1957-58 reflecting the large inventories held. The revenue resulting from the use of added storage space as well as facilities already in existence reduced the need to raise the handling agreement. Indicative of this form of cross subsidization among the handling and storage function is the fact that whereas the Board of Grain Commissioners raised the maximum handling tariff from 2½ to 3¾ cents per bushel from 1950-51 to 1966-67 respectively, the Canadian Wheat Board handling agreement remained constant at 4½ cents per bushel for wheat. The figures indicate that whereas the Board of Grain Commissioners saw a need for increased handling tariffs, the Canadian Wheat Board did not necessarily see the need for additional income to be derived from the handling of grain. It could be the case that the Canadian Wheat Board was able to capture some of the benefits of potential increased profits of the accelerated depreciation program, from the grain companies. If this were the case, then the accelerated depreciation program resulted in a form of indirect subsidy to farmers.

The federal government made use of accelerated depreciation programs in the 1940s and the 1950s, during

which time the storage capacity of the country elevator system increased by some 175 million bushels. Whether or not all of the increased storage capacity was due to the capital writeoff programs is not essentially a provable point. Nonetheless, it is plausible to assume that the programs were largely, if not totally, responsible for the increased storage space developed.

With the added storage space, record crops during the early 1950s, and exports which did not keep pace, there was a buildup of commercially held stocks. For example, as of July 31, 1959 commercial stocks of grain were about 541 million bushels, whereas just ten years earlier, total commercial capacity was only 513 million bushels. In comparison, the stock level at July 31, 1949 was only about 100 million bushels. Since the vast majority of commercially held stocks was wheat, the problem regarding the cost of holding those stocks naturally became another in the long string of "wheat problems".

Prior to the monopsony position of the Canadian Wheat Board, congested elevators and oversupply manifested itself in increased buying margins of the country elevator companies and falling prices as determined by the futures market. Under the control of the Wheat Board, the increased spread partly manifests itself by increased storage costs which are paid out of the pool, thereby reducing the final realized price to farmers. Because storage payments are made from the pool, farmers do not

directly feel the economic consequences of large stocks and congested facilities. With the buildup of wheat stocks in commercial position, the heavy cost of storage to farmers, paid on their behalf by the Canadian Wheat Board, was considered by the federal government to be an excessive burden. It was not only the buildup of stocks but also the reduced exports of wheat, particularly during 1953-54 and 1954-55, in relation to the previous two crop years with falling wheat prices which resulted in the passage of the Temporary Wheat Reserves Act in 1956.

The Temporary Wheat Reserves Act (1956)

The salient features of this Act are that the Minister of Finance was authorized to pay, out of the Consolidated Revenue Fund, for the storage and interest charges on wheat held by the Canadian Wheat Board in excess of 178 million bushels at the beginning of a crop year. Payments to the Canadian Wheat Board were made for the crop years 1954-55 to 1972-73 inclusive and totalled about 718 million dollars during those 19 crop years.

The demise of the Act was described by the Canadian Wheat Board as follows.

> On August 1, 1973 the stocks of wheat on which carrying charges were payable by the Canadian Wheat Board were not in excess of 178 million bushels and amounted to 165,825,302 bushels. In accordance with Section 6 of the

> Temporary Wheat Reserves Act no carrying charges are payable by the government of Canada for the 1973-74 or any subsequent crop year.[72]

The passage of the Act followed two periods in which the federal government applied accelerated depreciation programs to promote the expansion of storage space in the country elevator system. The expanded storage capacity was likely unneccessary from a perspective of handling grain and added perceptably to the storage orientation of the country elevator system. If the added capacity does not increase the ability of the system to increase exports, the only positive aspect is the increased cash flow to farmers from grain delivered to fill the increased storage capacity. This aspect, however, has only dubious and short lived benefits which are possibly far outweighed by the continued liability of paying for the storage of added stocks.

Inasmuch as the added capacity was not essential for export purposes, it served only to change the timing of cash flow. The cash flow to farmers from the Canadian Wheat Board comes about only on the ability to earn that money from sales. It follows then that storage capacity, beyond that necessary for export and domestic sales, that is filled with grain is an unneccessary marketing cost to farmers. That loss was picked up, to a certain extent, by

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[72] The Canadian Wheat Board Annual Report 1972-73, Winnipeg, p. 63.

the Canadian public through the provisions of the Temporary Wheat Reserves Act. The monies paid under the Act were in part an interest free loan to farmers between the time that deliveries are made to fill space and the time those extra stocks are drawn down. The vast majority of the benefits of those public funds went to the grain companies for the physical storage of wheat and to the chartered banks who financed the operations of the Canadian Wheat Board.

The Canada Grains Council evaluated the Temporary Wheat Reserves Act in the following manner.

> It is useful to evaluate the expenditure of government funds under the temporary Wheat Reserves Act in the following way. Through the strategy of taking excess production into store, the producers' income was augmented by a total of over $350 million between 1950/51 and 1954/55. In following this strategy however, an annual liability for storage charges was established. The federal government acted to alleviate this burden on producers through the T.W.R.A. By 1964/65 the cumulative payments under the T.W.R.A. amounted to about $400 million and exceeded the added income received by producers under the storage program. Payments continued after that date and the cost to the federal government of the earlier strategy of income support, exceeded by August 1, 1972, the total benefit received by producers in the 1951 to 1954 period, by over $300 million. It may, therefore, have been a more efficient use of government funds, to supplement producers' income directly without requiring wheat to move into commercial position.[73]

It is our opinion that the Canada Grains Council has overestimated the benefits to farmers since they disregard the fact that when the "extra" stocks are drawn

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[73]Canada Grains Council, "State of the Industry," Winnipeg, September 1973, p. 37.

down to meet exports and not replaced by stocks existing on farms, then deliveries are lost to farmers at the time of drawdown. This follows as long as sufficient stocks of wheat exist on farms at the drawdown period. The fact that there must have been a drawdown period is obvious or else the Act would remain in existence today, as opposed to having been allowed to self destruct in 1973.

As we have indicated above, the Temporary Wheat Reserve Act cannot be viewed in isolation but rather in concert with the accelerated depreciation program of the 1940s and 1950s. The federal government reacted to problems of increasing on-farm stocks by encouraging additional country elevator capacity and then offering to have the public pay the carrying costs of wheat stored therein. Because of the short term cash flow advantage to farmers, the Canadian Wheat Board would have no option but to increase quotas and utilize the available storage space. To have done otherwise, would have frustrated the policy of the federal government. Nonetheless, the Canadian Wheat Board was responsible for the management of the stocks of Board grains and must be careful to ensure that large stocks of wheat do not hinder the flow of other grains or that the cost of holding wheat stocks do not unduly consume the proceeds from wheat sales. This is accomplished by the Board balancing the cost of carrying wheat, the monies derived from the Temporary Wheat Reserves Act and the relationship between the initial payment and the expected final payment.

It is to the credit of the Canadian Wheat Board that it was able to manage the stocks as well as it did. Not only must the Board contend with the unknowns of sales volume and price, but also with the difficulties of administering quotas as equitably as possible among farmers and at the same time in relation to market demand. The greater the congestion in the elevator system, the more difficult and complex does the juggling act become. Only in the crop year 1968-69 was the Canadian Wheat Board unable to pay to farmers a final payment beyond the level of the initial payment during the years of the Temporary Wheat Reserve Act. In that year the initial payment of $1.70, basis top grade wheat in store Thunder Bay or Vancouver, was the only payment. As well, the carrying charges for the wheat account were 24.1 cents per bushel while the contribution from the Temporary Wheat Reserve Act was 18.8 cents per bushel indicating that wheat account for the crop year 1968-69 was in a deficit position.

Besides being largely a waste of public funds, there were other features of the Temporary Wheat Reserves Act which made it a particularly inefficient piece of legislation. The criterion upon which payments were made from the Consolidated Revenue Fund was the stocks of wheat in commercial position above 178 million bushels as at July 31 of a particular year. Payments were then made for a full year on the basis of stock levels as of a particular day regardless of what those stock levels are at any

other point of time during the year. The criterion clearly encouraged the Wheat Board to maximize the level of wheat stocks as of July 31. Table V shows the proportion of wheat delivered in the month of July relative to the full crop year, for the crop years 1957-58 to 1972-73.

The data indicates that stocks of wheat are relatively high at the end of a crop year resulting in payments under the Temporary Wheat Reserves Act higher than would likely be the case if those payments were made on the basis of actual stocks in store on a monthly basis. Since stocks in store on a monthly basis are available, the program payouts could have been made on this basis. The likely reason they were not is because it would be a more complex program to administer. As well, since the target figure of 178 million bushels had no particular relevance to stock needs, it hardly mattered if the particular stock taking month was appropriate or not.

The proportion of deliveries during July 1973, indicates the desire of the government to put an end to the Temporary Wheat Reserves Act. The shortfall in wheat stocks to maintain the provisions of the Act were only about 12 million bushels. With 115 million bushels of wheat stored on farm there would appear to have been ample supply to add the necessary amount to commercial storage if it was desired to do so. The decision to allow the Temporary Wheat Reserves Act to self destruct was taken

TABLE V

PROPORTION OF YEARLY WHEAT DELIVERIES MADE BY FARMERS DURING JULY: 1957-58 to 1972-73

Crop Year	Proportion of Yearly Wheat Deliveries Made in July
1957-58	21.58
1958-59	23.70
1959-60	21.92
1960-61	19.01
1961-62	20.60
1962-63	17.59
1963-64	14.44
1964-65	19.17
1965-66	16.50
1966-67	11.96
1967-68	12.52
1968-69	22.43
1969-70	30.99
1970-71	20.32
1971-72	12.22
1972-73	8.35

SOURCE: Canadian Wheat Board Annual Reports, Winnipeg, 1957-58 to 1972-73.

far in advance of the 1972-73 crop year however. Following the heavy payments for the 1968-69 crop year, which amounted to almost 80 million dollars, the Wheat Board noted that, "it was the intention of the government to repeal the legislation effective July 31, 1970."[74]

At the time the Bill was being debated in the House of Commons in 1956, the Minister of Trade and Commerce did not foresee payments of the magnitude which occurred in 1968-69. In discussing the public cost of the Temporary Wheat Reserves Act for the first and any subsequent years, the Minister offered the following comments.

> ...Therefore, the cost to the treasury this crop year will be about $32 million. What it will be in subsequent years will depend upon the level of board stocks, but it cannot go much above $32 million in any event because of the physical limits on storage capacity.[75]

Table VI shows that in 13 out of 19 years, payments were above 32 million dollars. Rising prices, interest rates and storage capacity were the causes of the Minister's underestimate of possible public cost.

The LIFT Program

The large cost to the public for the Temporary Wheat Reserves Act plus the situation whereby farmers were

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[74]The Canadian Wheat Board Supplementary Report, 1969-70, Winnipeg, p. 6.

[75]House of Commons Debates, Friday, February 3, 1956, Ottawa: Queen's Printer, 1956, p. 847.

TABLE VI

FUNDS PROVIDED UNDER THE TEMPORARY WHEAT RESERVE ACT: 1954-55 to 1972-73

1954-55 Pool Account	$ 23,230,623
1955-56 Pool Account	29,191,306
1956-57 Pool Account	33,137,107
1957-58 Pool Account	39,574,057
1958-59 Pool Account	42,959,442
1959-60 Pool Account	48,545,687
1960-61 Pool Account	39,728,227
1961-62 Pool Account	37,840,253
1962-63 Pool Account	30,517,613
1963-64 Pool Account	39,800,957
1964-65 Pool Account	30,954,367
1965-66 Pool Account	33,355,322
1966-67 Pool Account	36,802,238
1967-68 Pool Account	46,775,376
1968-69 Pool Account	79,760,320
1969-70 Pool Account	53,913,783
1970-71 Pool Account	33,209,024

(Continued)

TABLE VI (Continued)

1971-72 Pool Account	$ 25,800,704
1972-73 Pool Account	12,774,852
Total	$717,871,258

SOURCE: Canadian Wheat Board Annual Report, 1972-73, Winnipeg, p. 63.

not the major beneficiaries from the program were no doubt behind the desire of the government to have it come to an end. In 1970 the government introduced the LIFT program (Lower Inventories For Tomorrow) which paid farmers to reduce wheat acreage. The program was similar to one implemented in 1941 and was successful in reducing the acreage planted to wheat from 24.6 million acres in 1969 to 12.1 million acres in 1970. The reduced acreage and reduced production of wheat, allowed the Wheat Board to reduce both the stocks held on farm and in commercial position sufficiently over the next two years to allow the sun to set on the Temporary Wheat Reserves Act.

We argued previously that the main beneficiaries of the Act were the grain companies and the banks. With the demise of the Act, however, the grain elevator companies would lose substantial storage income, if stocks continued at low levels. This lost income would have to be made up elsewhere because a reduction in stock levels would result in little, if any, reduction in operating costs. There is little question that as of 1973 there would be substantial pressure on the Canadian Grain Commission to increase the handling tariff.

The Advance Payments Act

In 1957 the government passed the Advance Payments Act which, like the Temporary Wheat Reserves Act, was designed to provide cash to farmers during difficult periods. Like the Temporary Wheat Reserves Act, it also

had its forerunner during the early 1940s. The request for such a program, by farm organizations in the early 1940s, was not enacted by the government largely because of administrative costs. It was perceived at that time that inspectors would be necessary to investigate each farm to ensure that the grain existed and to padlock those stocks. This complication was not viewed so seriously in the 1950s, and as a result the Act has provided significant benefits to grain producers over the past 25 years.

To a certain degree, this Act avoids many of the inefficiencies of the Temporary Wheat Reserves Act. To the extent that farmers are able to obtain cash advances for farm stored grain at no interest cost, the pressure to increase country elevator storage capacity is reduced. However, since the advance is less than the initial payment, the pressure from farmers and politicians to fill available commercial space is ever present. Over the long run the only mechanism to ensure that commercial stocks do not remain at unduly high levels is to ensure that excess storage capacity does not exist at all.

Of the two pieces of federal legislation passed during the 1950s, the Advance Payments Act was the more efficient. Since the Temporary Wheat Reserve Act paid for the storage of wheat, as opposed to other grains, it would bias the price relationships (along the production possibility frontier) in favour of wheat. The fact that at some point farmers would lose the opportunity to

deliver wheat such as in a stock drawdown period, would not correct for the bias. The Advance Payments Act, which applied to the Wheat Board grains (wheat, oats and barley), would create some bias against non-Board grains. However, it is clear that the more serious bias existed with the Temporary Reserves Act.

We mentioned previously that the accelerated depreciation program of the 1940s and 1950s resulted in larger storage capacity and hence larger stocks in store which probably resulted in the handling agreement remaining constant from 1950-51 to 1966-67. This was despite the rise in the maximum handling tariff set by the Board of Grain Commissioners from 2½ to 3¾ cents per bushel for wheat. The payments under the Temporary Wheat Reserve Act no doubt had a great impact upon the maintenance of the level of the handling agreement despite increasing elevator operating costs as acknowledged by the Board of Grain Commissioners. The ability of the Canadian Wheat Board to hold down the handling agreement in the face of rising elevator operating costs might be viewed as a benefit to farmers from the Temporary Wheat Reserves Act.

It is of interest to note that with very high stocks in store at certain times during the existence of the Temporary Wheat Reserves Act, the storage tariff was not reduced. During other periods in which the government was involved directly or indirectly in the storage of grain, high stocks resulted in a reduced storage tariff.

It would appear that the regulatory agencies were prepared to maximize the use of the storage subsidy to defer raising handling charges.

It is easy to be critical of the Temporary Wheat Reserves Act with the perfect vision of hindsight. However, the Act was merely a manifestation of the accelerated depreciation programs which resulted in substantial increases in commercial storage capacity, during the 1940s and 1950s. Upon completion of the storage capacity, one could argue that the government, through the Wheat Board, owed a duty to the grain companies to utilize those facilities for generating income. On the other hand, because of the political nature of the grain handling system, farmers would virtually ensure that available space will be utilized. If there is a lesson to be learned from the period of time from 1940 to 1970, it is that the storage capacity of the country elevator system should be highly correlated to that capacity which is necessary to feed the terminal and other sales outlets.

C. Handling and Storage Tariffs

As will be discussed in Chapter IV, the regulation of tariffs by the Board of Grain Commissioners had its beginnings in 1912. The maximum tariffs which were established at that time were not based upon the cost of providing the service but rather upon the tariffs established by the trade itself. Those tariffs were non-compensatory if the country elevator system operated

strictly as warehousemen. Since the country elevator system, or at least the vast majority of it, operated by merchandising grain, the tariffs were of no consequence in affecting the system as to its handling versus storage orientation at that time. By adopting the tariffs in existence, however, the Board likely ensured that the elevator system would be comprised only of firms which were both vertically and horizontally integrated. Under the maximum tariffs determined by the Board, it would have been virtually impossible for an elevator to be viable in anything but a fully integrated operation. As will be discussed more fully in Chapter IV, the Board had little choice, however, because a changed tariff structure need not have been followed, nor would it likely have been followed, by the elevator companies. As a result, it is unlikely that the tariffs had a direct impact upon the grain elevator system at this time. Respecting the regulation of tariffs at the initial stage, the Canada Grains Council concluded similarly, that "the level and structure of regulated tariffs did not greatly influence the configuration of the handling system."[76]

With regard to the reasons for establishing maximum rates, the Canada Grains Council offered the following:

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[76]Canada Grains Council, State of the Industry, Winnipeg, September 1973, p. 128.

1. to assure that excess allowances for handling costs were not built into the grain companies' margins,
2. to prevent assessment of excessive handling charges to producers who wished to merchandise their own grain and who required handling services only.[77]

While the reasons mentioned are certainly plausible, their validity is suspect. Increases in the handling tariff might have made elevators profitable on a warehouse basis, thereby adding substantially to the competitiveness of the industry as opposed to the noncompensatory nature of such operations as will be explained in Chapter IV. On the other hand, increases in the handling tariff would have added an additional impetus for producers to make use of platform loadings. The propensity for the use of platform loadings was very high in the early 1900s, making an increased handling tariff a rather unattractive opportunity for grain elevator companies. If the reasons for the regulation of maximum tariffs were as stated by the Grains Council, they were based upon a rather veiled threat. Nonetheless, such regulation would follow logically from the protection given to farmers in the Canada Grain Act regarding grade, dockage and weight and the unwillingness of the government to regulate buying margins or to nationalize the industry.

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[77] Ibid., p. 128.

Provided the grain companies were acting as merchandisers, that is prior to the monopsony control of the Wheat Board, it is doubtful that the tariffs for handling and storing grain performed any function other than to encourage the selling of "street" grains. It is likely that buying margins could have been raised by the grain companies sufficiently to reduce those tariffs to zero without changing significantly the profits of the large efficient organizations. However, this would have encouraged the farmers to use the "free" good to their advantage to sell direct to terminals or through commission men on track. In this regard, the setting of maximum tariffs could not prevent excessive buying margins. We note, with interest, that the Council makes no mention regarding the purpose for regulation of the storage tariff. We will examine the role of the storage tariff in Chapter IV.

Subsequent to the closing of the futures market for wheat in 1943 and for oats and barley in 1949, the maximum tariffs became the primary source of revenue for the grain companies for those grains. The grain companies acted as warehousemen for the Canadian Wheat Board and were paid as agents of the Board, as opposed to depending upon merchandising for profitability. Given the changed role of the handling and storage tariffs, one might have expected an analysis of those tariffs to determine if they conformed to economic criteria of efficiency or at least whether

they were based on an estimate of their relative costs. There are likely four reasons for this not being done.

1. The Canadian Wheat Board was operating on a year to year basis and was not made a permanent corporation until 1967. For several years this could have created an atmosphere of "why change things?"
2. Confusion existed because the Canadian Wheat Board and the Board of Grain Commissioners were both involved in tariff setting.
3. Government policy such as the Temporary Wheat Reserves Act and programs of accelerated depreciation did not provide an atmospher conducive to the alignment of tariffs to the cost of providing those services.
4. The hidden nature of storage costs to farmers.

With regard to the duplicity of tariff setting, the Canada Grains Council concluded:

> The principal purpose should be to remove the overlap in responsibilities between the Canadian Wheat Board and the Canadian Grain Commission. Various possibilities can be visualized. Making the full charge for service a matter of negotiation between only the Canadian Grain Commission and the grain companies, without the Board's involvement is one example. Making tariff negotiations a matter between the grain companies and the Board, with the Commission's role being to oversee this procedure is a second.
>
> The latter appears to have more merit for it would appear that the judicial role of the Commission should be enhanced, and its responsibility as a protector of all parties, including the grain companies, strengthened.[78]

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[78] Ibid., p. 184.

While the recommendation of the Grains Council to remove the overlap and to give enhanced powers to the Grain Commission is appropriate, the method suggested would probably have resulted in the status quo. If, as suggested by the Grains Council, "It [the Canadian Wheat Board] does not have final responsibility for the financial health of the industry,"[79] then to suggest that the Board negotiate tariffs and the Commission oversee the procedure would invite open conflict between the two Agencies. The decision taken for the 1974-75, and subsequent crop years, that the maximum tariffs would be established only by Canadian Grain Commission (Board of Grain Commissioners) would appear to resolve the inherent conflict of interest of the Wheat Board negotiating handling agreements as well as any possible conflict between the two Agencies.

The policy of the federal government to expand storage facilities in the 1940s and 1950s and then to transfer part of the storage costs of wheat from farmers to the general public through the Temporary Wheat Reserves Act inhibited any move to realign the tariff structure. This would not be the case if the realignment was such as to demand the raising of the storage tariff and the lowering of the handling tariff. Since the nature of the

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[79] Ibid., p. 129.

realignment is usually argued in the other direction, to lower the storage tariff would have tended to contravene government storage policies.

The hidden nature of the cost of storage to farmers comes about as a result of storage costs being paid by the Wheat Board out of the grain pools rather than being deducted from the farmers' initial payment as is the case for handling and transportation charges. This situation could be rectified by deducting a storage charge at the time of delivery. To argue that this would result in the farmer paying for storage services prior to consuming the service, and is hence unfair, would be incorrect. For example, the current handling charge covers taking grain into the elevator, shipping it out of the elevator and ten free days of storage. Clearly, the handling charge paid for at the time of delivery covers services not consumed at the time of delivery; that is shipping grain out of the elevator. Transportation charges are another item paid for in advance of the activity taking place. In reality, the farmer is not paying directly for services at the time of delivery. All of the charges are paper transactions which appear as deductions from the initial payment. The charges are paid by the Canadian Wheat Board to its agents. The initial payment can be juggled around to accommodate one more transaction which would specify explicitly the cost of storage to farmers. This would not

apply to non-Board grains since the sale of those grains is on a "street" basis and not subject to the handling agreement.

We have mentioned four reasons why there likely was no effort to realign the handling and storage tariffs in the early years of the existence of the Canadian Wheat Board. Over time, a further reason might have developed which arises out of the role of the Wheat Board to maximize producer incomes, in part by controlling profits of the grain companies, and the cost-revenue structure of the country elevator industry.

The cost structure of the country elevator industry is such that cost is largely insensitive to volume of grain handled.[80] With such a cost structure and highly variable output (grain handled), net revenue is also highly variable. If all costs to farmers were allocated to the handling function, not only would net income be highly variable, it would also always be negative. The revenue from storage must make up for the negative net revenue from handling. This situation could be viewed as the subsidy paid to a decreasing cost industry, pricing on the basis of variable or marginal cost. Since the Canadian Wheat Board has control over the quota system, it is able

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[80] Om P. Tangri, D. Zasada, and E. W. Tyrchniewicz, "Country Grain Elevator Closures: Implications for Grain Elevator Companies," Centre For Transportation Studies, University of Manitoba, Winnipeg, Research Report No. 10, Winnipeg, January 1973, p. 36.

to control grain stocks in country elevators to some degree. The ability to control stocks would allow for storage to be manipulated such that abnormal losses on handling are made up by abnormal increases in storage revenue. Such a mechanism would serve as an automatic revenue stabilizer[81] and enhance or simplify the ability to control profit.

Prior to the large increases in the handling tariff, which took place after the 1973-74 crop year, a bushel of grain, in store for a year, was worth in revenue two to three times a bushel of grain handled. As a result of this income relationship, stocks would have to be manipulated from one-half to one-third of the change in grain handled to maintain gross income at a constant level. Since total cost is largely fixed, profits would be maintained as well. The ability to carry out such a profit control mechanism depends, however, on much more than the ability to control quotas. The stocks already in store, the demands by farmers for additional deliveries and the difficulties in coordinating grain flows from farm to terminals reduce the opportunity for such a scheme to become fine tuned. While there is little evidence to show that the Canadian Wheat Board acted in such a fashion, during periods of severe drops in handlings, storage levels increased to reduce significantly the possible losses to

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[81] Ibid., p. 5.

the grain companies. This occurred during the crop years 1952-53 to 1953-54 and again from 1966-67 to 1967-68.

The argument that the tariff structure for handling and storing grain is the cause of a misallocation of resources within the grain elevator industry does not have a great deal of supporting evidence. The storage tariff was neither the cause of storage capacity in excess of that necessary for handling grain nor of the utilization of that capacity. In the case of the former, the addition of some 175 million bushels of storage space in the country elevator system was primarily due to the accelerated depreciation programs. The amount of capacity built by a particular company would not depend upon equating marginal cost with marginal revenue but rather upon the company's estimate of how much of the on-farm stocks the government wanted to move into commercial position and what their share might be.

The marginal revenue from storage follows a rather ironic relationship to the amount of capacity built provided one assumes the capacity is utilized. The greater the amount of storage built, the higher is the marginal storage revenue per bushel of capacity. This result occurs because with increases in storage beyond the level necessary for handling, the overall handling to capacity falls reducing the number of free storage days provided by the elevator industry. However, because marginal revenue exceeds marginal costs and rises with additional capacity,

cannot in itself result in an infinite amount of storage capacity. The reason the marginal cost was low was because of accelerated depreciation and clearly the amount of storage built depends largely upon the amount of extra grain stocks the company can attract. If there was "too much" capacity developed, the fault lies with the government. It is clear that the grain companies responded to the tax incentive by building storage capacity, but the government was in control of how much would be built and, through the Canadian Wheat Board, its utilization.

The storage rate of one-thirtieth of a cent per day (one cent per month), while far in excess of the short run cost of stock maintenance, is not necessarily a source of encouragement to expand storage capacity. Profits derived from storage become lumped into general revenue and merely become a mechanism to reduce the pressure to increase the handling tariff. Therefore, if the storage tariff was reduced, this would not necessarily have reduced the amount of storage space created during the 1940s and 1950s. To ensure that excessive stocks are not maintained in commercial storage, it is essential that the Canadian Wheat Board and the government not allow those stocks to come forward from farms in the first instance.

Under the quota system, which regulates deliveries of Board grains to country elevators, the farmer is in no position to choose between storing on farm or in commercial position. As quotas are opened, the farmer either

delivers his Board grains and receives his initial payment and his right to a share in the proceeds of the pool or he loses his rights to deliver for that particular quota. Prior to the 1971-72 crop year, the farmer could save up his quota within a crop year and deliver as he desired. This reduced the ability of the Canadian Wheat Board to fine tune the flow of grain from farm to country elevator and hence, terminals. The implementation of the terminating quota for the 1971-72 crop year afforded farmers in aggregate even less of an opportunity to affect their storage costs. Regardless of the type of quota system, however, the responsibility to control storage costs on behalf of farmers rests with the Canadian Wheat Board. Unless a third party is prepared to pay for excessive stocks in commercial position, there is no good reason for those stocks to exist. During the 1950s and 1960s, to the extent that wheat stocks were beyond those necessary to service sales, the general public paid for those wheat stocks through the Temporary Wheat Reserves Act.

With the storage capacity in place, the decision to continue the operation of a grain elevator will depend, to a large degree, on the relationship between variable, or avoidable, cost and revenue, provided the asset has no alternative use or value. With totally integrated firms, this simple relationship is confused by cross subsidization either horizontally or vertically.

Abstracting from the problem created by integration, Table VII shows the relationship between operating cost and income as estimated by Tangri et al for the 1968-69 crop year. From the estimates provided, all elevators were able to meet operating costs (pro rata share of Head Office expense not included) on the basis of their respective handling and storage revenue. If the storage tariff was reduced to zero, and there was no increase in the handling tariff, most grain elevators, in that study, handling less than about 250 thousand bushels would be strong candidates for closure.

To a large extent, this was the suggestion of Channon.[82] In addition, however, he recommended that the maximum handling rate be removed at country elevators and that tariffs at terminals be established at average costs. Channon's suggestion was an excellent one in our opinion, and probably predated its time only because the Temporary Wheat Reserves Act was still active in paying storage subsidies. Under the Channon scheme, the handling tariff at low volume elevators would have to be raised in order that operating (variable) costs could be met. Farmers who deliver to low volume elevators would then decide whether they would prefer to deliver to a relatively high cost

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[82] J. W. Channon, "Transportation and Handling of Alberta Grain," Crop Marketing Series, Program 1970, Strathmore, Alberta, January 29, 1970, pp. 9-10.

TABLE VII

ESTIMATED OPERATING COST, HANDLING REVENUE AND STORAGE REVENUE FOR COUNTRY GRAIN ELEVATORS OF VARIOUS SIZES AND LEVELS OF HANDLING, 1968-69

Size Group \ Handling Group	<100	100-149	150-199	200-249	250-299	300-349	≥350
	(in thousands of bushels)						
<80,000	8,866[1]	9,909	10,997	12,272	12,967	14,403	16,255
	4,400	5,875	9,460	12,485	14,135	17,545	21,945
	6,139	6,139	6,139	6,139	6,139	6,139	6,139
80,000 - 99,999	10,250	10,841	11,790	12,698	13,626	14,976	18,099
	5,445	6,985	9,460	11,825	14,245	17,764	25,905
	8,500	8,500	8,500	8,500	8,500	8,500	8,500
100,000 - 119,999	11,648	12,429	13,125	13,778	14,559	15,000	19,217
	3,960	6,985	9,680	12,210	15,235	16,940	33,275
	10,388	10,388	10,388	10,388	10,388	10,388	10,388
120,000 - 139,999	11,867	12,913	13,747	14,450	15,267	16,265	21,023
	3,245	6,765	9,570	11,935	14,685	18,040	34,045
	12,277	12,277	12,277	12,277	12,277	12,277	12,277
140,000 - 159,999	12,077	13,129	14,289	15,422	17,056	18,585	22,170
	4,950	7,150	9,570	11,935	15,345	18,535	26,015
	14,166	14,166	14,166	14,166	14,166	14,166	14,166

(Continued)

TABLE VII (Continued

Size Group \ Handling Group	<100	100-149	150-199	200-249	250-299	300-349	≥350
	(in thousands of bushels)						
≥160,000	-	13,681	15,141	16,353	17,841	19,163	23,736
	-	6,765	9,680	12,100	15,070	17,710	26,840
	-	18,888	18,888	18,888	18,888	18,888	18,888

[1]The three figures in each cell are: estimated operating cost, estimated handling revenue and estimated storage revenue.

SOURCE: O. P. Tangri, D. Zasada, and E. W. Tyrchniewicz, Country Grain Elevator Closures: Implications for Grain Elevator Companies, Centre For Transportation Studies, University of Manitoba, Winnipeg, R.R.10, January 1973, pp. 40, 42.

plant or to deliver elsewhere, likely incurring added transportation costs. With the low handling agreement there was little probability that competition for volume could be affected by charges to farmers at less than the maximum allowable under the Wheat Board's handling agreement. The low rate was able to be maintained only because of relatively high storage earnings.

Aggregate earnings from handling and storing of grain have not impeded the drive for efficiency in grain handling of the grain elevator companies. However, because of the high earnings from storage the grain companies have attempted to maintain storage capacity. Efficiency gains have been made by the purchase of grain firms by other firms, mergers among firms, by the closing down of grain elevators and by the trading of elevators among firms. The most apparent increase in productivity is at the country elevator level where volume of grain handled per elevator manager has risen appreciably due to the structural changes. As well, these changes have provided for savings in head office expenses.

Consolidation within the grain elevator industry is not a recent phenomenon, but rather has been ongoing since the early days of the grain trade. MacGibbon commented on this subject as follows, regarding activities during the 1930s and 1940s.

> ...The Reduction in the number of companies has meant a decrease in head office expenses and expansion has enhanced the ability of these companies to meet and offer competition.

> ...Interchanges of this nature have tended to increase the amount of grain handled per unit of operation for each company with a reduction in the costs of operation and supervision.[83]

Tangri et al commented in 1971 as follows:

> The grain companies have rationalized their plant as dictated by economic conditions over time. But this rationalization has been carried out in ways that are not always obvious to outside observers. This has taken the form of trade-offs, mergers, and outright sales of companies, as well as the fact that there are now at least 1,000 fewer elevator agents than elevators. Hence the argument that there are "too many" elevators is not a valid indicator that the grain companies have not rationalized their plant. The actions taken by the grain companies have enabled them to reduce costs, both operating and non-operating.[84]

The Canada Grains Council, in 1973, commented in the following manner.

> The difference between company points and operating units suggests that there is still room to reduce the number of manager units by about 700 as companies consolidate operations at points where they have more than one manager. Note that both saw-offs and mergers provide the opportunity for cost savings without reduction in the overall level of service to producers, although the competitive environment tends to be weakened.[85]

The policies of the grain companies have been to reduce operating costs where possible and practical from their particular perspective. The relationship between

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[83] D. A. MacGibbon, The Canadian Grain Trade 1931-1951, Toronto: University of Toronto Press, 1952, pp. 200-201.

[84] Tangri, op. cit., p. 61.

[85] Canada Grains Council, op. cit., p. 144.

the handling and storage tariffs, prior to 1973-74, mitigated against the reduction of storage capacity. The study by Tangri et al estimated that the savings generated by the assumed closure of plants were outweighed by the losses in storage earnings.[86] Storage space is important to the grain companies also as a competitive force to draw patronage. For both of these reasons the maintenance of storage capacity was the optimal strategy for grain companies.

In this chapter, the role of competition, regulation and government policy as it concerns the handling versus storage orientation of the country elevator system was developed. As noted, the role of competition established the basic elevator system by 1930. Subsequently, government policy such as the accelerated depreciation programs and the Temporary Wheat Reserves Act were largely responsible for the storage orientation of the system. The tariff structure for handling and storing grain played a secondary role provided the policy of the government was to maintain and pay for excess wheat stocks. The role of the handling and storage tariffs was important in maintaining the storage orientation during this period, but was not the cause of it.

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[86] O. P. Tangri, D. Zasada, and E. W. Tyrchniewicz, "Country Grain Elevator Closures: Implications for Grain Elevator Companies," Centre for Transportation Studies, University of Manitoba, Winnipeg, Research Report No. 10, January 1973, pp. 45-51.

CHAPTER IV

AN HISTORICAL REVIEW OF THE REGULATION OF HANDLING AND STORAGE TARIFFS IN THE COUNTRY ELEVATOR SYSTEM

In this chapter, the regulated tariffs for handling and storing grain at the country elevator level are examined. The regulated tariffs are examined during four periods of time with the view of analyzing the impact the tariffs have had upon the industry. The four time periods examined are: the initial regulation of tariffs in 1912, the period from 1912 to 1943, the period from 1943 to 1974 which covers the years when both the Canadian Wheat Board and the Board of Grain Commissioners were involved in tariff setting, and the post 1974 era where the Canadian Grain Commission was solely responsible for tariff setting. The Board of Grain Commissioners was renamed the Canadian Grain Commission in 1971 but we shall use the name as it existed at a particular point in time.

A. Initial Setting of Maximum Tariffs by the Board of Grain Commissioners in 1912

There is some difficulty in establishing why the regulation of handling and storage tariffs, or charges, took place and on what basis they were initially set, since there does not appear to have been an occasion where producer organizations have asked for such control. Producers voiced their concerns regarding many factors that

would influence their final return. Some of these concerns were vertical integration, street prices, weight, grade, dockage and the freedom to use a variety of shipping methods. No doubt, the tariffs for handling and storing grain affected the farmers' return, but apparently in a less material or obvious way than the factors listed above. Baxter, who in 1962 was the Chief Statistician of the Board of Grain Commissioners, wrote: "Neither the regulations nor the Canada Grain Act set forth the precise way in which the level of these tariffs shall be established, nor is there any information on record indicating the basis on which the initial rates were set."[87] Since there is no official documentation, we are left to make use of other sources from which to deduce the manner in which maximum tariffs were initially set.

With regard to the Manitoba Grain Act, 1900, Wilson writes: 'Maximum tariff rates, subject to revision by the governor in council, were to be filed each year by both terminal and country elevators."[88] Lamont, quoting from the Turgeon Commission of 1925, states that "maximum rates for handling and for storage are authorized by the

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[87] Report of the Interdepartmental Committee on Grain Storage and Handling in Canada, Volume 1, Ottawa, September 1962, pp. 283-284.

[88] C. F. Wilson, A Century of Canadian Grain, Saskatoon, Saskatchewan: Modern Press, 1978, p. 32.

Board of Grain Commissioners" and that "these charges have not been raised above the 1913-14 level."[89] The rates referred to were: handling - 1¾ cents per bushel, storage - 1/30 cent per bushel per day.

From the above, one would conclude that the process of maximum tariff setting was established up under the Canada Grain Act of 1912, with the Board of Grain Commissioners as the administrative body. It would also appear to be the case that the Board set maximum tariffs at the level established by the grain trade itself. Prior to 1912, the trade established the tariffs and filed them as required under the Manitoba Grain Act. The administrative change regarding tariffs, between the Manitoba Grain Act and the Canada Grain Act is more than subtle. Under the Manitoba Grain Act, the tariffs were filed and subject to revision by the government. Under the Canada Grain Act the tariffs were set by a regulatory body, who presumably would be able to devote greater time and effort into such regulation.

By the time the Board of Grain Commissioners was authorized to set maximum tariffs, two Commissions had already concluded that the tariff levels were non-compensatory. The Royal Grain Inquiry Commission of 1899 stated that, "The evidence shows that a standard elevator

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[89] C. Lamont, Prairie Sentinels, Winnipeg: North-West Elevators Association, circa 1940, pp. 20-21.

operated at a price of 1½ cents per bushel (the present rate charged for handling, cleaning and giving 15 days' free storage) and at which no grain bought by the owners is handled, would require to be filled three times in each season to make it a profitable investment to the party erecting and working it."[90] As shown in Appendix A, the Elevator Commission of the Province of Saskatchewan of 1910 made a similar comment. During the time period of the Saskatchewan Commission, the handling tariff (or original storage as it was then called) was 1¾ cents per bushel. This was an increase of ¼ cent in about 10 years.

By accepting the tariffs as determined by the trade and doing so knowing that the tariffs per se, were noncompensatory, the Board of Grain Commissioners virtually ensured that only firms integrated both vertically and horizonatally could compete in the country grain elevator business. From the evidence provided in the Commission reports, a grain elevator or line of elevators could not be established in order to handle and store grain for others on a warehouse basis except at a loss. This is not correct in an absolute sense because if an elevator or line of elevators could secure significant volume, probably in the order of double that which was being achieved by the industry at that time, it could have been viable. From a practical point of view, however, it would have been only

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[90] Ibid., p. 35.

a philanthropist who would have entered the trade on such a basis knowing that the existing elevators were operating with a handling to capacity ratio of less than two, when a break even position required a ratio of between three and four.

The purpose of the regulation of handling and storage tariffs is unclear. Almost all of the early regulation of the grain trade was for the purpose of fostering competition or ensuring fair weights, grades and dockage. To that point in time, it was not obvious that the grain companies were about to raise the handling and storage rates in any exhorbitant way to the detriment of producers since the handling rate had increased only about ¼ cent per bushel in the previous 10 years.

It is suspected that the initial setting of maximum tariffs for handling and storing grain, at the levels established by the grain trade, was done for strictly pragmatic reasons. To have started with the philosophy that the handling and storage tariffs should directly reflect the costs of providing the service would have demanded an exhaustive costing study of the industry by the Board. More importantly, if it was the case that the handling tariff was too low and the storage tariff too high, establishing an appropriate set of rates would likely not have been of any consequence to the integrated elevator companies. If the Board of Grain Commissioners attempted to establish initial rates so that revenue levels would be

commensurate with cost, they would have to investigate each of the possible sources of profit of the grain companies; mixing, grading, dockage, screenings, commissions, and activities on the Grain Exchange. Profits were not derived from handling and storing grain per se, but from the buying and selling of grain. The tariffs made up only part of their buying margin.

On the basis of the comments of the Commissions' of 1899 and 1910, that an elevator would have to turn itself over at least 3 times and, in fact, was doing so less than twice, implies that the handling charge would have had to be approximately double what was being charges farmers at that time to be compensatory. For the Board of Grain Commissioners to have established the maximum handling tariff at, say 3½ cents, when the elevator companies were charging 1¾ cents would have been an extraordinary action. It is difficult to see how such regulation by the Board of Grain Commissioners would have been viewed by producers and their organizations as being in their best interest. However, as remarked previously, setting the maximums essentially at the "going" rates as was done, reduced the potential for entrants into the industry on other than a fully integrated basis.

Since the Board of Grain Commissioners appears to have accepted the going tariffs established by the grain trade as the maximum allowable, it is pertinent to understand the role played by the tariffs. During the first

decade of this century, a farmer could sell his grain either on a street basis to the elevator company, on a track basis via a commission agent, or bypass the country elevator through the use of a loading platform. Only by use of the loading platform was the farmer able to avoid the handling tariff at the elevator. The handling tariff, therefore, must be competitive with the tariffs charged at other elevators and competitive with the loading platform. The decision by farmers to make use of the loading platform was aptly described in the Report of a provincial Commission:

> Some farmers are satisfied that it is not worth seventeen dollars and fifty cents for them to load through the elevator and have the elevator accept responsibility for out-turn weights at Fort William. These use the platform. Others are well satisfied to bin their grain in the elevator direct from the thresher or at their convenience, pay the charge, have the grain loaded out when their car comes and have the elevator accept responsibility for leakages in transit, etc., rather than feel that when their car comes they must immediately leave whatever work they have in hand, secure assistance from neighbours and load the car without delay. The whole question of the wisdom or otherwise of shipping through an elevator and paying the above charge is one that depends largely upon the circumstances in which each individual is placed.[91]

The same report also noted that for the crops of 1908 to 1911, platform loadings amounted to 19.4, 19.4, 12.2 and 26.5 percent respectively for shipments of grain out of

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[91] Report of the Grain Markets Commission of the Province of Saskatchewan, Regina, Saskatchewan: Government Printer, 1914, pp. 28-29.

Saskatchewan.[92] There should be no question that platform loadings were a powerful competitive force in those years, both for the farmers that used them, as well as for those who did not.

In order for grain companies to ensure steady supplies of grain to their terminals, they must purchase large quantities of street wheat as opposed to merely acting as warehousemen for others, in which case the terminal destination could not be guaranteed. If profits could not be derived from the country elevator system operating as a warehouse, then the deficit in revenue had to be recovered through the buying margin or at the terminal level. Patton describes the terminal profit sources as follows: "The main profits from terminal operations, it was discovered, were derived from the accrual of surpluses or overages in the turnover of stocks. Such surpluses might arise, quite legitimately, from the recleaning of screenings, which public terminals were allowed to retain where the dockage set by the inspector did not exceed 3 percent. Surplus might also arise, more questionably, from cleaning grain slightly under the dockage set."[93]

Sale on a street basis was made at the prices offered by the grain companies and marketing charges such

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[92] Ibid.

[93] H. S. Patton, Grain Growers Cooperation in Western Canada, Harvard: Harvard University Press, 1928, p. 150.

as the handling tariff were contained within the buying margin. Sale on a track basis would cost the farmer the $1\frac{3}{4}$ cents per bushel handling tariff for unloading grain from the farmer's wagon or truck, elevating the grain and loading into a grain car, plus the one cent per bushel paid to the commission agent. The only way these charges can be avoided is by the farmer loading over a platform and assuming the specialized function of the commission agent regarding the sale of grain to a terminal elevator or an end user such as a flour mill.

The allegation of cross subsidization between the country and terminal elevator systems emanates from the notion that the country elevator was limited in deriving income to the maximum handling tariff of $1\frac{3}{4}$ cents per bushel. This is somewhat incorrect as an independent country elevator could, if the manager were knowledgeable in marketing matters, earn as well the commission fee of one cent per bushel. The fact that such an alternative did not develop sufficiently to compete effectively with the vertically integrated firms attests to the efficiency of the latter form of marketing. The practice of the terminal division of a vertically integrated company returning the one cent commission fee to the country elevator division is not necessarily a practice of cross subsidization, but could be regarded as allocating that revenue to the point from where it is derived. As explained in Chapter II, it was the efficiency of the

vertically integrated firm which allowed it to internalize the commission agent's role in the marketing of grain that, in part, explains the development of the vertically integrated firm.

Another marketing alternative available to the farmer was to store grain for future sale. The farmer could store on farm or in a country elevator. The storing of grain in an elevator would permit the farmer to sell on short notice to the elevator or on track to a commission agent, but would require the payment of the storage tariff to the country elevator. Given that the grain elevator companies were intent upon the merchandising of grain as opposed to merely acting as warehousemen; one would expect, therefore, that the storage tariff would play an important role in their marketing strategy. If the handling tariff was below the cost of providing the service, then one could hypothesize that the storage tariff would be greater than the cost of providing the service. In effect, the entire tariff schedule would be an encouragement for the farmer to sell grain to the grain elevator on a street basis.

The function of storing grain in country and terminal elevators has not changed from the turn of the century to the present. Storage creates time and space utility by providing for the positioning of stocks into market accessible position. For the farmer, the sale of street grain to commercial facilities provided for immediate cash flow or, when available, elevator storage

could be used pending future sales. The use, by farmers, of elevator storage space for the purpose of future sale was known as graded storage or special binning which was a contentious issue at the turn of the century. The farmer who made use of the provision would have estimated that the charges were reasonable given the possibility of future gains. To the country elevator, the revenue obtained was likely less than could be gained from street purchased grain, particularly in periods of heavy demand. On the other hand, in times of weak demand, the elevator would view whatever revenue was obtainable from this source as better than nothing.

The Board of Grain Commissioners likely realized the dilemma created by the conflicting interests of storage space useage and the provision of special binning was maintained in the Canada Grain Act as a privilege to be gained by mutual consent between the farmer and the country elevator as opposed to the right of a farmer. The farmers likely viewed the charge for storing grain as being related to the direct cost of holding stocks. To the grain company, however, the storage charge was perhaps related to the opportunity cost of the alternative use of bin space, which was the merchandising of street purchased grain.

For a particular parcel of grain purchased on a street basis, the elevator company would earn the difference between what the grain was purchased for, and what it

was sold at, or the buying margin. This would be made up, in part, by the handling tariff of 1¾ cents per bushel and the commission fee of 1 cent per bushel. On grain stored for the farmer, the elevator company would earn the 1¾ cents handling tariff plus accumulated storage fees. At the storage fee of 1 cent per bushel per month (the maximum storage tariff), the elevator would be in somewhat of a no loss position after the first 45 days. The 45 days is due to the handling tariff including the first 15 days as storage free. The notion of treating the storage tariff in this manner is fraught with difficulty because of the surplus developed by the terminals as described by Patton and mentioned above. Beyond the first 45 days, the problem becomes even more difficult as the trade-off between uses of storage space depends upon how long the storage space is used by the farmer, and the turnover of that storage space expected by the elevator company, if special binning had not been provided. The elevator company maintained some control over this as they could move the grain to a terminal by giving notice to the farmer.

On the other hand, the notion that the storage fee was established on the basis of the cost of service is even less satisfying. The information acquired by the Saskatchewan Elevator Commission indicated that grain elevators would cost about twenty cents per bushel to

erect.[94] While this cost included equipment and other items that could be considered not related to storage, it would be just as well to overestimate than underestimate for our purposes. If one thinks in terms of only a 20-year life and interest rates of 6 percent and utilization of storage capacity at seventy percent, the monthly per bushel cost is quite small in relation to the charge. According to amortization tables, the principal and interest charges would amount to approximately 0.18 cents per month per bushel.

The above proposition of calculating the cost of providing storage is derived from the definition of the handling tariff which is: loading grain into the elevator, 15 days free storage (10 days after 1970), and loading grain out of the elevator. What is missing in this method of calculating the cost of providing storage is an allocation of such expenses as salaries, taxes and repairs. The major problem with attempting to allocate operating costs between handling and storing is the arbitrariness of doing so because they are common products of operating an elevator. In essence, a grain elevator cannot store grain unless it handles grain and, likewise, it cannot handle grain unless it stores grain. While it is conceivable that a grain elevator could transfer grain virtually direct

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[94]Report of the Elevator Commission of the Province of Saskatchewan, Regina: Government Printer, 1910, p. 42.

from farmers to railway boxcars, thereby eliminating the storage function, this is most unlikely to ever become the common case. If the grain companies were to attempt to allocate storage related expenses to determine the cost of providing storage space, they would likely develop different estimates because of the arbitrariness involved. The estimates of storage cost would probably vary as well from region to region and year to year because of the condition of the grain and the weather. However, the problems of differential estimates of storage costs could be overcome by averaging within a company and by competition among companies.

While it is conceivable that such a process, to determine storage cost, could have taken place, we seriously doubt that it did. The proposition that the storage rate was developed on the opportunity cost to the elevator of the use of storage space is more realistic. More importantly, the opportunity cost theory rationally follows from the fact that the grain companies functioned primarily as merchandisers of grain and not warehousemen; that is they bought and sold grain as opposed to handling it for others without transferring ownership.

Patton describes the sales option of farmers and makes inference regarding the storage charge in the following manner:

> ...owners of grain that has not been shipped out before the close of navigation must either bear the higher cost of all-rail shipment to seaboard

> or of all-winter storage until the reopening of lake navigation.[95]

The rail rate, as recorded by the Grain Markets Commission,[96] on grain moving from the Lakehead to Halifax, was 19½ cents per bushel. If the farmer were to store his grain for the period from December to May, the period of freezeup, the alternative of all rail shipment would convert to a storage cost of about four cents per bushel per month against an actual charge of one cent. The grain companies would not appear to have determined the storage charge on the basis of the farmers' alternative winter transportation opportunity cost. To have established storage on the transport basis would have been considered extortionate, and have resulted in the farmers' demands for producer cars and storage space in terminal elevators. Also, this would have played into the hands of commission agents who would have increased their volume of business. Furthermore, such a charge would probably have made the building of space for storage rather than merchandising profitable, thereby syphoning large volumes of grain away from the country elevators of the integrated companies.

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[95] H. S. Patton, Grain Growers Cooperation in Western Canada, Cambridge: Harvard University Press, 1928, p. 12.

[96] Report of the Grain Markets Commission of the Province of Saskatchewan, Regina: Government Printer, 1914, p. 47.

Another, and perhaps simpler, explanation of the storage tariff relates to the difference in prices as recorded on futures markets. Magill, in his report regarding the operations of the Board of Grain Supervisors during the first World War, states:

> It [referring to the Board] could tell how much the carrying charges would amount to per bushel per month, and from commercial experience it could ascertain that in pre-war days, and when wheat was selling far below a dollar a bushel, the average excess of May over previous December for a period of some twelve years was a fraction above 5¢ a bushel.[97]

Piper describes the elevator storage charge in the following manner:

> The major portion of a full carrying charge consists of the storage; therefore the rate in force in the elevators connected with any grain market will be directly reflected in the difference in prices for different deliveries on such market. Under the rules of the Winnipeg Grain Exchange grain is deliverable upon contracts only when it is in store in the public terminal elevators at Fort William or Port Arthur; therefore the tariff storage rates of these elevators have a direct bearing upon the prices of the Winnipeg Exchange.[98]

Piper's comment regarding the storage tariff at the terminals and their relationship to future price is obviously correct. However, it still does not explain how

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[97] C. F. Wilson, A Century of Canadian Grain, Saskatoon, Saskatchewan: Modern Press, 1978, p. 1063.

[98] C. B. Piper, "Principles of the Grain Trade of Western Canada," The Empire Elevator Company Limited, Winnipeg, 1915, p. 145.

the storage tariff was determined in the first instance. The problem appears to be of a chicken and egg variety.

Patton, in explaing the problems confronting the Grain Growers Grain Company, which was acting as a trading company as opposed to physical handlers of grain around 1910, quotes the President of that company in this regard.

> I have before frequently pointed out that the possession of the country elevators gives the elevator companies a very strong lever in working against us. It is common knowledge that, in order to get the handling of a farmer's grain, country elevator operators, acting no doubt under instructions from their superiors, will offer every inducement possible. I might instance as chief of these the loading of grain through their elevators into cars free of charge, and the holding of it--often for considerable periods--free of storage... It is quite possible for them to conduct their business at country points at a loss and still recoup themselves very handsomely from the profits at the terminal elevators. This they can do without in any way resorting to making profits by improper practices such as mixing of grades. A company operating country elevators and owning a terminal elevator--as they nearly all do--can buy a farmer's car in the country, apparently without profit, and ship it down to their terminal elevators for storage. The spread in price between the cash month in which they buy the grain, and, say, the May price, is usually from a cent to a cent and a quarter a month. The only charge they have against the spread at which they sell is the interest and insurance charge, which is low enough to give them a handsome profit on their turnover. This enables them to, at times, offer inducements at country points for carlots that apprently is difficult to understand; or at points where we are buying street grain to offer prices that we cannot pay unless we buy at a loss.[99]

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[99] Patton, op. cit., p. 93.

The explanation of the storage charge is similar to Piper's and leaves one with the same problem of establishing cause and effect.

If the storage charge to farmers at country elevators was reduced to the physical charge, which likely would have been well below a cent a bushel a month, farmers would probably have used elevators in a fashion to acquire the gain for themselves. If farmers did not do so, an enterprising middleman would surely have done so. The actions of the grain companies cannot be considered anything but rational.

In conclusion, we would argue that the maximum tariffs for handling and storing grain, as initially established under the Canada Grain Act by the Board of Grain Commissioners, were simply those determined by the elevator companies. The establishment of tariffs by the grain companies, if not designed, had the function of sponsoring the transfer of ownership of grain from farmer to country elevator on a street basis. With regard to the handling tariff, competition from platform loadings was likely responsible for pushing the tariff below average total cost. The storage tariff was likely established by the elevator industry on an opportunity cost basis, which reflected the difference in December to May futures prices. Because of the keen competition for farmer patronage, the tariffs would have been noncompensatory if the industry had operated merely as warehousemen. There should be no doubt,

however, that the industry had no intention of operating as warehousemen but rather as merchandisers of grain.

The Board of Grain Commissioners of the day must have been fully cognizant of the situation in the grain trade up to 1912. At least two Commissions had reported by this time and had outlined the noncompensatory nature of a warehouse operation. It is from the Reports of these Commissions that the notion of a handling to capacity ratio of between three and four was necessary for an elevator to be profitable, became popular.

The reason for establishing maximum handling and storage tariffs under the Canada Grain Act is unknown. However, one can speculate that it was politically motivated. Instead of regulating the street prices that farmers received from, what they argued, was a monopolized industry, the tariffs for handling and storing grain were regulated. The fact that the Royal Commissions mentioned above concluded that the industry in the main operated in the joint interest of farmers and merchandisers, but that competition would strengthen the position of farmers, did not appease farm groups such as the Grain Growers Association. It was, therefore, possibly considered by politicians that regulation of tariffs would somehow limit the buying margins of the grain elevator companies.

The establishment of maximum tariffs, whether or not viewed as such by the Board of Grain Commissioners of the day, provided regulation which would help to determine

the structure of the industry for decades to come. Knowing that the handling and storage tariffs were non-compensatory from a warehousing perspective, the Board of Grain Commissioners could have established compensatory maximum tariffs based upon the cost of providing the service. This could not have been done without a great deal of difficulty, however, as the grain elevator companies, which were primarily privately owned, and intent upon the purchase of grain on a street basis and the merchandising thereof, would not likely have been affected by a new tariff schedule.

An analysis of changing the tariff structure will show the difficulties. If the handling tariff was raised and the storage rate lowered, this would be of no consequence to the grain companies. They would not likely follow by raising their handling tariff, thus out competing warehouses that did. The storage tariff, from a revenue perspective, was of little consequence since they dealt mainly in buying street grain. If, on the other hand, the handling tariff was lowered and the storage tariff raised, the grain elevator companies would probably have raised their buying margin by the same amount. However, the handling tariff of 1¾ cents per bushel left little room for reduction. At any rate, it is most unlikely that the Board of Commissioners conducted costing studies that they would have decided to follow the latter action.

As it would not have been necessary for the grain companies to follow an increased handling tariff unless warehousemen did so and were effective competitors for grain, the change would not have materially affected the industry. It is important, however, to speculate whether such warehousemen would have enetered the industry. If they were to be new entrants, it would have been only at very high risk of survival since the grain elevator companies would not likely have followed suit initially. Other alternatives would be for the government to provide warehouse functions or for legislation to force the elevator industry to provide those functions. The former action was most unlikely because of the failure of the Manitoba government elevator scheme and also the failure of municipal elevators in Saskatchewan.[100] Regarding the latter, it would not have been contemplated since even the provision of special binning was not made a right, but rather, a privilege.

It would seem, therefore, that the Board of Grain Commissioners had no choice but to accept the tariffs for handling and storing grain that had been established by the industry itself. While this meant the continuance of the status quo and effectively ensured that only integrated firms would exist within the industry, it likely was the

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[100] Report of the Elevator Commission of the Province of Saskatchewan, op. cit., pp. 131-134.

only realistic option available to the Board. The farmers and their organizations would have to take the advice offered by the two Commissions mentioned above if they were to make substantive changes to the grain industry which they argued were needed. While the Board of Grain Commissioners had no option, the federal government had the option of severing vertical integration between country and terminal facilities. This issue was debated in regard to Bill Q, as mentioned in Chapter II, but no action was taken.

B. Maximum Tariff Setting to 1945-46

While the establishing of maximum handling and storing tariffs for grain does not appear to have been based upon any imperative, they were of some significance during the period of time in which the federal government, through its agencies, marketed Canadian wheat.

The period between World War I and the end of World War II were particularly significant in terms of the marketing of Canadian wheat in particular, because of large carryovers, restricted market access, low prices, insufficient storage capacity and transportation congestion. It was during this period that the futures market frequently could not function properly because of the above mentioned difficulties and the government operated centralized selling or propped up the futures market by taking the opposite side of an evident down market. It was also during this time period that grain elevators

operated as warehouses, and the storage tariff as set by the Board of Grain Commissioners was brought into question.

During the first World War, the Winnipeg Grain Exchange suspended trading because with a buyers' monopoly the market was anything but competitive.[101] In recognition of the problem, the government established a central pricing and marketing body called the Board of Grain Supervisors. The Board operated by setting the price of wheat at export position and in turn by setting the remuneration for necessary marketing functions established the price to farmers. The process developed by the Board of Grain Commissioners is similar to that currently in place under the Canadian Wheat Board.

The following is an excerpt of the final report of the Board of Grain Supervisors which explains the remuneration to country elevators which acted as warehouses for wheat.[102]

STREET PRICES

> The fixing of prices at the terminal points is, however, only the beginning, though an essential one. Wheat is sold by farmers to the local elevator or warehouse operator both east and west. This is known as "street" wheat. And in by-gone days the prices paid for street wheat were a perennial source of complaint. After

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[101] C. F. Wilson, A Century of Canadian Grain, Saskatoon, Saskatchewan: Modern Press, 1978, p. 89.

[102] Ibid., pp. 1061-62.

careful consideration the Board decided that the price of wheat should be stabilized at country points also.

CARRYING CHARGES ON WHEAT

From harvest to the close of navigation at Fort William there is only a limited period of time. It is physically impossible, and it is economically undesirable, to ship out the whole of the western wheat surplus in that period. Considerable quantities are delivered by farmers to country elevators during harvest which cannot be transported to Fort William before December, and considerable quantities are hauled from the farms to country elevators during the winter months. Western wheat must still be hauled east. The Panama route is not yet effective, Canada has no outlet such as the United States enjoys in the Gulf of Mexico, and the milling industry of the Dominion cannot yet absorb as large a proportion of the total Canadian wheat as the milling industry in the United States can of United States wheat.

Under these conditions a large quantity of wheat in Western Canada must be carried over every year during the winter months--some of it on the farms, some of it in country elevators, and some of it in the terminal elevators at the head of the lakes.

Every one understands that if wheat is worth $2.21½ a bushel at Fort William, it is worth more at Montreal by the cost of transporting it there. It should be equally obvious that if wheat is worth $2.21½ per bushel at Fort William in the month of December, it is worth more the following May by the cost of keeping it there. That cost includes storage, insurance and interest. And with wheat at $2.21½ per bushel, these carrying charges, as they are called, amounted to practically 2¢ a bushel per month.

In normal times all accruing charges, whether handling charges at the elevator, or freight charges by lake and rail, or carrying charges in an elevator, became part of the price of wheat, just as do the costs of production, and all commercial experience shows that this is the simplest and most economical way of handling them.

It is somewhat curious that while the notion of stabilized prices was supposed to be consistent with these variations that were due to freight rates, it was decided that it was inconsistent with those variations that were due to carrying

charges. In the United States considerable importance was attached to this, possibly because the carrying charges do not bulk quite so largely there as in Western Canada. In Canada, at all events, the cost of carrying wheat from Fort William when the price was fixed at $2.21½ per bushel was, as stated above, 2¢ a bushel per month. Who was to pay this 2¢ a bushel per month, and how, if it could not be incorporated in the price of wheat?

STREET PRICE MARGIN

With regard to street prices, the principle adopted by the Board was that if the price at the terminal point was fixed, the country price should also be fixed. And this was done simply by deducting the freight rate from the Fort William price, and in addition whatever amount the elevator was fairly entitled to for its services. The board set this latter amount at a maximum of 5¢ a bushel, with the result that the street price at any particular point in the west was the Fort William price minus freight and minus a maximum of 5¢.

In reaching this maximum the Board considered that the Canada Grain Act allows country elevators a maximum of 1¾¢ per bushel for handling wheat through the elevator, that the Winnipeg Grain Exchange fixes 1¢ a bushel for selling it, and that the difference between the sum of these two and 5¢ would be sufficient to protect the country elevator operator against loss in grades and weight and give him his profit.

As stated above, in bygone days street prices gave rise to much trouble. The maximum margin set by the Board for straight grade wheat was 5¢ and at no time during the crop years of 1917 and 1918 did the Board receive a single protest from producers in regard to that margin. For some of the lower grades, or the "no grade" grain, it was admitted on all sides that the margin was too low, and this was provided for as time went on.

When the street price problem had been thus far solved, the question of carrying charges became still more urgent. A five cent margin would not enable a country elevator to carry its purchased wheat long when the carrying charge cost at Fort William was 2¢ a bushel per month. In other words, the street price margin could only be fixed at a maximum of 5¢ provided the carrying charges--storage, interest and insurance--were paid to the elevators by the Board. There were two alternatives--the Board must either pay the carrying charges, or the

> elevator must be permitted to collect them from the producer. And in the case of street wheat that would mean a margin very much larger than 5¢ a bushel.

While there is little in the report by Chief Commissioner Magill that fully explains how the street price margin was determined, one might speculate that bargaining took place between the commission and the grain elevator companies. The outcome probably resembled closely the actual return the grain companies experienced operating as merchandisers as opposed to warehousemen without considering the cost of carrying grain. Under normal conditions of marketing street grain, the elevator company would be responsible for carrying charges while under the Board of Grain Supervisors, the Board was responsible for these charges. The carrying charge cost of two cents per bushel is what Piper[103] refers to as the full carrying charge which takes in the one cent physical charge plus an additional approximate one cent interest and insurance cost. The interest cost will depend upon the value of grain, the going rate of interest, and the length of the storage period.

It is the former cost, as set by the Board of Grain Commissioners, that came into question during the early part of the depression. The Pool Elevator Companies,

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[103] C. B. Piper, "Principles of the Grain Trade of Western Canada," The Empire Elevator Company Limited, Winnipeg, 1915, p. 145.

which were organized in the mid 1920s, operated on much the same basis as the current Wheat Board by paying initial and subsequent payments as opposed to the purchase of street grain by the private grain elevator companies. With falling prices in late 1929 and early 1930 the initial prices became higher than prevailing market prices and the solvency of the Pool operations came into question. The overpayments to farmers for the crop year 1929-30 by the three prairie Pools was about 22.9 million dollars.[104] The three provincial governments guaranteed the bank loans of the Pool companies for several months and eventually issued bonds for this purpose. The federal government, in turn, took over the Central Selling Agency of the Pools, and as was done under the Board of Grain Supervisors, made use of the existing grain trade to the fullest extent in marketing the stock on hand.

In 1932 the head of the Central Selling Agency, J. I. McFarland, questioned the storage rates because the large carryovers and low wheat value were resulting in sizeable profits for the grain elevator companies. Wilson[105] gives a full account of the issue raised by McFarland and this is reproduced in Appendix C. Our particular interest in this issue is because it provides a

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[104] F. W. Hamilton, Service At Cost, Saskatoon: Modern Press, 1975, p. 127.

[105] Wilson, op. cit., pp. 323-27.

useful insight into the role of the regulated tariffs, particularly as they applied after the Canadian Wheat Board became a monopoly marketing agency. The letter from McFarland to the Prime Minister, as reproduced in Appendix C, is critical of the Board of Grain Commissioners in not having lowered the maximum storage tariff when it was obvious that a heavy carryover in grain elevators existed. With reduced export markets available, not only were stocks in store at high levels, but they were being carried for longer periods than was normal for the industry, resulting in very large profits from the storing of grain. In the same light, while export markets were depressed, McFarland's operation was to prop up price by purchasing futures whenever a "rush" of short selling was evident. In this regard McFarland's operation was directly affected by the tariff schedules set by the Board of Grain Commissioners and one could argue there existed a conflict of interest on his part. The advice of McFarland was eventually accepted and the federal government amended the Canada Grain Act allowing for the revision of the tariff schedules other than on a yearly basis. In this instance, the storage tariff was reduced from 1/30 to 1/45 of a cent per bushel per day for all grain elevators.

If the Board of Grain Commissioners was in "error" by not adjusting the storage tariff downward in 1931, the "error" was caused because the role of the Commission was not to control profits over short run cycles but rather to

set tariffs which presumably limited buying margins and considered longer run profits. The groundwork covered by McFarland, however, created a heightened recognition of the regulated tariff structure that probably did not exist prior to 1931. The controversy over the storage tariff and particularly storage capacity was to become an issue of grain policy in the years to come and today it is probably one of the more vexing issues to be dealt with. Several "estimates" of the amount of storage capacity necessary in the country elevator system were shown in Chapter III.

For the time period 1912-1945 it appears as though the handling tariff for wheat remained constant at 1¾ cents per bushel. The storage tariff, on the other hand, varied from time to time and generally in relation to stock levels. Table VIII shows, in crude fashion, an inverse relationship between the storage tariff and the stocks in store. In this regard the storage tariff was probably used to some degree as a regulator of gross revenue, and possibly profits, which was the issue put forward for the first time, as far as we can tell, by McFarland. That the issue of storage revenue should come up during the time period in which the government was highly involved in the marketing of Canadian wheat is not surprising since a large amount of public funds was involved at that time. On the other hand, under conditions when markets functioned

TABLE VIII

STORAGE TARIFFS IN RELATION TO AVERAGE MONTHLY STOCKS HELD IN COUNTRY GRAIN ELEVATORS: 1930-31 to 1945-46

Crop Year	Storage Tariff (cents/bushel/day)	Average Monthly Stocks (x 10^6)[1]
1930-31	1/30	77.5
1931-32	1/30	75.5
1932-33	1/45	103.0
1933-34	1/30	105.6
1934-35	1/30	96.4
1935-36	1/30	79.5
1936-37	1/30	34.2
1937-38	1/30	20.1
1938-39	1/30	52.7
1939-40	1/30	117.9
1940-41	1/45	219.8
1941-42	1/45	203.5
1942-43	1/45	236.7
1943-44	1/50	229.3
1944-45	1/50	175.3
1945-46	1/45	68.8

[1]From 1939-40 to 1945-46 stocks in store include Interior Private and Mill Elevators in addition to country elevators.

SOURCE: Canadian Grain Commission.

more normally, the storage tariff was deemed, if not explicitly, then implicitly, appropriate.

C. Maximum Tariff Setting 1945-46 to 1973-74

With the Canadian Wheat Board becoming what has turned out to be a permanent monopoly marketing organization, the grain elevator companies became agents of the Board. As agents of the Board, income from country elevator operations for Board grains was limited to the handling agreement entered into yearly between the grain companies and the Wheat Board and the storage tariff set by the Board of Grain Commissioners. With regard to Board grains, first wheat (1943) and then oats and barley as well (1949), the grain companies became warehousemen as opposed to merchandisers of those grains.

The tariff levels for handling and storing grain took on a dual aspect for the next thirty years. The Board of Grain Commissioners established the maximum handling and storage tariffs for all grains while the Canadian Wheat Board negotiated a handling agreement for Board grains with the grain companies. Table IX shows the tariffs established by Board of Grain Commissioners, the Canadian Wheat Board handling agreement and the difference between the two for the years 1945-46 to 1973-74.

Acting as warehousemen for Board grains, the storage tariff took on a significantly different character for the grain companies. Whereas during the period of time the grain companies were merchandisers of grain, the

TABLE IX

COUNTRY GRAIN ELEVATOR TARIFFS FOR WHEAT AS SET BY THE CANADIAN GRAIN COMMISSION AND THE HANDLING AGREEMENT OF THE CANADIAN WHEAT BOARD: 1945 TO 1973-74

Year	Canadian Grain Commission Storage (¢/bushel/day) (1)	Canadian Grain Commission Handling (¢/bushel/day) (2)	Canadian Wheat Board Handling Agreement (¢/bushel) (3)	Difference (3-2)
1945-46	1/45	1 3/4	3	1 1/4
1946-47	1/30	1 3/4	3	1 1/4
1947-48	1/25	1 7/8	3 1/2	1 5/8
1948-49	1/25	2 1/2	4 1/2	2
1949-50	1/25	2 1/2	4 1/2	2
1950-51	1/30	2 1/2	4 1/2	2
1951-52	1/30	2 5/8	4 1/2	1 7/8
1952-53	1/30	2 5/8	4 1/2	1 7/8
1953-54	1/30	2 5/8	4 1/2	1 7/8
1954-55	1/30	2 5/8	4 1/2	1 7/8
1955-56	1/30	2 5/8	4 1/2	1 7/8
1956-57	1/30	2 5/8	4 1/2	1 7/8
1957-58	1/35	2 3/4	4 1/2	1 6/8
1958-59	1/30	2 3/4	4 1/2	1 6/8
1959-60	1/30	2 3/4	4 1/2	1 6/8
1960-61	1/30	2 3/4	4 1/2	1 6/8
1961-62	1/30	2 3/4	4 1/2	1 6/8
1962-63	1/30	3	5	2

(Continued)

TABLE IX (Continued)

Year	Canadian Grain Commission Storage (¢/bushel/day) (1)	Canadian Grain Commission Handling (¢/bushel/day) (2)	Canadian Wheat Board Handling Agreement (¢/bushel) (3)	Difference (3-2)
1963-64	1/30	2 3/4	4 1/2	1 6/8
1964-65	1/30	2 3/4	4 1/2	1 6/8
1965-66	1/30	2 3/4	4 1/2	1 6/8
1966-67	1/30	3 3/4	4 1/2	6/8
1967-68	1/30	3 3/4	5 1/2	1 6/8
1968-69	1/30	3 3/4	5 1/2	1 6/8
1969-70	1/30	3 3/4	5 3/4	2
1970-71	1/30	3 3/4	5 3/4	2
1971-72	1/30	3 3/4	5 3/4	2
1972-73	1/30	3 3/4	5 3/4	2
1973-74	1/30	3 3/4	6 1/4	2 1/2

SOURCE: Canadian Grain Commission.

storage tariff was likely used as an inducement for farmers to sell on a street basis, the storage tariff now became an important source of revenue for Board grains. With the grain companies acting as warehousemen for Board grains and the impact that the tariff structure can have upon the structure and performance of the industry, no apparent attempt was made by either of the regulatory Boards to adjust the rates in some relation to their respective costs.

While it might appear somewhat redundant to have two Boards negotiating rates with the grain companies, the practice is easily rationalized. The Board of Grain Commissioners, as required under the Canada Grain Act, established the maximum tariffs for handling and storage. The Canadian Wheat Board, being a marketing agency, negotiated with the grain companies, those aspects that involve some element of buying or selling. The Board of Grain Supervisors, under whose powers the grain companies acted as agents during World War I, operated in much the same fashion. While it might appear somewhat redundant to involve two agencies, with similar regulatory goals, to deal with the grain companies, it was a natural occurrence.

The handling agreement arrived at between the Wheat Board and the grain companies is made up by adding a fee for acting as agents of the Board, to the maximum handling tariff established by the Board of Grain Commissioners. In 1945-46 this fee was 1¼ cents and was comprised of the one cent commission, as described

previously, plus ¼ cent for administrative duties. Exactly how the fee was established is unknown to us, but it likely followed some form of bargaining between the Wheat Board and the grain companies.

Regarding the Board of Grain Commissioners, the method of tariff setting, as described by Baxter,[106] involves tariff meetings where the grain companies present arguments and data regarding the level of tariffs and the need for change. The Board, in turn, assesses the arguments together with the profit picture of the grain companies and takes into consideration the necessity of funds to maintain, expand and modernize physical plant and equipment to ensure an efficient and adequate elevator system.

This form of tariff setting is somewhat similar to that adopted by most Public Utility Boards except that the Board of Grain Commissioners is not regulating a monopoly nor does the Board have the power to investigate, determine and approve of increases in the capital stock. It is also not apparent that the Board fixes a set rate of return on investment for the industry. While we would not question that the Board had a set of principles by which it was guided in regard to tariff setting in practice, the

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[106] Report of The Interdepartment Committee on Grain Storage and Handling In Canada, Volume 1, Ottawa, September 1962, pp. 284-286.

procedure appears to have been geared mainly to profits or net income.

An examination of the maximum tariff for handling wheat at country elevators, as set by the Board of Grain Commissioners, shows that the rate increased gradually from 1945-46 to 1973-74. The storage tariff, except for the variability from 1945 to 1949 and for 1957-58 was constant at 1/30 of a cent per bushel. Given the gradual increases in the handling tariff despite years of high versus low handlings and shifts in aggregate storage, it would appear that the Board of Grain Commissioners viewed the regulation of the handling tariff in a long run sense. That is, they did not juggle the handling or the storage tariffs to correspond with the fluctuations in volumes of grain handled and stored. While this supports the argument that the Board took a long run view, it may, in reality, be because the Canadian Wheat Board held the power to set the actual handling tariff through the handling agreement. Since the Canadian Wheat Board negotiated the handling agreement with the grain companies which incorporated the maximum handling tariff of the Board of Grain Commissioners, in essence, one can argue, that the Wheat Board determined the rate. In other words, the power of the Board of Grain Commissioners to fix the maximum handling tariff for Wheat Board grains was, in effect, taken over by the Canadian Wheat Board.

An examination of the handling agreements entered into by the Canadian Wheat Board and the grain elevator companies shows a very steady rise in its level through time. The difference between the rates set by the two Boards shows a totally different picture, however. The difference in rates shows, rather than a steady and gradual increase, a wave-like pattern. This would tend to indicate that the Canadian Wheat Board examined the handling agreement in relation to very short term swings in gross revenue or profit.

The functions of the two Boards would lend support to this hypothesis as well. The Canadian Wheat Board, which operates as a monopsonist on behalf of farmers, became identified not only as a marketing agency, but also as an institution which could improve returns to farmers over those received from the private trade. Because the Canadian Wheat Board was so highly linked to the income goals of producers, a potential conflict of interest existed in its negotiation of the handling agreements with the grain companies.

With regard to the negotiation which took place between the Board of Grain Commissioners and the grain companies and between the Canadian Wheat Board and the grain companies, very little information is available. In the case of the former, transcripts of the public hearings are available through the Board of Grain Commissioners, but they are of little value in understanding

the rate setting philosophy of the Board or the reasons for decisions made in a particular year. With respect to the Canadian Wheat Board negotiations, nothing is available as those negotiations are in camera. The Hansard reports of the Select Standing Committees provide some evidence of the philosophy of the two Boards regarding tariff setting.

With regard to the handling agreement, the Chief Commissioner of the Canadian Wheat Board, responding to a question regarding the agreement, stated as follows in 1952:

> You know how the handling agreement is arrived at. We have a meeting with the elevator companies every year. We try to get the rates as low as possible and they, on the other hand, try to get the best rates they can, and we usually arrive at some sort of compromise.[107]

In 1960, we get a further view of the bargaining mechanism when the Chief Commissioner of the Canadian Wheat Board stated:

> As I say, we negotiate with the companies each year and try to drive the best possible bargain. I suggest that when you get the producer-owned organizations, the pools, and the United Grain Growers supporting the line companies and arguing as a unit that these charges are justified, it is hard to break that down.[108]

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[107] Select Standing Committee on Agriculture and Colonization, Minutes of Proceedings and Evidence, Ottawa: Queen's Printer, June 16, 1952, p. 483.

[108] Select Standing Committee on Agriculture and Colonization, Minutes of Proceedings and Evidence, Ottawa: Queen's Printer, June 30, 1960, p. 370.

The two quotations tend to support the view that the handling agreement was based largely, if not solely, upon net revenue or profit levels. In the same light, unless all grain companies had come forward with a request for an increase, it is likely that the Canadian Wheat Board would have been hesitant to grant the increase. This placed the Canadian Wheat Board in a very powerful and, possibly, undesirable position vis-a-vis the elevator companies. If the Wheat Board saw its role mainly as one of maximizing returns to farmers, the position of the grain companies, or at least of some of them, could become untenable. If not all companies had very similar needs for cash flow, either for rebuilding, meeting operating costs or achieving adequate profit levels to justify remaining in the industry, exiting could result. We shall expand on this in Chapter VI, where the philosophy of tariff setting will be examined in more detail.

With regard to the maximum tariffs established by the Board of Grain Commissioners, we have previously argued that the handling and storage tariffs were not related to the cost of providing those services. It would have been more than fortuitous, therefore, if the negotiations resulting in the handling agreement changed this situation. The issue of the tariff structure was discussed from time to time by Committees of Parliament with surprising results. In 1954 the Chief Commissioner of the Board of Grain Commissioners was asked, in establishing the

handling and storing tariffs, "do you try to make each category try to pay its own way, so to speak?" The response from the Chief Commissioner was, "Generally, yes,"[109]

In 1955, the Chief Commissioner of the Canadian Wheat Board was asked if they had "given any consideration to increasing the handling charge and decreasing the storage charge." The response was as follows: "Yes, we have. We have met opposition on that point not only from the line companies but from the producer organizations."[110]

In 1959 the maximum storage rate was increased from 1/35 to 1/30 of a cent per bushel per day and upon questioning as to why the increase had been granted, the Chief Commissioner of the Canadian Wheat Board cited increased costs as the reason. This response was questioned on the grounds that if costs had risen, then should not the handling agreement be increased as opposed to the storage tariff? The response was as follows:

> I would be inclined to agree with that reasoning, but the elevator companies do not accept that. Unless it would mean an increase in the handling margin would be directly reflected in the initial payment price the farmer received, whereas an increase in the storage charges comes from our

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[109] Standing Committee on Agriculture and Colonization, Minutes of Proceedings and Evidence, Ottawa: Queen's Printer, May 11, 1954, p. 226.

[110] Standing Committee on Agriculture and Colonization, Minutes of Proceedings and Evidence, Ottawa: Queen's Printer, May 24, 1955, p. 98.

> general expenses; and I think that is why the elevator companies have been pressing for the storage rate increase rather than asking for an increase in the handling margin.[111]

The comments by the Chief Commissioners of the two Boards appear to be in conflict as to whether the tariffs were set in relation to the cost of handling and storing grain. Neither of the Boards had conducted studies as to the costs and may not have even asked the grain elevator companies to do so. For example, the Report of the Interdepartmental Committee states, in regard to tariff hearings that:

> The companies present data indicating how and to what extent the related component cost items have changed as evidence of the need for those tariff increases or decreases requested. The tendency is more to indicate relative changes in costs as reasons for altering existing tariff levels rather than to present absolute cost studies as basis for the stablishment of a specific tariff level.[112]

The Chief Commissioner of the Board of Grain Commissioners stated, in 1954, upon questioning, that the handling and storage charges generally paid their own way. The remark is surprising as the Board apparently did not demand that the grain companies provide costing studies but rather only information regarding the increases in

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[111]Standing Committee on Agriculture and Colonization, Minutes of Proceedings and Evidence, Ottawa: Queen's Printer, June 23, 1959, p. 251.

[112]Report of the Interdepartmental Committee on Grain Handling and Storage in Canada, op. ci.t, p. 284.

operating costs. On the other hand, the Chief Commissioner of the Canadian Wheat Board agreed, in 1959, that if operating costs had increased, that it should be the handling tariff that is increased and not the storage tariff. However, it was the storage rate that was increased for the 1958-59 crop year.

It would appear to be the case that neither of the Boards had any particular rate making philosophy other than probably the control of net revenue. No doubt, there were questions in the minds of the Boards regarding the relative level of handling versus storage tariffs, but no action was taken, apparently not even demanding that the grain companies provide costing studies. The arguments by the Chief Commissioner of the Canadian Wheat Board in 1955 and 1959, as quoted above, that a shift in tariffs to emphasize handling and de-emphasize storage would be vigorously opposed by the grain companies and, therefore, could not be accomplished, leaves much to be desired. The Boards had the power to establish tariffs based upon any criteria they so desired. It may well be the case that the greatest deterrent to change, however, was the federal government's storage related policies, as were discussed in Chapter III.

To the grain companies, the relatively high storage rate was tantamount to pure profit for that function. The country elevator system contained excess capacity in relation to the handling of grain, was largely written off, and hence, storage capacity was available at little or no

cost. Increases in operating costs over the longer run were covered by the increases in the handling agreement or tariff and increases in productivity (increased throughput per elevator manager). This is implied in Baxter's comment that the grain companies present data regarding how component costs change from year to year. Since the handling tariff has always been noncompensatory per se, the revenue derived from storage brought the net position to a level acceptable at least to some of the firms in the industry.

To the Boards, this method of controlling net revenue was particularly pragmatic because of its simplicity. With respect to the farmers, they were generally unaware of the cost per bushel of maintaining stocks in commercial position because such costs were paid by the Canadian Wheat Board out of the pool prior to farmers receiving their final payments. Unless farmers were to read the annual reports of the Canadian Wheat Board they would not know the cost of storing grain or the total charges at country elevators.

D. Maximum Tariff Setting After 1973-74

As was discussed above, the tariff setting process appears to have been largely devoid of a philosophy prior to the establishment of the Canadian Wheat Board, and thereafter appears to have been based largely on net revenue or profits. The manner in which maximum tariffs

were first established set in motion a process which carried forward an inappropriate tariff structure. Tariffs were originally established at those levels existing within the trade as opposed to any study of the appropriateness or otherwise of those rates. It is to the credit of the Canadian Grain Commission that it established a committee to review the tariff structure. The Committee's report in March 1974 is particularly important because of its recommendations regarding the handling and storage tariffs and the economic philosophy regarding tariff setting.

The Committee recommended the following principles for tariff setting.[113]

1. Tariffs should be related to and compensatory for the services performed.
2. Tariff structure should be such that tariffs which are levied should provide an incentive to perform required services.
3. Tariffs should encourage required capital investment.
4. Tariff structure should not act as an artificial barrier to entry to the industry.

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[113] Canadian Grain Commission, Report of the Tariff Review Committee, Winnipeg, March 1974, pp. 6-7.

The Committee argued that, "if tariffs are established in both structure and level in accordance with these principles, then they will least distort the evolution of the system, while at the same time create an environment wherein necessary facilities and services will be provided in the most efficient way."[114]

Beginning with the crop year 1974-75, there were two distinctive changes in the regulation of tariffs for handling and storing grain in country elevators.

1. The Canadian Grain Commission assumed the sole responsibility for the establishment of maximum tariffs (the Canadian Wheat Board no longer entered into yearly handling agreements with the grain companies).
2. The Canadian Grain Commission established maximum tariffs on the basis of the principles outlined above and which have been referred to as "flexible tariffs".

The result of the shift in responsibility to the Canadian Grain Commission from the Canadian Wheat Board in maximum tariff setting and the resultant maximums are shown in Table X. The shift in rate making policy has resulted in significant changes. The maximum handling tariff has changed from 6¼ cents per bushel in 1973-74 (handling agreement with the Canadian Wheat Board) to 19½ cents per

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[114] Ibid., p. 7.

TABLE X

MAXIMUM TARIFFS FOR WHEAT FOR COUNTRY GRAIN ELEVATORS: 1973-74 TO 1980-81

Year	Storage (cents per bushel) per day)	Handling as Established By the Canadian Grain Commission (cents per bushel)	Handling Agreement As Established by the Canadian Wheat Board (cents per bushel)
1973-74	1/30	3 3/4	6 1/4
1974-75	1/30	10 1/2	-
1975-76	1/30	12	-
1976-77	1/30	13 5/8	-
1977-78	1/30	14 3/8	-
1978-79	1/18	15 3/4	-
1979-80	1/18	17 5/8	-
1980-81	1/18	17 5/8	-
1981-82	1/17	19 1/2	-

* Figures for 1978-79 to 1981-82 have been converted from metric measure and therefore are approximations.

SOURCE: Canadian Grain Commission.

bushel in 1981-82. The storage tariff, on the other hand, remained constant at 1/30 of a cent per bushel per day to 1977-78, but has since risen to about 1/17 of a cent.

We have argued previously that the maximum handling tariff, as established under the Canadian Grain Commission, was meaningless for Wheat Board grains during the period in which the Canadian Wheat Board entered into yearly handling agreements with the grain companies. During this period, the handling agreement became the tariff that applied to Board grains. The system of flexible tariffs, as established by the Canadian Grain Commission, was designed to leave some room for the grain companies to vary tariffs on the basis of cost and/or competition. The change in principle regarding the maximum handling tariff is novel to the industry and may take time before its full potential is realized. There is some evidence to show that the handling tariff varies among grain elevators. Table XI shows the extent of variation of tariffs over the period, 1974-75 to 1980-81. It is difficult to make any judgement as to whether the differential tariffs exist because of cost or are due to competition. No doubt, the Commission has such data and will be reviewing the data to analyze the results. The differential in the handling tariffs charged to farmers will reduce the degree of cross subsidization which has existed since the control of the Wheat Board. It may also change the impetus for farmers to deliver grain other than to the grain elevator nearest to them.

TABLE XI

CANADIAN GRAIN COMMISSION FLEXIBLE TARIFFS: 1974-75 to 1980-81

Year	Maximum Handling Charge (cents per bushel--wheat)	Range of Company Charges (cents per bushel--wheat)
1974-75	10 1/2	7 3/4 - 10 1/2
1975-76	12	8 - 12
1976-77	13 5/8	9 - 13 5/8
1977-78	14 3/8	10 - 14 3/8
1978-79	15 3/4	11 1/4 - 15 3/4
1979-80	17 5/8	11 1/4 - 17 5/8
1980-81	17 5/8	13 1/4 - 17 5/8

* Figures for 1978-79 to 1980-81 have been converted from metric measure and therefore are approximations.

SOURCE: Canadian Grain Commission

The rapid rise in the maximum tariffs will provide for a substantial infusion of capital into the industry. The industry is currently under pressure to improve the control of grain dust in country elevators. The issue of dust revolves around two interrelated concerns regarding workplace safety; the health of employees and the dangers of explosion. The Chief Commissioner of the Board of Grain Commissioners estimated that the cost of dust control facilities could be in the order of 100 million dollars.[115] The capital requirements for the upgrading of the country elevator system over the next 10 years or so will be even higher. Of particular note in the need for capital is the following comment by the Chief Commissioner.

> I thought there were exceptionally good briefs presented in fair detail by all those people presenting briefs. Probably one of the most significant things that came out of the hearings and the information that was provided was the capital requirements that are going to be needed in the grain industry up to 1985.
>
> I think it is the first time that the pool organizations, for example, have indicated that they are going to have to go into the money market to replace some of the facilities that are going to be needed. Our estimates of capital that is going to be required between now and 1985, and I think our figure is on the low side rather than on the high side, is in the neighbourhood of $500 million. The companies indicated to us that the operating costs were increasing and they indicated that the requirement of funds that were needed to

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[115] Standing Committee on Agriculture, Minutes of Proceedings and Evidence: Ottawa: Queen's Printer, May 3, 1978, p. 16:22.

> be generated within the system ranged all the way from 18 per cent to 50 per cent by the various companies.[116]

The need for large scale upgrading of the country elevator industry is not an issue that suddently appeared overnight. The massive infusion of capital that is indicated by the Chief Commissioner of the Canadian Grain Commission is a direct result of the regulation of the industry. It would be, at best, an exercise in futility, however, to blame the regulators alone. The competition between the farmer owned and privately owned companies and the federal government's storage policy must share the blame for the situation which developed during the 1950s and 1960s. If the data were available, it would be most interesting to review the requests for increases in tariffs and increases in the handling agreement by the various farmer-owned and line-elevator companies since the early 1950s. We have shown, previously, that the Chief Commissioner of the Canadian Wheat Board had stated that when all the grain companies ask for handling increases, it is difficult for the Wheat Board not to allow an increase. The corollory is that if not all ask for an increase, then none would be granted.

While tariffs have been regulated since 1912, their impact upon the industry has changed substantially over time. The initial setting of maximum tariffs had little

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[116] Ibid., pp. 16:6-16:7.

direct impact upon the industry because the tariffs were those which had actually been set by the industry and because the tariffs were subsumed within the buying margins of firms, or the street prices offered to farmers. In contrast, the handling agreement entered into yearly between the grain elevator companies and the Canadian Wheat Board directly controlled the profitability of the industry. The maximum handling tariff as set by the Board of Grain Commissioners became meaningless in light of the Wheat Board's handling agreement.

Under the Wheat Board marketing system, the handling agreement and the maximum storage tariff performed a vastly different role than did the maximum tariffs under the free market system. In this regard, it is surprising that the regulatory agencies did not undertake studies with the purpose of setting those charges on the basis of their respective costs. The reason this was not done is likely as a result of the storage policies of the federal government. It was not unexpected, therefore, that substantial increases in the maximum handling tariff occurred immediately after the demise of the Temporary Wheat Reserves Act which subsidized the large stock of wheat in commercial position.

CHAPTER V

THE COST STRUCTURE OF, AND PRICE THEORY RELEVANT TO COUNTRY GRAIN ELEVATORS

This chapter reviews the results of several costing studies which have been undertaken over the past eighty years, as well as the theory relevant to the regulation of tariffs in the country grain elevator industry. This chapter will provide the background material necessary to evaluate the regulation of tariffs by the Canadian Grain Commission.

A. Costing Studies of Country Grain Elevators

There have been many studies conducted with regard to the cost structure of country grain elevators. These studies are usually of a cost-output variety employing statistical techniques such as regression or more simply, of an accounting type. Because of the techniques used, the studies do not represent the true planning or long run average cost curves of economic theory. Nonetheless, the studies are useful in demonstrating the relative efficiencies of operating a particular size of plant at various levels of output, or of various sizes of plant at the same output. Almost all of the studies indicate unit cost falling rapidly at relatively low levels of output and then becoming somewhat asymptotic to the output axis. The

reason for this relationship is a relatively high fixed cost and low variable cost structure.

The earliest costing studies of Canadian grain elevators were conducted by the Royal Commission of 1899 and the Elevator Commission of the Province of Saskatchewan of 1910. The latter Commission obtained data in regard to its analysis of the Partridge Plan. In analyzing the viability of the provincial aspects of the plan, the Commission obtained cost-revenue information from several elevator companies. As envisaged by the Partridge Plan, the provincially owned elevators would operate strictly as handlers and storers of grain, as opposed to buying grain from farmers and merchandising it as was done by the private trade at that time. This is similar to the current operation of country elevators in regard to Wheat Board grains. The following comment, made by the Commission, sums up the viability of elevators operating on the basis of handling and storing grain only. "It does not appear to the Commission that on a storage and handling basis such an elevator, filled only three times, would pay its way."[117] The Report shows that for the crop years of 1903 to 1908 the handling to capacity ratio varied from 1.02 in 1907 to 1.89 in 1905.[118] It is clear from the comments of the

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[117] Report of the Elevator Commission of the Province of Saskatchewan, Regina: Government Printer, 1910, p. 44.

[118] Ibid., p. 108.

Commissioners that for an elevator to be viable without merchandising grain, that the handling to capacity ratio would have to be very much higher than the system had been experiencing at that time or that tariffs would have to be increased.

Studies conducted by Groundwater and Winter[119] and by Zasada and Tangri[120] in the 1960s, concluded that significant economies were available to the Canadian grain elevator industry by increasing the handling per elevator. The reason for this was that the cost structure of country grain elevators is highly fixed. Labour cost is generally the largest variable or out of pocket expense and over discrete ranges of output, which are not necessarily well defined but which take in a considerable spread of volume, varies little with increases in the volume of grain handled.

A review of American literature shows the same general relationships regarding unit cost and output. For example, a study by Yager concluded that "the greater the turnover in relation to capacity used for merchandising

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[119] R. A. Groundwater and G. R. Winter, "Cost Components in Grain Assembly," Department of Agricultural Economics, University of British Columbia, July 1969.

[120] D. Zasada and Om P. Tangri, "An Analysis of Factors Affecting the Cost of Handling and Storing Grain in Manitoba Country Elevators," Department of Agricultural Economics and Farm Management, University of Manitoba, Research Report No. 13, July 1967.

decreases the expense per bushel."[121] Similar results were obtained by Jorgens and Snodgrass,[122] by Sorenson and Keyes,[123] by Ghetti et al,[124] and by Phillips.[125]

Three recent studies of country grain elevators, conducted by P. S. Ross and Associates for the Grains Group,[126] by Tangri, Zasada and Tyrchniewicz[127] and by the

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[121] F. P. Yager, "Cost Volume Relationships in the Spring Wheat Belt," U.S.D.A. Service Report, No. 63, September 1963, p. 34.

[122] J. R. S. Jorgens and D. Snodgrass, "Handling-Storing Costs of Country Grain Warehouses in Washington," Washington Agricultural Experiment Stations, State College of Washington, Bulletin No. 536, June 1952.

[123] V. L. Sorenson and C. D. Keyes, "Cost Relationships in Grain Plants," Michigan State University, East Lansing, Michigan, Department of Agricultural Economics, Technical Bulletin No. 292, 1962.

[124] J. L. Ghetti, A. G. Schienbein, and R. C. Kite, "Cost of Storing and Handling Grain in Commercial Elevators, 1967-68 and Projections for 1969-70," Economics Research Service, U.S.D.A., ERS-401, February 1969.

[125] R. Phillips, "Empirical Estimates of Cost Functions for Mixed Feed Mills in the Midwest," Agricultural Economics Research, U.S.D.A., Vol. VIII, No. 1, January 1956.

[126] P. S. Ross and Associates, Country Grain Elevators, Study prepared for Grains Group, Office of the Minister, Ottawa, December 1970.

[127] O. P. Tangri, D. Zasada, and E. W. Tyrchniewicz, "Country Grain Elevator Closures: Implications for Grain Elevator Companies," Research Report No. 10, Centre for Transportation Studies, University of Manitoba, Winnipeg, Manitoba, January 1973.

Hall Commission,[128] concluded, as did earlier studies, that average cost per bushel decreases with increasing volumes of grain handled. The studies by P. S. Ross and Associates and by Tangri et al, also made estimates of the additional cost of handling increased volumes of grain in country elevators. The techniques used to estimate marginal and incremental cost, the terms used by respective studies, were quite different. The P. S. Ross study estimated marginal cost by calculating the change in out of pocket costs between volume output groups. This is the typical accounting technique. The study by Tangri et al made use of regression analysis. The P. S. Ross study segregated by volume while the study by Tangri et al segregated by various sizes of plant. Despite the differences in methodology, the studies calculated very similar estimates of marginal cost. This indicates that operating cost is largely independent of size of elevator. The P. S. Ross study estimated marginal cost at 2.4 cents per bushel[129] whereas the study by Tangri et al estimated incremental cost at 2.3 cents per bushel.[130]

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[128] The Report of The Handling and Transportation Commission, Ottawa, Minister of Supply and Services, 1977, p. 141.

[129] P. S. Ross and Associates, op. cit., Exhibit XVI.

[130] Tangri et al, op. cit., p. 48.

In both studies the marginal or incremental cost was significantly below average cost, indicating that significant cost savings were available to the industry by reducing the number of grain elevators, thereby allowing larger volumes to be handled per grain elevator. The study by Tangri et al showed in addition, however, that while cost savings are available to the industry by increased throughput per elevator, the revenue losses due to lost storage capacity nullified the advantage. That particular aspect of the study indicated why tradeoffs of plants among firms, and the mergers and sales of companies, with the maintenance of storage capacity as opposed to closure of plants, was a preferred strategy by grain firms at that time. The strategy of maintaining storage capacity was a direct result of the relative levels of the handling and storage tariffs.

As is evident from the costing studies mentioned above, there have been two criteria for measuring efficiency of grain elevators. These are throughput or bushels handled and the handling to capacity ratio or turnover. The latter, however, is more useful as a measure of the handling versus storage orientation of an elevator as opposed to efficiency per se.

The reasons for this are the variable sizes, and the largely fixed short run cost structure of country grain elevators. In the short run, grain elevators of very disparate sizes can handle the same volumes of grain. The

major problems for any size of elevator handling a large volume of grain is having farmers delivering grain and having grain cars available, at the appropriate times. With adequate queuing two elevators of sizes, say 100,000 and 200,000 bushels, can easily handle 1,000,000 bushels of grain in a year. The per bushel cost for each of the elevators handling that volume will be quite similar. Under these conditions, comparing grain handled to per bushel cost is simple and straightforward.

Using the handling to capacity ratio is more cumbersome. For the hypothetical case given above, we have a similar unit cost but handling to capacity ratios of ten and five, respectively. The handling to capacity ratio is a useful device, however, in measuring the storage versus handling orientation of grain elevators, because the measure is independent of elevator size. For the example above, the elevator with the ratio of ten has a lesser storage orientation than the one with a ratio of five. Assume that each of the elevators has an average yearly 70 percent utilization of storage capacity. The average number of months that stocks remain in storage may be calculated as follows.

Average storage period in months = (12 ÷ H/C Ratio) x capacity utilization

A) For the elevator with the ratio of 5, the average storage period = (12 ÷ 5) x 0.7 = 1.68 months

B) For the elevator with the ratio of 10, the average storage period = (12 ÷ 10) x 0.7 = 0.84 months.

The country elevator system over the long run has maintained a handling to capacity ratio of about two. At 70 percent utilization, the average storage period is about 4.2 months. While this indicates a high storage orientation, there is no measure to determine in some absolute sense whether this is "good" or "bad". It does indicate however, that storage charges to farmers, for grain held in country grain elevators, are relatively high.

Storage costs to the farmer for Wheat Board grains are comprised of two factors. The first is the storage tariff which, for the purpose of this example, we assume to be 1 cent per bushel per month.* The second factor is the carrying charge or interest on borrowed money. When the farmer delivers wheat to an elevator, he is paid the Wheat Board's initial payment by the elevator company. The elevator company subsequently recovers that money with interest from the Canadian Wheat Board. The cost of storage in total may be calculated as follows:

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*The maximum storage tariff up to and including the 1978-79 crop year was 1/30 of a cent per bushel per day for wheat and increased thereafter (see Chapter IV).

Assume: 1. grain in store for 4 months

2. initial payment is \$3 per bushel

3. interest rate is 10 percent

Cost of storage = physical cost + financing cost

= (1¢ x 4) + (\$3 x 4/12 x 0.1)

= 4¢ + \$0.1 = 4 + 10

= 14¢ per bushel.

From the farmers' perspective, it is desirable that a country elevator achieve both a high throughput to obtain the greatest economy in handling and a high handling to capacity ratio to reduce storage charges. To achieve this, however, each farmer cannot expect the country elevator to be located next to his farm. The trade off for the farmer is elevator efficiency, both in handling and storage, versus added transport costs.

While the concept of an efficient handling to capacity ratio developed around the turn of the century, it can be argued that it was more suitable at that time than say in the post depression era. The reason is that grain elevators were of a fairly uniform size at that time. Therefore, to make the comment that a handling to capacity ratio of four or so was efficient was less ambiguous than is the case now. After the 1930s, the grain elevator industry expanded the storage capacity of the system substantially, resulting in a much greater variance in elevator size. As a result, the handling to capacity

ratio became more useful as a tool in gauging whether an elevator was storage or handling oriented rather than as a measurement of efficiency per se.

To give an indication of the manner in which the term handling to capacity ratio has been used, we note the following. In a paper prepared by Channon and Burges, regarding a branch line rationalization project, the following question was to be investigated: "Does the present ratio of through-put to capacity at country elevators represent an optimum situation in terms of operating efficiency and profit maximization?"[131] Zasada and Tangri, in their 1967 study, concluded that "the most important single factor which affests the average cost of handling and storing grain in Manitoba country grain elevators is the handling to capacity ratio."[132] The National Farmers Union, in their 1978 submission to the Canadian Grain Commission,[133] stated in effect that a higher handling to capacity ratio is more efficient than a lower one. We point out these quotations, not to take exception to the statements by the authors, but only to point out that the

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[131] J. W. Channon and A. W. Burges, "Branch Line Rationalization," unpublished paper, Ottawa, circa 1964, p. 11.

[132] D. Zasada and Om P. Tangri, op. cit., p. 88.

[133] Submission to the Canadian Grain Commission on the Subject of Tariff Charges for Licenced Elevators, National Farmers Union, Saskatoon, Saskatchewan, March 29, 1978, pp. 2-3.

criteria of the handling to capacity ratio is not an unequivocal measure of efficiency.

The cost structure of country grain elevators is such that a given set of inputs can achieve an incredibly wide range of output. The limit upon the volume of grain handled is not the size of the country elevator per se, but rather the sectors which interface with the elevator on the incoming and outgoing sides. If adequate incoming supplies of grain and adequate grain cars for moving grain out of the elevator, are assured, the throughput capacity, while not unlimited, is substantially higher than the system as a whole has achieved throughout the history of the industry. For example, Moffat, in discussing a particular country elevator of 142,200 bushel capacity states, "a real good year might let it handle 1,500,000 bushels."[134] It is important to understand the use of the term "might" by Moffat. What is referred to is clearly the ability to obtain grain cars and the delivery of grain from the surrounding area, at the appropriate times. Important in the consideration of the latter is the variable nature of grain production which depends to a great extent upon weather and therefore, materially affects the ability of the elevator system to achieve a high throughput. The particular unit

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[134] R. E. Moffat, "The Grain Handling Companies," Proceedings of the Grain Handling and Transportation Seminar, Canada Grains Council and the University of Saskatchewan, Saskatoon, March 1973, p. Two-8.

to which Moffat refers would have to be regarded as an extremely efficient grain elevator in light of the experience of the industry as a whole. With a handling of 1.5 million bushels, it would have achieved a very significant proportion of available economies of handling. In terms of the handling to capacity ratio, this unit would have a ratio of about ten, indicating a very high handling versus storage orientation since grain stocks would be held only for about 1 month on average.

To carry Moffat's example to its "logical extreme" regarding the rationalization of the handling system, leads one to an interesting result. If the country elevator system had such demands placed upon it that it had to assemble and forward 1.5 billion bushels of grain, it could do so with about 1,000 grain elevators. If they were of the approximate size that Moffat refers to, the total storage capacity of the system would be in the order of 140-150 million bushels. In 1973, when Moffact made his observation, the storage capacity of the country elevator system was about 370 million bushels. If one accepts Moffat's figures as indicative of the potential of the grain elevator system, then the system was inefficient from both a handling and a storage perspective.

An important feature of the costing studies referred to above is that none have calculated separate costs for the handling and storage of grain. Considering that the Canadian Grain Commission established maximum tariffs for

both handling and storing, the separation of costs is essential for the setting of those tariffs on efficiency criteria. The reason those studies, or at least those studies that the author has been involved in, have not calculated separate costs is the common nature of the two functions. The two function are not cost separable, basically because one of the functions cannot be undertaken without becoming involved in the other. At least to this point in time, the Canadian Grain Commission has not estimated the separate costs in order to set tariffs on the basis of those costs.

It has commonly been alleged that the handling and storage tariffs are not in relation to their respective costs and are, therefore, a cause of misallocation of resources within the industry. The following comments are indicative of the claim. The Chief Commissioner of the Canadian Grain Commission stated in 1973 that:

> Despite the fact the rates haven't changed since 1912, it has been argued the rate for storage of one-thirtieth of a cent per day has been too high and that it has encouraged the buildings of elevator space that is now a needless cost.[135]

Mr. A. D. McLeod, of the Saskatchewan Wheat Pool, stated in 1968 that:

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[135] D. H. Pound, Plain Facts About Handling and Storage Tariffs, Grain Handling and Transportation Seminar, University of Saskatchewan, Saskatoon, 1973, P. One-26.

> One factor which tends to distort country elevator operations is the pattern of revenue which are, in the main, derived from two sources. A "handling charge" is deducted from the initial price paid to the farmer at time of delivery. Over the years this charge has been of the order of 4½ to 5 cents per bushel, and for the current year is 5¼ cents for wheat and barley, and 4 cents for oats. The other major source of elevator revenue is payment by the Wheat Board for storage of grain in elevators. The current rate is one-thirtieth of a cent per bushel per day for the amount of grain in storage. The level of both these revenue sources has increased only slightly in the last 30-40 years.
>
> It is generally conceded in the trade that the handling charge does not cover costs associated with the grain handling, with the result that storage earnings contribute a disproportionate share of total revenue. This fact has tended to encourage building of facilities with emphasis on capacity for storage rather than ability to achieve a high rate of through-put. It has been suggested in some quarters that an upward adjustment of handling charges, together with a downward adjustment in storage rates would contribute to a more realistic basis of compensation relation to services rendered.[136]

Channon, who has probably prodded the industry more than anyone on this topic, offered the following in 1968:

> ...then we can speculate that country elevators in Western Canada lose money on virtually every bushel of grain handled. The more grain handled, of course, the less the loss is on each bushel; but the ridiculously large number of elevators limits the bushelage handled by each and effectively guarantees a loss to the operator on each bushel handled.
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> More perniciously, the loss must be offset somewhere. Obviously, some of the offsetting

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[136] A. D. McLeod, Handling Grain in Country Elevators Now and in the Future, Proceedings of the Grain Transportation Workshop, Grain Transportation Committee, Minaki, Ontario, September 1968, p. 54.

> comes from the excess profit--or producers' rent--available from storage revenues...[137]

All three comments, which are made by persons eminently qualified to discuss matters respecting the elevator industry, state that the storage tariff may be too high relative to the cost of providing storage. None, however, explains the basis for this observation. Channon, in a later paper, defines the cost of storage to consist of depreciation, interest on investment, insurance and taxes.[138]

The key to the question of whether the storage rate is excessive, is the definition of storage and the subsequent estimate of cost. Channon's definition follows largely from the manner in which costing studies of country elevators have been conducted in the past. The studies conducted by the Grains Group and by Tangri et al, as mentioned above, allocated all costs to the handling function. This manner of cost assignment subsumes the storage function into the handling function or alternatively assumes that storage is in effect handling at a very slow rate or that there is no storage function. The grain

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[137] J. W. Channon, "Towards a Revitalized Economy in Western Canada," Paper presented to the Canadian Agricultural Economics Society, Regina, February 16, 1968, pp. 8-9.

[138] J. W. Channon, Transportation and Handling of Alberta Grain, Crop Marketing Series, Program 1970, Strathmore, Alberta, January 29, 1970, p. 14.

companies, it would appear, treat costs in a similar manner. For example, appearing before a Parliamentary committee in 1967, the President of the Manitoba Pool explained the relationship between cost and revenue in the following manner.

> Manitoba Pool Elevators' country elevator operating costs, including depreciation, approximate 7.0 cents per bushel. The Canadian Wheat Board handling agreement is 4½ cents for wheat and barley and 3½ cents for oats. Consequently, handling tariffs fall short of a break-even figure by 2.4 cents to 3.5 cents per bushel. The storage revenue of the 1965-66 crop year for Manitoba Pool Elevators was 2.2 cents per bushel related to total grain receipts.[139]

The evidence provided by Manitoba Pool implies that while storage revenue was 2.2 cents per bushel handled, there was no storage cost. The shortfall of revenue compared to cost is made up either by terminal transfers, other sources of income or the grain companies are losing money.

The handling charge to farmers covers the loading in and loading out, of grain, plus ten days of free storage. It is clear that the amount of time spent by the elevator manager in grain handling and the utilization of the plant for storage will vary among plants in a given year and among years, for a given plant. However, for no plant in any year would the manager's efforts be solely put towards loading grain into and out of the elevator. If handling is

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[139] Standing Committee on Agriculture, Forestry and Rural Development, Minutes of Proceedings and Evidence, Ottawa, Queen's Printer, February 10, 1967, p. 1414.

comprised of loading into and loading out of the elevator, then storage could be considered to be the function performed between the periods of grain in motion. It could be argued then that the manager's salary should be shared on a pro rata basis having regard to the amount of time devoted to grain being loaded into or loaded out of the elevator versus the amount of time the grain is in a still position. The movement of grain within the elevator for purposes of rotation or manipulation of stocks could also be considered a storage function. While this would not provide any insurmountable difficulty in allocating the manager's wages, it would be far more complicated to apportion other expenses such as repair and maintenance and municipal taxes.

Although allocating costs to the handling and storage function would be difficult, the greater problem is that it would be arbitrary. However, it may not be any more arbitrary than allocating virtually all costs to handling and then concluding that storage revenue is far above the cost of storage. The problem of allocation arises because the handling and storage of grain are common products of production as opposed to independent products. As such, it would be possible to calculate a wide range of costs for handling and storing grain which would be consistent with the total cost of operating a particular grain elevator.

The emphasis placed upon handling, or throughput, in costing studies, is due to the recognition that the function of a country elevator is to act as feeders to terminal elevators. The reason that the storage function currently exists is because of the definition of handling; loading in, loading out, plus ten days free storage. Clearly, if there were no mention of free storage days there would be no storage function from a revenue perspective.

The definition of handling, which created the storage function, was not developed by the regulatory agencies but rather by the grain companies themselves. As explained in Chapter IV, the storage tariff charged by the grain elevator companies was not designed to produce revenue from storage, but to remove any incentive from farmers to use the elevators for storing grain to be sold later by the farmer. The storage charges that would accrue against the grain would remove any benefit the farmer could gain from this mechanism of marketing. The passage of the Canadia Grain Act in 1912, merely put into law that which existed. With what has turned out to be the permanency of the Canadian Wheat Board, storage has become an important revenue producing function. It is rather ironic that the storage tariff, which was a deterrent to farmers from using country elevators for storage, became a rather sought-after service by farmers with the installation of the monopoly marketing of wheat, oats and barley under the

Canadian Wheat Board. It was not that farmers desired storage per se, but rather the initial payment which was received upon delivery of Board grains to a country elevator.

B. Price Theory and the Regulation of Tariffs

The regulation of economic activity usually occurs because of what broadly could be termed market failures. Monopolization of markets, economies of scale, ignorance, etc. the part of buyers and/or sellers as the case may be, destructive competition, the necessity for standards, and natural monopolies such as public utilities are some reasons for economic regulation. Regulation logically follows from the description of a problem. In regard to the regulation of price, the justification for regulation from an economic perspective is that the price which would prevail, except for regulation, is not optimal.

The simple rule for the optimal allocation of economic resources is that price equal marginal cost. The rule is confounded by two general problems. The first is in regard to externalities and the second in regard to the theory of second best. With respect to externalities, the marginal cost principle demands that price equal not only the marginal cost of production per se, but that the cost of production include any costs transferred to others. In the grain elevator industry, grain dust which has been an externality to employees, and possibly others, is being internalized as a cost to the firm in the form of dust

collection and removal. In regard to the problem of second best, possibly one can take solace in the words of Baumol who argues that, "Many policies may plausibly be expected to yield improvements even though things elsewhere are not organized optimally."[140]

In an industry in which price is not regulated, a firm will continue to operate in the short run provided revenue exceeds variable or direct costs. In the long run if revenue does not cover total cost, which would include all costs of capital plus a return to equity, the firm will rearrange its affairs so that all costs are covered, or exit the industry. Where price is regulated, thereby supplanting the "invisible hand," the regulators must assume the role of the market and establish a price that is economically efficient. Not only does the regulator control the return to equity and as a result, the long run viability of the firm, but it must as well take some responsibility for other market determined factors such as cost efficiency, innovation and the assurance that accountability does not excessively consume scarce resources where flexibility is essential to the provision of efficient production.

In a perfectly competitive world with rising short run marginal cost the equilibrium position of the firm will

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[140] A. E. Kahn, The Economics of Regulation: Principles and Institutions, Vol. 1, New York: John Wiley and Sons Inc., 1970, p. 70.

be at the point where price is equated with both short run and long run marginal cost and also with both short run and long run average total cost. Under these conditions, not only are resources efficiently used but the resources are paid their full cost including a normal return to equity. The presence of regulation implies that such an equilibrium cannot be achieved by letting the market work on its own. One of the reasons for the need for regulation, and one which may have some relevance to the grain elevator industry is the presence of long run decreasing costs. The industry operates at both the country and terminal elevator levels, under short run decreasing per bushel operating cost at least under conditions in which these elevators usually operate. This was indicated in the review of costing studies above.

In regard to the long run nature of cost at the country elevator level, the studies of the Grains Group and by Barnett-McQueen, as indicated in Chapter I, have indicated the superior efficiency of very large elevators or inland terminals over the more traditional grain elevator. Under these conditions, pricing on the basis of short run operating (sic, marginal) cost results in revenue being less than total cost. The prescriptions for such a condition is that a subsidy be granted by the state, price discrimination be undertaken or that departures from

marginal cost allow for recovery of total cost.[141] The first and second techniques could allow for the firm to operate at the point where marginal cost equals price without a deficit provided that taxes to pay for the subsidy are lump sum in nature and therefore do not distort consumption patterns or that discrimination is perfect in nature (i.e., as in the perfectly discriminating monopolist). The third technique, commonly referred to as second best pricing, requires that the amount by which price departs from marginal cost is inversely related to the price elasticity of demand.[142]

Difficulties in Specifying Marginal Cost

Assuming that the regulatory body (in this case the Canadian Grain Commission) decided that marginal cost should be the criteria by which the price for services ought to be set, several problems would be faced. The principle of marginal cost pricing involves two interrelated aspects. First, the price charged for the services provided should be based upon the costs borne by society for providing one more unit of the service. Second, short run marginal cost most appropriately reflects the cost to

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[141] B. M. Owen and R. Braeutigam, The Regulation Game, Cambridge, Massachusetts: Ballinger Publishing Co., 1978, pp. 177-178.

[142] Ibid., p. 179.

society of providing an additional unit of output.[143] With respect to the first aspect, specifying all aspects of short run marginal cost will be difficult because of accounting procedures within the industry. Depreciation is usually treated as a fixed cost unrelated to output or volume of grain handled. As a result, the cost of assets is written off over a fixed period of years. This treatment is partly incorrect because it implies that output per se has no effect upon the expected life of the asset. The author, when taking part in the study conducted by Tangri et al, discussed the possibility of developing what might be called elevator life cycle costs with members of the grain elevator industry. While most members of the industry agreed that such costing would be valuable in refining operating costs, the data did not exist and would not be of great value to a particular firm. To make such data available would demand a sizeable effort on the part of the industry because the life of a grain elevator may be in the order of fifty years. Such data would be of limited value to the firm since data on cost is maintained by necessity in regard to accounting as opposed to economic criteria.

The unit of output as perceived by the Canadian Grain Commission and by those who have done costing studies, as mentioned above, is a bushel of grain. This is indicated by the Commission establishing a maximum per bushel

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[143] Kahn, op. cit., p. 71.

handling charge for country elevators. However, since farmers do not deliver one bushel at a time the unit of output is incorrect. If cost were constant per bushel regardless of the number of bushels delivered, the per bushel specification would be correct. This is most unlikely the case. For example, the direct cost involved in servicing one hundred loads of one hundred bushels will not be the same as servicing ten loads of one thousand bushels. Each load must be weighed, graded, dockage determined and a delivery ticket provided to the farmer. There is little doubt that much more is involved with one hundred loads as opposed to ten. To the extent the same volume delivered in several small loads as opposed to one big load takes considerably more time, those delivering small loads may create congestion at periods of exceptionally high deliveries and should be assessed accordingly.

It would appear that moving from the bushel to the load would be a step in the right direction, but even the load cannot be perceived to be the cause of short run operating or variable costs. For example, the largest component of operating costs is salary. If the firm decides to operate a particular grain elevator for a certain period of time, say a year, the salary component is fixed and possibly except for bonuses or extra help, is largely independent of bushels of grain delivered. Only if the salary component was paid on a load or bushel basis would it be variable, and this is not likely to occur in the

elevator industry. From this perspective, the measurement of marginal cost would be reduced to include such items as power and repair and maintenance if such could be isolated to reflect cost attributable to a particular output of grain. Marginal cost would be a very small proportion of total cost if measured on this basis. We argue, therefore, that the marginal unit of output in the grain elevator industry is the country elevator itself with its operator, repair costs, municipal taxes etc., rather than some measure that relates to bushels per se.

Moffat[144] in discussing the changes undertaken by Manitoba Pool Elevators over the past few years and looking into the future, reflected upon two question which are ripe with economic content. The two questions were:

1. Where are the next of these new or renovated units to be built?
2. Who is to put up the capital to pay for the new or renovated facilities?

The marginal unit of output and its marginal cost are, in our opinion, summed up in Moffat's questions.

A further complication in specifying marginal cost for services provided by country grain elevators is the common cost aspect of handling and storing grain. In

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[144] R. E. Moffat, "The Grain Handling Companies," Grain Handling and Transportation Seminar, Canada Grains Council and The University of Saskatchewan, Saskatoon, May 8, 9, 1973, pp. Two-8 - Two-9.

theory, separate marginal cost functions can be derived for outputs with common costs. For country grain elevators the "marginal cost" of storage theoretically might be derived by varying the amount of grain in store while maintaining the volume handled constant. For a particular grain elevator at a point in time this would be impossible since to put additional bushels of grain in store requires that the grain first be handled. Cross section data of several similar grain elevators could be regressed in an attempt to determine the "marginal cost" of storage. However, the cost determined by such analysis is bound to be very small and one could not determine whether the estimate was due to storage costs or cost differences which could occur for a variety of reasons within the grain elevators sampled.

Studies such as those described above, which purport to develop marginal costs of handling grain by measuring cost in relation to output are in effect measuring average or prorated marginal cost. Since the farmers who use the facilities must pay for them on some pro rata basis, the studies indicate on a bushel basis what that pro rata charge should be. As we discussed above, however, the pro rata charge might more efficiently be based on the size of the load delivered rather than a unit of one bushel.

The statement by Moffat infers that the charges ought to be based upon what we would term average long run marginal cost. Charging tariffs on this basis would provide the capital infusion necessary to provide for the

facilities to handle grain at the country elevator level over the next few decades. However, charging rates on the basis of average long run marginal cost will not necessarily provide the answer to Moffat's first question, nor would it provide an answer as to how many of those units should be built.

By accepting the country elevator as the unit of production, as opposed to the bushel, the difficulty presented in the separation of common costs respecting the handling and storing of grain would be eliminated. The definitions for handling and storing grain which currently exist are those which were pertinent to a time period when grain companies acted as merchandisers of grain. The introduction of the Canadian Wheat Board has changed the merchandising role of the grain companies to a warehouse role (for Board grains). It is arbitrary to define the storage function through the definition of the handling function which currently is: grain loaded into the elevator, 10 days free storage and grain loaded out. Storage is then defined as the length of time grain stays in the elevator beyond the 10 days. To gain some insight into the arbitrariness of the definition of storage, up to 1971 the free period was 15 days. The change from 15 days to 10 days probably has no purpose other than to generate more income for the elevator companies. This is not to argue that the grain elevator companies did not need more

income, but rather that the changing of free days is an arbitrary mechanism for doing so.

Tariff Setting in Conclusion

The regulation of handling and storage tariffs for country grain elevators is an extremely complex matter. To establish tariffs on economic efficiency criteria, that is marginal cost, demands a proper definition of the unit of output, the functions on which tariffs are to be set and whether those tariffs should be set on a long run or short run basis. The costing studies which have been conducted indicate a highly fixed cost structure resulting in falling variable cost over a very wide range of bushels of grain handled. The studies indicate, by implication, that there is not a storage function which is discernable from the handling function.

It is suggested that the unit of output for the grain elevator industry is not the bushel or more recently, the tonne, which is the basis on which tariffs are set, but rather the grain elevator itself. As a result, marginal cost in the industry is the cost of providing the services of a grain elevator rather than the elevator costs involved in handling an additional bushel, tonne or truckload of grain. Therefore, the tariffs assessed to a particular farmer are what we would call the average or prorated marginal cost.

It is further suggested that the handling and storage of grain are common as opposed to independent outputs and therefore, separate tariffs cannot be objectively determined.

CHAPTER VI

AN ANALYSIS OF THE PHILOSOPHY AND IMPACT OF TARIFF REGULATION 1912 TO 1981

In this chapter the regulatory philosophy, or the apparent philosophy, of the agencies responsible for regulating tariffs is examined. Since the impact of tariff regulation has changed over time, an analysis of the changes in philosophy is developed. The development of regulatory philosophy is not a simple task as the agencies have not generally made their philosophies known to the public. The exception to this is the post 1974 philosophy of the Canadian Grain Commission. The earlier philosophy must, therefore, be inferred from a variety of events which have taken place or comments made, at various points in time.

A. Initial Regulation of Tariffs

As indicated in Chapter IV, the regulation of maximum handling and storage tariffs began in 1912. The discontent of farmers at the time, however, was not in relation to tariffs per se, but rather with the alleged monopoly of the elevator system and the terms available to farmers regarding the sale of wheat on a street basis to elevator companies. The federal government, during those early years, passed several pieces of legislation designed to protect the interests of farmers, which included the

right to order and receive grain cars, the right to the use of platforms for the direct loading of grain into grain cars, and to the sale of grain subject to official grade and dockage. All of these features, which continue today, were consolidated into the Canada Grain Act of 1912. While governments were willing to pass legislation that went some distance to ensure that the terms of trade between farmers and elevator companies were fair, they were unwilling to nationalize the grain elevator industry or to fix the buying margin of the grain elevator companies.

As suggested in Chapter IV, the regulation of tariffs in 1912 was a tradeoff between doing nothing and adopting the Partridge plan, or some reasonable facsimile of it. However, it cannot be concluded that the setting of maximum tariffs were of no consequence to farmers at the time. Tariffs were noncompensatory and were designed to, or had the effect of, encouraging farmers to sell on a street basis. It could be argued that the setting of maximum tariffs accomplished the exact opposite of what some farmers were lobbying for at that time. The Partridge plan was designed so that the entire elevator system would be operated as warehouses for the use of farmers who could hold title to grain up to the point of final sale. The setting of maximum tariffs at noncompensatory levels virtually forced any entrant or existing member of the elevator industry to form a vertically integrated structure and operate on the basis of buying street.

It is rather unlikely that by regulating tariffs at existing levels, that the government of the day did not realize the possible effect such action could have upon the structure of the grain elevator industry. The noncompensatory nature of the tariffs were well known, or should have been, to those entrusted with making political decisions at that time. The necessity to establish maximum tariffs could not be predicated on the necessity of protecting farmers from exhorbitantly high tariffs since those tariffs had remained constant for some ten years up to 1912. As well, a significant rise in those tariffs would have encouraged either an increase in platform loadings or the entry of firms willing to operate within the country elevator industry on a warehouse basis. Therefore, the decision made by the federal government not to pass legislation going beyond those items mentioned above implicitly recognized the efficiency of the fully integrated elevator companies in the marketing of grain and the difficulty of nationalizing the system or of fixing buying margins.

We have shown in Chapter II the possible reasons for the development of vertically integrated elevator companies. However, it was not necessary to regulate maximum tariffs in order for the benefits of vertical integration to be achieved. In the final analysis it is difficult to identify any purpose, other than the political one, of appeasing farmers by appearing to be taking some

action, to the establishing of maximum tariffs during the very early years of the grain elevator industry. Without an identifiable purpose for such regulation, it is most unlikely that a philosophy existed in regard to the regulation of those tariffs.

In order to determine whether the regulation of tariffs had any effect upon the industry around 1912, we shall make use of the industrial organization lexicon of structure, conduct and performance. For the purposes of definition, we shall make use of those developed by Bain.[145]

1. Structure means those characteristics of a market which seem to influence strategically the nature of competition and pricing within the market.
2. Conduct refers to the patterns of behavior which enterprises follow in adapting or adjusting to markets.
3. Performance refers to the composite of end results in the dimension of price, output, production cost, product design and so forth which enterprises arrive at in any market as the consequence of pursuing whatever lines of conduct they espouse.

From our discussion above, it is apparent that the setting of maximum tariffs in 1912 had no immediate effect that would not have occurred without regulation as regards

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[145] J. S. Bain, Industrial Organization, New York: John Wiley and Sons Inc., 1959, pp. 7-11.

the structure of the industry. Likewise, it could have no immediate effect as regards the conduct and performance of the industry since the maximum tariffs were merely those that the industry had already established. The regulation of maximum tariffs, for the same reason, could not have had any immediate effect upon the manner in which street prices were set by the industry or the buying margin entailed therein. From our perspective, the immediate effect of establishing maximum tariffs was neutral in all dimensions. This, no doubt, displayed the government's lack of enthusiasm for regulation of the grain industry which would have the effect of treating the industry as a public utility or more drastically to nationalize the industry. The government's action, or more correctly, inaction was not made without evidence as to its appropriateness however. See Appendix A which details the conclusions of the Elevator Commission of the Province of Saskatchewan of 1910 which is supportive of the apparent position taken by the government.

B. The Canadian Wheat Board Handling Agreement

The apparent lack of a detailed philosophy regarding the handling agreement was due, in part, to the dual regulatory function of the Canadian Wheat Board and the Board of Grain Commissioners as well as the storage policies of the federal government, as explained in Chapter IV. Without evidence to the contrary, we assume that the regulatory philosophy of the Canadian Wheat Board

was one of short run profit control. The exact form of profit control is unknown but it could have taken the form of return on equity, net revenue or gross revenue. Given certain basic information such as the value of the capital stock within the elevator industry and operating costs of the elevator companies, the forms of profit control are highly interrelated. Assuming that the Canadian Wheat Board had information related to the value of the capital stock and operating costs, profit control based upon equity return would be feasible and would resemble the control undertaken respecting public utilities.

Regulators of public utilities are usually entrusted with the responsibility of regulating price where government has determined that a market is unworkable for reasons such as natural monopoly or the possibility of destructive competition. The role of public utility regulators is basically to set prices that are fair to the firm(s) and to consumers for the services provided. The issues related to the term "fair" prices are gargantuan in scope and are covered in substantive detail by Kahn.[146]

As stated in Chapter IV, the imposition of the Canadian Wheat Board on the marketing system for wheat, oats and barley changed the role of the elevator companies from merchandisers to warehousers of those grains. On a

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[146] A. E. Kahn, The Economics of Regulation: Principles and Institutions, Volumes I and II, New York: John Wiley and Sons Inc., 1970.

yearly basis, the grain companies would meet with the Canadian Wheat Board to determine the price, in addition to the handling tariff set by the Board of Grain Commissioners, to be paid for the handling of Board grains. The comment made by the Chief Commissioner of the Canadian Wheat Board in 1960 to the Select Standing Committee, as mentioned in Chapter IV, bears repeating.

> As I say, we negotiate with the companies each year to try to drive the best possible bargain. I suggest that when you get the producer-owned organizations, the pools, and the United Grain Growers supporting the line companies and arguing as a unit that these charges are justified, it is hard to break that down.[147]

The role of the Canadian Wheat Board, as a revenue maximizer for producer delivered Board grains, included its role as a monopoly bargaining agent for warehouse services provided by the grain elevator industry. The bargaining for the yearly handling agreement, therefore, pitted a monopoly buyer, or a monopsonist, against an oligopolistic service sector. The balance of power rests with the monopsonist, provided collusion does not take place on the sellers' part. While all firms in the industry did agree, from time to time, that an increase in the handling agreement was necessary, as is apparent from the statement of the Chief Commissioner, as quoted above, it is an heroic

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[147] Select Standing Committee on Agriculture and Colonization, Minutes of Proceedings and Evidence, Ottawa: Queen's Printer, June 30, 1960, p. 370.

assumption to assume collusion. The farmer-owned elevator companies and the private or line elevator companies had been protagonists for several decades and it is unlikely collusion would take place. The differences in demands for increases in the handling agreement among firms would allow the Canadian Wheat Board to accept, or to bargain on the basis of, the lowest increase demanded.

Whether or not the Wheat Board bargained in this fashion is not easily ascertained since the data necessary to make a determination is not publicly available. If the data are available at all, they probably rest in what might be called the archives of the Wheat Board and the grain elevator companies. If the Board reached its handling agreement on the basis of the lowest demanded increase, then the use of the term "bargaining" may do an injustice to the meaning of the word. Such a mechanism for arriving at the handling agreement amounts to the Canadian Wheat Board examining bids and offering the entire industry the terms of the lowest bid on a take it or leave it basis. The option available to those with higher demands or bids is to withdraw service or accept the terms.

The option of a withdrawal of service, akin to that which occurs in regard to employee-employer disputes, is not readily translated into actions that grain elevator companies could undertake. These companies cannot put a grain elevator to an alternate use nor could they maintain staff is they operated by withdrawing service from time to

time. A further reason that withdrawal of service is not practical for a firm is, as explained in Chapter IV, because the country elevator system has operated with a high orientation to storage. As a result, the withdrawal of even several hundred grain elevators would not appreciably affect the handling capability of the remaining system.

In the short run, a firm, or firms, which may consider the revenues available through regulated earnings as inadequate for capital regeneration, will continue to operate provided at least operating costs are met. Because of the lack of alternate opportunities for the existing capital stock and because of the very long useful life of country elevators, inadequate revenues could exist for very long periods of time without adversely affecting service. A firm with no options at its disposal and unable to generate adequate incomes will not continue to operate in the long run however. One alternative available under such conditions is to merge with other companies and if economies are available, continue to operate. If this does not provide adequate returns, the only option available is to leave the industry by selling existing assets at the best price possible.

The revenue generated from the regulated tariffs, if inadequate, will affect each firm differently as regards the decision of exiting an industry. However, the greatest difference may exist between the private companies and the farmer owned companies. In the case of farmer owned

companies, the shareholders (i.e., the farmers) may accept return on equity in the form of lower prices for services received. In the case of private corporations, management could not substitute lower priced services for return on equity. The only situation where such could occur in a private corporation is in the rather remote case where the owners were also the majority users of the services offered. With the competition that existed between the farmer owned private companies and the different role that profits play within the two types of organizations, it is conceivable that the pools could "bid" for lower handling agreements than the privately owned companies, at least collectively over a span of several years.

Whatever the manner the bargaining or bidding took place, because the Canadian Wheat Board has the mandate to maximize producer returns, it is unlikely that the Board viewed its role as would a public utility regulator. It is possible that in driving for the best bargain, the Canadian Wheat Board may have been the "handmaiden" of the pool elevator companies. Table XII below shows the change in the number of companies operating more than 100 grain elevators and the proportion of country elevators operated by the three pool elevator companies at three points in time during the last fifteen years in which the Canadian Wheat Board negotiated the handling agreement.

Table XII shows the changes in the structure of the grain elevator industry from 1958-59 to 1973-74 and

TABLE XII

CONCENTRATION OF THE COUNTRY GRAIN ELEVATOR SYSTEM: 1958-59 to 1973-74

Year	No. of Companies Operating More Than 100 Elevators	Proportion of Total Elevators Operated By the Three Pool Elevator Companies
1958-59	12	0.366
1965-66	10	0.408
1973-74	5	0.618

SOURCE: Grain Elevators In Canada, Canadian Grain Commission, Winnipeg, 1958-59, 1965-66, 1973-74.

the rise in the economic power of the three pool elevator companies. In concert, as of the crop year 1973-74, the three pools operated about 62 percent of the country grain elevators. The major structural change leading to this shift in concentration occurred in 1972 when the farmer owned pools acquired the assets of Federal Grain which previously operated about 1,100 grain elevators. The power held by the Canadian Wheat Board in negotiating the handling agreement may be causally linked to the changed structure of the industry. However, because we cannot detail the manner in which the handling agreement was arrived at, the notion that it was similar to accepting the lowest bid for contracts must remain at the hypothesis stage.

In Chapter V it was argued that the incremental unit of output in the grain elevator industry is not a bushel of grain, which was the basis for setting the handling agreement, but the grain elevator itself. The notion of grain elevator companies bidding or offering the use of elevators to the Canadian Wheat Board for specific volumes of grain or by area, could be an economically efficient method of collecting grain at the country elevator level. It would allow the grain elevator companies to vary their bids by area, thereby aggressively bidding in areas of strength and less aggressively in areas of weakness. Pricing of services on this basis would have allowed for some variance in tariffs among grain elevators. The variance would likely be reflective of relative efficiencies

of grain elevators as opposed to the uniformly applied handling agreement which existed until 1974.

Such a bidding scheme would not appear to be workable where the capital stock is virtually tied down to the spot where it is erected and has a very long useful life, unless the contract was only for operating the facility which was owned by the entity requesting the bids. If the Canadian Wheat Board were to offer contracts for handling grain based upon efficient sized volumes of grain, they would, at the same time, be determining, implicitly if not explicitly, the size, location and numbers of grain elevators that would make up the industry. Such a bidding scheme would be faced with other problems such as for how long a contract would run. If it was for only a year, no grain company would undertake capital investment of the type necessary in this industry on such a precarious basis. If the contract is for a long period, then negotiation would have to take place every so often to account for increases in operating costs.

With respect to the evaluation of the effects of the handling agreement entered into yearly between the Wheat Board and the grain elevator companies up to 1973-74, we have previously stated that there is possibly a causal relationship between the method of arriving at the agreement and the exiting of firms as indicated in Table XII. However, to the extent that the Wheat Board only put into place the lowest bid offered, the setting of the handling

agreement may have only speeded up the process of consolidation which would have occurred in any event. Nonetheless, it would appear to be undesirable for the Wheat Board to have been placed in a position whereby it could influence structural characteristics of the industry.

When a firm is squeezed in one revenue area, it will look for other areas from which to cross-subsidize. The handling agreement arrived at between the Board and the elevator companies applied only to Board grains (wheat, oats, barley). Other grains such as rye, flax and rapeseed are purchased on a street basis and the price is set by a committee much in the manner that prices were set by what was termed the "syndicate of syndicates" during the early years of the industry. However, the potential for cross-subsidization is limited because of competition among companies and because of the relative volumes of Board versus non-Board grains. It is only since the mid 1960s that rapeseed and specialty crops have substantially expanded. As a result, it would have taken extortionate buying margins for non-Board grains to recover for low handling margins provided Board grains.

A second area where companies would attempt to increase revenues is through storage by what might be termed a form of the A-J-W effect. The A-J-W effect, named after Averch, Johnson and Wellisz, basically argues that public utilities will increase their capital base

unnecessarily in order to increase profits.[148] With respect to the grain elevator industry, Tangri et al, in 1973, concluded that a strategy of reducing the numbers of elevators to allow greater handlings through other elevators would be suboptimal for the elevator companies because at least as much would be lost in storage earnings as is gained through greater efficiency of increased handlings.[149] It is the maintenance of storage capacity when the need for rationalization of facilities is patently obvious which we would term a form of the A-J-W effect. The conduct of the firms, in relation to the revenues available from the handling and storing of Board grains, has been totally rational. While the Canadian Wheat Board had no role in setting the storage tariff, it played a major role in the use made of the systems storage capacity.

The performance of the elevator industry as it pertains to achieving cost economies is difficult to put into spectrum ranging from good to bad because there is no objective to measure the performance against. Nonetheless, we would offer the opinion that the performance of the grain elevator industry has been good in relation to the revenue

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[148] Kahn, ibid., Volume II, p. 49.

[149] O. P. Tangri, D. Zasada and E. W. Tyrchniewicz, Country Grain Elevator Closures: Implications for Grain Elevator Companies, Centre for Transportation Studies, University of Manitoba, Winnipeg, Research Report No. 10, January 1973, pp. 45-51.

schedule presented to them. The drive for efficiency primarily took the form of reducing the labour requirements for the assembly of grain at country elevators. The reduction in the number of firms allowed for savings in cost to the industry without noticeably affecting the handling of grain. At the country elevator level, the industry was able to operate with far fewer elevator managers than elevators. For example, Tangri et al indicated that in 1964-65 there were 5,153 elevators with 4,105 managers, while in 1968-69 there were 4,976 elevators with 3,883 managers.[150] The Canadian Grain Commission, which now reports the number of operating units (managers) in their publication "Grain Elevators in Canada", indicate that in 1973-74 there were 3,073 managers for 4,383 elevators and for the crop year 1976-77 there were 2,546 managers for 3,964 grain elevators.

Between the crop years 1964-65 and 1976-77 the industry has reduced the number of elevator operators by about 559 or by about 14 percent. It is quite simple to say that there is still room for improvement or that the process of improving efficiently took a long time. However, the firms were engaged in a more competitive market in the 1950s and 1960s than currently exists today which must be placed into the judgement matrix. Perhaps more importantly, it was the storage policy of the federal

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[150] Tangri et al, ibid., p. 53.

government, through the Temporary Wheat Reserves Act which retarded the necessity for greater efficiency in the grain handling system.

C. Canadian Grain Commission (Board of Grain Commissioners) Maximum Tariffs

The Canadian Grain Commission has been involved in setting maximum tariffs for handling and storing grain for the country elevator system since 1912. The Commission's regulatory powers extend to the price of terminal elevator services as well, but this is not a matter of concern in this study.

The maximum tariffs for the handling and storing of grain had little impact, prior to the establishment of the Canadian Wheat Board, upon the grain elevator industry. At worst, the tariffs maintained the status quo established by the grain trade such that the tariffs encourage farmers to sell grain on a street basis. The maximum handling tariff was noncompensatory in a full cost sense with the losses made up through the buying margin. The storage tariff served to discourage farmers from using grain elevators as warehouses by reducing the advantage the farmer could gain by storing grain in an elevator in the hope of selling at a higher price after the fall delivery period. The establishment of the Wheat Board changed the impact of those tariffs for Board grains due to the changed role of the elevator companies from merchandisers of grain to warehousemen.

We have, in Chapter IV, noted the philosophy of tariff setting of the Canadian Grain Commission respecting what they have termed "flexible tariffs." They are repeated here so that a comparison may be made with the method of tariff setting prior to the flexible tariffs. The method or philosophy of tariff setting prior to 1974-75 is taken from the Report of the Interdepartmental Committee on Grain Storage and Handling in Canada, 1962. The statements made in the 1962 Report cannot be presumed to cover the entire period prior to 1974-75 in which tariffs were regulated but might be considered to be the principles which applied from, say the 1950s through to 1973-74. Since the philosophy portrayed below are exact quotes from the text of the Report they do not read as a set of principles and the reader will have to bear with this slight annoyance. The fact that the 1962 Report dealt only with how tariffs were set and did not state any particular philosophy of the role of tariffs, may in itself be revealing of a fairly ad hoc approach to such regulation.

i) Philosophy of the Board of Grain Commissioners for setting maximum tariffs to 1973-74[151]

1. In actual fact, if the proposals [from the grain companies] and the related Board action have been appropriate from year to year then the currently

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[151] Report of The Interdepartment Committee on Grain Handling and Storage in Canada, Ottawa, 1972, pp. 284-288.

existing tariffs should provide returns commensurate with the costs of operations.

2. The Board has always considered as part of these costs that maintenance and expansion or modernization of plant and equipment necessary to provide Canada with a modern, efficient and adequate elevator system. It has further recognized that this cost also includes a return on investment sufficient to continue to attract capital to the grain trade. The profit position or net revenue is definitely assessed by the Board when reviewing the submissions of the grain companies.

3. The Board assesses the submissions not only from the immediate position but also from the long range. Variations in either costs or revenues of an obviously temporary nature are not accepted for immediate adjustment.

4. Parallelling this advice [from the Manager of the Canadian Government Elevator System] will be a series of statistics and records submitted by the Chief Statistician. These will include the records of the past several years, or whatever period the Board may so direct, as indication of what has happened under the basis of the then existing tariffs. It may also include an estimate of the relationship or ratio between storage revenue and elevation revenues as enjoyed or likely to be

enjoyed by the elevator companies, some indication of the overall volumes likely to move through the elevator system throughout the forthcoming season and what these volumes will do to the revenue picture.

ii) Philosophy of the Canadian Grain Commission for setting maximum tariffs after 1973-74[152]

1. Tariffs should be related to and compensatory for the services performed.
2. Tariff structure should be such that tariffs which are levied should provide an incentive to perform required services.
3. Tariffs should encourage required capital investment.
4. Tariff structure should not act as an artificial barrier to entry to the industry.

iii) An analysis of the change in philosophy

The major principle involved in tariff setting up to 1973-73 according to the information given above, is aggregate net revenue or profit of the industry. It would appear also to be the case that it was long run profits that were of concern. In regard to profitability, there has been no change in principle. However, such a principle

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[152]Report of The Tariff Review Committee to the Canadian Grain Commission, Canadian Grain Commission, Winnipeg, March 1974, pp. 6-7.

is not operative unless the regulatory agency has a concept as to how much capital ought to be invested within the industry and what incentives are necessary for the industry to move towards a conceptually optimal structure.

While it is probably the case that the Commission does not have a "blueprint" for the future structure of the industry, the Commission is no doubt of the opinion that the country elevator system must achieve a far higher volume of throughput per elevator if tariffs are not to increase substantially in the future. Some of the increased volume handled could be expected from increased export demand, but substantive efficiency gains will have to be achieved by far fewer elevators handling the grain moving forward from farms. Proposed amendments to the Canada Grain Act brought forward in 1970 would have provided the Commission with the power to direct, through licencing, the future structure of the country elevator industry.[153] This power was not granted to the Commission in the Canada Grain Act which was amended in 1971. The amended Act did, however, provide for differential handling tariffs among grain elevators.[154] The amendment to the

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[153] D. H. Maister, "Technological and Organizational Change in a Regulated Industry: The Case of Canadian Grain Transport," Studies on Regulation In Canada, W. T. Stanbury, editor, Institute for Research on Public Policy, Toronto: Butterworth and Co. Ltd., 1978, p. 190.

[154] Op. cit., pp. 31-32.

Canada Grain Act provided the framework from which the flexible tariffs introduced by the Commission in the crop year 1974-75 could take effect.

Whereas there does not appear to be a shift in philosophy as regards profits, there has been a substantive change in the philosophy regarding the role that tariffs should play in the development of the grain elevator industry. Principles 1 and 4 listed in part (ii) above, state that tariffs should be based upon the cost of providing a particular service and that the tariff structure should not act as an artifical barrier to entry. The importance of the structure of tariffs was not even mentioned in the 1962 Report. For the country elevator system the principles imply that:

1. the handling tariff should be based upon the cost of handling grain,
2. the storage tariff should be based upon the cost of storing grain,
3. a country elevator earning revenues based upon the appropriate tariffs should be a viable operation independent of being vertically linked in an ownership sense with a terminal elevator.

The principle that tariffs should be compensatory is not without ambiguity. Taking this in concert with the principle that tariffs should encourage required capital investment further implies that the tariffs should be based upon long run marginal cost. As discussed in

Chapter V, the marginal unit of production is the grain elevator. The tariffs which are set on a per bushel basis should be designed to cover the average per bushel long run marginal cost. However, the level of those tariffs will be dependent upon the size of the marginal unit of production (grain elevator) and the volume of grain it can be expected to handle on a yearly basis over the long run. Unless the tariffs are set at a level to cover long run total cost of what might be considered an efficient unit of production, and on the basis of actual grain handled as opposed to a theoretical optimal amount, the principle of attracting capital will not necessarily be attained. Possibly more importantly, unless the tariffs are set at such a level to provide for revenue to cover at least long run average total cost, the tariffs at country elevators will continue to act as a barrier to entry for any firm desiring to enter the industry at the country elevator level only. The setting of maximum tariffs, however, will neither be a necessary or a sufficient condition for a new entrant planning a high throughput country elevator. Existing fully or partially depreciated grain elevators could attract sufficient volumes of grain in an area away from a high throughput elevator, thereby reducing its efficiency and discouraging the development of such elevators. This will be particularly the case if tariffs for the old elevators are below long run average total cost of the theoretically efficient elevator.

The Grains Group prepared a costing study of a high throughput grain elevator in 1971 which adequately portrays the problem. The cost estimates are contained in Table XIII below. The average total cost estimates of 17.4 cents and 8.9 cents for the handling of 1.5 and 3.0 million bushels respectively, indicate the handling tariff that would provide a break even position provided that there was no storage revenue. The storage capacity of the elevator depicted here is of about 350,000 bushel capacity. Assuming a storage tariff of 1 cent per bushel per month and 80 percent capacity utilization, revenues of $33,600 per year would be obtained. Table XIV shows the handling tariff necessary to provide a break even position assuming the storage revenue calculated above is earned.

A comparison of Tables XIII and XIV indicates that the storage revenue reduced the necessary handling tariff by about two cents and one cent when the volume handled is 1.5 and 3.0 million bushels respectively. If existing elevators reduced the volume handled to say, 500,000 bushels, the necessary handling tariff to achieve a break even position would be raised to about 40 cents per bushel. The 40 cent figure is based on a one person staff and a proportionate reduction in power and repair costs. In conclusion, the existence of currently operated grain elevators will create a high level of risk for new entrants who might consider building a high throughput country

TABLE XIII

ESTIMATE OF AVERAGE TOTAL COST FOR A HIGH THROUGHPUT COUNTRY GRAIN ELEVATOR, 1971

Annual Operating Costs - Fixed	
Amortize capital	$146,000
Depreciation	30,900
Taxes - property and business	24,000
Insurance	2,600
Building and property maintenance	2,000
Staff (3)	30,600
Office and miscellaneous	1,000
Head office allocation	10,000
TOTAL FIXED COSTS	$247,100

Annual Operating Costs - Variable

	Bushels per year	
	1,500,000	3,000,000
Electrical power	$ 9,000	$ 10,000
Repair costs	4,500	9,000
TOTAL VARIABLE COSTS	$ 13,500	$ 19,000

Annual Operating Costs - Total

	Bushels per year	
	1,500,000	3,000,000
Total fixed costs	$ 247,100	$ 247,100
Total variable costs	13,500	19,000
TOTAL COST	$ 260,600	$ 266,100
COST PER BUSHEL	17.4¢	8.9¢

SOURCE: Grains Group, Transportation and Handling Section, Country Elevator Study, Winnipeg, March 1971, p. 5-5.

TABLE XIV

CALCULATION OF THE NECESSARY HANDLING TARIFF FOR A HIGH THROUGHPUT COUNTRY GRAIN ELEVATOR

	Total Volume of Grain Handled in Bushels	
	1,500,000	3,000,000
Total Cost	$ 260,600	$ 266,100
Storage Revenue	33,600	33,600
NET COST	$ 227,000	$ 232,500
Handling Tariff in cents per bushel	15.1¢	7.8¢

elevator unless large volumes of grain are assured such an elevator.

The break even estimates present a difficult problem for those who regulate tariffs. If the principle designed to build up capital formation and to encourage entry are to be realized, a minimum tariff of anywhere from 8 to 41 cents per bushel must be assured. The level of the minimum tariff would depend upon the volume of grain the elevator could attract. However, a minimum tariff of 8 cents per bushel, which demands a throughput of 3 million bushels per year, is virtually meaningless where such a volume of grain could not be realized. The setting of maximum tariffs at relatively low levels cannot possibly be an incentive for entry into the industry and in fact is a disincentive. A relatively low handling tariff implicitly demands the continued practice of cross-subsidization among grain elevators.

The same problem will not necessarily exist for firms already established in the industry. Such a firm could build a high throughput elevator in a particular location which acts to consolidate the grain handled by several of their existing grain elevators in the area. Grain companies have been using such a consolidation and replacement policy as is evidenced by the statement of Moffat, as discussed in Chapter V. A regulated tariff structure could not possibly assure the economic viability of a new entrant who desires to build a high throughput

elevator unless the regulators can ensure that sufficient volumes of grain are actually delivered to the particular elevator. Whereas the principles of capital formation and ease of entry are laudable goals, they are unlikely to be achieved through the regulation of tariffs per se. The ability to effect the goals through regulated tariffs applies more to monopoly situations regulated as public utilities than it does to the grain elevator industry.

If the Commission is to establish tariffs on the basis of the stated principles, the Commission will have to define the storage function and estimate its cost. It is unlikely that this has been accomplished to date and as we have argued in Chapter V, the separation of elevator costs into handling and storage components will be arbitrary. The concept of the storage function, in respect of Wheat Board grains, is a carryover from the days when the elevator companies acted as merchandisers of those grains. At that time the storage tariff was set at a rate that encouraged farmers to sell on a street basis to the elevator by reducing the gain in price a farmer would attain by storing grain in an elevator over the winter months. Since the grain companies now act only as agents of the Wheat Board by purchasing grain from farmers for the Board and moving it to terminal position at the direction of the Board, a similar logic for storage charges does not exist. The continuation of the storage tariff derives its existence only by an arbitrary definition of handling. It is only

by limiting the so called "free days" in the definition of handling, that the storage function exists.

Storage capacity has two primary functions in a country elevator; it facilitates handling and it acts as a source of competition in attracting patronage. If a storage tariff is paid to the grain companies, a third function is developed; storage for the purpose of acquiring revenue. By defining out of existence the storage function, the grain companies would be encouraged to develop storage capacity suited to their particular needs respecting handling grain and attracting business. Removal of storage revenue would also remove any remaining incentive which might exist for government to encourage significant excess capacity in commercial handling facilities.

The loss of storage revenue would place all the emphasis on volume of grain moved into and out of country elevators. Revenues which are currently acquired from storage would be made up through higher handling charges. The increase necessary would vary by grain elevator but would most greatly affect those elevators where storage revenue is relatively more important in relation to total revenue. A hypothetical two elevator example will show the effect of terminating storage revenue. Several assumptions are required.

1. Both elevators have 100,000 bushel storage capacity.
2. Both elevators store an average of 80,000 bushels of grain.

3. A handling tariff of 10 cents per bushel is charged by both elevators.
4. Storage revenue is 12 cents per bushel per year.
5. After the storage revenue is removed (Case 2), both elevators handle and store the same volumes and aim to maintain the same gross revenue.
6. Elevator one, handles 200,000 bushels, while elevator two, handles 400,000 bushels.

Case 1	Elevator 1	Elevator 2
Handling Revenue	200,000 x $.10 = $20,000	400,000 x $.10 = $40,000
Storage Revenue	80,000 x $.12 = $ 9,600	80,000 x $.12 = $ 9,600
Total Revenue	$29,600	$49,600

Case 2

Handling Tariff Necessary to Maintain Total Revenue	$29,600 ÷ 200,000 = $0.148	$49,500 ÷ 400,000 = $0.124

By removing storage revenue, the lower throughput elevator must increase its handling tariff by 4.8 cents per bushel to maintain total revenue, whereas the higher throughput elevator is able to maintain total revenue by increasing its handling tariff by only 2.4 cents per bushel. The removal of storage revenue will place greater pressure on low volume elevators relative to higher volume elevators to increase volume or to raise the handling tariff. More importantly, however, it will reduce the ability of firms

horizontally integrated at the country elevator level to cross subsidize among elevators.

iv) The change in tariffs under the new philosophy

The change in tariffs subsequent to the change in philosophy of tariff setting by the Grain Commission were shown in Chapter IV. Up to the 1977-78 crop year, the Commission had raised the maximum handling tariff to a point where the grain companies were able to charge different handling tariffs among country elevators, but had left untouched the storage tariff. It would not appear that the Commission had actively pursued the principal that tariffs should be based upon the cost of providing a particular service. Nonetheless, by increasing the maximum handling tariff in relation to the storage tariff, the Commission was encouraging the development of higher throughputs per grain elevator by reducing the disincentive to remove excess storage capacity as outlined by Tangri et al.[155] Subsequent to the 1977-78 crop year, however, the Commission has raised the storage tariff relatively much faster than they have raised the maximum handling tariff. By raising the daily storage tariff from 1/30 to 1/17 of a cent per bushel, the Commission has provided the vehicle by which the grain elevator companies will generate increased storage incomes. At the same time, however, the Commission has

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[155]Tangri et al, op. ci.t, pp. 49-50.

reduced the pressure on grain elevator companies to raise handling tariffs and has increased the incentive to maintain storage capacity. The maintenance of storage capacity will, in turn, slow down the rationalization of the industry by increasing the ability of firms to cross subsidize among grain elevators.

At the current set of maximum tariffs the shielding effect of the storage tariff is much greater than was the case in 1974-75. To show this, the same two elevator example as used above is developed. The same assumptions are employed except that the handling tariff is assumed to be 19.5 cents per bushel and the storage tariff is assumed to be 21.5 cents per year (1/17 of a cent per bushel per day).

Case 1	Elevator 1	Elevator 2
Handling Revenue	200,000 x $.195 = $39,000	400,000 x $.195 = $78,000
Storage Revenue	80,000 x $.215 = $17,200	80,000 x $.215 = $17,200
Total Revenue	$56,200	$95,200

Case 2

Handling Tariff Necessary to Maintain Total Revenue	56,200 ÷ 200,000 = $.281	95,200 ÷ 400,000 = $.238

By removing storage revenue the lower throughput elevator would have to increase its handling tariff by 8.6 cents per bushel, compared to 4.3 cents per bushel for the higher

throughput elevator. The shielding effect of the current high storage tariff is approximately double that of 1974.

The rationale for the large increase in the storage tariff since 1978 is the need for the greater generation of income for the grain elevator companies. To increase the gross income of the companies through the storage tariff without having defined and estimated the cost of storage appears to contradict the stated tariff philosophy of the Commission. The maximum tariffs of 1974 to 1978 and 1978 to 1981 may be characterized as being one step forward and two steps backward. By providing for a relatively large storage tariff, the Commission is continuing to provide the vehicle whereby the true cost of elevator services is "hidden" from farmers. This is easily rectified, however, by farmers being assessed a storage charge upon delivery as is the case for handling of grain.

It should be readily apparent that as more of the charges that are presently paid by the Wheat Board on behalf of farmers out of revenues derived from sales become payable by the farmer at time of delivery, the more all charges resemble what is called the handling tariff. It is not essential for the Commission to abolish the storage tariff, it is only essential that those charges be paid by producers at the time of delivery.

No doubt some members of the grain elevator industry would argue that the elevator companies should not be responsible for estimating and assessing storage charges

since the aggregate movement of grain is controlled by the Wheat Board. Under the block shipping program the elevator companies have control of the movement of grain within the block, however. Nonetheless, to the extent that the argument has merit, the Wheat Board could announce annually an estimate that the grain companies could accept or reject at their own discretion. This would be similar to the concept of the variable handling tariff. In time the industry would accept the artificial nature of the segregation of tariffs into handling and storage components and combine them into one tariff, which for the lack of a better name, could be called handling.

The Commission is well aware of the necessity of farmers being cognizant of the cost of providing elevator services as their 1974 report states:

> That as many as possible of the charges which are assessed on a per bushel basis be deducted at the time of delivery so that the actual costs of services are apparent to the producer.[156]

The Commission has not moved boldly to implement their stated philosophy and indeed has regressed by substantively increasing the storage tariff relative to the handling tariff since 1978.

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[156] Report of The Tariff Review Committee to the Canadian Grain Commission, Canadian Grain Commission, Winnipeg, March 1974, p. 10.

D. Is There a Rationale for Setting Tariffs?

We have questioned elsewhere whether or not there has ever been an economic rationale for the setting of maximum tariffs in the past. Whatever the rationale in the past, whether it be to prevent excessive buying margins or to control profit, that rationale cannot possibly exist under the current structure of ownership of the elevator industry. As shown previously, the three pool elevator companies operate about 60 percent of country elevators and along with the other farmer owned company, the United Grain Growers, operate in the order of 75 percent of all country elevators. A control rationale proceeds on the basis that farmers must be protected from companies they own, and in which collectively can have an impact upon the tariffs charged. Except for the fact that the Canada Grain Act dictates that maximum tariffs shall be set by the Canadian Grain Commission, no purpose seems to be served.

The various costing studies undertaken over the past twenty years or so have all indicated that substantial efficiency gains are available by increasing throughput per elevator. Those directly involved in the grain elevator industry have undertaken a variety of actions designed to improve the efficiency of elevator operations as has been indicated by the study of Tangri et al. In this regard, the Canadian Grain Commission appears to be struggling to develop a tariff structure which will provide the necessary incentives for the development of high throughput grain

elevators. With regard to the setting of tariffs, the Review Committee made the following recommendations.

> That the Commission publish a minimum tariff which in relation to the maximum establishes the range within which the Commission feels primary elevation tariffs should fall,...
>
> That the Commission's policy permit tariffs below the minimum if the company can show that the elevator in question meets certain throughput and cost criteria or that such a rate does not constitute destructive competition.[157]

The Committee recommended, in effect, that the Commission establish two sets of minimum tariffs; one for conventional grain elevators and one for high throughput elevators. The distinction is arbitrary since a conventional grain elevator which is able to attract grain and receive adequate grain car allocations can develop a relatively high throughput. The examples given by Moffat and Patton, as discussed in Chapters V and III respectively, as well as the costing studies are ample evidence of this. To effectively prevent a conventional elevator from meeting the tariff of a high throughput elevator, the Commission would have to investigate the cost structure of the conventional elevator, possibly impute capital costs and then decide whether it may drop its rates to meet the competition. This would be not only a difficult task, but it would be viewed as being discriminatory, and would amount

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[157] Report of The Tariff Review Committee to the Canadian Grain Commission, Canadian Grain Commission, Winnipeg, March 1974, p. 17.

to a licencing procedure. If the Commission desires to licence the elevator industry by which it would effectively determine the size and location of grain elevators, it ought to obtain those powers through an amendment of the Canada Grain Act. It was mentioned earlier that similar powers were not provided for in the 1971 Canada Grain Act.

The question of destructive competition as mentioned in the above quote of the Tariff Review Committee, is worthy of further examination as a rationale for setting minimum tariffs. Kahn argues that destructive competition requires the existence of the following conditions:

1. fixed or sunk costs are a large proportion of total cost, and
2. long periods of excess capacity.[158]

These conditions, in a rather cursory sense, are exhibited within the grain elevator industry. However, they are not sufficient conditions to assume that destructive competition would prevail within the industry. The existence of excess capacity in this industry is not independent of government policy such as accelerated depreciation and the Temporary Wheat Reserves Act, and therefore is not a true indication of industry determined capacity. More importantly, is the fact that when the flexible tariffs were introduced in the 1974-75 crop year, the handling tariff actually charged by grain companies rose substantively

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[158] Kahn, op. cit., p. 172.

(see Table X). If anything, the rapid rise in tariffs subsequent to the new policy of 1974 would argue against the existence of a tendency for the industry to engage in widespread destructive competition. As well, it is highly unlikely that a unique minimum tariff would satisfy the desired end result. As a result, we would argue against the necessity for setting a minimum tariff.

The Tariff Review Committee, as quoted above, recommended that the Commission set a maximum and a minimum tariff which would provide the bounds in which tariffs should fall. It is clear that the Committee has attempted to provide the means whereby substantial flexibility is provided to farmers and to grain elevator companies in the determination of tariffs. The committee appears to have a somewhat schizophrenic attitude towards the determination of tariffs, however. On the one hand, they appear to argue for market determined tariffs, and on the other, that those tariffs should be bounded at levels the Commission feels are reasonable. The two need not be inconsistent if either the Commission is able to predict the upper and lower bounds which would be market determined, or it sets the tariffs at such levels that virtually no one would expect the market to approach. The first is unlikely, and the second questions the necessity for setting tariffs at all.

To set the upper and lower limits at levels which would restrict the market determined tariffs, forces the

industry to continue to cross-subsidize among grain elevators. Regardless of regulated tariffs, particular firms might determine that such cross-subsidization was an optimal marketing strategy and continue to do so. It is virtually impossible for the Commission to prevent horizontal cross-subsidization unless it is prepared to set a specific tariff for each grain elevator. We consider such action as a rather remote possibility. As a result, we see no economic reason for the Commission to set upper and lower bounds which would force horizontal cross-subsidization. To force horizontal cross-subsidization would be a direct contradiction of the principle that "tariffs should be related to and compensatory for the services performed," as enunciated by the Review Committee.

E. The Philosophy of Tariff Regulation in Conclusion

This chapter has attempted to show the changes, or apparent changes, in the philosophy of tariff setting since 1912. The philosophy of the federal government in 1912, with respect to tariffs, was non-interventionist. The tariffs which were set at that time, reflected the practice of the industry and which had the result of encouraging farmers to sell their grain on a street basis. The regulation of tariffs had a neutral impact upon the marketing practices of the industry as the tariffs were in effect hidden within the buying margins of the grain companies. The tariffs had the indirect impact of limiting the development of alternative marketing methods.

During the period of years in which the Canadian Wheat Board negotiated handling agreements with the grain elevator companies, the philosophy was clearly interventionist. In particular, the philosophy was based upon the control of profit or more likely control of gross revenue. We have characterized the method of setting the handling agreement as resembling the accepting of a lowest bid and offering the same terms to all in the industry. By setting a fairly low handling agreement, the charges to farmers were equal regardless of the relative efficiencies of grain elevators. This further implies a philosophy that farmers ought to pay identical grain elevator charges regardless of the social and private costs involved in making use of a particular elevator location by a farmer. The impact of the control during this period was to encourage the industry to maintain storage capacity because of the relationship between the handling agreement and the storage tariff. This relationship was a direct result of government storage policy such as accelerated depreciation of storage facilities and the Temporary Wheat Reserves Act.

The post 1974 philosophy of the Canadian Grain Commission has a great deal of merit with its attention to performance criteria as opposed to gross revenue or profit. The principals of tariffs being compensatory and attracting the capital investment necessary to provide for an efficient country elevator system are a significant departure from the philosophy existing from 1912 to 1974. The

Commission has moved rather slowly to incorporate its new philosophy and we would argue has made a regressive step by substantially increasing the storage tariff since 1978.

While the new philosophy of the Commission is commendable, it is unlikely that the Commission will ever actually implement it unless it takes a far more activist stand in the industry than has been done in the past. The first problem the Commission must come to grips with is that tariffs should reflect the cost of providing the services the tariffs represent. Because the handling and storage functions involve common costs of production, their separation will be arbitrary. The second problem to be faced by the Commission is the basis on which to set tariffs and at what level those tariffs should be set. The principles underlying the Commission's new philosophy imply a public utility approach. However, the industry is made up of thousands of elevators, some of which are of recent construction and the majority which are quite old. Within the age spectrum of grain elevators there is a very wide disperson of grain handled in a year which results in a wide range of average variable or average total costs. Under these conditions it is improbable that the setting of a single maximum or minimum handling tariff would be able to satisfy the objectives as identified by the Tariff Review Committee.

The elevator industry is in a state of transition respecting the updating of capital stock. While it is

unlikely that the industry will move in the short run towards the building of inland terminals as suggested by the studies conducted by Barnett-McQueen and the Grains Group, as mentioned in Chapter I, there is little question that new grain elevators will be designed to replace several existing grain elevators. It is also unlikely that the new elevators will be of a unique size and design so that a single cost structure would prevail within the industry. The criterion for technological replacement in economic theory is that the total cost of new capital stock be less than the variable cost of the existing capital stock. Unless the Commission is able to dictate the replacement of grain elevators and ensure that old elevators are taken out of operation, a minimum or a maximum tariff cannot possibly direct the industry in the technological replacement taking place.

It has been mentioned previously that the granting of power so that the Canadian Grain Commission could effectively licence the elevator industry was not provided for in the amendments to the Canada Grain Act of 1971. The Hall Commission in reporting as to the possibility of excess capacity resulting from the uncontrolled recapitalization of the industry, stated as follows:

> The possibility of overbuilding was discussed on many occasions. The Commission was looking for reaction of producers. No clear concensus emerged. When asked if some measure of control

> was desirable the response was generally in the negative from producers and grain companies alike.[159]

Without the power to effectively licence the elevator industry and to set tariffs on an elevator by elevator basis, the setting of tariffs is an exercise in futility.

It is suggested, therefore, that the Canadian Grain Commission abolish the practice of setting yearly tariffs, leaving this responsibility totally in the hands of the elevator companies. It is further suggested that the Canadian Wheat Board not pay the storage tariff on behalf of farmers, which would, in turn, result in the elevator companies assessing a storage charge upon delivery of grain or combining the current handling and storage tariffs into one charge. By doing so, farmers would be cognizant of the cost of elevator services and would be in a position to select among elevators on the basis of the relative efficiency of grain elevators.

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[159] The Report of The Grain Handling and Transportation Commission, Ottawa, Minister of Supply and Services, 1977, pp. 151-152.

CHAPTER VII

SUMMARY AND CONCLUSIONS

As stated in Chapter I, this study was designed to examine three interrelated facets of the grain elevator sector of the grain handling and transportation system; the efficiency attributes of vertical integration between country and terminal elevators, the handling versus storage orientation of the country elevator system and the regulation of handling and storage tariffs at the country elevator level.

A. Vertical Integration

In Chapter II, the theory developed by Williamson was used to analyze the efficiency attributes of, and to provide a rationale for, the development of the vertically integrated structure of the grain elevator industry. The structure developed concurrently with the very early growth of the industry and predominantly by American interests who transplanted an organizational form already in use in the United States. The vertically integrated firm significantly changed the marketing mechanism for producers from one where price appeared to be determined locally to one where price was determined in Winnipeg by the so called "syndicate of syndicates." Through superior efficiency, the more familiar flat warehouses and commission agents were

replaced by the country grain elevator with its ownership linkage to the terminal facilities. Patton, as quoted in Chapter I, summed up, brilliantly, the sense of dependence and frustration which existed in parts of the farming community on the prairies during the first two decades of the century and which resulted in the demands for the virtual nationalization of the grain elevator industry.

The reluctance of the federal government of that time period to nationalize the industry is indicative of the conclusions of several Commissions which had reported that the industry was an efficient mechanism for the marketing of grain. The Elevator Commission of the Province of Saskatchewan, of 1910, concluded, for example, that prices determined through the Winnipeg Exchange were competitive. This was in stark contrast to the conclusion of some farm organizations which argued that the private companies operated as a monopoly, or cartel, as reflected in the phrase, the "syndicate of syndicates." The Commission further concluded that farmers could best protect their interests through the formation of provincially based co-operative organizations (Appendix A). In the mid 1920s producer co-operatives were formed and today control over sixty percent of the elevator facilities in the prairie provinces. The development of the co-operatives followed the vertically integrated form in use by the privately owned companies which reflected the superiority of this organizational form.

Williamson's basic argument favouring vertical integration is that, under certain conditions, there may be transactional failures in the operation of markets for intermediate goods. The transactional failures revolve around the primary problem of specifying ironclad contracts to which parties to the contract are able to satisfy their goals. It is contended by this study that because of the long useful life of country and terminal elevator assets and because of the large number of transactions necessary to transfer ownership of the many types and grades of grains, that vertical integration was almost inevitable in the industry. Vertical integration substantially reduced the risk of assurance of supply to terminal elevators, and provided for an assured market for country elevator operations. Given the nature of the assets involved and the generally low margins available to firms, the assurance of supply was of primary concern to those firms.

Adelman further argued that the early years of an industry's development will see firms provide for its own market outlets if there is a sluggish response from others in the provision of those markets. This observation characterizes very well the early growth of the country elevator system which coincided with the development of rail lines. In such a situation a terminal elevator company which did not develop its own line of country elevators could have lost the supplies of grain produced adjacent to new rail lines to those firms who proceeded to build. Under

Williamson's theory, building grain elevators along new rail lines is a form of first mover advantage.

Consistent with Williamson's theory of transactional failures but specific to the grain elevator industry, the study indicates that the vertically integrated structure provided for substantial cost savings from hedging operations and commission agent fees. If the elevator industry was structured such that country and terminal elevators were under different ownership, the sale of grain would involve a duplication of hedging operations and commission agent fees. Such duplication could be avoided by contracting for the sale of grain between country and terminal operations. However, the transactional impediments and the necessity of building grain elevators along new rail lines mitigated against this occurring.

B. The Handling Versus Storage Orientation of the Country Elevator System

Over the long run the country grain elevator system has managed to turn over its storage capacity about two times per year. As discussed in Chapter III, several research studies and comments made by persons knowledgeable about the industry indicate that the potential of the elevator system to turn over its storage capacity is much greater than that actually achieved. A relatively low turnover of storage capacity, or handling to capacity ratio, is indicative of a high storage orientation.

A relatively high storage orientation implies that farmers are paying high storage costs. The ability of farmers to have some control over storage costs has changed significantly over the time period examined in this study. Prior to the monopsony position of the Canadian Wheat Board for wheat, oats and barley, farmers sold grain directly to an elevator company. To the extent that farmers controlled the timing of the sale of grain they were able to control storage costs. The storage charge on grains sold direct to an elevator, or on a street basis as it was called, was an indirect cost that was contained within the buying margin of a particular firm. Under the Canadian Wheat Board marketing system grain firms provide warehouse services to the Board, for Board grains, as opposed to actually merchandising grain. In this regard the firms are paid a storage fee by the Board on behalf of farmers. Because of the quota system which controls the delivery of grain from farms to country elevators, farmers have lost their ability to market Board grains in a manner that could affect some control over storage costs.

It was during the 1960s and 1970s that persons from inside and outside of the industry claimed that the storage tariff was in excess of the cost of storage and that this was the cause of excess storage capacity in the industry. It is important to realize that the claim that the storage tariff is in excess of the cost of providing storage has not been shown to be the case by any research conducted on country elevators.

On the basis of the historical development of the industry and government policy in respect of the storing of grain, this study rejects the hypothesis that the storage tariff was the cause of excess storage capacity within the country elevator industry. The storage tariff was instrumental, however, in the maintenance of storage capacity.

Prior to the Canadian Wheat Board assuming its role as a monopsonist respecting wheat, oats and barley, farmers generally sold grain on a street basis, or outright to an elevator company. The tariffs for handling and storing grain were subsumed within the buying margin of the elevator company and therefore had little impact upon the development of storage capacity per se. The role of tariffs, as explained in Chapter IV, was to encourage farmers to sell on a street basis rather than to derive income directly from the handling and storage of grain on a farmer's account.

The development of the country elevator system, particularly up to 1930, was primarily based on competition for the deliveries of grain from farmers. Given the limitations of the transportation mode available to farmers at that time, grain elevators were fairly small in size and spaced relatively close together. The railway companies caused the building of some excess capacity by requiring elevator companies to build grain elevators to compete with grain elevators on competing rail lines. The concern

of a railway company was to maximize the amount of grain hauled over its lines.

A further expansion of grain elevators and storage capacity resulted from the formation of the pool elevator companies during the 1920s. By 1926 the three pools and the United Grain Growers in concert operated about 1,050 of the 4,400 in operation. The farmer owned companies expanded this to about 2,100 of the 5,600 in operation by about 1929. The combined actions of the privately owned and farmer owned grain companies was to increase the storage capacity of the elevator system from about 27 million bushels in 1903 to 193 million bushels in 1930. The development of the elevator system to this point in time was based upon competition and ideology as opposed to the storage tariff. Nonetheless, the expansion of storage capacity over those three decades was such as to limit the grain handled per elevator, thereby maintaining a fairly low handling to capacity ratio.

An important expansion of elevator storage capacity occurred during the 1940s and 1950s as a result of the accelerated depreciation programs of the federal government. From 1940 to 1960 the storage capacity of the country elevator system increased from about 200 million bushels to about 380 million bushels. In the 1940s the Canadian Wheat Board became the sole buyer of wheat, oats and barley and the grain elevator companies supplied warehouse services to the Board. Under the Wheat Board system of marketing,

farmers were paid an initial payment for Board grains upon delivery of grain, authorized by quota, to a country elevator. With congested elevator facilities during the early 1940s and again in the early 1950s, the ability of farmers to obtain initial payments would have been severely limited unless storage capacity was expanded. The grain elevator companies were paid for their services on the basis of the storage tariff set by the Board of Grain Commissioners and a handling agreement negotiated with the Wheat Board. The Canadian Wheat Board was not only the sole purchaser of Board grains, but through its quota policy controlled the delivery of grain from farm to country elevator. Whereas one cannot specify exactly to what extent the accelerated depreciation program caused the increase of storage capacity, the control of the industry by the federal government, the Board of Grain Commissioners and the Wheat Board would indicate it was a substantial factor.

The relatively large storage capacity of the country elevator system in concert with a high degree of utilization of that storage capacity resulted in high storage revenue for grain elevator companies. For the period 1955 to 1965, storage revenue made up over fifty percent of the combined handling and storage revenue.[160] A fairly large proportion of the storage cost to farmers was paid by the federal

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[160] Canada Grains Council, State of the Industry, Winnipeg, 1973, Exhibit 18.

government through the Temporary Wheat Reserves Act. Over the 19 years the Act was operative (1955 to 1973) the federal treasury paid about $718 million to support the very large stocks of wheat in commercial position. The large storage earnings derived by the elevator companies, however, did not provide an impetus to expand storage capacity. For the period 1955 to 1973 the storage capacity of the country elevator system increased only by about 20 million bushels.

The primary impact of the large storage revenues earned by the grain elevator companies during the 1950s and 1960s was to reduce the need to increase the handling tariff or handling agreement. The handling agreement for wheat, as shown in Chapter IV, was constant at 4½ cents per bushel from 1949 to 1967 and rose to 6¼ cents per bushel by 1974.

The relationship between the handling agreement and the storage tariff was shown, by Tangri, Zasada and Tyrchniewicz in their 1973 study, to be such as to mitigate against the reduction of storage capacity. That study, as discussed in Chapter III, found that the saving generated by the closing down of country grain elevators was outweighed by the loss of storage revenue. It follows therefore, that the storage tariff bears a causal relationship to the maintenance of storage capacity by the grain elevator companies.

C. The Regulation of Handling and Storage Tariffs for Country Grain Elevators

The tariffs for handling and storing grain have been regulated since 1912 by the Board of Grain Commissioners (Canadian Grain Commission since 1971). The power to regulate maximum tariffs was provided for in the Canada Grain Act of 1912 which provided as well for a variety of rights for farmers in the marketing of their grain. The regulation of tariffs, however, does not appear to have been a major concern of grain producers at that time. Farm organizations had lobbied for the control of the price at which they sold grain at country elevators and for the nationalization of the grain elevator system.

The reasons for the setting of maximum tariffs and the basis upon which they were initially set is unclear. The Canada Grain Council and the Canadian Grain Commission have stated that the purpose was to limit the margins of the grain elevator companies. The study finds this explanation somewhat oversimplified. The tariffs set by the grain companies prior to 1912, had not changed for about a decade. As well, the ability of the grain companies to set street prices, of which the handling tariff was only a part, implies that tariff regulation would be ineffective in limiting the buying margin. If the purpose was to limit the handling tariff per se, competition from loading platforms and the possibility of the development of elevators operating as warehouses would probably have been a

sufficient deterrent to the grain companies raising the handling tariff inordinately.

Prior to 1912, two Commissions had concluded that the handling and storage tariffs were noncompensatory. Nonetheless, the tariffs set in 1912 were those previously set by the industry. The low tariffs made it virtually impossible for country elevator operators to act as warehousemen, that is, to collect revenue strictly from handling and storing grain rather than merchandising it. Whether or not farmers would have supported this form of marketing grain is unknown, but there is little question that the Board of Grain Commissioners did not know that setting the tariffs at the levels that existed would limit the possibility of warehouses developing. The setting of maximum tariffs in 1912, therefore, had the impact of ensuring that competition at the country elevator level could only take the form of vertically integrated firms operating on the basis of purchasing grain on a street basis. To the degree that the maximum tariffs limited the possible forms of competition, the regulation of tariffs may have been more harmful than beneficial to farmers.

Subsequent to the initial setting of tariffs in 1912, and prior to the monopsony role of the Canadian Wheat Board, there appears to have been little discussion or debate as to the levels at which maximum tariffs were set, the role they served, or the purpose of setting maximum tariffs. The exception to this is the questioning of the

level of the storage tariff at points in time when the federal government was involved in the marketing of grain. Appendix C provides McFarland's argument that the storage tariff was too high in 1932. McFarland did not argue that the storage tariff was too high under normal marketing conditions, but that it was too high when stocks were abnormally large and were being held for unusually long periods of time. McFarland's argument that the storage tariff was too high was not based upon an analysis of the cost of providing storage but rather upon the profit levels of the grain elevator companies. An indication of the general lack of importance of the tariffs is evidenced in the fact that they were basically unchanged between 1912 and 1945.

Whereas the regulation of tariffs by the Board of Grain Commissioners had little impact upon the grain elevator companies, the same cannot be said for the controls imposed under the Wheat Board mechanism of marketing wheat, oats and barley. With the Canadian Wheat Board becoming the sole buyer of those grains in the 1940s, the elevator companies became agents of the Board and supplied warehouse services at fixed charges. The fixed charges were the maximum storage tariff set by the Board of Grain Commissioners and the handling agreement determined by the Wheat Board, which were both set on a yearly basis. The handling agreement may be viewed as being made up by adding a fee for acting as agents of the Wheat Board to the

maximum handling tariff which was set by the Board of Grain Commissioners.

The determination of the yearly handling agreement was the results of bargaining between the Canadian Wheat Board (a monopsonist) and an oligopolistic elevator industry. Under such a bargaining structure, the balance of power rested with the Canadian Wheat Board. As an agency identified with the maximization of producer returns, the necessity of the Wheat Board to bargain with the elevator industry placed the Board in a difficult, if not a conflict, position. Just as the federal government provided no criteria to the Board of Grain Commissioners for establishing maximum tariffs, it provided no criteria to the Canadian Wheat Board in setting the handling agreement.

During the years in which the Wheat Board set or negotiated the handling agreement, it appears that the major role played by the handling agreement and the storage tariff was the control of profit of the elevator companies. It is in regard to the possibly competing goals of the Wheat Board, in maximizing producer returns and controlling industry profits, that the Board may have become an unwitting agent of a major structural change within the industry. As shown in Chapter VI, the proportion of total grain elevators operated by the three pool elevator companies increased from 37 percent in 1958 to 62 percent in 1973 as a result of the sale of Federal Grain to the pools in 1972.

Even though the tariffs, or elevator charges, had been controlled since 1912, it was not until the 1960s and 1970s that the structure and function of tariffs was openly discussed. It was generally acknowledged during those years that the tariffs were not set in relation to their respective costs, resulting in a misallocation of resources within the industry. The misallocation of resources refers to the large storage capacity of the country elevator system which resulted in a low handling to capacity ratio. As discussed above, the regulation of tariffs and the levels of tariffs had no relationship to the development of the country elevator system.

It is important to note that whereas there may have been a general concensus that the handling agreement and the storage tariff were not set in relationship to their costs, that the separate costs for handling and storing grain had not been estimated by either of the regulatory agencies. Nonetheless, it is interesting to speculate as to why the regulatory agencies did not adjust the handling and storage charges. The adjustment would have necessitated a raising of the Wheat Board's handling agreement and a lowering of the storage tariff as set by the Board of Grain Commissioners. The resistance to such a realignment of charges was inherent within the Wheat Board marketing system and federal government policy. The Chief Commissioner of the Wheat Board, as quoted in Chapter IV, stated to the effect that since the storage revenue of the

elevator companies was paid by the Wheat Board rather than directly by farmers, whereas the handling charges was paid by farmers, that increased revenues should come from storage. Such an argument implies that farmers should not be made aware of the total cost of elevator services. In our opinion, this argument should be resisted by the regulatory bodies.

More importantly, however, was the storage subsidy for wheat paid by the federal government through the Temporary Wheat Reserves Act from 1955 to 1973. About $718 million was paid by the federal government during the 19 years the Act existed and was a powerful incentive not to lower the storage tariff. To have done so would have reduced the amount of the subsidy paid by the federal government. The subsidy paid for under the Temporary Wheat Reserves Act was instrumental in maintaining handling charges to farmers at a relatively low level. It is not surprising, therefore, that the demise of the Act in 1973 resulted in subsequent increases in the handling tariff. As shown in Chapter IV, the handling charge to farmers more than doubled by 1978.

Commencing with the 1974-75 crop year, the Canadian Wheat Board no longer set the handling agreement, leaving the effective charges for handling and storing grain to be set by the Canadian Grain Commission. In 1974 the Commission prepared, through the Tariff Review Committee, a study outlining its philosophy of tariff setting. The

importance of the document lies in the shift in emphasis in the role that tariffs should play in the industry. In particular, the emphasis was shifted away from control of profit to providing incentives for industry performance. The Tariff Review Committee stated, to the effect, that the handling and storage tariffs should be compensatory and based upon the independent costs of handling and storing grain. While the philosophy is laudable, this study concludes that its goals cannot be attained through the general regulation of tariffs.

In Chapter V it was shown that the per bushel cost of operating country grain elevators was highly variable and depended primarily upon the volume of grain handled. The volume of grain handled by a particular elevator over several years, or by all grain elevators in a particular years is highly variable. Therefore, it is impossible for a unique regulated tariff to account for this variability unless it either forces cross-subsidization among grain elevators or is set at a virtually meaningless level.

It was also argued in Chapter V, that the handling and storage functions are common, as opposed to independent, products of production. It is concluded, therefore, that a unique set of handling and storing costs cannot be identified for a specific country elevator, let alone for the industry as a whole.

The Tariff Review Committee and the Hall Commission recommended that the Canadian Grain Commission develop the

capability to analyze the costs and revenues of elevator operations in order to set tariffs on the basis of their respective costs. It is almost incredulous that such a recommendation would be made in 1974 and 1977 respectively, when the Commission has been setting handling and storage tariffs since 1912. Nonetheless, because the handling and storage functions are interdependent, such an exercise will result in arbitrary allocations of costs.

The Tariff Review Committee recommended that charges which are assessed to farmers on a per bushel (currently per tonne) basis should be deducted at the time of delivery. While this study is in total agreement with this recommendation, it cannot understand why the Committee was silent about assessing the storage tariff at the time of delivery. It is the conclusion of this study that by assessing farmers both the handling and the storage tariffs at the time of delivery, that the need to estimate separable handling and storage tariffs would be eliminated. Elevator companies would be free to assess farmers either both a handling and a storage tariff or a combined tariff which could be called handling or elevator services.

The Report of the Tariff Review Committee submitted to the Canadian Grain Commission in 1974 is an important document. The document not only outlines a new philosophy of tariff setting, but it recognizes the difficulty of setting tariffs which can effectively direct the performance of the industry. The Commission, however, has not moved

boldly to implement a tariff structure designed to meet the goals of the new philosophy. From 1974 to 1978 the effective maximum handling tariff was increased from 6¼ to 14 3/8 cents per bushel for wheat and the storage tariff was held constant at 1/30 of a cent per bushel per day. The shift in relative tariffs was important because it provided an incentive to move from a storage to a handling oriented elevator system. In Chapter V, we discussed how the relative tariff levels provide a handling or a storage orientation as identified by the study of Tangri et al. From 1979 to 1982 the Commission increased the storage tariff from 1/30 to 1/17 of a cent per bushel per day and the handling tariff from 14 3/8 to 19½ cents per bushel.

The change in relative tariff levels from 1979 to 1982 negates the impact of the change in tariffs made from 1974 to 1978. In Chapter VI, the impact of the removal of the storage tariff on the necessary increase in the handling tariff was shown for a relatively low and relatively high volume grain elevator. Through that example, it was shown that the shielding effect of the current storage tariff is approximately double that of the 1974 storage tariff. This study considers this to have been a regressive move on the part of the Canadian Grain Commission and one that contradicts the 1974 philosophy of the Commission. This is easily rectified, however, by having farmers assessed storage charges upon delivery of grain to an elevator.

With regard to the regulation of tariffs, this study, therefore, recommends the following:

1. that the federal government amend the Canada Grain Act repealing the powers of the Canadian Grain Commission to set maximum tariffs, and
2. that the Canadian Wheat Board not pay the storage tariff to the elevator companies on behalf of farmers.

The implementation of these recommendations would result in the grain elevator companies assuming the responsibility for setting elevator charges, would provide more information to farmers regarding the costs of elevator operations than is currently the case, would put an end to the debate as to whether or not the tariffs are set in relation to their respective costs, and would provide more information to farmers regarding the potential final return from Wheat Board versus non Wheat Board grains.

D. Suggestion for Further Research

In 1970, Gilson made the following comment regarding the wheat industry which is possibly more relevant today than it was at that time, and is applicable to the grain industry in general rather than to wheat alone.

> ...We're at a fork in the road in 1970 and I think the wheat industry, the farm organizations and government - all of us concerned with the wheat industry - must decide which fork we are going to follow; and it's this: are we going to follow a fork involving a greater degree of government involvement in the wheat industry, or,

> are we going to follow the other fork, which will call for some lesser degree of government involvement in the wheat industry.[161]

In the twelve years since Gilson made his comment, a great deal of change has taken place. The storage orientation of the country elevator system has given way to a handling orientation, at least in philosophy if not in fact. This has come about largely because of the demise of the Temporary Wheat Reserves Act. If the grain elevator companies are made responsible for the setting of elevator charges, as is suggested by this study, and if the Crow's Nest Rate for transporting grain is substantively changed, the elevator industry and farmers will play a primary role in determining the future structure of the grain handling and transportation system. Because of the importance of the Canadian Wheat Board in the grain marketing system, two studies are suggested for consideration.

1. The Canadian Wheat Board

The Canadian Wheat Board has developed and evolved over a long period of time dating back to the role played by the Board of Grain Supervisors of 1918. The Board became part of the grain industry not because of representations by farmers, but rather because it expedited government policy. It may be an appropriate time to review what has been and what ought to be the role of the Canadian

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[161] J. C. Gilson, Seminar On Wheat, Department of Agricultural Economics, University of Manitoba, Winnipeg, October 1970, p. 236.

Wheat Board. Recently the Board has lost its powers to set the handling agreement and to control grain car allocations. On the other hand, it has purchased grain hopper cars and has indicated a plan to build a 10 million bushel capacity grain storage facility at Prince Rupert. The action taken by the Wheat Board may prove to be most appropriate over the long run and a proper investment of the money of grain farmers. On the other hand, it should be questioned as to whether or not this is the proper role for the Board to play. Will the Board next build inland facilities because the private and farmer owned firms are unwilling or unable to do so? The Wheat Board, through its initial and final payment system for clearing its various grain pools, controls huge sums of farmers' money. It is possible, therefore, to use those funds for a wide variety of investments as it has done with hopper cars, without a clear mandate from the farmers. With respect to the future role of the Board, several alternatives could be analyzed; the status quo, the Wheat Board becoming a full fledged grain company and the Wheat Board acting as a central selling agency for those grain firms and farmers who would wish to use their services. Under the first option, the Board would retain its current monopoly powers whereas under the latter two it would not. Under the latter two options it might be possible for trading of wheat to resume on the Winnipeg Commodity Exchange and a clear choice provided to

farmers between marketing on a cash basis with private firms and a pooled basis through the three Pool elevator companies.

2. The Handling Agreement

From its inception to 1974, the Canadian Wheat Board set the handling agreement on a yearly basis through a bargaining process with the grain elevator companies. During this time period, there was a considerable consolidation of firms within the industry. The most significant was the sale of some 1,100 Federal Grain elevators to the three Pool elevator companies. Consolidation in the elevator industry is not unique to the Wheat Board years and has been an ongoing process since the turn of the century. Nonetheless, when significant structural changes occur in a controlled industry, those changes should be a matter of concern. It is suggested, therefore, that a study of all aspects of the setting of the handling agreement would be of interest to those who are "students" of the economics of regulation. Such a study would also fill what is to this point in time a void in the history of the grain trade in Canada.

APPENDIX A

SUMMARY OF CONCLUSIONS OF THE REPORT OF THE ELEVATOR COMMISSION OF THE PROVINCE OF SASKATCHEWAN, 1910

The Commission are unanimous in holding that while initial storage, transportation, a system of selling and terminal storage, all form one general system of trading in grain, yet from the point of view of action by the Provincial Legislature the matter of initial storage must be distinguished from the other parts of the system.

They are unanimous in holding that the conditions necessary to create an effective sample market, involving as they do sampling, transportation, terminal facilities and mixing of grain, cannot be dealt with by the Provincial Legislature alone.

They are unanimous in holding that the question of terminal storage should be left in the hands of the federal parliament in the meantime, and that the question of sample market depends on large measure upon the policy adopted by the federal parliament in regard to the terminals and the mixing of grain.

They are unanimous in holding that a Grain Exchange similar to existing Exchanges, but located within the province, could not be created by the Provincial Legislature until the conditions that would make such an Exchange

successful came into existence, and that if these conditions appeared an Exchange would probably appear also.

They are unanimous in holding that an Exchange within the province in which grain was traded in for private gain, and on the lines of the speculative market, would not be free from the evils alleged against the present Exchange. The Commission believe that there is, at present, real competition in the Winnipeg Exchange and that while there is the possibility of evils connected with the speculative side of the market, the practice of so large a number of farmers in shipping their grain to independent commission men is the best means of preserving a competitive market under the existing conditions. Whatever evils there may be connected with the Grain Exchange they could only be removed, if at all, by the Saskatchewan Legislature for Saskatchewan grain by the creation of some system of collective or provincial selling which would abolish private trading.

The Commission are unanimous in holding that the schemes of the executive of the Grain Growers' Association of Saskatchewan and of Mr. Dorrell are not workable.

The Commission are unanimous in holding that the schemes of municipal and district elevators, while aiming at local loyalty, do not secure such a personal and direct pecuniary interest from the farmer as is needed to make the elevators a success in competing with other elevators.

The Commission are unanimous in holding that a scheme similar to the Manitoba scheme would not be

satisfactory to the farmers generally on the one hand, and on the other, would probably end in financial disaster. True, by various conceivable devices of bookkeeping the facts might be more or less concealed for a time, but if there is anything of a business character that can be forecasted, such a scheme runs the gravest possible financial risk.

1. There is excessive storage capacity in the province at present if tested on a storage and handling basis. On that basis, few of the initial elevators in Saskatchewan are profitable.

   There is no doubt that the Government could purchase a large number of the existing elevators at prices not unreasonable. It could probably purchase some independent elevators, some farmers' elevators, and some belonging to the "line" companies. But if it endeavoured to buy a monopoly, it would most probably find itself as the result in the possession of the least successful elevators at many shipping points. Owners would probably, in many cases, be pleased to sell their houses at something like the cost of erection to the Government. They cannot expect better terms from any other quarter. The Government would thus saddle its system of storage with a large initial outlay only to find itself still confronted with the keen competition of the most successful companies. Such a beginning would be fatal to the system. An

indiscriminate buying of existing elevators would be in the interests of the owners of those elevators but would not be in the interest of anyone else, and it would certainly not be in the interest of the grain growers who would have to pay the bill.

2. But assuming that the Government did purchase a large number of elevators and did enter into competition with the remaining trading companies, it is demonstrable that the Government would compete under several grave disadvantages:

   i) It could only store and handle while its competitors could also buy and sell. Its income would be limited to the maximum rate of 1¾ cents per bushel and there is no reason whatever to suppose that it could secure the maximum rate. On the contrary, the probability is that its rivals would store and handle for less than the maximum rate, perhaps for one cent per bushel. And it is sheer nonsense to suppose that under such competition the government would receive a considerable income from secondary storage.

   ii) The Government would find a difficulty in providing for street grain. Many farmers desire to sell their grain outright; and if a farmer has to pay interest it might suit him best to sell his grain at once, pay his bills, avoid that interest as far as possible and avoid also the storing and insuring

of the grain and the possible fluctuations in the price. The Government would be compelled to make some provision for street grain. It could lease space in the elevators and perhaps secure some buyers. Possibly it could induce the Grain Growers' Grain Company to buy the street grain or some similar company.

iii) The Government would be at a disadvantage arising from the fact that farmers having no direct and personal financial responsibility for the provincial elevators would feel, according to their own representatives, free to take their grain to whatever elevator paid them best.

iv) The Government would be at a disadvantage arising from the fact universally admitted, that there is a general disposition to exact the utmost possible from the public treasury while not giving the utmost return. This is, perhaps, the greatest obstacle to the development of public ownership and so long as such disposition is general so long will governments find it difficult to compete in matters commercial or industrial with private corporations.

v) The Government would be at a disadvantage arising from the fact that political influences would tend to make themselves felt. Whatever party happened

to be in power would be tempted to run the system in its own political interest. Appointments would be made on the grounds of part affiliation and on the same grounds contracts would be given and money spent and all this would be used by some grain growers as a sufficient ground for taking their grain to the other elevators.

vi) A Government that wanted to discredit the whole principle of public ownership, that desired to hold it up to the ridicule of the west or that was unsympathetic to that principle, would have a splendid opportunity. The conditions under which the provincial elevators would operate are not conditions that make for successful public ownership and they would require to have behind them a government, not merely in sympathy with public ownership but so devoted to it that the members would be ready to stake their political careers upon it. Advocates of public ownership of public utilities may well hesitate to rest their case on provincial versus private initial elevators.

On these grounds the Commission consider that the financial success of such a scheme is so doubtful that they cannot recommend it to the Government. On the contrary the Commission are unanimous in advising the Government against such a course.

The Commission are unanimous in holding that a solution of the elevator problem satisfactory to the farmers must give the farmers full control of the system. And they are unanimous in holding that no storing and handling elevator is likely to be a financial success unless a considerable number of the growers of grain have a direct personal interest in and responsibility for the elevator.

The Commission, therefore, are unanimous in holding that the solution must be sought along the line of co-operation by the farmers themselves, assisted in the matter of finance by a provincial loan.

The Commission consider that special legislation should be enacted providing for the creation of a co-operative organization of the farmers on the principle of:

(1) The maximum amount of local control consistent with;

(2) Ownership by the whole body of shareholders and management through a central board of directors.

The Commission consider that the managing body should be wholly elected by the shareholders themselves and should be entirely independent of government interference. There is no reason why the Government should elect even one member of the managing body or interfere in any way with the management, the loan being secured and the conditions of obtaining it fulfilled. The local boards should be elected by the local shareholders and their powers and functions duly set forth. The shares should be confined to agriculturists and the transfer of shares by shareholders

should be subject to the approval of shareholders at the annual meeting. The annual meeting should be composed of delegates duly appointed by the local bodies and the central directors of the company.

The shares should be $50 each with no less than 15 percent paid up and the maximum number of shares sold to one person should not exceed ten. The stock subscribed at each local should be equal to the cost of the proposed elevator, and the aggregate annual crop acreage of the shareholders should not be less than two thousand acres for each ten thousand bushels of the capacity of the elevator, or one acre for every dollar of proposed expenditure at each local.

As soon as twenty-five locals are organized the first meeting of the shareholders should be called and the officers of the company elected as provided for in the Act, and the Government should then be prepared to grant the loan on the conditions outlined and thereafter from time to time as the required conditions are fulfilled. The loan should be repayable in twenty equal annual instalments, capital and interest, except that only the interest should be paid the first year the elevators are in operation. The loan would be amply secured by mortgages on the property and by the unpaid subscriptions, which could be called in when necessary to meet possible deficits or provide the fixed charges, the liability being lessened thereby each year. Insurance policies on the buildings should also be made payable to the Government.

It is the opinion of the Commission that the interest on the paid up capital should be limited and that, if possible, the profits of the company should be distributed on the co-operative principle, according to the business offered by each member of the company. The same principle should, if possible, prevail as regards the locals, thus securing to each of these the advantages of its own enterprise and discretion.

The Commission consider that for purposes of preliminary organization the executive of the Saskatchewan Grain Growers' Association should be the provisional directors and that the Government should make a special generous grant to them for that purpose.

The company might be called The Saskatchewan Co-operative Elevator Company and the locals the same with No. 1, etc.

The Commission are not opposed to the principle of public ownership of public utilities, but they consider that provincial competition with private companies in the matter of initial storage is subject to conditions which would invite failure and that such a scheme in any case would be limited in the scope of the service it could do for the growers of grain.

The Commission would have little objection to an experiment by the province were it not for the fact that an experiment upon a large scale is being conducted by the Province of Manitoba. If Saskatchewan would make an

equally serious attempt to develop a co-operative solution of the problem the western farmers would soon be in a position to avail themselves of the best results of both experiments. Both plans aim at removing initial storage from the ownership of companies interested in the trading of grain. The one plan aims at ownership by the State and management by the Government and the other aims at ownership and management by the growers of grain. Both plans recognize the strength of the feeling of injustice in the minds of many farmers, both seek to create conditions for the marketing of grain which will give the farmers confidence and satisfaction, and both involve financial aid on the part by the State. The chief difference between the two plans is that in the one the issue is in the hands of the government while in the other it is in the hands of the farmers themselves, and to this Commission at all events it appears that this difference is in favour of the co-operative plan. This plan avoids many of the risks and limitations of the other plans and is pregnant besides with possibilities for the future.

SOURCE: Report of The Elevator Commission of the Province of Saskatchewan, Regina: Government Printer, 1910, pp. 94-98.

APPENDIX B

CHARGES MADE AGAINST THE GRAIN MARKETING SYSTEM BY FARMERS, AS REPORTED BY THE ELEVATOR COMMISSION OF THE PROVINCE OF SASKATCHEWAN, 1910

Against the Initial Elevators

1. Weights. That they give lower weights than the farmer is entitled to.
2. Dockage. That they take too large a percentage as against cleaning the grain to grade, and too large an amount to protect the elevator against shrinkage in handling the grain.
3. Grades. That in buying the grain they give lower grades than the grain is entitled to.
4. Prices. That they give too low prices even for the grade allowed.
5. Cleaning. That in many cases they have no cleaning apparatus, that in other cases they refuse to clean the grain, and that the farmers not only lose the screenings, but are also forced to pay freight upon them from the shipping point to the terminal.
6. Special Binning. That they refuse to special bin grain on the ground that they have no vacant bins.
7. Substituting Grain. That they often give the farmer inferior grain, taking his superior lot instead.

8. Mixing. That they mix the grain in the bins so that the grades are skimmed, that is, that the grain shipped in any one grade, is on the lowest line of that grade, good enough to receive that grade at the hands of the inspector, but not a good average of that grade.
9. Shipping. That they try to ship stored grain to their own firms even when the owner desire to ship it elsewhere.

It is not charged by many that the elevator operators receive explicit instructions from their superiors to do these things, though this charge is made by some, but that the operators are under pressure to make the elevators pay, and that such practices are almost inevitable results of the system. And it is pointed out that the farmers who suffer most from such practices are the homesteaders, the small producers, and in general those whose financial conditions constrain them to sell in wagon loads to the elevators, and more especially, such of these classes as live ten miles and upwards from the nearest shipping point.

Against the Banks

1. That by restricting or refusing credit to may farmers, they force these to put their grain upon the market as soon as it is threshed, depriving them of the opportunity to hold it for a rise in price, and compelling

them to sell when the market is glutted and the price tends to be lowest. To get the best price the farmer should be in position to market his grain leisurely, offering it step by step with the milling and export demands. The banks make it impossible for the farmers to do this at present.

2. That in giving lines of credit for moving the crops they favour the larger companies, and at times favour a few such companies, thus giving these a virtual monopoly of bank credit, and assisting them in monopolising the grain business.

Against the Railway Companies

1. That through leaky cars and other conditions, grain is lost or damaged in transit, and the loss is too frequently put upon the shipper.
2. That they construct loading platforms as if the object was to render the use of them by the farmers as difficult as possible.
3. That in the past they helped to create elevator monopolies and assisted them, and that at present they favour the large milling and elevator companies, as against the farmer, whenever they can, and especially at points where there is no competition between the railways themselves.

Against The Terminal Elevators

1. That they take too much dockage as against the shrinkage of the grain in handling.
2. That they do not pay the farmer for the screenings which they take out of the grain when cleaning.
3. That they do not clean the grain as the inspection requires, but sell it dirty, thus increasing their surplus.
4. That they mix the different grades of grain, selling grain of lower grade at the price of the higher grade, and that, the grain being dirty and lowered in grade by mixing, export prices are lowered and the prices paid to the farmer are also lowered.
5. That at times they loan stored grain to themselves as dealers or to others, while the owner believes he is holding his grain for an advance in price.

Against the Grading System

1. That the grades do not represent the different values of the grain for milling purposes.
2. That good grain in any one grade gets the grade price only, and that selling by grade enables the millers and elevator companies to lower the quality of each grade, and so to fix the export and home prices upon the basis of the lowest level of each grade.
3. That the existing grading system is unfair to grain which though slightly bleached, smutted or frosted,

is nevertheless of good quality for milling purposes.

4. That mistakes are made in sampling and grading.

Against the Large Western Milling Companies

1. That they cull the best of the grain for their own mills:
   (a) By buying through their own elevators especially in the districts which produce the best milling grade, as shown them by their experiments.
   (b) By somehow selecting the best car lots in Winnipeg, or by having cars stopped at their mills or terminals which they can buy or not as they choose.
   (c) By selecting from all the grain they buy the best lots, and selling the remainder.
2. That the defects of the grading system, and the absence of a sample market, enable them to buy grain which though slightly bleached, smutted or frosted, is of superior quality, and to buy it at a price far below its value.
3. That because of their culling, the grades of grain exported are lowered, with the result that export and home prices are lowered, and that it is at these lowered prices they secure the very best of the grain, except where they pay a small premium.
4. That besides lowering the prices by lowering the grades, they artificially depress prices:
   (a) By spreading false reports about the crops.

(b) By juggling in options, and especially by selling below market value early in the season in the Liverpool market, quantities of grain for future delivery.

One illustration of this bearing of the market is seen in the fact that wheat sells for less on the Canadian than on the American side of the line, though the Canadian wheat is the superior article.

Against the Winnipeg Grain Exchange

The members of the Exchange are a small number of men, some of them inactive, not actually engaged in the trade, and the others active as millers, elevator men, commission men, track buyers and exporters. The members fall into two classes according as they do or do not own initial elevators. The larger milling and elevator companies operating elevators in the country, and owning or controlling most of the terminals as well, have overwhelming advantages over all the other members. As sketched above they can buy large quantities of street grain cheap, they can enhance their profits by malpractices in both initial and terminal elevators, they have the income derived from the storing and handling of the grain, and they can obtain special privileges in transportation and banking. Because of these advantages, they exercise a controlling influence in the Exchange. They can guard the membership, modify the rules, and use the mechanism of the Exchange as

their own interest requires. They can, if they desire, penalize the independent exporter, because he may need to buy grain from them, because he uses their terminals, and because buying much grain at street prices, they can undersell him in the ultimate market and still reap a profit. They can penalize the independent commission man, because he may need to buy his grain from them or sell to them, and because, having other and larger sources of income than the commission rate, they can, if they desire, offer higher prices for track wheat and cut off his consignment. Real independence therefore on the part of the commission men and exporters as against the millers and the elevator men there is none. If the dominating interests maintain several elevators and buyers at any shipping point, and if they tolerate in the Exchange a number of apparently independent and competing commission men and exporters, it is only to deceive the public into believing that there is real competition in the trade.

And the dominating companies can make full use of the speculative market, of trading in futures, of hedging, of dealing in puts and calls (outside exchange hours), of profiting by the rise and fall of the price in their own market, and of dealing in spreads when they occur between prices in different markets. Most important of all, they can complete the work of fixing the prices paid to the farmer. That work, as already stated, includes spreading false reports about the crops, selling futures in the

British market, and lowering the grades of grain exported. Their position of command in the Winnipeg Exchange enables them to complete the process, and it is the price fixed in all these ways by them that is daily telegraphed to every shipping point in the country as the basis alike of track and street prices.

The Present System a Monopoly

If these charges are true it is evident that the grain business of Western Canada is in the hands of a powerful monopoly, in which the few large milling companies are supreme and the large elevator companies hold the second and the only other place. It is also evident that the strength of the monopoly arises from the following sources:

1. Their ownership of most of the initial elevators. It is this that enables them to buy grain at street prices and enhance their profits by the various malpractices enumerated above.
2. Their ownership of control of most of the terminal elevators. Besides giving them a good income for handling and storing the grain, this enables them to make large gains from dockage, from screenings and from mixing, and above all to lower the export prices and thereby lower the prices which they pay the farmer.
3. Their control of the Winnipeg Exchange. It is this that enables them finally to fix the price of grain,

track and street, besides enabling them to make profits by tricks of speculation.

4. The selling of grade alone is one main condition of their buying the grain below its value.
5. The policy of the banks in restricting or refusing credit to the farmers, forces the latter to sell their grain as soon as it is threshed, and delivers them over to the will of the monopoly at the very period when the market tends to be glutted.
6. And the transportation companies give the monopoly privileges which are important as against competitors.

SOURCE: Report of The Elevator Commission of The Province of Saskatchewan, Regina: Government Printer, 1910, pp. 19-23.

APPENDIX C

McFARLAND'S ARGUMENTS AGAINST THE STORAGE TARIFF IN 1932

With a relatively large crop of 423 million bushels coming up in 1932, on top of a carryover of 136 million, the country and terminal elevator companies stood to earn increased revenues from storage, in addition to their earnings on the handling of wheat. Under the Canada Grain Act, the board of grain commissioners were empowered to fix maximum charges for each crop years,which they set after holding public hearings. In that manner, the maximum storage rate had stood at 1/30 cent per bushel per day for some years. Even with the changing conditions in 1932, no one had protested the rate. But because storage earnings appeared to be building up, as well as maintaining the level of the carrying charges the central selling agency had to pay, McFarland pleaded with Bennett for their reduction. He did not wish to be personally identified with his proposal because of his close business dealings with the elevator companies, but he contended that Bennett should act as a matter of political expediency before public criticism arose. He accused the provincial governments, accepted sokesmen for the producers, of neglecting their responsibilities in that regard because, as creditors of the pool elevator companies, they now had a direct

interest in elevator earnings. It was not just the producer who held his grain in public storage whose interest was at stake. Pool members whose 1930 wheat was still unaccounted for had an interest in the level of carrying charges. The public treasury was also involved in respect of the government guarantee. Since the responsibility for action rested with the board of grain commissioners, McFarland recommended that Dr. MacGibbon be brought to Ottawa for consultations. If the board needed additional powers to set actual rates, McFarland hoped that these could be provided by order in council or by act of parliament. Altogether, McFarland wrote to Bennett three times on the subject. Following are excepts from his first letter on October 4, 1932:

> In the meantime elevator storage charges are just the same per bushel as they were when wheat was selling at $1.50 per bushel and when the quantities held in storage were very materially less than they are in these days of heavy stocks and carry-overs.
>
> I am very aware that the storage rates are sanctioned each year by the Board of Grain Commissioners, but I believe the sanction is given on the basis of a maximum which does not mean that the rates are irrevocably fixed for the full year, and I do think, having regard to the large volumes of grain available for storage to elevator companies at country points as well as at terminal elevators, which grain is being held for long periods of time on account of the lack of demand, that the storage rates should be reduced, and I believe it is the duty of the Dominion Government to take the initiative in causing this reduction in the interests of the producers as well as in the interests of the Government itself...
>
> I am quite aware that it would be an unpopular thing to intimate a reduction in storage charges and will be met by the argument that the Elevator companies are having a hard struggle as it is, but

the reply to that is that the elevator companies are not having nearly as hard a struggle as the farmer.

I prefer that you do not use my name in connection with this storage reduction movement, and I am writing this to you in strict confidence, and would suggest that if you are interested in it you should call Dr. MacGibbon of the Board of Grain Commissioners to Ottawa and put it up to him as to whether something should not be done.

The higher the storage charge the greater the carrying charge between the cash month and the futures. For instance today October Wheat, which is now cash wheat, is 49¼ cents, whereas May Wheat for delivery next May is 56¾ cents, which means 7½ cents a bushel of a cost for storage and interest from now until next May. You will, however, observe that the interest is a small item on 50 cent wheat so that the bulk of that difference is made up in storage which is earned by terminals. It increases the value of wheat for future delivery and makes it just that much more difficult to compete in foreign markets on future sales. Just what the storage rates should be I do not know, I should say that half a cent per bushel per month is not enough, on the other hand I would say that three quarters of a cent per bushel per month is ample, both at country elevators and at terminals.

If you do not take some action on this storage question you might find that the opposition will use it politically against you in the future, or indeed they might beat you to it and draw the attention of the country to the fact that these storage rates are too high in times like these when there are such huge volumes of all kinds of grain being held in storage because of the lack of markets for the stuff.

McFarland wrote a second time on October 18:

Re storage charges. I have heard nothing in regard to this subject since I was in Ottawa. I am so convinced that your government should do something in regard to this that I am constrained to write you further on the subject.

In my other letter today I mentioned that we have about 33 million bushels of December options. I deliberately purchased December because that is the nearest to cash wheat. December wheat today is 50 cents; May Wheat is 54¼ cents. The buying of December has resulted in the price of May wheat being lower than it otherwise would have been had we been purchasing May wheat instead of

December wheat. The chances are May wheat would have been 6 or 6½ cents per bushel higher than December, whereas today it is 4¼ cents. It is only a short time since the spread was 5¼ cents. Of course, you realize the greater the premium of May wheat over December, the greater the profit the terminals are making in storage. They are looking for full carrying charges, which means a cent a bushel a month or the equivalent of five cents per bushel from December to May, which, plus interest would amount to between 6¼ and 6½ cents per bushel. That is where they would like to have it and even today they think that I will be stuck and have to pay the full carrying charge to carry this wheat from December to May, and as your Government is interested in carrying this wheat I just wish you to understand that it would make a difference of 2 cents per bushel to the Treasury if these storage charges are not reduced, because I will have no other option than to accept the dictation of the elevator companies as to what they will charge for carrying the wheat, and they will demand the full pound of flesh so as to give them the full maximum rate, which they are entitled to charge according to the Board of Grain Commissioners. You can figure for yourself what 2 cents per bushel would mean on the many millions which we alone are interested in and then add to that the millions which the farmers are holding in storage and you will get a picture of what the total might amount to. Besides if these so-called full carrying charges are permitted to become operative, it makes it just that much harder for Canadian Wheat to be sold in competition with our competitors, because it makes it that much higher.

Coupled with the above there is the undoubted fact that some of the informed public throughout the country are criticizing the heavy storage charges which grain companies are allowed to charge and it has been mentioned that even the Provincial Governments, because of the fact that the Pool Elevator Companies owe them a lot of money, are not taking any interest in reducing storage charges. There is no doubt in my mind that if the Prairie Governments were not interested in elevators they would be crying out loud for reductions, not only in storage charges but also in handling charges.

Now that I have found it necessary to start out on this campaign of reducing storage charges, I am going to go a step farther and suggest that the receiving fee at country elevators of 1¾ cents per bushel, which includes 15 days storage, is also extortionate under present economic conditions throughout this country and I believe in fairness

to all parties concerned and in fairness to your Government, you should also reduce this fee.

I know that this is the duty of the Board of Grain Commissioners but they have taken no action. At the same time I feel that I would be delinquent in my duty if I did not bring these matters to your attention as well as to the attention of the Minister of Trade & Commerce. Furthermore, if it is within the powers of an Order-In-Council, I think these changes should be made by an Order-In-Council, and should be made without delay. The other method would be for the Board of Grain Commissioners to advertise for a public meeting to discuss these charges and Elevator Companies would be supposed to present figures and arguments against it. I say that the reasons for reduction are so obvious that no such meeting should be called but an arbitrary reduction should be made and should be made by an Order-In-Council if you have the power to do it in that way, which I believe you have.

There are enormous quantities of wheat and other grains in storage and if the full storage charges are permitted to obtain, then some of these line elevator companies are going to make such profits as will look like profiteering in times such as we are now living in.

The fact of the matter is these storage charges should have been reduced more than a year ago when it became evident that large stocks were going to be of necessity carried over for long periods of time owing to inadequate demand in world's markets.

Finally, McFarland wrote a third letter on October 29:

...It is stated in Grain Exchange circles that Dr. McGibbon has been called to Ottawa and it is generally understood he has been called down in connection with the storage rates in Terminal Elevators. I can only add that the reduction should be made not only in Terminal Elevators at Fort William and Vancouver but also in all country and mill elevators. No doubt the grain trade would like to see the reduction applied to the Terminals only but it should take in more territory to really be effective, and do what it is intended to do, namely; reduce the carrying charges. Furthermore, I would suggest that you remain very firm in your demand that the rate should not exceed 1/45 of a cent per bushel per day. That means 2/3 of a cent per bushel per month and in my opinion is a fair rate, having

> regard to the huge volumes which are being stored and the low prices at which grain is selling.
>
> I was told yesterday that the exporting companies intend making an effort to have the Government reduce the rate in Terminal Elevators-Fort Williams and Eastern Ports-to a rate of 1/50 or even as low as 1/60 of a cent per day, and that it is intended that the representations shall be made in connection therewith in time for the next crop. Of course, when this agitation was started I suppose they had no idea that we were already working on it and that you had the matter under consideration in regard to making it possible, by Act of Parliament.[32]

It was evident from this correspondence that Bennett had already acted by having the Honourable H. H. Stevens bring Dr. MacGibbon to Ottawa, and that the trade did not appear too upset by what was in the offing. While in Ottawa, MacGibbon advised Stevens that the Canada Grain Act, as presently worded, prevented the board from adjusting terminal charges during the course of a crop year after they had been initially established by the board. Section 134 of the act read: "Notwithstanding anything in this act, the tariff of charges made for cleaning, storage and handling of grain in any public or semi-public or terminal or eastern elevator shall not be subject to change during the crop year." Consequently MacGibbon recommended a simple amendment to the act by adding to section 134 the words: "except by order or regulation of the board."

A bill to the effect this change received first reading in the house on November 4, 1932. On second reading, on November 7, Stevens observed:

> Hitherto, under section 134, such action by the board could be taken only once a year, and the fees having been fixed by the board could not make any change except subject to some other paragraphs in the act. The only object we have in view is this: During this time of stress the board is precluded from taking any action and we want to empower them to take action. I may say there is a very general willingness and desire, I am informed today, on the part of the elevator companies to conform to any reasonable action of the board. In fact it is possible they may take action even before this bill is passed. I am certain that there is a willingness and desire to meet this situation and all who are interested in lessening the burden of costs upon this commodity will welcome this privilege being given to the board of grain commissioners at this time.[33]

In reply to a direct question from Malcolm, Stevens expressed his view on the reduction in prospect for the storage rate: "I have no objection to saying what is my view; I would say 1/45 instead of 1/30; I am not going to dictate to them, but since my hon. friend has asked me I will tell him what is my view."[34]

The bill was passed quickly by the house and senate, and the amending act was given royal assent on November 25. The board promptly conducted new tariff hearings, as a result of which storage rates for all elevators situated in the western inspection division were reduced to 1/45 per bushel per day. This action anticipated by a few days the historic low price for wheat basis in store Fort William.

SOURCE: C. F. Wilson, A Century of Canadian Grain, Saskatoon, Saskatchewan: Modern Press, 1978, pp. 323-327.

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