AN ABSTRACT OF THE THESIS OF

Francis Mugoioyo Maina for the M. S. in Agricultural Economics
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Title AN ANALYSIS OF THE GROWTH AND DEVELOPMENT OF
THE TANGENT 'GRANGE OIL COMPANY' AS A CASE STUDY

Abstract approved

The foundation upon which any cooperative rests is the economic need for it as a business enterprise. The existence of such a need cannot by itself provide the basis for a thriving cooperative. Not only must the need exist, but the members or the promoters must through realistic and diligent investigations establish convincingly that: (1) the particular needs will be better met by cooperative action, (2) enough business and capital will be forthcoming for efficient and economic operations, (3) members as the chief source of business and risk capital, will obtain benefits not otherwise obtainable. This includes goods and services not available in their area or available but at unreasonable prices or inferior quality. The rapid evolution of Grange Oil Company into a financially stable business enterprise is proof of the need and the demand that existed for its services.
Agricultural recovery during World War II and the subsequent demand for agricultural products in the post-war years, had a great impact on the growth and development of many cooperatives started during or soon after the great depression in the early 1930's. High agricultural prices relative to non-farm prices, facilitated relatively large net margins and therefore greater capital accumulation. Cooperatives were able to build and to consolidate their net-worth position in readiness for the problems that beset agriculture in the 1950's.

In the decade 1952 to 1961, agriculture entered an era of price-cost squeeze. Improvements in farm technology and greater use of commercial fertilizers induced greater farm output. Consequently, prices received by farmers declined 20 percent while prices paid increased 5 percent. Narrowing net margins, caused by generally increasing operating expenses triggered sizeable sales promotion efforts. Increased sales, by virtue of their ability to keep plant overhead costs down, facilitated low per dollar expenses and enabled Grange Oil Company to make substantial savings for its members in the period 1950 to 1959.

Sales alone cannot be expected to keep expenses down indefinitely. Other methods of holding down expenses have to be sought. There is a limit to the amount of inventory that present plant facilities can hold. A sales-expenses oriented plant size could prove
uneconomic to run for many years. Present and future plant requirements must therefore take into account not only the sales-expenses relationship, but also current economic trends, future business expectations, size of the market and the possible degree of competition. The long run firm plans should provide for expansion when the need arises, but the current plant capacity should be related to short run business expectations. The present Grange Oil Company's plant capacity exceeds the ability of the association to increase business volume in the next few years. This problem must be overcome before further expansion is contemplated.

This study revealed four important points: (1) The environment in which a cooperative is launched has a great influence on its success; (2) Cooperatives need to broaden their equity capital base. More capital should be raised from members in good years for financing business and plant expansions; (3) Success hinges, among other things, on the ability of the cooperative to keep pace with the changes in the market or the industry which it serves; (4) Good effective and efficient management and employees are vital for successful operations.
AN ANALYSIS OF THE GROWTH
AND DEVELOPMENT OF THE 'TANGENT GRANGE
OIL COMPANY' AS A CASE STUDY

by

FRANCIS MUGOYIO MAINA

A THESIS

submitted to

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Typed by Jolene Wuest
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Great appreciation is expressed to Professor G.E. Korzan for his guidance and counsel, not only with regard to this study, but also in connection with my entire graduate program. As my major Professor and teacher, he gave invaluable information, suggestions and assistance.

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Last though not least comes the Kenya Government, whose financial support kept me constantly at my work. Finally, the understanding and encouragement of my wife and children served as an inspiration.

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Department of Agriculture  
Nairobi, KENYA
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AN ANALYSIS OF THE GROWTH AND DEVELOPMENT OF THE TANGENT 'GRANGE OIL COMPANY' AS A CASE STUDY

INTRODUCTION

It is one thing to know how an organization is formed and how it runs, and another thing to know how to form one and run it efficiently. This study was undertaken under the precept that the younger economically backward countries, have a great deal to learn from the experiences of the older economically mature nations. Their failures need not be repeated. But, they could hardly be avoided if concerted efforts were not made to learn and to understand the problems that had to be overcome and the mistakes that were made, where they were made and how they were corrected.

The best that the older developed countries have done for the newly developing countries, is to set up some guide posts to show the way and to mark as dangerous the pitfalls that lie in the path to economic maturity.

The United States, a relatively young nation by European standards, developed to its present economic strength from a strong agricultural base. Many of the successful farm organizations can be traced back to their origins. Their struggles, disappointments and successes lie in their records. This makes the United States the country of choice for those who in their attempts to mobilize the masses for higher productivity, must look elsewhere for information
Farmer cooperatives have for the last 40 years been an integral part of the economic life of the United States. The American farmer, backed by farmer and Government financed research, has recognized the possibilities and the limitations of cooperative marketing and purchasing. Activities in both marketing and purchasing cooperatives have developed working techniques, and experiences that have been highly beneficial to the cooperators. This development has been a long drawn-out process. It has had its share of failures and disappointments. Enough enterprises have nevertheless survived long enough to serve as guide posts to those who would care to seek inspiration from the past.

The present study was prompted by the desire to learn the technicalities of running and managing an integrated cooperatively owned farmers' business enterprise. It was also prompted by the desire to learn and seek inspiration from the problems that a cooperative, started with very little capital, had to overcome over a quarter century of operations. Grange Oil Company\(^1\) met all these requirements.

\(^1\) Throughout this thesis, Grange Oil is used interchangeably with Grange Oil Company and Pacific Supply with 'Pacific Cooperatives'.

Statement of Objectives

The objectives of this study were as follows:

1. To provide the opportunity for gaining some practical working knowledge concerning the operation and the management of a farm supply cooperative.

2. To investigate how and under what conditions the Grange Oil Company was formed.

3. To investigate how problems have been solved by a supply cooperative over a quarter century of operations.

4. To evaluate the development that has taken place.

5. To determine how more optimum operations might have resulted if capital had been more readily available and membership, management and the board of directors more understanding.

Research Methods and Collection of Data

For a number of weeks during the Summer of 1962, regular visits were made to the Grange Oil Company plant at Tangent, Oregon. These visits provided an opportunity for acquaintance with the employees of the Company and free discussion about their work. This made possible the assessment of employee relationships and their feelings towards the association. Personal interviews were made with the manager and other key personnel at the plant.

Data and the trend of management and member thinking through the years were obtained from the association's records. All the board of directors and annual meeting minutes, from the first
recorded to the latest (1961) were closely scrutinized. The same thing was done with the articles of incorporation, the Bylaws of the association and their amendments and all the audit reports from 1938 to 1961.

Contacts with the first Grange Oil Company manager provided much of the background information. He was among the original promoters. Contacts with practicing farmer members of the company provided useful information.
WHY AND HOW THE ASSOCIATION WAS ORGANIZED

Economic Background

The economic depression of the early 1930's dealt a hard blow to agriculture. It produced a serious price imbalance between agriculture and industry and played on the inability of agriculture to adjust to the changing demand-supply relationship of agricultural products. Between 1929 and 1933 farm production dropped by 6% only while farm prices dropped by 63%. In the same period industrial output of goods bought by farmers was substantially reduced. In spite of the fact that the impact of the depression was felt by all businesses, industrial prices changed very little in relation to agricultural prices.

Table 1. Percentage decline in the production and prices of specified industrial products and agriculture 1929 to 1933/1.

<table>
<thead>
<tr>
<th>Product</th>
<th>Production decline %</th>
<th>Price decline %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm implements</td>
<td>80</td>
<td>6</td>
</tr>
<tr>
<td>Motor vehicles</td>
<td>80</td>
<td>16</td>
</tr>
<tr>
<td>Cement</td>
<td>65</td>
<td>18</td>
</tr>
<tr>
<td>Iron and steel</td>
<td>83</td>
<td>20</td>
</tr>
<tr>
<td>Auto tires</td>
<td>70</td>
<td>33</td>
</tr>
<tr>
<td>Agriculture</td>
<td>6</td>
<td>63</td>
</tr>
</tbody>
</table>

In order to maintain prices and thus maximize profits, non-farm firms resorted to output reduction. To the extent that prices remained too high in relation to the declining power of the dollar and the dwindling personal incomes many consumers stayed out of the market. In their drive for lower handling costs, companies from whom farmers bought tended to use their near monopolistic position to coerce farmers into taking more products, in this case petroleum products, than their financial position justified. The idea of forming Grange Oil Company developed out of dissatisfaction with such policies. It was learned that a plan not to deliver less than 200 gallons of gasoline to farmers, had been instituted by the few oil companies operating in this region at the time.

**Historical Account**

Members of the Willamette Grange placed the proposal for forming an oil cooperative before the Linn-Benton Pomona Grange in 1933. After protracted discussions of the possibilities, prospects and the need for such an association, a committee of three was selected and charged with the responsibility of obtaining further details for the Grange.

The three committeemen worked diligently to sound out farmers in both Linn and Benton Counties and to seek their opinions as to the necessity of the proposed Oil Company. In its report to the Pomona
Grange, the committee concluded that; savings could be made by cooperative purchasing of farm supplies, particularly petroleum products; that satisfactory sources of supply could be developed and that a real need for a marketing and supply cooperative existed in the two Counties.

After the review and discussion of the findings of the committee, the report was adopted. A committee of five was appointed and vested with the powers to organize, draw the articles of incorporation and incorporate the association under the name of the 'Grange Oil Company of Linn and Benton Counties'. The articles of incorporation were finally endorsed and filed by the Commissioner for Cooperatives in the State of Oregon on December 19th, 1933.

At the incorporation of Grange Oil Company, a capital stock cooperative enterprise, the following basic objectives were laid down:

1. To promote and provide a medium for unity of effort in buying and distributing oil and oil products.

2. To serve as an agency through which economies in agricultural production may be made through collective buying, handling of oil, oil products and other commodities.

3. To promote any activity in connection with buying, storing, handling, selling and distributing of oil, gasoline, kerosine, distillate, greases or other petroleum products.

\[1/2\] The association has no direct connection with the Granger movement.
4. To buy, sell and otherwise handle any other commodities that may be bought or sold to the advantage of the association or its members. 

Between December 1933 and February 1934 community meetings were held in the two Counties to acquaint farmers with the aims and purposes of the proposed co-operative. Then, on February 6, 1934, about 200 farmers met in Riverside Community Hall in Linn County to formally inaugurate the Grange Oil Company. After the reading and the discussion of the articles of incorporation, those present were called upon to endorse their membership in the association by signing the subscription agreement.

"... Be it resolved that those present who desire to become members do so by signing the subscription agreement of the association and paying all or part of their subscription to common stock." /1

/3 Membership qualifications:
The 1960 amendment of the articles of incorporation placed the association open to:

Any person, firm, partnership, corporation or association including landlords and tenants in share-tenancy who is a producer of agricultural products;

who buys at least one share of class A common stock at $10 par value, agrees to do business with the association, is in agreement with its objectives and purposes, agrees to abide by its by-laws and is approved for membership by the board of Directors. ... etc.

/4 Capital Stock: 2,500 shares were originally authorized.
1,500 were class A common stock, par value $10.
1,000 were class A preferred stock, par value $10.
Preferred Stock had no voting privileges. At the discretion of the Board of Directors, interest up to the limit of 8% could be paid on Common Stock.
Of the near 200 farmers present in this first rally, only 84 signed the subscription agreement. Those in effect became the founder members of Grange Oil Company. They adopted the meeting as the first business meeting of the association as per resolution:

"...... inasmuch as all members of the association are present, that this meeting be continued as a consent meeting of the association and that we proceed to adopt the by-laws, elect directors and transact any necessary business."

The membership gave its approval to the proposed By-laws and the certificate of association. Members then elected an interim board of directors as provided in the By-laws, to serve until the first annual general meeting. Membership fees to the value of $300 was collected. This was the entire operating capital when Grange Oil Company started buying oil for its members.
In its 28 years of life (up to 1961), Grange Oil Company passed through three periods of varying economic activity. The association's growth and development therefore falls into three distinct phases (Figure 1), each of which had characteristics and problems peculiar only to it. Each of the three phases of economic activity dealt with in this section had its impact on business firms, including those which are farmer oriented (Figure 2).

Phase I covers the period between the height of the great depression and the outbreak of World War II. Phase II spreads over a period of eleven years, a period of great economic activity caused by the Second World War and the Korean conflict in 1950. Phase III, covering the period 1952 to 1961, falls in a period when agriculture is in a price-cost squeeze. Like in Phase 1, agricultural prices have dropped below the prices paid by the farmers. Farm supply cooperatives have had to contend with considerable competition from non-farm firms. To stay in business cooperative firms have found it essential to watch their expenses closely, seek possibilities for further integrating their services, expand business volume, expand public relations programs, and seek possibilities of cooperative mergers where the division of the available market by inter-cooperative competition tends to weaken the bargaining power of the farmers.
Figure 1. Comparison of prices received and prices paid by farmers in the United States 1928 to 1961. (February 1962)
Figure 2. Grange Oil Company - sales volume. 1938 - 1961.
as a group.

Phase 1. Period of Organization 1934 to 1940

This period was characterized by considerable Government and farmer activity to stabilize agriculture and find a solution to the agricultural surplus situation which had grown into a problem of national concern. The Government tried to encourage farmer cooperatives, and marketing cooperatives in particular, with the hope that organized producers could eventually control and adjust their production to current fluctuations in the demand for farm products. Thus, the passage through Congress of the Agricultural Marketing Act of 1929; the Agricultural Adjustment Act of 1933; the Domestic Allotment Act of 1936 and the Agricultural Adjustment Act of 1938. These Acts were designed to correct the imbalance between farm and non-farm prices and to give farmers an income comparable to that of non-farm workers.

Grange Oil Company came into being at a time when agricultural prices were very low. Although the trend upwards had already started in 1934, it was to take several years before prices were favourable to agriculture. In 1934, therefore, Grange Oil Company

1 The Agricultural Adjustment Act of 1933 was ruled unconstitutional by the Justice Department in 1936. It was replaced by the 1936 Domestic Allotment Act.
still in its formative stage, joined with other local petroleum supply cooperatives in the Pacific Northwest to form the regional wholesale supply cooperative, Pacific Supply Cooperative, with headquarters in Walla Walla, Washington. Out of a nucleus of nine locals in 1934, Pacific Supply had grown to include 120 locals in the States of Oregon, Washington, Idaho, Montana, Wyoming and Utah by 1960. Through Pacific Supply, Grange Oil Company was able to get the supplies it handled for its members, petroleum products at the beginning, and to add other lines of merchandise along with the expanding services of the regional wholesale house and the rising demands of the members. In 1934 Grange Oil Company bought $100 worth of membership shares in Pacific Supply. By 1961 the value of capital certificates and patronage retains credited to Grange Oil exceeded $290,000.

Although a clearing house for regional problems had now been established local problems still awaited solution. There was the need to raise membership above the 84 charter members. Capital for operating expenses and fixed assets was needed and a final settlement on the appropriate location for business premises had to be made.

Efforts made to enlist the support of more farmers, raised membership to 137 by the middle of 1934. Out of a

\[2\] Pacific Supply Cooperative is at present known as 'Pacific Cooperatives'.
potential membership capital of only $1370, the association had to purchase a lot for its business premises in the City of Tangent, erect the first building and secure the first stocks of petroleum products. With such capital limitation Grange Oil Company could neither afford to purchase delivery trucks nor to employ more than one full time employee. The first General Manager had to combine his managerial duties with those of the association's architect, bookkeeper, purchasing agent, salesman, and gas pumper. The farmers took their tanks to Tangent to be filled.

In spite of unfavourable agricultural prices business growth was very encouraging. By the time of the first general meeting in February 1935, membership had grown to 310, inventory value and cash in bank to $1592 and there were no outstanding debts. Five years later in 1940 Grange Oil business volume was almost $196,000. Total asset holdings were in excess of $52,000. The first years' savings indicated to what extent oil companies had benefited at the expense of the farmers. At a time when agriculture was in a

\[3\] The principal office and place of business was initially to be in Albany. After the formal organization with the first 84 members the association made a contract with the Union Oil Company to supply members with petroleum products.

After moving to Tangent before the end of 1934, storage facilities were installed, first for 10,000 gallons and later for 20,000 gallons.

\[4\] Many of the members earned their membership fees through patronage refunds retained in the cooperative. This means that not all the $1,370 was immediately realized in cash.
depressed condition Grange Oil was able to return to the farmers an average of about $4.50 for each $100 spent on important farm production necessities. By 1938 Grange Oil handled various petroleum products, tubes and tires, paint, machinery, wire nails, land plaster, phosphate, lime and twine. More than anything else the savings made in these early years demonstrated that farmers stood to gain from a co-operative approach to their common problems.

Table 2. Summary of what happened to each $100 of Grange Oil sales.

<table>
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<tr>
<th></th>
<th>1938</th>
<th>1939</th>
<th>1940</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>$100.00</td>
<td>$100.00</td>
<td>$100.00</td>
</tr>
<tr>
<td>Cost of goods</td>
<td>85.35</td>
<td>84.53</td>
<td>86.37</td>
</tr>
<tr>
<td>Gross margin</td>
<td>14.65</td>
<td>15.47</td>
<td>13.63</td>
</tr>
<tr>
<td>Total expenses</td>
<td>8.63</td>
<td>8.69</td>
<td>8.30</td>
</tr>
<tr>
<td>Net margin</td>
<td>6.02</td>
<td>6.79</td>
<td>5.33</td>
</tr>
<tr>
<td>Other income</td>
<td>3.19</td>
<td>3.74</td>
<td>3.54</td>
</tr>
<tr>
<td>Net for distribution</td>
<td>9.21</td>
<td>10.53</td>
<td>8.87</td>
</tr>
<tr>
<td>Cash refunded *</td>
<td>5.78</td>
<td>4.24</td>
<td>3.78</td>
</tr>
</tbody>
</table>

* The above figures do not include Pacific Supply refunds.

Petroleum products sold were: Gasoline, stove oil, greases, Kerosene.
Early problems and how they were overcome

The high business death rate during the depression was a poor advertisement for Grange Oil Company. Farmers were apathetic and feared to risk their money in a business whose inevitable failure was loudly proclaimed by hostile oil companies. It was therefore, difficult to get as many members as the association's capital needs might have dictated. With the passage of time confidence in the association grew. Farmers took membership when they felt that the inevitable failure was being transformed into possible success.

Adverse and unfair competition from the established oil companies was a big problem for Grange Oil Company. Discussions with the first manager suggested that attempted collusion to deny oil products to Grange Oil met with failure. It was, however felt that Grange Oil Company was only saved from failure by the cooperation of General Petroleum Company and the eventual entrance of Pacific Supply in the oil contracts on behalf of the local retail associations. General Petroleum has of late turned out to be a most formidable competitor of Grange Oil. Attempts made to discredit products handled by the association also fell through.

Early successes generated great enthusiasm within the association. There was danger of expanding too soon into fields other than the supply business. In 1936 the formation of an organization to
market seeds grown in the Willamette Valley was suggested. In 1937 a proposal to organize a consumers' cooperative was presented to the annual general meeting for discussion. Although the consumer cooperative idea was dropped, the seed deal was approved in 1940. The expansionists were a problem to the association and had to be kept under restraint.

From time to time urgent operating needs had to be met by withholding patronage refunds which according to the association's policy were paid on a monthly basis. Apparently this policy was adopted as a means of enticing more farmers into the association's membership. A continuation of this policy was bound to create unprecedented membership and financing problems. The association would have to pay out refunds all the time or risk losing members and business as well.

From a modest beginning Grange Oil came out of its first seven years of operation with a relatively strong financial position. Its current ratio had consistently improved and credit extension to members was kept under reasonable control.

Table 3. Financial position 1938 to 1940. *

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<tr>
<th></th>
<th>1938</th>
<th>1939</th>
<th>1940</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total current assets</td>
<td>19,100</td>
<td>21,600</td>
<td>27,000</td>
</tr>
<tr>
<td>Accounts receivable</td>
<td>3,100</td>
<td>3,300</td>
<td>4,300</td>
</tr>
<tr>
<td>Inventories</td>
<td>10,700</td>
<td>15,800</td>
<td>17,300</td>
</tr>
<tr>
<td>Current liabilities</td>
<td>6,200</td>
<td>4,500</td>
<td>5,200</td>
</tr>
<tr>
<td>Current ratio</td>
<td>3.1:1</td>
<td>4.8:1</td>
<td>5.2:1</td>
</tr>
</tbody>
</table>

* No financial records were available for the period 1934-1937.
Phase II. Consolidation of Business Position 1941 to 1951

Characteristic of this phase of Grange Oil Company's development was the rapid recovery of agriculture and an increasing demand on the association to expand its services. This period, encompassing World War II and the rehabilitation period that followed witnessed not only a major change in agricultural policy but also the highest overall agricultural prices on record. Between 1940 and 1945 prices received by farmers increased 100% in comparison to only 50% increase in prices paid. The cry for restricted agricultural production gave way to incentive payments, acreage goals, forward pricing and all the other measures that were taken to induce greater agricultural production to meet increasing war-time food and fibre demands. Once again as in the previous war there was market for nearly all that farmers could produce.

Technological research made phenomenal strides after 1940. More labor saving devices were continuously placed at the farmers' disposal. Farmers in turn responded to the favorable price and income relationship by nearly trebling the use of commercial fertilizers and the other non-farm inputs to expand sales at the favorable prices. Under these circumstances Grange Oil could not have been in a better position to expand its business and services to patrons. However, whether this was done and whether what appears
to be a substantial gain in business volume is a real gain cannot be predicted at this stage.

The Monroe feed store

The opening of the decade 1941 to 1950 found Grange Oil preoccupied with the question of organizing the cooperative seed business mentioned earlier. The final decision on this issue was adopted in February 1941. In March 1944 the board of directors recommended to the general membership the purchase of a feed and seed warehouse at Monroe. The deal was concluded with the signing of a purchase contract to the value of $47,000 of which $27,000 was to be paid by the end of 1944. According to the terms of the contract the balance of $20,000 was to be financed in annual installments of $5,000 with 4% interest on the outstanding balance.

The idea of a feed subsidiary for Grange Oil was favorably considered in certain quarters of Pacific Supply. However, a review of the available literature left a feeling that the feed business was being founded on a financial and managerial base that was bound to cause operational difficulties later. Too much reliance was placed on the ability and possible willingness of seed growers to raise the major portion of the necessary capital. If need arose it was hoped to divert Grange Oil refunds to the capital needs of the feed and seed business and to seek bank loans to finance the balance.
Attempts to raise equity capital from growers and members of the association seem to have met with disappointing results. The first drive brought in only $194 in common stock and capital certificates. A second attempt realized only $100 in capital certificates. In the face of this slow start it was decided to seek loan funds to finance the subsidiary business and to make all common stock and membership applicable to the two branches of Grange Oil. That is, common stock or membership in either the feed subsidiary or the oil company entitled the member to patronize either one or both the branches of the association.

On May 1, 1944 Grange Oil's feed and seed subsidiary started business under the management of Mr. Lloyd Wright of Albany. During the course of this study it was felt that certain human factors may have complicated the difficult financial structure of the feed business to bring about its speedy liquidation. Instead of considering the primary role of the feed and seed warehouse as that of providing essential services to livestock and seed farmers some people appear to have looked at it as a money making enterprise. Doubts of its achieving such a result were therefore expressed due to Government controls. Some growers also seem to have been apprehensive of the possibility that the feed subsidiary might later be used to force them to sell their products through the warehouse only. An important aspect of this venture was the apparent conditional purchase of the
Monroe Warehouse. Two conditions were attached to the purchase and consequently to the opening of the feed business. Lloyd Wright was either to accept its management or the then owner give his consent to stay through the first cleaning season to train a new manager. This latter feature tends to suggest the existence of a pressure group behind the move rather than purely economic considerations.

Management trouble started early at the feed store. Before the end of 1944, the association's auditors called the attention of the board of directors to unsatisfactory office operations, controversy between the manager and the bookkeeper and general disharmony between the manager and the employees at the feed store. A year later, in November 1945, the manager expressed his feelings that the margins of the feed business were unsatisfactory. He offered to resign if the board found it necessary to employ another manager. The board accepted the resignation and called upon V. C. Jones, manager of Grange Oil from 1934 to 1941 to accept the management of the feed and seed store. A new bookkeeper was employed.

Even under the new management there appears to have been little hope of success. Many patrons were dissatisfied with the affairs of the feed store and how it was operated. Amidst dissatisfaction, good marketing opportunities and high post-war agricultural prices it was difficult to hold farmers together. Cooperation was at a low ebb and considerable effort was needed to sell the cooperative
way of business to the people. The new management tried to straighten the financial, management and public relations problems of the feed subsidiary. As soon as some improvements were in sight a fire destroyed a section of the feed and seed warehouse in January 1947. The fire caused the association an estimated loss of $120,000 in grower products, borrowed and member capital. This loss and subsequent problems with insurance companies made continued operation of the feed business difficult. The feed business was finally liquidated in June 1947.

Financial condition at the time of liquidation

Available records placed Grange Oil Company's Monroe assets at $173,005 at the time of sale. Table 4 shows the composition of those assets.

It is to be noted that about half of the assets, nearly $80,400, were tied up in accounts receivable. At the same time liabilities showed $80,900 in member loans witnessed by 4% certificates of interest. Under these circumstances it was not surprising to find that some of the notes payable were past-due at the time of liquidation.
Table 4. Financial summary of Monroe feed store at the time of sale.

<table>
<thead>
<tr>
<th>Current assets</th>
<th>$ 78,469</th>
<th></th>
<th>Sales accounts receivable</th>
<th>80,398</th>
<th>$158,867</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insurance claims</td>
<td></td>
<td></td>
<td>Others</td>
<td></td>
<td>14,107</td>
</tr>
<tr>
<td>Total assets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>31</td>
</tr>
<tr>
<td>Claims on assets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total current liability</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$155,875</td>
</tr>
<tr>
<td>Member equities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Membership capital</td>
<td>$ 1,450</td>
<td></td>
<td>Book credits</td>
<td>9,412</td>
<td>10,862</td>
</tr>
<tr>
<td>Undivided margins</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6,268</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$173,005</td>
</tr>
</tbody>
</table>

Reasons for failure

Two salient points tend to emerge from the study of the Monroe feed and seed business. In the first place, available information raised doubt as to whether there was sufficient conviction among the Monroe people, and the board of directors on the economic necessity of the feed and seed subsidiary, at this early stage of Grange Oil Company's development. Secondly, poor management and capital inadequacy were important causes of failure of the feed and seed subsidiary.
Management and employee quarrels or disharmony in any business breeds inefficiency and poor services. For a cooperative nothing could be worse. To such inefficiency amongst other things, must be attributed the reported patron dissatisfaction with the conditions at the feed store. Employees seem to have been so particular with their time as to cast doubt on their loyalty to the cooperative.

The quotation shown is a case in point:

"Employees time record was meticulously kept, and odd 2 and 3 minutes intervals after closing time were accumulated, and overtime paid when 15 minutes had been thus accumulated. All employees used a time clock."

The financial nature of the feed business was weak from the start. It consisted principally of borrowed funds with only a nominal amount of equity capital. As shown in Table 4, member equities amounted to only $10,862 as compared to $80,900 of borrowed funds. This capital structure placed too heavy an interest burden on the feed subsidiary. It was found that settlement with growers was sometimes at prices too high to provide adequate margins to meet operating expenses, and that credit to patrons had more or less gotten out of control. Out of a total of $173,000 worth of assets at liquidation, $80,400 was given as sales contracts receivable.

\[/6\] Quoted from the final audit report of the Monroe feed store.
Considering this situation, and the large loss of operating assets sustained from the January fire, the association decided to sell its assets and abandon the feed business.

The oil company

Unlike the feed business the oil section of Grange Oil at Tangent showed considerable financial improvement over the period 1941 to 1951. Business volume especially in petroleum products increased steadily and stock in other lines was expanded to catch up with the improving business activity. Table 5 shows increases in the three major lines that contributed most of the business volume.

Table 5. Volume increase in three major lines of Grange Oil business.

<table>
<thead>
<tr>
<th>Item</th>
<th>1940</th>
<th>1951</th>
<th>% increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum</td>
<td>$136,432</td>
<td>$380,721</td>
<td>279</td>
</tr>
<tr>
<td>Fertilizers &amp; lime</td>
<td>$3,054</td>
<td>$164,221</td>
<td>5,377</td>
</tr>
<tr>
<td>Machinery*</td>
<td>$20,898</td>
<td>$66,942</td>
<td>320</td>
</tr>
<tr>
<td>% of total sales</td>
<td>81.9</td>
<td>90.5</td>
<td></td>
</tr>
</tbody>
</table>

* The figures shown for machinery do not include sales of machinery parts.

The overall business volume increased from $195,922 in 1940 to $676,034 in 1951. This growth made it imperative that Grange Oil add to its plant space to accommodate larger inventories if loss of business to competitors was to be avoided. To meet the challenge
more capital was employed in making expansions to the existing plant and financing new delivery equipment, operating expenses, inventories and accounts receivables. Expenditure on these items became progressively important as business expanded and patrons demanded more and more services. The value of buildings and equipment rose from $10,374 in 1940 to $35,630 in 1951 and total fixed assets from $11,461 to $37,680 during the same period. Total assets showed a rapid growth, rising from about $72,000 in 1941 to just over $460,000 in 1951. Membership increased from the 310 members reported in 1935 to 1755 members in 1951.

Throughout the eleven years business volume grew consistently except for the years 1948 and 1949 when six years of increasing price differential between agricultural and industrial products was interrupted. A three year business recession, with peaks in 1948 and 1951 set in and marked the end of one business cycle and the beginning of another. Grange Oil seems to have experienced the effects of this recession much earlier than is indicated in Figure 1. Peak business activity and recovery periods for the association came in 1947 and 1950 respectively, while the lowest sales volume coincided with the general recession trough in 1949.

The sharp recovery of sales volume observed between the 1949 and 1950 figures could be attributed to the quick surge of economic
Table 6. Grange Oil sales during the 1948/1951 business recession.

<table>
<thead>
<tr>
<th>Year</th>
<th>Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak period</td>
<td></td>
</tr>
<tr>
<td>1947</td>
<td>579,057</td>
</tr>
<tr>
<td>1948</td>
<td>541,577</td>
</tr>
<tr>
<td>Trough</td>
<td></td>
</tr>
<tr>
<td>1949</td>
<td>520,063</td>
</tr>
<tr>
<td>Recovery</td>
<td></td>
</tr>
<tr>
<td>1950</td>
<td>577,015</td>
</tr>
</tbody>
</table>

activity caused by the Korean conflict in 1950. Agricultural prices increased more rapidly than prices paid by farmers to an all time high in 1951. Dollar sales of Grange Oil increased with the surge in agricultural activity to just over $676,000 in 1951.

The upward trend in sales volume (Figure 3) was followed closely by a similar trend in operating expenses. Figure 4 shows that except for the years 1948 to 1950 merchandise cost maintained such a level as to make continuous increases in gross margins possible. It is, however to be noted that an increased squeeze on the gross margins by the more than proportionate increase in operating expenses all but wiped out net margins in 1949 (Figure 5). Looking at the results of operations it was noted that increases in sales did not keep pace with increases in operating expenses. Sales increased at the rate of 19% per year between 1941 and 1951 while expenses increased at the rate of about 28% per year over the same period.
Figure 3. Trend in total sales. 1940 to 1951.

Sales volume
Thousands of dollars

Years

Y = 137.8 + 43.2X
Figure 4. Growth in sales volume and cost of merchandise. 1941 to 1951.

Thousands of dollars

1941  '42  '43  '44  '45  '46  '47  '48  '49  '50  '51

Years

Gross margin
Cost of merchandise
Figure 5. Growth in gross margin and total operating expenses. 1941 to 1951.

Gross margins and operating expenses

Thousands of dollars

- Net margin
- Operating expenses

<table>
<thead>
<tr>
<th>Years</th>
<th>1941</th>
<th>'42</th>
<th>'43</th>
<th>'44</th>
<th>'45</th>
<th>'46</th>
<th>'47</th>
<th>'48</th>
<th>'49</th>
<th>'50</th>
<th>'51</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>50</td>
<td>60</td>
<td>70</td>
<td>80</td>
<td>90</td>
<td>100</td>
<td>110</td>
</tr>
</tbody>
</table>
Sales and expenses were particularly out of line in the years 1942, 1945 and the period 1948 to 1949. In all the four years net margins dropped below those of the preceding years, mainly due to inventory losses caused by petroleum shrinkage, increase in operating expenses and devaluation of old inventories for 1949. A look at the major items of expenditure showed that salaries and wages accounted for over 50% of the total operating expenses in all but one of the eleven years. The observed increase in operating expenses is what was to be expected at a time when the association was expanding its services, increasing its personnel and stepping up its sales promotional campaigns.

Increases in the volume of sales and expenses were accompanied by a steady increase in accounts receivable. In the first eight years, 1941 to 1947, accounts receivable averaged 13.82% of total assets. This average dropped to 7.09% of total assets in the period 1948 to 1951. In spite of the observed decline in the accounts receivable in the last few years of the decade it was noted that the amount of money allowed for bad debts was on the increase, suggesting possible collection difficulties for past-due accounts. On the whole it was noted that accounts receivables, operating expenses, current assets and member equities as percentages of total assets, tended to decline towards the end of the eleven years as business volume increased and more assets were accumulated. This decline
was not for the good of the association in all cases. For instance, it was felt that the declining nature of current assets, where these were mainly made up of inventories and accounts receivable, led to the shortage of working capital, to which the attention of the board of directors was drawn several times. In the attempt to meet its working capital needs, Grange Oil acquired $12,000 in membership loans in 1947. The entire capital structure was revised in 1950 and membership fees raised from one share of common stock at $10, to five shares ($50).

At the end of the eleven years 1941 to 1951, Grange Oil had saved and returned to its patrons about $92,000 in cash, or about $2 for every $100 spent by farmers on cooperative products. Comparatively the average percentage refund fell below half the 1938/1940 average of $4.50 per $100 of sales. The reason is, however, to be found in the longer time period involved and the large addition to assets, the greater proportion of which was member owned throughout the eleven years. Table 7 shows Grange Oil's capital position in 1951.

From Table 7 it will be seen that capital stock and membership equities dropped from 90.1% to 81.8% of the total assets between 1940 and 1951. Considering the large addition to assets over the period, whereby the association employed more capital than could be obtained solely from members, the drop was not unexpected. As will be seen
Table 7. Comparison of Grange Oil financial condition 1940 and 1951.

<table>
<thead>
<tr>
<th></th>
<th>1940</th>
<th>1951</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total assets</td>
<td>52,820</td>
<td>460,250</td>
</tr>
<tr>
<td>Investments in other Co-op.</td>
<td>14,400</td>
<td>244,730</td>
</tr>
<tr>
<td>Fixed assets</td>
<td>11,460</td>
<td>37,680</td>
</tr>
<tr>
<td>Current assets</td>
<td>26,960</td>
<td>177,840</td>
</tr>
<tr>
<td>Inventories</td>
<td>17,260</td>
<td>116,920</td>
</tr>
<tr>
<td>Working capital*</td>
<td>21,720</td>
<td>94,170</td>
</tr>
<tr>
<td>Inventories accounts receivable</td>
<td>21,520</td>
<td>141,490</td>
</tr>
<tr>
<td>Volume of sales</td>
<td>195,920</td>
<td>676,030</td>
</tr>
<tr>
<td>Member equities**</td>
<td>90.1</td>
<td>81.8</td>
</tr>
<tr>
<td>Patronage refund per $100 sales</td>
<td>4.50</td>
<td>2.00</td>
</tr>
</tbody>
</table>

* Working capital is given by Current assets less Current liabilities.

** Percent of total capital contributed by members.

Later the downward trend in member equities continued into the 1952 to 1961 period, when a new building program was adopted and outside funds sought to finance new facilities.

At the end of 1951, Grange Oil Company had $94,170 of working capital (Table 7), as against $141,490 of inventories and accounts receivable. This means that the association moved into the third phase of its development with a shortage of working capital. It was imperative then that the company find some means of raising outside funds to finance receivables and inventories for at least the first half of 1952, if continued growth was to be sustained. Apart from this feature, the company was in a relatively strong financial position in
Phase III-1952 to 1961—Business Expansion

The entire second phase of Grange Oil development, except for the short recession period between 1948 and 1951 was characterized by steadily rising agricultural prices. The inflationary pressures associated with the Korean War in 1950, pushed the agricultural price index from the recession low of 250 in 1949 to the all time high of 302 in 1951. After the Korean crisis, agricultural prices tapered off and finally dropped below the prices paid by farmers by the end of 1952. At this juncture, a decade of prosperity for agriculture was over. The industry entered an era of soaring Government price supports and high capital requirements.

From 1951 to 1961 farmers faced difficult transition problems. Unlike in the previous decade they had to operate under conditions in which they paid more and more for the things which they bought, while the prices they received were slowly declining. Improvements in farm technology however, made it profitable for many farmers to substitute machinery for labor while at the same time they tried to increase the acreage they operated by either purchasing or renting additional land. The trend has therefore been towards fewer but
larger sized farms. There was a growing realization over the
decade that farmers could best beat the worsening price-cost squeeze
by enlarging their scale of operations through greater use of commer-
cial fertilizers and other non-farm produced inputs. It was not sur-
prising, therefore, to note that while farm prices decreased 20 per-
cent and prices paid increased 5 percent, farm output continued to rise.

For Grange Oil Company, this trend of events presented one
major challenge, that of finding and securing the capital necessary
for financing a more adequate physical plant, modernizing office oper-
ations to facilitate the handling of a larger business volume, expan-
ding services to meet greater patron demand and for securing the
necessary inventory. In addition more funds were needed for sales
promotion purposes, for financing accounts receivable and for
absorbing delinquent accounts. Expenditure on these items grew in
magnitude as competition and farmers' payment problems increased.

The decade opened with attempts to find a solution to the working
capital shortage mentioned earlier. A total of $50,000 worth of
class A preferred stock was placed on the market in 1952 to raise
the money needed for the purchase of new delivery trucks,

The total number of farms in Linn and Benton Counties was found
to have declined between 1954 and 1959.
Number of farms in 1959 --- 3434. Acreage 214,342.
construction of new facilities and for meeting increasing operating expenses. The rising prices, coupled with increasing competition mainly in the petroleum department, induced the association to further raise its membership stock from five to 20 shares of common stock ($200) and to intensify sales promotion efforts in 1953. The result of these efforts was an increase in dollar volume of sales in 1953 and a reduction of expenses per dollar of sales from 10.3 cents in 1952 to 9.9 cents in 1953. A short business recession from the second half of 1953 to the end of 1955 whittled further efforts to increase sales. As a result Grange Oil Company did about $31,000 less business in 1954 than in 1953. At the same time expenses per dollar of sales increased to 11.5 cents.

Figure 6 shows that sales increased at a much greater rate in Phase III than in Phase II. After the 1955 business recovery, sales rose rapidly from $834,470 in 1955 to $1,022,620 in 1956 and to $1,297,850 in 1958. As can be seen, there was a sharp decline in sales in 1959 which was followed by a sharp rise in 1960. This, for reasons to be pointed out later, dropped to $1,426,170 in 1961.

The very large increase in sales on the average from 1955 to 1961 was attributed to the various sales promotion schemes employed by Grange Oil during this period to meet mounting competition. In 1956 the association instituted a neighbor to neighbor sales promotion
Figure 6. Trend in total sales. 1952 to 1961.

Sales volume
Thousands of dollars

\[ Y = 640 + 80.34 X \]
and adopted a sales at cost policy for dry fertilizers. Cash discounts for bulk purchase of regular gasoline were introduced in 1957 for those who provided bulk storage facilities on their farms, and paid their accounts regularly.

Considering the fact that petroleum products provided about 50 percent of the total volume of sales, the discount plan had some plausible advantages for the association, but definite benefits to those patrons who fulfilled its requirements. While giving impetus to the provision of larger storage facilities on the farms, the plan provided farmers with the opportunity to save 1¢ per gallon on purchases of 200 to 399 gallons of gasoline and 1 1/2¢ per gallon for purchases of 400 or more gallons. The advantages seen in this plan were twofold. Firstly, larger storage on the farms meant fewer delivery trips and therefore lower costs and higher margins for petroleum products. Secondly, by rewarding those who cleared their accounts regularly and on time the association sought to keep accounts receivable and the expenses attached to them low.

Discounts in business, if adopted as a general policy, are tantamount to price cutting. Therefore, Grange Oil might as well have expected competing firms to retaliate by offering similar or better

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The program involved the appointment of Captains and Lieutenants. These were employed to conduct house to house visits and talk to prospective Grange Oil patrons.
discounts to petroleum buyers. Being better financed or backed by stronger organizations, local oil companies and service stations were in a position to offer more attractive discounts and, therefore to share in the Grange Oil-induced higher storage capacity on the farms. That Grange Oil business was captured in this way was shown by steadily declining petroleum sales from 1956 to 1961. Competition from the local service stations and petroleum companies was at its highest in the later part of the decade. It was noted that the price war that ensued resulted in price reductions of up to 10¢ per gallon of gasoline in 1961. Consequent to these events, Grange Oil Company sold 163,429 gallons less gasoline in 1961 than in 1960 and spent $28,900 on petroleum discounts. The combined effect of price reductions and loss of sales volume in gasoline was the cause of the decrease in dollar volume of sales in 1961. Contributing to this problem was the 1960 to 1961 business recession.

Intensive sales promotion in Phase III came as a normal reaction against the generally rising inventory prices and operating expenses from 1952 to 1961. The progressively larger volume of sales handled during the 10 year period through 1959, contributed to the most stable per dollar expenses on record. In spite of increasing volume of business however, expenses per dollar of sales shifted steadily upwards along with the general price trend in the national economy. During the 10 year period expenses increased
from 10.2 cents per dollar of sales in 1950 to 11.3 cents in 1959, an increase of 10.7 percent. This increase though normal, tended to create undue alarm in Grange Oil and to give more emphasis on sales.

Under the price-cost squeeze of the past 10 years, no co-operative could have hoped to eliminate the upward trend in expenses by simply concentrating on sales volume alone. Increased sales could not by themselves be expected to insure successful operations. While putting more accounts in the books, increased sales necessitate a larger inventory and a much wider range of goods. Eagerness to keep inventories moving, especially in the face of competitive pressures and generally narrowing margins, eventually leads to relaxations in credit terms and a build up of accounts receivable. Under these circumstances high prices tie up considerable capital in inventory and accounts receivable. Furthermore considerably more funds are needed to carry the same units of inventory and receivables. Larger sales should, therefore, be looked upon as a means to an end, the end being to spread fixed expenses over more sales dollars, and to afford the management ample opportunity for analyzing and checking on those expenses that easily get out of line with sales. A cooperative with several years of business experience

Fixed expenses include: taxes, depreciation charges, insurance, etc.
behind it, should have ample data from which to draw.

Of the 28 years of Grange Oil Company operations considered in this study, the 10 year period from 1950 to 1959 was the most successful. A comparison of Table 8-1 and Table 8-2, shows Grange Oil made more savings and paid out more refunds in Phase III than in Phase II. Dollar value of fixed assets increased eight times as compared to a three times increase from 1940 to 1949. In physical terms the association added to its assets the landed property on which business is currently located. A fertilizer warehouse and a rail siding to it were built and two liquid fertilizer tanks, initially constructed by Pacific Supply were purchased. In addition considerable capital was invested in liquid fertilizer application equipment for renting to members and rendering custom service to farmers. At a later stage, it will be shown that capital gains in Phase II were much less than the direct dollar comparison of the two phases would tend to indicate.

/10 Business premises are at the intersection of U.S. Highway 99 E, Southern Pacific Railroad and Oregon U.S. route 34 East, about 9 miles East of Corvallis.
Table 8-1. Grange Oil savings, assets and cash refunds 1940 to 1949.

<table>
<thead>
<tr>
<th>Year</th>
<th>Net operating margin</th>
<th>Earnings available for distribution</th>
<th>Cash refunds</th>
<th>Fixed assets</th>
<th>Total assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1940</td>
<td>10,440</td>
<td>17,380</td>
<td>7,420</td>
<td>11,460</td>
<td>52,820</td>
</tr>
<tr>
<td>1941</td>
<td>16,430</td>
<td>23,520</td>
<td>8,670</td>
<td>13,920</td>
<td>71,790</td>
</tr>
<tr>
<td>1942</td>
<td>14,890</td>
<td>14,400</td>
<td>9,930</td>
<td>8,690</td>
<td>74,350</td>
</tr>
<tr>
<td>1943</td>
<td>25,010</td>
<td>25,920</td>
<td>36,700</td>
<td>6,820</td>
<td>107,710</td>
</tr>
<tr>
<td>1944</td>
<td>20,350</td>
<td>21,150</td>
<td>3,400</td>
<td>5,970</td>
<td>120,590</td>
</tr>
<tr>
<td>1945</td>
<td>14,290</td>
<td>17,150</td>
<td>6,660</td>
<td>14,190</td>
<td>135,130</td>
</tr>
<tr>
<td>1946*</td>
<td>6,900</td>
<td>8,800</td>
<td>---</td>
<td>26,780</td>
<td>223,200</td>
</tr>
<tr>
<td>1947</td>
<td>32,360</td>
<td>36,400</td>
<td>110</td>
<td>42,180</td>
<td>284,060</td>
</tr>
<tr>
<td>1948</td>
<td>7,190</td>
<td>8,580</td>
<td>15,910</td>
<td>44,300</td>
<td>327,470</td>
</tr>
<tr>
<td>1949</td>
<td>330</td>
<td>3,350</td>
<td>4,110</td>
<td>35,390</td>
<td>351,830</td>
</tr>
</tbody>
</table>

* 1946 figures covered only five months.

Table 8-2. Grange Oil Company savings, assets and cash refunds 1950 to 1959.

<table>
<thead>
<tr>
<th>Year</th>
<th>Net operating margin*</th>
<th>Earnings available for distribution</th>
<th>Cash refunds</th>
<th>Fixed assets</th>
<th>Total assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td>20,430</td>
<td>22,930</td>
<td>---</td>
<td>29,840</td>
<td>396,230</td>
</tr>
<tr>
<td>1951</td>
<td>34,950</td>
<td>35,440</td>
<td>20,360</td>
<td>37,680</td>
<td>460,250</td>
</tr>
<tr>
<td>1952</td>
<td>41,820</td>
<td>37,260</td>
<td>28,180</td>
<td>37,560</td>
<td>465,690</td>
</tr>
<tr>
<td>1953</td>
<td>43,130</td>
<td>34,790</td>
<td>37,120</td>
<td>44,910</td>
<td>484,860</td>
</tr>
<tr>
<td>1954</td>
<td>17,250</td>
<td>11,850</td>
<td>32,370</td>
<td>59,200</td>
<td>488,700</td>
</tr>
<tr>
<td>1955</td>
<td>29,730</td>
<td>23,090</td>
<td>12,310</td>
<td>65,450</td>
<td>505,610</td>
</tr>
<tr>
<td>1956</td>
<td>32,240</td>
<td>39,790</td>
<td>18,620</td>
<td>83,450</td>
<td>523,250</td>
</tr>
<tr>
<td>1957</td>
<td>46,920</td>
<td>35,770</td>
<td>18,070</td>
<td>93,980</td>
<td>571,660</td>
</tr>
<tr>
<td>1958</td>
<td>42,480</td>
<td>35,160</td>
<td>11,130</td>
<td>115,330</td>
<td>611,570</td>
</tr>
<tr>
<td>1959**</td>
<td>61,990</td>
<td>57,090</td>
<td>12,130</td>
<td>244,010</td>
<td>828,180</td>
</tr>
</tbody>
</table>

* Net operating margins apply to Tangent operations only. Earnings available for distribution are obtained by adding or subtracting other co-operative income to net operating margins. Cash refunds have taken into account earnings from 'Pacific Supply'.

** 1959 figures for ten months.
Facility expansion

In 1958, Grange Oil's business reached a point where the long pressing need for modernized plant facilities could not be deferred any longer. A committee was set up in that year to investigate and report on the need for a building program to provide a new store, office space and shop, truck storage sheds and bulk petroleum storage tanks. In a report to the general membership in February 1959 the committee warned against the new building as envisaged. It was recommended that the association continue selling in the existing facilities, and to build new ones as money became available. Considering the high building and capital costs during the period, and the general price situation in agriculture, there was much to recommend "a building as you go plan". Nevertheless the board of directors and members approved the new plant plans. Construction was completed in 1959 at a cost to the association of $200,000 in buildings and equipment. Of the $200,000 expended, $125,000 came from the Spokane Bank for Cooperatives, as a first mortgage on all the buildings and equipment. The balance was mainly raised by sale of preferred stock. Business opened in the new Grange Oil facilities in December 1959.

On the strength of two years of operations and the views of the management, it was felt that the new plant has been running at far
less than full capacity. The overhead costs involved were such that in spite of a substantial increase in business volume in 1960/11, expenses per dollar of assets jumped from 15.6 cents in 1959 to 20.6 cents in 1960. During the same period expenses per dollar of sales rose from 11.3 cents to 15.5 cents. The association showed a net operating loss of $2,900 in 1960. Volume of sales declined from $1,509,621 in 1960 to $1,426,167 in 1961. Expenses per dollar of sales and assets increased to 20.5 cents and 25.5 cents respectively. Unlike in 1960 Grange Oil made an operating loss of $56,800 in 1961. Petroleum discounts accounted for $28,900 of the loss.

The years 1960 and 1961 were the most difficult for Grange Oil Company. After going through 26 years without any net operating loss, the association lost enough in two years, to give an average loss of over $2,000 per year to the 28 years of its life. The sudden increase in expenses from 1959 to 1961 shows that the new Grange Oil plant was the direct cause of the situation. In arriving at what they considered to be 'the present and future plant needs' of Grange Oil Company, the board of directors seems to have been guided to a great extent by expense-volume relationship potentials, rather than general economic trends and the size of the market. The result of this was a larger plant size than was otherwise justified, at 1960 volume of sales was the highest on record.
least in the short run. Apparently the planners looked too far into
the future. Attempts to increase business volume in 1960 and 1961,
met a depressed market and unusually strong competition. Sales,
therefore, failed to reach a level capable of taking care of the excess
plant capacity, thereby causing the observed sharp increase in expen-
ses. Other expenses more than tripled between 1959 and 1961.
Salaries more than doubled during the same period as more personnel
were engaged to handle the increased business.

The present Grange Oil personnel\textsuperscript{12} and facilities could cope
with a business volume substantially higher than the $1.5 million
done in 1960. Assuming 1961 inventory prices and the same volume
of expenses, the association will have to do a business volume of
$1.8 million in 1962 to bearly break even and thus reduce expenses
per dollar of sales to 16\text{¢}. The management, however, estimates a
volume of $1.5 million. Some operating loss, though not as large as
was sustained in 1961 is also expected for the 1962 operations. Under
present business trends, it is highly unlikely that expenses could be

\textsuperscript{12} In 1960 Grange Oil Company had 28 permanent employees. This
number has since been reduced to 22. Additional help is usually
needed on temporary basis during the busy summer months.

A reduction of personnel below the present 22 is not considered
possible. It is, however, felt that further mechanization in the
accounting department might be necessary in the next five years.
This will necessarily reduce the office personnel.
forced back to the 1959 level. The management will, therefore, have to investigate how far volume could be increased without substantially increasing expenses. It is felt that further mechanization in the accounting department might be worth considering. Greater savings could be secured in the long run, through the elimination of slow but expensive hand labor.

In spite of the losses sustained in 1960 and 1961, it will be seen that Grange Oil Company made greater capital gains in Phase III than in Phase II. Between 1951 and 1961 total assets and volume of sales more than doubled while fixed assets increased eight times (Table 9). The association on the other hand acquired a long term liability of nearly $170,000 to meet its building and operating expenditure in the later part of Phase III. Although this liability was apparently reduced by more than 50 percent in 1961, it was noted that members owned less than half of their business in 1961.

On the basis of 8 years of operation, members received $2.16 cash refunds for every $100 they spent on Grange Oil products. When the loss of $58,800 in 1960 and 1961 is prorated back to the patrons, however, the average cash refund for the decade falls below one percent.

<table>
<thead>
<tr>
<th></th>
<th>1951</th>
<th>1961</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total assets</td>
<td>460,250</td>
<td>1,148,530</td>
</tr>
<tr>
<td>Investments in other cooperatives</td>
<td>244,730</td>
<td>297,460</td>
</tr>
<tr>
<td>Fixed assets</td>
<td>37,680</td>
<td>304,150</td>
</tr>
<tr>
<td>Current assets</td>
<td>177,840</td>
<td>546,920</td>
</tr>
<tr>
<td>End of year inventory</td>
<td>116,920</td>
<td>317,560</td>
</tr>
<tr>
<td>Total inventory for the year*</td>
<td>688,140</td>
<td>1,512,500</td>
</tr>
<tr>
<td>Working capital</td>
<td>94,170</td>
<td>38,140</td>
</tr>
<tr>
<td>Ending inventory accounts receivable</td>
<td>141,490</td>
<td>542,603</td>
</tr>
<tr>
<td>Volume of sales</td>
<td>676,030</td>
<td>1,426,170</td>
</tr>
<tr>
<td>Member equities, as % of total assets</td>
<td>81.8</td>
<td>48.5</td>
</tr>
<tr>
<td>Cash refunds per $100 sales</td>
<td>2.0</td>
<td>2.2**</td>
</tr>
</tbody>
</table>

* Total inventory for the whole year was obtained roughly by adding ending inventory to the cost of goods sold during the year.

** Average cash refund for 8 years.

Business growth: How much is real?

Throughout this study, business growth and capital gains have been considered in terms of their dollar values. Intra-phase comparisons have throughout assumed a constant purchasing power dollar from 1934 through 1961. It is, however to be noted that the purchasing power of the dollar declined 55 percent from 1934 to 1961. This means that consumers used nearly twice as many
dollars in 1961 to buy the same goods and services as they bought in 1934\(^{13}\). In other words, Grange Oil Company gained much less in real goods than the dollar volume of sales and assets would tend to indicate.

Dollar volume of business and assets indicate measures of the actual growth of Grange Oil Company over the last 28 years. To test this hypothesis, regression analysis was carried out between the index of the purchasing power of the dollar and dollar volume of sales. A linear relationship between the two variables was obtained for both Phase II and Phase III of the Company's development (Figure 7). It was found that 94 percent of the variations in dollar volume of sales in Phase II and 91 percent in Phase III were explainable by this relationship alone. The high correlation coefficients obtained \(r = 0.97\) and \(0.95\), respectively\(^{14}\), show that the decline in the purchasing power of the dollar had considerable influence on the year to year business variations.

The regression of sales dollars on the purchasing power index of the dollar in Phase II, gave a regression coefficient ten times higher \((b = -0.146)\) than that obtained by similar means in Phase III \((b = -0.0139)\). This shows that the rate of change in the

\(^{13}\) **Statement assumes that technological improvement on goods bought had no effect on the prices.**

\(^{14}\) **Correlation coefficients were found to be highly significant at 1 percent level.**
Figure 7. Relationship of volume of sales and the purchasing power of the dollar Grange Oil Company 1941 to 1960.
purchasing power of the dollar and hence its influence on the dollar volume of sales and assets was much greater in Phase II than in Phase III (Table 10). Therefore, direct inter-phase and intra-phase dollar comparison credits Grange Oil Company with gains that had no real significance in terms of goods or services. In other words dollar gains do not reflect the actual physical growth of the association.

The curvilinear relationship obtained between sales dollars and the index of the purchasing power of the dollar (Figure 6), shows that the dollar volume of business was inversely proportional to the purchasing power of the dollar. Therefore, knowing the amount of change in the value of the dollar over a given period, we can estimate how much of the observed business volume had real physical value (Table 10). The percentages shown in Table 10 (column 3) are still only estimates because they assume constant purchasing power dollars for the three Phases and the 24-year period from 1938 to 1961. Since the purchasing power of the dollar declined year after year from 1934 through 1961, year to year dollar adjustments would have to be made if more accurate comparison of developments between and within phases was necessary.
Table 10. Percentage change in the purchasing power of the dollar in the different Phases of Grange Oil development.

<table>
<thead>
<tr>
<th>Phase</th>
<th>% change in purchasing power</th>
<th>% total sales dollars creditable to Grange Oil</th>
<th>Total sales handled ($1,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I 1932-1940</td>
<td>4.5</td>
<td>95.7</td>
<td>507*</td>
</tr>
<tr>
<td>II 1941-1951</td>
<td>46</td>
<td>68.5</td>
<td>4,827</td>
</tr>
<tr>
<td>III 1951-1961</td>
<td>13</td>
<td>88.5</td>
<td>10,066</td>
</tr>
<tr>
<td>1938-1961</td>
<td>53</td>
<td>65.3</td>
<td>17,062</td>
</tr>
</tbody>
</table>

* Represents total volume of sales dollars from 1938 to 1940. Percent total sales dollars creditable to Grange Oil Company was calculated thus: 1938 to 1940

\[
\frac{100}{104.5} = 0.957 \times 100 = 95.7.
\]
BUSINESS PROBLEMS IN PHASE II AND III

In Phase I, Grange Oil Company's problems were chiefly organizational problems; how to get more members or how to raise the needed capital. No sooner were these problems over than practical business problems took over their place. As business expanded from Phase I through Phase II, inventory shrinkage, accounts receivable and shortage of working capital became a source of constant concern. In addition to these factors, competition in the later part of Phase III, hit the association so hard as to cause it a considerable financial loss.

1. **Inventory shrinkage.** Specifically this involved the petroleum department. At the end of each accounting period, volume losses in gasoline were found which could not be accounted for in either sales or ending inventory. A solution to this problem has not yet been found. The measurement methods employed to determine volume of gasoline in bulk tanks leave much to be desired. It was learned that some form of a calibrated metal tape is used to determine the level of gasoline in tanks. The inaccuracy of such methods leave a feeling that much of the indicated volume loss is merely paper loss. Some volume loss, particularly from bulk delivery trucks is inevitable because it is not possible to have tanks full all the time during a routine trip. This loss however, need not be as large as has often been indicated.
2. **Shortage of working capital.** Grange Oil Company was generally short on working capital in both Phase II and III. The shortage was particularly acute during the high business months in Spring and early Summer. It was learned that the association leaned heavily on short term bank financing of operating capital during this period. Apparently this situation was perpetuated by persistent payment of all Grange Oil earnings as cash refunds from 1950.

3. **Accounts receivable.** Accounts receivable grew with the growth in business. In spite of the favorable price-cost situation in agriculture throughout Phase II, past-due accounts tended to increase steadily from 1941 to 1951. In Phase III the situation went from bad to worse. The rapid decline in agricultural prices in the face of rising non-farm prices, made it more difficult for farmers to meet their credit obligations on time. As a result 40 percent of the total accounts receivable in 1958 was more than 6 months past-due. Through tightened credit extension and collection procedure, the receivable situation has been improving since 1959. In 1961 only 7 percent of these accounts was more than 6 months past-due.
4. **Competition.** Grange Oil Company's chief competitors were locally based oil companies and local service stations. Competition from these non-farm businesses was particularly strong in Phase III. On the cooperative front, Western Farmers' Association/2 was a notable competitor. Feelings within Grange Oil Company were that the aggressiveness of Western Farmers' was generally harmful to Oregon cooperatives. Assuming that Western Farmers' Association has as much right to do business in Oregon as Pacific Supply has in Washington, it will be upon Pacific Supply Cooperatives' affiliated locals to reappraise their business methods, if they find themselves losing business to Western Farmers'. It was learned that suggestions to merge the two regional cooperatives have come up, but met with cold reception from executives on both sides who fear losing their jobs. Even without loss of jobs to consider, it is highly doubtful that such a merger would be economically desirable.

/2 Western Farmers' is a State of Washington Cooperative based in Seattle. It now does business in both Washington and Oregon.
ACTIVITIES AND SERVICES

Back in 1934, the founders of Grange Oil Company had as their basic objective the promotion of a 'Cooperative Oil Business'. Twenty-eight years later in 1961 the association had the following departments:

1. A petroleum department,
2. Fertilizer and farm chemicals,
3. Farm machinery department
4. A lime department.

Through these departments Grange Oil Company handles a complete line of petroleum products, a wide selection of dry and liquid fertilizers, farm machinery, machinery parts, building materials, a selection of household hardware goods and miscellaneous supplies of equipment, farm chemicals and sprays.

Services to Members

Member and customer satisfaction is the long run goal for Grange Oil Company. Pursuant to this goal, Grange Oil was performing the following services by 1961:

1. Bulk delivery of petroleum products and fertilizers direct to the farms.

2. Custom repairing of farmers' machinery and equipment in the association's modern shop at Tangent.
3. Custom spraying, lime spreading and liquid fertilizer application on member and customer farms.

In addition, the association runs a machinery rental service and an automobile service station.

The services offered have been valuable to members. Custom services in liquid fertilizer and lime are particularly noteworthy. These involve such a heavy capital investment in fertilizer applicators and lime spreading trucks as to be beyond the means of the average farmer. Cooperative ownership of this equipment has brought an invaluable service within the reach of all members. In addition members are assured of an efficient and uniform service through specifically trained field staff.
TRENDS AND PROGRESS IN FINANCIAL OPERATIONS

1. Assets. In 1938, after only three years of operations, Grange Oil accumulated total assets to the value of $32,800 (Figure 7). In 1940 total assets were valued at $52,800, an increase of 61 percent in three years. From 1940 on, total assets increased by 64 percent per year to $460,250 in 1951 and by 13.6 percent per year to $1,148,500 in 1961. With dollar volume of sales increasing during the same period, it is clear that Grange Oil needed more capital in the third than in the second phase of its development.

Table 11. Percentage increase in Grange Oil assets and sales during the various periods of the company’s development.

<table>
<thead>
<tr>
<th>Period</th>
<th>% Increase total assets</th>
<th>% Increase sales volume</th>
<th>% Increase fixed assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1938 to 1940</td>
<td>61</td>
<td>36.6</td>
<td>30.7</td>
</tr>
<tr>
<td>1940 to 1951</td>
<td>771</td>
<td>245</td>
<td>227.8</td>
</tr>
<tr>
<td>1951 to 1961</td>
<td>149.6</td>
<td>111</td>
<td>706.6</td>
</tr>
</tbody>
</table>

Figure 8 shows dollar volume of fixed assets increased from $9,000 in 1938 to $38,000 in 1951 and to $304,000 in 1961. The observed increase would tend to suggest there was considerable improvement in buildings, and equipment especially from 1940 to 1951.

Grange Oil Company started in 1934. No authentic financial records were available for the years 1934 to 1937.
Figure 8. Trend in assets for Grange Oil Company, 1940 to 1961.
This would not be strictly true. Hand in hand with the war and post war decline in the purchasing power of the dollar, was a considerable increase in the general price level. This resulted in substantial dollar gains in fixed assets which did not necessarily reflect the actual physical gains. Some of the changes that appear to have taken place in the total assets, volume of sales and fixed assets especially from 1940 to 1951, were a result of the price inflation that followed the outbreak of World War II and the years immediately after. Improvements in fixed assets were made during the periods shown but not to the extent indicated in Table 11.

The change in fixed and total assets from 1951 to 1961 approximated the actual physical change that occurred more closely than did that change in the 1940 to 1951 period. The rate of change in prices slowed down after 1951. Consequently the value of the association's assets was less influenced by price movements in Phase III. As Figure 8 shows Grange Oil rapidly added to its assets from 1946. The sharp rise noted from 1958 to 1961 resulted from the provision of the new physical plant and equipment.

2. Accounts Receivable. As business expanded Grange Oil Company needed additional capital to handle accounts receivable and the generally larger inventories. Accounts receivable grew to alarming proportions during the 24-year period from 1938 to 1961. These accounts would normally be expected to increase as volume
increased, but not to the extent observed for the association. The relative rate of increase in accounts receivable greatly outstripped the rate of increase in sales, for both 1940 to 1951 and 1951 to 1961 periods.

Table 12. Percentage increase in accounts receivable, inventories and sales in various periods of Grange Oil development.

<table>
<thead>
<tr>
<th>Period</th>
<th>% increase accounts receivable</th>
<th>% increase year end inventory</th>
<th>% increase total inventory*</th>
<th>% increase total sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>1938 to 1940</td>
<td>39</td>
<td>61.7</td>
<td>40</td>
<td>36.6</td>
</tr>
<tr>
<td>1940 to 1951</td>
<td>472</td>
<td>575.7</td>
<td>269</td>
<td>245.0</td>
</tr>
<tr>
<td>1951 to 1961</td>
<td>814.6</td>
<td>171.6</td>
<td>119.8</td>
<td>111.0</td>
</tr>
</tbody>
</table>

* Total inventory was taken as value of ending inventory plus the cost of the goods sold during the year.

From Figure 9 it can be seen that an average of 45 percent of the total credit extended to members from 1952 to 1960 was sixty or more days overdue. The management and the board of directors recognized the problem posed by growing accounts receivable and instituted an interest charge of 6 percent on all past-due accounts from 1948. An interest rate of 8 percent has been in operation since 1957. In spite of the attempts made to control accounts receivable, the situation deteriorated to a point where 40 percent of the credit due the association in 1958 was over six months overdue. Since credit terms were 30 days cash or 40 days interest-free period, it would appear Grange Oil had either relaxed its credit policy or was meeting
Figure 9. Percentage of total accounts receivable in different age categories. 1950-1961.
increasingly greater collection difficulties or both. That the association was confronted with the two problems, can be explained in terms of the price-cost squeeze of the last decade and the relatively severe recession in 1958. Farmers tended to transfer their financial difficulties to their co-operatives.

Credit is a service for which a service charge is normally made. Since cooperatives make no charge for this service, close credit control becomes very important. Credit collection programs have to be vigorously enforced and over-liberalism in credit extension avoided. The role of credit as a sales aid in supply cooperatives however can hardly be over-emphasized, especially during periods of extreme competition. It is, however well to note that the sources of the money that makes for reasonably cheap credit are limited. Consequently today's costs of borrowing additional capital can be very expensive.

Twenty-eight years of operations have enabled Grange Oil Company to develop a fine system of bookkeeping. The existing credit policy was considered capable of keeping accounts receivable under control. To do this, however, it will have to be applied with more vigor. It will be necessary to tighten credit sales to patrons with over-due accounts, if the improving receivable position since 1959 is to be maintained.
3. **Inventory.** A positive relationship was maintained between end of year inventory and sales volume throughout the 24 years ending 1961. Total inventory as well as end of year inventory increased as the volume of sales increased, but at a much greater rate than sales. The influence the rapid rise in inventory had on accounts receivable is important. As pointed out earlier Grange Oil was engaged in an intensive sales promotion program from 1952 to 1961. During this period total inventory increased 119%, end of year inventory increased 171%, accounts receivable 814% and sales increased only 111%. Statistically it was found that 67% of the variations in accounts receivable could be explained by correlating receivables with inventory.\(^2\) This strengthens an earlier argument that credit terms were relaxed in the last decade to keep the increased inventory moving. Hence, the observed build-up of over-due accounts from 1952 to 1960.

Inventory management has improved greatly over the last ten years. The management has constantly made efforts to weed out slow moving inventory and to stock items that make for more efficient service to patrons. It should, however, be noted that the proportion of old and new machinery in the end of year inventories has grown in

\(^2\) A correlation coefficient (r) of 0.82 was found to be significant at one percent level. No correlation could be established for similar relationship during Phase II.
recent years. In 1960, 52 percent of $360,425 worth of ending inventory was machinery and machinery parts.

4. **Investments.** Grange Oil Company's investment in the regional supply co-operative (Pacific Co-operatives), constituted a major portion of its total assets. As shown earlier this amounted to nearly 50 percent of total assets from 1948 to 1958 and 25 percent from 1959 to 1961. Together with other local supply cooperatives in the Pacific Northwest, Grange Oil Company jointly owns and is affiliated with 'Pacific Supply Cooperatives'. That part of the regional cooperative assets which is credited to the account of each retail cooperative becomes its investment in the regional organization. Retail cooperatives build such investments through patronage refunds retained in the form of book credits rather than direct cash outlays. Net margins of the wholesale association accrue to the account of the retail cooperatives. That portion not paid in cash each year goes to finance the wholesale organization as an investment from its retail branches. The book credits thus accumulated are paid to the retail associations on a revolving fund plan.

Affiliation to Pacific Supply was and continues to be of benefit to Grange Oil Company. Through the regional, Grange Oil obtains its major supplies of petroleum products, fertilizers and farm chemicals. Relieved of regional procurement problems, the association is left to devote more time to local retail problems. During the 22-year
period from 1938 to 1959, Grange Oil made more savings in Pacific Supply than in the local Tangent operations. Consequently Pacific earnings boosted the annual cash refunds paid to local patrons.

5. Working capital and member equities. In all but 8 of the 21 years from 1941 to 1961, Grange Oil was consistently short of working capital. In thirteen of the years, the association ended with an average of $2.24 below the capital necessary to match the sum total of inventory and accounts receivable dollar for dollar, with working capital on hand (Figure 10).\(^3\) By implication, therefore, Grange Oil Company was constantly under pressure to seek outside funds or sell stock to raise the money needed for financing new inventory, accounts receivable and operating expenses. From what Figure 10 shows, external financing was imperative for at least the first part of each of the thirteen years. The management confirmed there was heavy reliance on short term bank credit in March of each year. In spite of this the association insisted on paying nearly all earnings as cash refunds to patrons.

In spite of the foregoing observations, member equities averaged 81 percent of the total assets throughout the 24-year ending 1961 (Figure 12). In effect this means that cash payment to patrons attracted a sufficient volume of business to facilitate repayment of all short term liabilities. Although this would appear to be the conclusion, it must be remembered that member equities included not

\(^3\) Figure 11 is included to make the interpretation of Figure 10 easier.
Figure 10. Condition of working capital, accounts receivable and inventory as a percentage of owned working capital. Grange Oil Company 1941 to 1961.
Figure 11. Relative amounts of accounts receivable, ending inventory and working capital. Grange Oil Company 1941 to 1961.
Figure 12. Member owned equities per $100 of total assets. Grange Oil Company 1938 to 1961.

81% Average
only Grange Oil preferred stock but also allocated Pacific Supply margins and reserves. As preferred stock was owned by members and non-members alike, not all of it reflected member ownership of Tangent assets. On the other hand Pacific Supply reserves represented Grange Oil Company’s share in the assets of that organization and not member ownership of the local association.

Figure 13 shows Pacific Supply reserves made up 8 percent of Grange Oil equity capital. Adjusting for this item, it will be seen that members owned less of the local assets than the records would tend to indicate. Consequently, it is doubtful whether the conclusion that Grange Oil repaid all short term liabilities in Phase III could be valid. The sharp drop in member equities after 1958 resulted from the long term liabilities acquired for new plant facilities and subsequent borrowing for operating capital.

6. Liabilities. Short term liabilities or current accounts owed others by Grange Oil increased enormously in the 24-year period from 1938. Current liabilities amounted to $6,000 in 1938, $84,000 in 1947 and $101,000 in 1957. From 1957 to 1961 current liabilities rose to $509,000, an increase of 5 times in recent years.

Major increases in short term liabilities occurred in earnings and accounts payable. Up to 1950, these accounts were kept under relatively good control. After 1951 however, the association was caught in the price-cost squeeze of the last decade. It became
Figure 13. Grange Oil Company member owned equities per $100 of total assets 1949 to 1961.

- **Common stock and others**
- **Preferred stock**
- **Allocated Pacific Cooperatives' margins**
- **Allocated Pacific Cooperatives' reserves**

<table>
<thead>
<tr>
<th>Year</th>
<th>1949</th>
<th>'50</th>
<th>'51</th>
<th>'52</th>
<th>'53</th>
<th>'54</th>
<th>'55</th>
<th>'56</th>
<th>'57</th>
<th>'58</th>
<th>'59</th>
<th>'60</th>
<th>'61</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
progressively difficult for patrons to meet their credit obligations on time. Continued shortage of working capital necessitated more and more dependence on the financing facilities of the regional supply cooperative and the local banks. It is to be noted that notes payable increased from $5,000 in 1956 to $206,000 in 1961. The figures shown in no way measure the peak borrowings of Grange Oil Company since they do not take into consideration seasonal credit demands. Seasonal borrowings were only recorded if they happened to be outstanding at the close of the accounting year.

Long term liabilities were relatively unimportant for Grange Oil. The association borrowed $125,000 from Spokane Bank for Cooperatives when building the new physical plant in 1959. In so doing it mortgaged the whole plant and equipment. Over 50% of this loan has now been repaid.

7. Expenses per dollar of sales and assets. Figure 14a shows expenses per dollar of sales increased 50 percent from 1940 to 1949, an increase of 5 percent per year. This was mainly due to inadequate sales volume and progressively higher payroll expenses. The favorable war and post-war agricultural situation enabled the association to expand both its sales and assets and to do business at an average cost of 10.2 cents per dollar of sales during the 10-year
Figure 14. Expenses per dollar of sales and assets. Grange Oil Company 1940 - 1961.

(b) ——— Cents per dollar of assets
(a) ——— Cents per dollar of sales
Expenses per dollar of assets dropped from 30.8 cents in 1940 to 18.5 cents in 1949.

After 1950 Grange Oil Company resorted to sales promotion campaigns with the aim of counteracting increases in inventory and labor expenses. The resulting volume of business made it possible for Grange Oil to do business at an average cost of 10.8 cents per dollar of sales in spite of rising expenses from 1952. This performance was substantially better than the average performance of 27 Oregon farm supply cooperatives studied by Dr. Korzan over the same period. The 13 cooperatives classified large in that study averaged $1,024,000 of sales and 13.1 cents in expenses per dollar of sales. Grange Oil Company on the other hand averaged $913,000 of sales over the 10-year period.

Figure 14b shows that expenses increased more rapidly than assets during the 10 years from 1950. Thus, expenses per dollar of assets increased from 14.8 cents in 1950 to 24.4 cents in 1958, but dropped to 15.6 cents in 1959. The sharp rise in expenses from

The figures used for 1946 were for 5 months

Dr. Korzan; Agricultural Economist, Oregon Agricultural Experiment Station, Oregon State University, Corvallis. The study 'A Decade of Performance by Oregon Farm Supply Cooperatives' appeared as Station Circular of Information 606, February 1961.

The small cooperatives averaged $289,000 of sales and 14.8 cents in expenses per dollar of sales.

1959 expenses were for 10 months only. Expenses in all cases exclude cost of merchandise.
1959 to 1961 resulted from the excessive plant capacity provided in 1959 on the one hand, and increased business expenses on the other.

8. **Net margins per dollar of assets and sales.** Figures 15 and 16 show Grange Oil Company realized higher returns per dollar of sales and invested capital during the 1940 to 1949 decade than in the succeeding ten years. This was attributed to the high farm prices and general prosperity in agriculture during the war years and the years immediately after. The 1951 index of prices received by the farmers remains the highest on record. Net margins per dollar of sales and assets, however, declined drastically from 1940 and all but disappeared in 1949. It is to be noted that while farm prices increased only 5 percent per year, sales and assets increased at the rate of 24 percent and 77 percent annually during the 10 years.

After 1951 farm prices declined every year through 1956. As non-farm prices moved steadily upwards it became necessary to get supplies to farmers at prices comparable to, if not lower than those offered by local competitors. In spite of the changed price-cost relationship and mounting competition, Grange Oil operated very efficiently and maintained reasonably steady net margins for the years 1950 to 1959. High overhead costs arising from excess plant capacity, were responsible for the negative net margins recorded in 1960 and 1961.

\[7\] The net margins considered here refer to margins available for distribution. That is: operating net margin + other income.
Figure 15. Net margins per dollar of sales
Grange Oil Company 1940 to 1961.
Figure 16. Net margins per dollar of assets
Grange Oil Company 1938 to 1961.
FINANCIAL ASPECTS

The Grange Oil Company was developed to the present size on a relatively simple financial structure. Direct and internal financing\(^1\) were used almost exclusively to raise the necessary permanent capital. Up to 1949, the association's capital structure consisted of an authorized capital stock of $25,000, allocated Grange Oil margins and allocated Pacific Supply margins. In 1949, the association had issued only $11,131 worth of Class A common stock. In addition it had $95,093 and $228,483 of allocated Grange Oil and Pacific Supply margins. These funds constituted the entire equity capital (95 percent of the total assets) of the association in 1949.

Pacific Supply was particularly important in the financial structure of Grange Oil Company. Capital retains from cash earnings refunded to Grange Oil by the regional wholesale cooperative constituted 68 percent of the member equities in 1949. In nineteen out of the twenty one years through 1961, Grange Oil Company received more cash refunds from Pacific Supply than was paid to members. The balance was allocated to members and retained in the association for capital purposes.

\(^1\) Direct financing involves the sale of new common stock. Internal financing includes retained earnings and depreciation allowances.
In 1950, the capital structure of Grange Oil Company was re-organized to provide funds needed for working capital and business expansion. The authorized capital of the association was raised from $25,000 to $600,000\textsuperscript{12}. The retained Grange Oil and Pacific Supply margins outstanding in 1949, were converted to the capital stock of the association. In addition, it was provided that revolving earnings from Pacific Supply, would be allocated to patrons in the year of notification by the regional cooperative. It was further provided that after allowing for a reserve fund\textsuperscript{3}, all Tangent earnings would be paid to the patrons in cash within 90 days after the end of the business year. Thus in 1950 the Company's capital structure consisted of:

- Authorized capital stock $600,000
- Issued Class A common stock 61,370
- Issued Class B common stock 2,460
- Issued Class B preferred stock 191,175
- Unissued partly paid stock 18,195
- Allocated reserves 57,070

From 1950 on, capital stock played an increasingly greater role in the financial structure of Grange Oil Company. The association obtained its capital funds from the sale of Class A and Class B common stock. Class A and Class B preferred stock were also

\textsuperscript{12} The $600,000 of capital stock was made up of 51,000 shares. 40,000 shares of Class A common stock par value $10. 5,000 shares of Class B common stock par value $10. 6,000 shares of Class A preferred stock par value $25.

\textsuperscript{3} The board of directors was to decide how much reserve was required.
issued and members and non-members urged to purchase as many shares as possible. Class B preferred stock was abolished in 1953, for State tax exemption reasons.

The rapid business expansion in recent years, necessitated greater investment in equipment and facilities. Rising prices and business expenses pressed hard on the association's working capital. With the high cost of borrowed capital during this period, the sale of capital stock provided the most economical means of raising the needed funds. Capital stock, however, had one major limitation as an immediate source of funds. There was a tendency for members to earn their shares of stock, mainly common stock, by leaving their cash refunds with the association. In the long run member capital was obtained, but short run financial needs had to be financed through bank loans.

The dollar volume of capital stock sold by Grange Oil Company grew steadily through 1961. The capital structure-mix consisted of:

- Issued Class A common stock $184,970
- Issued Class B common stock 8,370
- Issued Class A preferred stock 199,325
- Unissued partly paid stock 19,568
- Grange Oil Company reserve 29,538
- Allocated Pacific Supply margins 124,164

It should be noted that the allocated Pacific Supply margins and common stock have in recent years been more important, as sources of Grange Oil permanent capital than preferred stock. Capital
retains from Pacific Supply earnings, provided the greater part of
Grange Oil member equities in the earlier phases. Since these funds
were non-interest bearing, the association was able to split the
interest paid on preferred stock and to maintain a strong credit
standing with its bankers. The willingness of local banks to extend
open note operating credit to Grange Oil Company, indicated their
confidence in the financial strength, the management and the business
prospects of the association.

Table 13. Dollar volume of capital stock and allocated
Pacific Supply margins as percentages of
member equities.

<table>
<thead>
<tr>
<th>Year</th>
<th>Member equities</th>
<th>Capital stock</th>
<th>% Capital stock</th>
<th>%Allocated Pacific margins</th>
</tr>
</thead>
<tbody>
<tr>
<td>1949</td>
<td>335</td>
<td>11</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>1950</td>
<td>343</td>
<td>273</td>
<td>79.6</td>
<td>14.9</td>
</tr>
<tr>
<td>1951</td>
<td>377</td>
<td>276</td>
<td>73.0</td>
<td>13.0</td>
</tr>
<tr>
<td>1952</td>
<td>410</td>
<td>294</td>
<td>71.7</td>
<td>15.8</td>
</tr>
<tr>
<td>1953</td>
<td>425</td>
<td>294</td>
<td>69.2</td>
<td>16.2</td>
</tr>
<tr>
<td>1954</td>
<td>429</td>
<td>313</td>
<td>73.0</td>
<td>16.8</td>
</tr>
<tr>
<td>1955</td>
<td>446</td>
<td>330</td>
<td>74.0</td>
<td>15.5</td>
</tr>
<tr>
<td>1956</td>
<td>456</td>
<td>323</td>
<td>70.8</td>
<td>15.1</td>
</tr>
<tr>
<td>1957</td>
<td>499</td>
<td>328</td>
<td>65.7</td>
<td>19.0</td>
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<tr>
<td>1958</td>
<td>495</td>
<td>328</td>
<td>66.5</td>
<td>22.6</td>
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<tr>
<td>1959</td>
<td>560</td>
<td>375</td>
<td>67.0</td>
<td>20.0</td>
</tr>
<tr>
<td>1960</td>
<td>613</td>
<td>407</td>
<td>66.4</td>
<td>20.2</td>
</tr>
<tr>
<td>1961</td>
<td>557</td>
<td>412</td>
<td>74.0</td>
<td>22.3</td>
</tr>
</tbody>
</table>
Other Financial Sources

1. Commercial banks. Local commercial banks were a ready source of seasonal operating capital for Grange Oil Company. The association obtained limited facility loans from these banks and financed equipment expansion and member purchases of machinery through them.

2. Spokane bank for cooperatives. In spite of the higher cost of commercial bank credit, Grange Oil Company found it more convenient to finance its short term capital needs through the local banks. Negotiations for loans from the Bank for Cooperatives were lengthy and difficult. Furthermore local banks made credit readily available to Grange Oil with little or no collateral security. The Bank for Cooperatives on the other hand required a mortgage on the association's property. Presently a need exists for cheaper money to relieve Grange Oil Company of part of the current interest load. Such credit could be obtained with the minimum loss of time, if Pacific Supply agreed to act as an intermediary between the Spokane Bank for Cooperatives and the local supply cooperatives. Such an arrangement, however, can hardly be expected to take the place of the local commercial bank as source of emergency operating capital. Grange Oil Company obtained a substantial facility loan from the Bank for Cooperatives in 1959. In 1961 outstanding Spokane notes
were valued at nearly $108,000. This included an operating note of $16,000.

3. **Other cooperatives.** Pacific Cooperatives, the regional affiliate of Grange Oil Company, occasionally financed Grange Oil through merchandise advances. It has already been pointed out that allocated Pacific Supply margins were an important source of Grange Oil capital.

4. **Accounts payable.** Whenever these were over-due, the lenders were in effect forced to finance the association. It was noted that accounts payable as source of capital were more important in Phase III than in Phase II. Between 1954 and 1961, notes payable increased from $5,000 to $400,000, an increase of 80 times in eight years.

5. **Member loans and contingency reserves.** As sources of finance, these were relatively unimportant. In 1957, however, the association created a building reserve based on 25 percent of each year's cash refund to the patrons. The percentage retention was later raised to 50 percent. With the building program completed, the funds of this reserve, about $30,000 in 1961, would be available to meet emergency business reversals.

6. **Machinery and equipment companies.** Machinery was advanced to the association on a flowing plan. Payment was made as sales were closed. Any machinery that remained unsold at the end
Financial Condition Appraised

The high percentage of total assets financed by members, is an indication of the consistency of the association's financial policy. It also indicates there was a strong demand for the services of the association. In other words, members were willing to finance their organization as a necessary cost for the services they obtained. A cooperative that is able to obtain 80 percent of its capital from members, would be considered financially strong. Furthermore, to maintain such a strong financial condition and make substantial cash savings, year after year for 26 years is a real achievement. It is to be noted that Grange Oil Company paid cash patronage refunds in 24 of the 28 years of its life.

While equity financing has worked very well in the past, it is doubtful that it will work so well, under the same restrictions in the future. The association has in the past met its financial needs chiefly through sales of class A preferred stock, conversion of other funds into capital stock or by raising membership stock requirements. Membership stock is at present 20 shares of class A common stock ($200). Any long-term plans for further increases in membership
stock, must of necessity take into consideration the transferability of such stock. Too high membership fees will have an adverse effect on prospective members who would otherwise join the association. More patrons and members, especially from the younger generation of farmers are needed. Anything that makes the attainment of full membership status in a cooperative difficult should be avoided.

In the future, little hope can be placed on membership stock as a source of Grange Oil Company's risk capital. Payment of membership stock through patronage retains, means capital is accumulated slowly over a period of years. Preferred stock is callable at the end of any business year by those who retire from farming, or otherwise find themselves unable to use the services of the association. Under conditions of increasing expenses and generally narrowing margins, limiting member capital sources to capital stock sales and Pacific Supply retains, could only push Grange Oil Company deeper into debt financing.

The financing methods in use now are considered inadequate to protect present and future interest of members in their cooperative.

\[4\] The association provides that class A common stock could be transferred subject to the consent of the board of directors. Transfers are allowed only in the books of the association and to members of the association or the association itself.

Common stock is normally paid to the estate or the heirs of deceased members of the association.
There is a need to broaden the financial base of member capital in the association. More capital from members is needed and will continue to be needed. The place of long-term securities in the financial system of Grange Oil Company might be worth considering. In addition, the institution of a revolving fund financing plan through patronage retains, could prove an invaluable financial source in the future.

While capital raising through long-term securities must depend on what the local investing public think are future business prospects of Grange Oil Company, the decision on a revolving fund must come from the organization itself. Financing through revolving funds has several favorable features. It confines capital contributions to those who are patrons, requires capital contribution according to patronage and limits this type of financing to those who are currently patronizing the association. It secures the interest and support of members as they look forward to receiving their equities at a future date. As a distinctively cooperative financing device, the revolving fund is the fairest and the most equitable method of raising large amounts of

\[5\] In a revolving fund financing plan, individual patron's capital contributions are allocated on the books of the cooperative year after year, for return to them at a later date. Patrons are notified of their equities in the revolving fund at the close of each business year.

When in the judgment of the manager and the board of directors, enough capital has been accumulated, current capital retains or net operating margins, are used to retire the oldest outstanding capital contributions. At this point the revolving process begins.
capital in a cooperative. Cooperatives are organized for the mutual benefit of members as patrons. It is, therefore reasonable that contributions for capital purposes be made in proportion to patronage.
Great economic changes have taken place in this country since 1934. Agricultural technology has improved a great deal and we are in for more improvements. Alertness to the current needs of the farmer patrons, enabled Grange Oil management to move along successfully with those changes. They expanded, modernized and improved the quality of their services and helped the farmer to farm more productively and more profitably. As farming developed into a high capital, high risk business, the association shared those risks with the farmer patrons. The development of custom services and the association's possession of vital equipment in the lime and fertilizer departments are examples of expanded services.

In spite of the business achievements and an unquestionable success of Grange Oil Company, feelings were that operating policies and decisions were at times not sufficiently forward looking. The board of directors, the body responsible for policy formulation, appeared to have been strongly "sold" on rigid centralization. Preoccupied with the immediate business problems and an apparently strong emphasis on the need to pay high cash refunds to patrons each year, the management team tended to overlook the prospective future business opportunities for the association. Suggestions to establish substations in outlying districts were put off in 1952 and again in
1953. It might be argued that investment capital could not be raised, or that the economic conditions did not justify such sub-stations. It was pointed out earlier that considerable cash refunds were paid to patrons from 1950 to 1959.

The period 1951 to 1954 and generally all Phase III through 1959, was a relatively good business period. It is good business judgment that businesses increase their net worth by retaining more earnings during good times. During such times considerable amounts of member capital can be accumulated, provided that the proper machinery to do so is employed. This was the most appropriate period to invest in one or two sub-stations to serve areas far removed from Tangent. There is no doubt that a favorable decision on those sub-stations would have had desirable influence on the association's business volume.

The advantages inherent in sub-stations or bulk stations outside Tangent were apparently foreshadowed by the association's financial policy. The management team appears to have been too conservative on their financing methods. They relied almost exclusively on capital stock and Pacific Supply margins as sole sources of member capital. During the 10-year period through 1959 the board of directors paid nearly all Grange Oil net margins as cash patronage refunds. One of the maxims of cooperatives is to provide services at cost. This being so, must net margins be paid back to
patrons in the year they are earned? This need not be necessary if a system of deferred payment is worked out, whereby net earnings would be retained in the cooperative for a predetermined number of years for capital purposes. A definite promise to revolve out such funds when the time comes, has however to be undertaken by the board of directors. Where the mechanics, the advantages and disadvantages of such a scheme, are clearly understood, there should be no difficulty in getting members to leave a large part or all of their patronage refunds with their cooperative.

The impact of war and post-war demand for agricultural products on farm firms and a lack of or the presence of too much competition exerted some influence on policy decisions. A prosperous agriculture and little competition meant good business opportunities and therefore less aggressive policies. Increased competition, narrowing margins and rising expenses necessitated more aggressive business policies. Consequently preparations for facility expansion were pushed into the background as all Grange Oil net margins were diverted to cash refunds to attract more sales volume. If the decision to provide the new plant had been taken about 1950, and arrangements for raising member capital made accordingly, the financial burden assumed by Grange Oil in 1959 would have been much lighter. On the other hand, if the sub-stations' proposition had been taken in 1952 or 1953, Grange Oil Company would have been in a stronger.
competitive position in the later part of Phase III.

A number of sub-stations in the area served by Grange Oil Company have economic justifications. Tangent is nearly 66 miles from the Linn-Jefferson boundary and about 40 miles from the Benton-Lincoln boundary. Assuming that the association is to reach farmers in all corners of Linn and Benton Counties, delivery trucks have to travel nearly 50 miles from Tangent to reach fringe farmers. In a competitive market, where businesses with similar products are on the increase, it is unlikely that Grange Oil Company will be able to keep customers by operating solely from Tangent. For many years Grange Oil Company operated in this area as the only supply cooperative. Now there is Western Farmers' Association to be considered. As competitors capture more business from the bulk trucks it will become even more difficult to increase sales volume.

One or two well located sub-stations will have the effect of boosting Grange Oil Company's competitive strength. They will add to the convenience of members in that farmers will be able to get supplies direct from the bulk station closer to them. Shorter delivery distances will effect savings on delivery expenses. Plans for the construction of two sub-stations are currently under study by the board of directors and the advisory committee. Any decision to

\textsuperscript{1} An advisory committee of 12 members was set up this year (1962) to advise on policy and operational problems.
build now or in the next few years must take into consideration the existing excess capacity in the Tangent plant. The problem before the association now is one of timing and financial implications rather than economic expediency.

**Employment Terms**

Policies relating to the association's employees were considered to be encouraging. There was consistent appreciation on the part of the board of directors of the need to remain competitive in the personnel market. Salaries were reviewed from time to time. Employees were given bonuses as often as the earnings of the association allowed. As an incentive plan, the manager and the assistant manager participated in the net savings of the association to the extent of 10 percent and 2 1/2 percent respectively.

Sound employment terms have secured for Grange Oil Company a team of workers, who from a sense of belonging, have evolved a business of invaluable benefit to local farmers. It is to be noted that the manager and the assistant manager have been with Grange Oil Company for more than ten years. The senior bookkeeper has been on the staff of the association since 1946.
SUMMARY AND CONCLUSIONS

Founded in 1934 by farmers of Linn and Benton Counties, Grange Oil Company was born of the desire to increase the farmers' bargaining power by creating more competition among local oil companies. It was a normal reaction on the part of the farmers against unfair treatment by those companies during the depression.

The 84 charter members contributed $300 in membership fees. This was all the capital at the disposal of Grange Oil Company when it started buying petroleum products for its members. Realizing the odds against its survival, the new association joined with other local supply cooperatives in the Pacific Northwest and organized the regional wholesale cooperative 'Pacific Cooperatives' based in Walla Walla, Washington. After this, growth was rapid. New members joined and new services were developed. By 1938 Grange Oil Company handled tires, tubes, paints, wire nails, phosphate, lime, twine and farm machinery in addition to petroleum products.

Grange Oil Company's early problems were mainly:

1. Unfair competition from the established oil companies.
2. Raising membership and therefore equity capital.
3. Restraining pressure for too rapid expansion.

The entrance of Pacific Supply into petroleum contracts on behalf of the retail associations put these associations in a better competitive
position. Farmers' apathy was broken by the quick demonstration by Grange Oil Company that considerable savings on supplies were possible, when farmers placed their demands and resources into a common pool, to do business with themselves.

In 1940 Grange Oil Company held total assets in excess of $52,000. Member equities amounted to 90 percent of the total assets. Business volume was nearly $196,000. For the three years through 1940, cash refunds to patrons averaged $4.50 for every $100 spent on cooperative products. From so modest a beginning, the first seven years were a great success.

The outbreak of World War II speeded up business recovery from a three year economic slump from 1937 to 1939. Agriculture entered an era of great prosperity from 1942 to 1951. In 1944 Grange Oil Company started a feed and seed subsidiary at Monroe. This business failed and was liquidated in 1947. The causes of failure were diagnosed as capital inadequacy, poor management and poor public relations.

Operations at Tangent made phenomenal business and capital gains from 1941 to 1951. The volume of business increased from $195,920 in 1940 to $676,030 in 1951. Petroleum products, farm machinery and fertilizers contributed 82 percent of the total business volume in 1940 and 91 percent in 1951. Stock in other lines was expanded to catch up with increasing member and patron demand. On
the average members received $2 in cash refunds for every $100 they
spent on Grange Oil products. The value of buildings and equipment
increased from $10,370 in 1940 to $35,630 in 1951. At the same time
total fixed assets increased from $11,460 to $37,680. The overall
total assets of Grange Oil Company increased from $72,000 to
$460,000 during the decade. Investments in other cooperatives
increased from $14,000 in 1940 to $244,000 in 1951.

As business volume increased, expenses increased also. Sales
increased at the rate of 19 percent per year while expenses increased
at the rate of 28 percent during the same period. This disproportional-
ate increase in expenses nearly wiped out net margins during the 1948
to 1951 business recession. On the average salaries and wages
accounted for 50 percent of the total operating expenses.

Accounts receivable followed the upward trend in sales volume.
From 1941 to 1951, receivables averaged 11.3% of the total assets.
Cash allowance for bad debts tended to increase towards the end of
Phase II. This indicated possible collection difficulties for past-due
accounts. A shortage of working capital in the later part of Phase II
prompted the revision of the association's capital structure in 1949.
The authorized capital stock was increased from $25,000 to $600,000.
Membership stock was raised from one share of Class A common
stock at $10, to five shares ($50).
Grange Oil Company emerged from Phase II a well consolidated, financially strong business organization. Considering the condition of the agricultural industry during the decade, however, better performance than was actually realized could have been expected. Price inflation from 1941 to 1951 caused a decline of 46 percent in the purchasing power of the dollar. A highly significant correlation \((r = 0.97)\) was established between the index of the purchasing power of the dollar and the dollar volume of sales. The implication of this was that dollar volume of sales and assets were largely influenced by the rapid decline in the purchasing power of the dollar. Consequently, the overall physical growth and development in real goods and services was less than is shown by their dollar value.

In 1952, agriculture entered an era of price-cost squeeze. Agricultural prices dropped below the prices paid by farmers. From 1952 to 1961 prices received declined 20 percent while prices paid increased 5 percent. Farm technology however, improved considerably during the decade. As a result farmers found it more profitable to substitute machinery for hand labor. Increased use of commercial fertilizers and the adoption of new farming methods increased farm output despite falling agricultural prices.

Rising non-farm prices, increasing operating expenses and generally increasing competition led to considerable sales promotion efforts in Phase III. In 1956, Grange Oil Company adopted a sales
at cost policy for dry fertilizers. In 1957, a two bracket cash dis-
count program for regular gasoline was instituted. Besides impro-
ing the competitive position of Grange Oil, these schemes were aimed
at increasing sales, economizing on delivery expenses and reducing
accounts receivable.

Grange Oil Company's sales promotion efforts paid off well. Sales increased more rapidly in Phase III than in Phase II. The
dollar volume of sales increased from $817,660 in 1952 to $1,509,620
in 1960 and to $1,426,170 in 1961. The decade 1950 to 1959 was the
most successful in the 28 years of Grange Oil Company's history. Business was done at an average cost of 10.8 cents per dollar of
sales. The association made more savings and paid out more cash
refunds than in the preceding decade.

Increased sales necessitated larger inventory. Competitive
pressures and the desire to keep inventories moving led to the easing
of credit terms. As farmers' payment problems increased, accounts receivable increased considerably through Phase III. An average of
45 percent of the total credit due the association from 1952 to 1960
was 60 or more days past-due. In 1958, 40 percent of the total
accounts receivable was over 6 months over-due. The association's
credit terms were 30 days cash or 40 days maximum interest free
period. Interest on past-due accounts was 6 percent from 1948
through 1956 and 8 percent from 1957.
Grange Oil Company was consistently short on working capital from the later part of Phase II through all of Phase III. In 13 out of the 21 years from 1941 to 1961, the association averaged $3.24 in ending inventory and accounts receivable for every dollar of owned working capital. Ending inventory averaged 76 percent of working capital from 1941 through 1951 and 206 percent from 1952 to 1961. This situation led to heavy dependence on short-term bank financing of operating and working capital during the first half, and the busiest period of each business year. Short-term liabilities increased from $6,000 in 1938 to $101,000 in 1957 and to $509,000 in 1961. Major increases were in accounts and earnings payable. With capital more readily available, the growth of the association's business would have been even better.

In 1959, Grange Oil Company completed a new physical plant costing nearly $200,000. In spite of increased sales volume in 1960, expenses per dollar of sales and assets increased from 11.3 cents and 15.6 cents in 1959 to 15.5 cents and 20.6 cents, respectively, in 1960. A net operating loss of $2,900 was recorded. In 1961 expenses per dollar of sales and assets increased to 20.5 cents and 25.5 cents respectively. The association sustained a net loss of $56,800. Petroleum discounts accounted for $28,900 of the net loss in 1961.

The sharp rise in expenses from 1959 was to a large extent associated with the size of the new physical plant. The association provided
a larger plant than could be justified by short run business expectations. There is a definite case of over-capacity and under-employment of the invested capital and personnel.

Except for the losses made in 1960 and 1961, Grange Oil Company made greater business gains during the third than in the second phase of its development. Total assets increased from $460,250 in 1951 to $1,148,530 in 1961. Total fixed assets rose to $304,150 and investments in other cooperatives increased to $297,000. Membership equities, however declined from 81.8 percent to 48.5 percent of total assets. In 1961 Grange Oil Company had 2,153 members.

The overall physical growth of Grange Oil Company was much greater in Phase III than in Phase II. Unlike in the 1941 to 1951 period, the purchasing power of the dollar declined only 13% from 1951 to 1961. Statistical analysis showed there was a high correlation (r = 0.95) between sales dollars and the index of the purchasing power of the dollar; 91 percent of the variations in the dollar volume of sales was explained by this relationship. The rate of decline in the purchasing power of the dollar, was much slower in Phase III (b = -0.0139) than in Phase II (b = -0.146). Consequently Grange Oil Company gained more in real assets and services from 1952 to 1961 than from 1941 to 1951. Direct dollar comparisons were considered poor indicators of the actual physical growth and development of
Grange Oil Company. The association nevertheless achieved a growth and a success probably unthought of by its founders back in 1934.

Grange Oil Company's business operations were divided into four major departments; petroleum, fertilizer and farm chemicals, farm machinery and lime. Through these departments the association handles a complete line of petroleum products, dry and liquid fertilizers, machinery and machinery parts, building materials and miscellaneous hardware, equipment and farm chemicals.

The problems encountered by Grange Oil Company during the period 1941 and 1961 were chiefly business problems. These included inventory shrinkage in the petroleum department, shortage of working capital, increasing accounts receivable and competition. The extent of these problems and their financial implications tended to vary with the volume of business and the general economic conditions of the market. No general solution could, therefore, be applied.

Members contributed a high proportion of Grange Oil Company's permanent capital. Member equities averaged 81 percent of the total assets from 1938 to 1961. Allocated Pacific Supply margins and common stock were by far the most important sources of member equities. Operating and working capital were generally financed through the sale of Class A preferred stock, local commercial bank loans, Pacific Supply, and machinery and equipment companies.
lines of credit. The Bank for Cooperatives extended a long-term facility loan of $125,000 to Grange Oil Company in 1959. Subsequent borrowings of operating capital from the Spokane Bank for Cooperatives amounted to $16,000 in 1961. Further increases in membership stock it was felt, must take into consideration the transferability of such stock and the need to encourage more members into the association.

Policy decisions generally kept pace with changes in the agricultural industry. The association shared with its members the risks of a continuously changing industry. Financial policies were however rather conservative. The management team held unnecessarily long to capital stock and allocated Pacific Supply margins as the sole sources of equity capital. Insistent payment of cash patronage refunds forced the postponement of vital decisions on facility requirements. Decisions involving large capital expenditure need to be taken in good time to give the management ample time to raise member capital. Large borrowings arising from short notice decisions tend to reduce membership control of their cooperative. Membership equities in Grange Oil Company reached an all time low of 48.5 percent in 1961.

The board of directors maintained good competitive policies with regard to the association's personnel. Employee salaries were constantly reviewed and bonuses given when earnings allowed. The manager participated in the net earnings of the association to the
extent of 10 percent. That the Company's key personnel have been
with the association for more than ten years was considered proof of
the terms under which they have worked. The willing efforts of all
the employees were instrumental in building Grange Oil Company into
a strong farmer owned supply business.

Good member, board of directors, management and employee
relationships were considered an invaluable asset for Grange Oil
Company. The growth, development and success of the association
in the last 28 years could not have been achieved otherwise.


8. _________________. Articles of incorporation and amendments. 1933.


