

**ALTERNATIVE STRATEGIC FINANCIAL
PLANS FOR GARDEN CITY CO-OP**

by

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ABSTRACT

The goal of this thesis is to evaluate future financial strategies for the Garden City Co-op (GCC). The evaluation will include a standard financial analysis of historical financial information and pro forma financial projections of selected strategies. The strategies will be evaluated using management assumptions in which liquidity and solvency are proactively managed.

The ultimate goal of the GCC is to return as much profit to its patron-owners as possible but at the same time provided them with the product and services they need for their own business at a competitive level. The GCC has recently experiencing unusually high profits and believes this will be the trend over the next six to eight years due to the business ventures and relationships that currently are in place to grow sales outside the Co-op's traditional trade territories. The increased revenues and profits have come primarily from profitable joint ventures, especially from a very high volume of petroleum sales to non-member patrons. The most critical relationship is member patron-owner relationship with CHS Inc., a large regional cooperative that owns two oil refineries and is the primary supplier of petroleum products to GCC. The profits being made by CHS Inc.'s fuel refineries are distributed to GCC as patronage refunds based on the volume of refined fuels purchased from them. This much larger stream of patronage refunds from CHS and other regional co-op's being distributed to GCC is causing GCC to pause and evaluate how best to move forward.

The GCC has the challenge of what to do with increased earnings. Does the GCC return earnings back to its member-owners retain earnings for future investment

opportunities, or do they commit them to help finance current investment opportunities?

Does GCC grow its most profitable business lines, such as nonmember-nonpatron petroleum sales? Given the close relationship with CHS in terms of income distributions and equity management, including cash patronage refunds and cash equity redemptions of retained patronage refunds, and the close relationship with its own member patron-owners, is its current income distribution and equity management program sustainable under various strategies?

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CHAPTER 1: INTRODUCTION

1.1 Introduction

The Garden City Co-op is a farmer owned and controlled cooperative that was founded in 1915. It has 4,000 member-owners, 1,400 of which are voting members that vote on a one-member, one-vote basis on control issues such as board of director elections. GCC is one of the larger local co-ops in Kansas and the Midwest. In fiscal year 2006 (ending August 30, 2006) sales were \$174,700,000 and net income from all sources was \$3,277,800. GCC has a long tradition of being an innovative business. GCC was one of the founding fathers and members of Farmland Industries. GCC is located in Southwest Kansas with headquarters at Garden City and now services farmer owners in a multi-county trade area of approximately 4,000 square miles. It runs about 70 miles south to north from Ulysses to Arnold, and 60 miles west to east from Lakin to Charleston. It has continued to prosper and maintain profitability over the years.

The agriculture business is highly uncertain, and can easily be described as feast or famine. It has to be able to survive by taking extra advantage of the good times and find ways to maintain stability in the worst of times. In today's highly competitive markets the margin for error is very slim. The GCC, in its wisdom over the years, has found ways to expand beyond relying on a local market of just agricultural producers.

GCC has gone outside its normal trade territory to invest in joint ventures or expand current services to nonfarm customers. This strategy has paid off well over time and even more substantially in recent years. Examples of investment companies GCC is

participating in are Windriver Grain LLC, a unit train loader in Garden City, East Kansas Chemical LLC, a seller of pesticides direct to the farm, and three petroleum fuel jobbers, which brand and supply fuel stations with the Cenex brand in Kansas, Oklahoma, Colorado, and Nebraska.

The GCC has also invested in joint ventures that have not been a success. Examples of joint ventures that have not been a success were a hog feeding operation and a business called Agrowland LCC that custom applied anhydrous ammonia in four states.

The successful investment companies have proven to be very profitable since the late 1990's and have helped the GCC through low grain production years due to drought and losses due to the bankruptcy of Farmland Industries in 2002. There are several factors that contributed to the rapid increase of profits.

The most important fact is the high level of profits being made by CHS Inc.'s fuel refinery business. CHS is a regional cooperative that provides services and products to member-owner patron Co-op's like GCC on a patronage basis and distributes profits to patrons. CHS owns 76 percent of the petroleum refinery in McPherson Kansas (National Cooperative Refinery Association) and full ownership of a refinery in Laurel, Montana. From 2005 to 2007 profits from refineries have been unusually high. GCC is a member-patron-owner of CHS and one of its largest fuel accounts in the nation. As a result, CHS distributes a large patronage refund back to Garden City Co-op. In the CHS fiscal year, 2006, 35 percent was paid in cash and 65 percent was retained. In the most recent business year 2006 CHS paid a patronage refund of \$.14 per gallon back to its patrons, thirty-five

percent of it as cash, or about 4.9 cents per gallon. The remaining portion was distributed as a retained patronage refund. The retained patronage refund is invested as equity investment in CHS and is expected to be redeemed for cash (purchased by CHS) and paid to GCC sometime in the future. The timing of the redemption is at the complete discretion of the CHS Board of Directors. The most recent redemption of local co-op equity was five percent of eligible equity. Previous redemptions rates have been around three percent.

1.2 Situation

The total patronage refunds received from CHS and other regional co-ops booked in GCC's 2007 fiscal year was roughly \$7 million, of which \$2.5 million was received in cash. This higher level of profitability, along with improved local operations places GCC into a situation that is unprecedented. GCC has expanded its petroleum business substantially, primarily with large commercial account non-members, due to the highly profitable supply relationship with CHS Inc. on petroleum. They are considering expanding even more.

However, it is not clear that this growth is sustainable, given the cash flow relationships of this new type of business. Gross margins are extremely small for this commercial wholesale type business and the primary source of profitability, regional patronage refunds, provides small cash flows relative to cash outflow, such as income taxes or cash patronage refunds to GCC's patrons. Making those business expansion decisions when times are good can seem to be a good strategy. In fact, good times can be just as challenging or may be even more challenging than when times are tough if growth is not sustainable due to cash flow constraints.

1.3 Problem

The purpose of GCC is to provide competitive services and markets for its member-patron-owner's (member) commodities and inputs. When a profit is made it is then distributed back to the member-patron who used the co-op for their business transactions. At the same time the co-op has to maintain its assets, expand when needed and make decisions that will make the co-op viable well into the future. GCC has to find the proper balance of being committed to the member as well as explore unique growth and profit opportunities.

GCC needs to know where they stand in the future under different circumstances. Is GCC sustainable from a liquidity and solvency perspective to grow its petroleum business and have the capital to increase or expand asset investments? The current income tax rate on non-patron or non-member, commercial business is higher than the rate of cash patronage being paid out by CHS each year. Corporate income tax rates are 41.35 percent and cash patronage rates have been 35 percent. Low gross and net margin petroleum sales at the local level have the potential to negatively affect the sustainability of the GCC growth strategy because the co-op relies on the CHS regional patronage refund to be profitable.

1.4 Objective

The objective of this project is to evaluate the financial consequences of alternative scenarios or strategies. The scenarios used are based on increased sales and profits, mainly from increased sales of petroleum, the amount of increased investment in current joint venture companies, and solvency. Is GCC sustainable financially in its current state, with

increased sales and with increased investments? What does each of these scenarios and combination of scenarios do to the solvency of GCC? The objective is to evaluate each situation to see if each scenario is sustainable and to see what the financial outcomes are for each scenario.

The problem is evaluated using a balance sheet management approach employing solvency and liquidity targets for GCC. Six scenarios have been created to evaluate alternatives. The scenarios are based on three key factors. This first is the level of sales and profits, the second is the amount of additional asset investment, and the third is the strength of the balance sheet, specifically solvency and liquidity requirements or targets.

A 26 year history of financials from 1980 – 2005 will be provided. The financial data will be evaluated for previous year's performance and comparison. The data will also be used to compare GCC to other similar co-ops to evaluate relative performance. The final piece of the historical data is ratio or financial analysis. Six types of ratios were used to evaluate the GCC's historical performance. The six types of ratios being used are profitability, liquidity, solvency, efficiency, product mix, and size.

1.5 Methodology

There are two parts to the analysis performed in this project, historical financial analysis and pro forma financial projections. The historical analysis informs us about the past financial relationships and what may be reasonable for future performance. In chapter 3 we provide a standard financial analysis of GCC's historical performance. In chapter 4 we provide a 10 year financial projection for alternative business strategies.

We use a financial analysis program called PERFORM developed by the Arthur Capper Cooperative Center at Kansas State University. It utilizes the Microsoft Access database application. The measures are calculated and reports prepared by a program written in Visual Basic. The pro forma financial analysis is the basic mythology used for financial projections. The projection uses Access and a program written in Visual Basic called FINPLAN.

To evaluate each scenario requires a comprehensive strategic financial planning “systems approach” that accounts for all these interrelationships. We used the pro forma financial planning simulator, FINPLAN, to evaluate the alternative business strategies of interest. FINPLAN is a financial simulator developed by the Arthur Capper Cooperative Center at Kansas State University.

CHAPTER 2: LITERATURE REVIEW

2.1 A Programming Approach to Corporate Financial Management (Stewart C. Myers and Gerald A. Pogue)

This review is a financial planning model based on mixed integer linear programming. The model is based on recent advances in capital market theory, but at the same time it recognizes certain additional considerations that are manifestly important to the financial manager. The linear programming model follows from two propositions of modern capital market theory consisting of:

1. That risk characteristics of a capital investment opportunity can be evaluated independently of the risk characteristics of the firm's existing assets or other opportunities.
2. The Modigliani-Miller results that the total market value of the firm is equal to its unleveled value plus the present value of taxes saved due to debt financing.

2.2 Simultaneous Equation Approach to Financial Planning (James M. Warren and John P. Shelton)

This document describes a mathematical model that deals with overall corporate financial planning. The paper outlines a technique for financial planning that permits a decision maker to simulate (on a "what if" basis) the financial impacts of changing assumptions regarding such variables as sales, operating ratios, price/earnings ratios, retention rates, and debt to equity ratios. The model then generates pro-forma summary balance sheets, income statements, and certain other variables. The model allows management to quantify the effects of a large number of alternative policies and decisions.

The model encourages the performance of sensitivity analysis so that management can determine which variables will be most critical in determining the future performance of the firm.

2.3 A Financial Planning Model for Country Elevators (Gary T. Devino and Herman Harrison)

A computerized model was developed to allow identifications of financial conditions which would be expected to result from alternative courses of action. With the use of a computerized program it is possible both to minimize time requirements for planning and to evaluate the effect of a number of alternative courses of action.

2.4 Computerized Financial Planning (David G. Barton)

This paper discusses using computer programs that are designed for cooperatives to do financial planning. The computer process allows for cooperatives to use large quantities of data faster and evaluate various alternatives rapidly.

2.5 Strategic Financial Planning (Harold Bierman, Jr.)

Five elements of strategic planning are discussed.

1. Identification of the problems and opportunities that exist.
2. Set goals (objectives).
3. Have a procedure of providing possible solutions.
4. Choose the best solution, given possible solutions and the firm's objectives.

5. Implement a type of review procedures to check how the best solution has actually performed.

2.6 Summary of Review

The literature review had two papers that were of greatest application to the situation and problem facing GCC. They were the papers by Devino and Harrison and the paper by Barton. This thesis is primarily based on the work by Barton.

CHAPTER 3: FINANCIAL ANALYSIS REVIEW

3.1 Introduction

This cooperative performance profile reviews the financial performance of cooperatives in the state of Kansas for the 26-year time period, 1980-2005, and the performance of Garden City Co-op (GCC) of Garden City, Kansas. Multiple-year averages are calculated for each multiple-year segment 1980-85, 1986-88, 1989-1992, 1993-1995, 1996-98 and 1999-2004. These multiple year averages are for the “same firms” that appear in all the years in the segment. Farmland Industries' database of local cooperative financial statements is used as the source of 1980-95 financial performance information and the CoBank database is used as the source of 1996-2005 financial performance information. Individual co-ops are not identified from one database to another, so calculations across databases are not possible. All individual firm data is confidential. The identity of each firm in the database is not provided. Individual firm data is provided by GCC and is revealed only with GCC's permission. The financial data provided can be used to determine which characteristics are most closely related to high profitability and to illustrate how an individual cooperative's performance can be compared to its own performance and the performance of other cooperatives over time.

Two major questions are of interest in the evaluation of the financial performance of GCC.

1. How has GCC's performance changed over the 1980-2005 time periods and why?

2. How does GCC's performance compare to the performance of all Kansas Cooperatives?

A standard financial analysis is utilized. Selected ratios are calculated in four common categories: profitability, liquidity, solvency and efficiency. Ratios are also calculated for a fifth category, product mix, such as grain sales to total sales. Several measures are also provided in a sixth category, size, such as sales and total assets.

The ratios that are most highly correlated to profitability are gross margin rates, current ratio, equity to assets, and gross income to personnel expense. The factors that the general manager or CEO has the most control over include all of these except equity to assets. The most emphasis will be placed on these "controllable" factors.

Only selected financial ratios are reported in Chapter 3. A comprehensive financial profile was produced for GCC by ACCC that reported 43 financial measures. This information is provided in Appendix A in electronic form for review by the examining committee, but is not available for public review.

3.1.1 Profitability Ratios

Two profitability ratios are calculated, return on local assets and return on equity. Return on local assets is the profitability measure upon which profit groups are based.

3.1.1.1 Return on Local Assets

Description. The formula is Return on Local Assets (ROLA) = Operating Earnings Before Interest & Taxes (OEBIT) / Local Assets (LA). LA is calculated as total assets minus total investments.

This ratio is the best measure of the company's local operations performance. Therefore, it is also viewed as the best single measure of the general manager's (CEO's)

performance since regional cooperative, joint venture and other income is generally not under the control of the general manager.

Interest expenses are excluded because they are charges for debt financing of the assets. Financing is viewed as more of an owner or board decision than a management decision.

Income tax expenses are excluded because they are based on decisions about (1) nonpatronage (nonmember) business and (2) income distribution to allocated or unallocated accounts and qualified or nonqualified accounts. These are primarily board decisions.

3.1.1.2 Return on Equity

Description. The formula is Return On Equity (ROE) = Net Earnings (NE) / Member's Equity (ME). This ratio is the best measure of returns to a company's owners, or in the case of most co-ops, to the member-owner-patrons. Therefore, it is the best single measure of the board of directors' performance.

Net earnings provide the source of patronage refunds, both cash and retained. They also provide the source of the cash to pay cash patronage refunds and redeem retained patronage refunds in the long run. Therefore, they represent the source of profits paid to patrons based on patronage.

3.1.2 Liquidity Ratios

Liquidity ratios measure a company's ability to meet short-term obligations. These are obligations to make payments within 12 months or less for items such as debt, inventory and payroll. Optimum liquidity, not too high or too low, leads to high profitability. Many companies use working capital as the primary liquidity measure when managing liquidity. However, when comparing companies, as we do in this profile,

working capital is not a good measure, since it will vary widely, based on the size of the company. A ratio is a better way to compare companies.

3.1.2.1 Current Ratio

Description. The formula is Current Ratio (CR) = Current Assets (CA) / Current Liabilities (CL).

This ratio measures the ability to meet current liabilities and is not expressed in percentage form. It is a key measure of short-term financial strength and the adequacy of cash flow to meet near-term obligations, take advantage of favorable terms of trade, such as cash discounts on purchases, and avoid finance charges on payables.

3.1.3 Solvency Ratios

Two solvency measures are calculated, equity to assets and adjusted equity to assets.

3.1.3.1 Equity to Assets

Description. The formula is Equity to Asset (ETA) = Members' Equity (ME) / Total Assets (TA).

This ratio measures the proportion of total assets financed by members' equity. It is a key measure of long-term financial strength and solvency. The most important financial decision made by a board is the level of solvency it prefers to see maintained. In a turbulent economic environment, such as that facing agribusinesses, a strong balance sheet is essential for survival and prosperous growth. Equity is a shock absorber to absorb unexpected economic shocks, and a reserve to use to take advantage of unexpected opportunities. Both will occur frequently during the 21st century. A cooperative needs to be prepared for them. This is a key to its long-run performance as a business and its ability to serve its patron customers.

3.1.3.2 Adjusted Equity to Assets

Description. The formula is Adjusted Equity to Asset (ADJETA) = Members' Equity (ME) / [Total Assets (TA) - Current Liabilities (CL)].

This ratio measures the proportion of total assets financed by members' equity while taking into account the seasonality of a co-op's fiscal year end. It accounts for the different fiscal year ends that occur throughout the cooperative sector. An adjustment is made to total assets by subtracting current liabilities. This means total assets are non-current assets (investments and fixed assets) plus working capital, a more stable value throughout the year. It is also a measure of long-term financial strength and solvency.

3.1.4 Efficiency Ratio

Efficiency ratios measure how efficiently a company is operating and using its resources, including assets and people. Optimum efficiency leads to low costs, high revenue and high profitability. Efficiency ratios are also called activity ratios.

Based on the research and experience of Dr. Barton at Kansas State University with local cooperatives, it is his opinion that efficiency is the most important driver of profitability.

A co-op should put special emphasis on being efficient.

These measures will help give GCC a broad picture of its efficiency over time and how it compares to other companies. The effectiveness of its leaders and the productivity of its people are the true drivers of efficiency and profitability.

Efficiency ratios are good measure to show how well a company is utilizing their people. Based on research it is clear that efficiency is the most important driver of profitability for a co-op.

3.1.4.1 Gross Income to Personnel Expense

Gross income to personnel expense measures how effectively personnel are used to generate gross income and serves as a proxy for labor productivity.

3.1.5 Size

Another possible influence on profitability is size. Many economists believe that there are significant economies of size that result in higher profits for larger businesses. Some research results confirm this is generally true, although size is an extremely weak predictor of profitability. Many other factors appear to be more important.

3.1.5.1 Local Assets

Size can be measured by comparison of local assets. Local assets comparison is a better gage of size then total sales or profits of a business. Sales can be a poor comparison of size. Business with smaller sales could have better efficiencies and a larger asset base then a business with high sales.

3.2 Where Is GCC Today?

The ratios described above are evaluated for GCC. First are the profitability measures. GCC's performance based on return on assets has varied from quite low to top of the pack. See figure 3-1. GCC performed well on return on assets compared to other Kansas Co-ops for the early 1980's to the mid 1990's. Since the mid 1990's GCC has seen a fall off in comparison to other co-op's and this could be attributed to two key factors.

One factor is expansion in grain elevator storage and the second factor is drought, causing grain bushels received to be below normal.

The next profitability ratio evaluated was return on equity. See Figure 3-2. GCC has consistently been performing at a high level of return on equity when compared to other Kansas Co-op's. Only in recent years has their performance level declined due to the same situation that affected the previous ratio.

Current ratio is the next ratio discussed and it is a liquidity ratio used to measure short-term financial strength. See Figure 3-3. GCC has performed in the middle of the pack with a steady decline from 1987 to 2006, generally paralleling the typical co-op trend. Current Ratio can be a good tool to compare against other co-ops, but some co-ops use a financial strategy that utilizes long-term debt, such as patron certificates of investment, in place of short-term debt. GCC does use the patron certificate in its current operations.

The first solvency ratio used is equity to assets. How much of the total assets are being financed by members' equity? A general guideline is to maintain equity to assets of at least 50 percent but no more than 75 percent with 60-65 percent the recommended range. GCC over the years has been at the lower end of the guideline of 50 percent. GCC percentage comparison to other co-ops in Kansas had varied over the years from being in the 4th percentile in 1980 to being in the 71st percentile in 2004. See Figure 3-4.

The second solvency ratio is adjusted equity to assets, which is the same as the previous ratio but takes into account the seasonality of a co-op's fiscal year end. See

Figure 3-5. This ratio paints a little different picture with GCC constantly falling in comparison to the other co-ops.

The efficiency ratio, gross income to personnel expense, is next to be evaluated. See Figure 3-6. GCC has ranked very well in this category over the years. From 2000 – 2005 GCC has ranged from the 53 percentile to the 87 percentile when compared to other Kansas Co-ops. This is a good measure that shows how well leadership and management have performed at GCC.

The last measure to be compared and discussed is the size measure, local assets. See Figure 3-7. Size is not a predictor of profitability, but significant economies of size can result in higher profits. GCC is in the 90th plus percentile for the entire range of years evaluated. That shows that GCC is one of the largest co-ops in the state of Kansas over the past 25 years.

**Figure 3-1. Return on Total Assets
Garden City Co-op, Inc. and Kansas Cooperatives Percentiles, 1980-
2006**

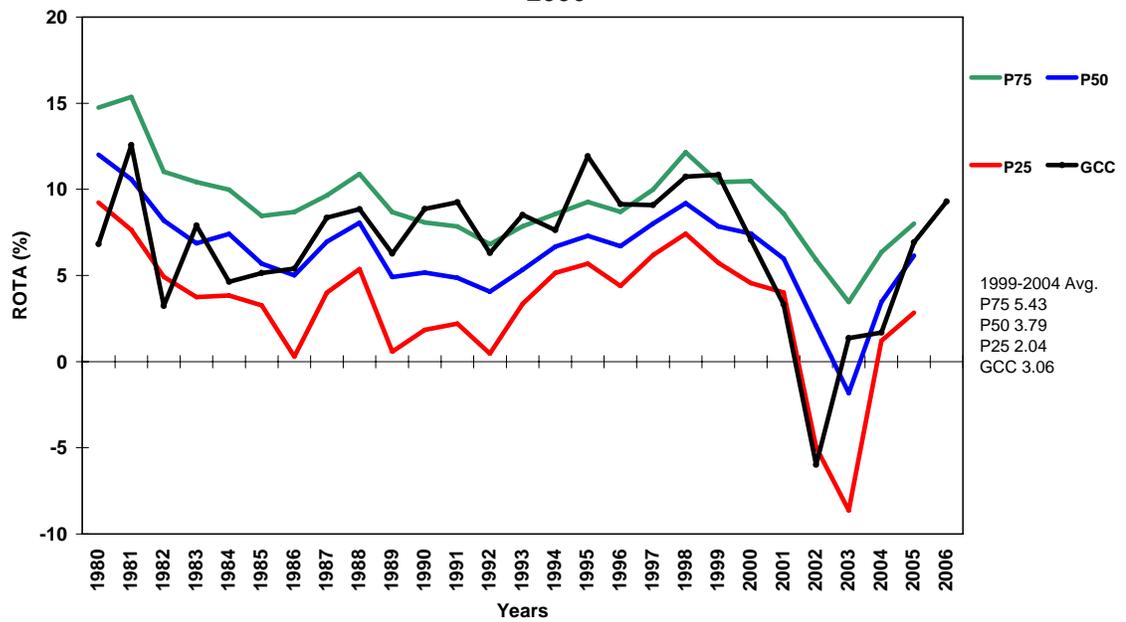


Figure 3-2. Return on Equity
Garden City Co-op, Inc. and Kansas Cooperatives Percentiles, 1980-2006

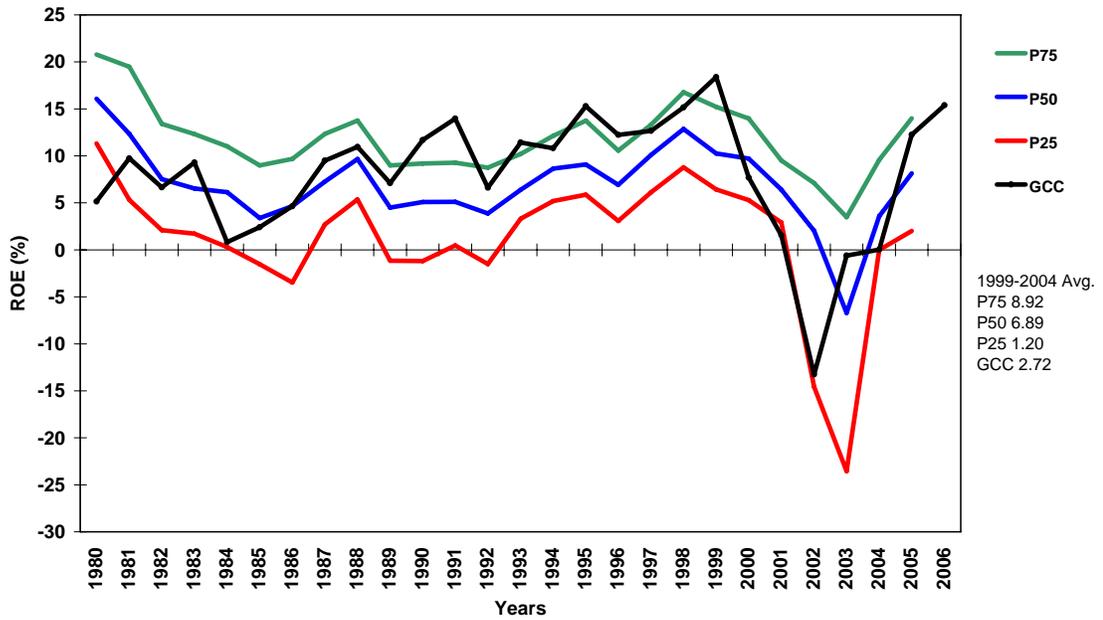
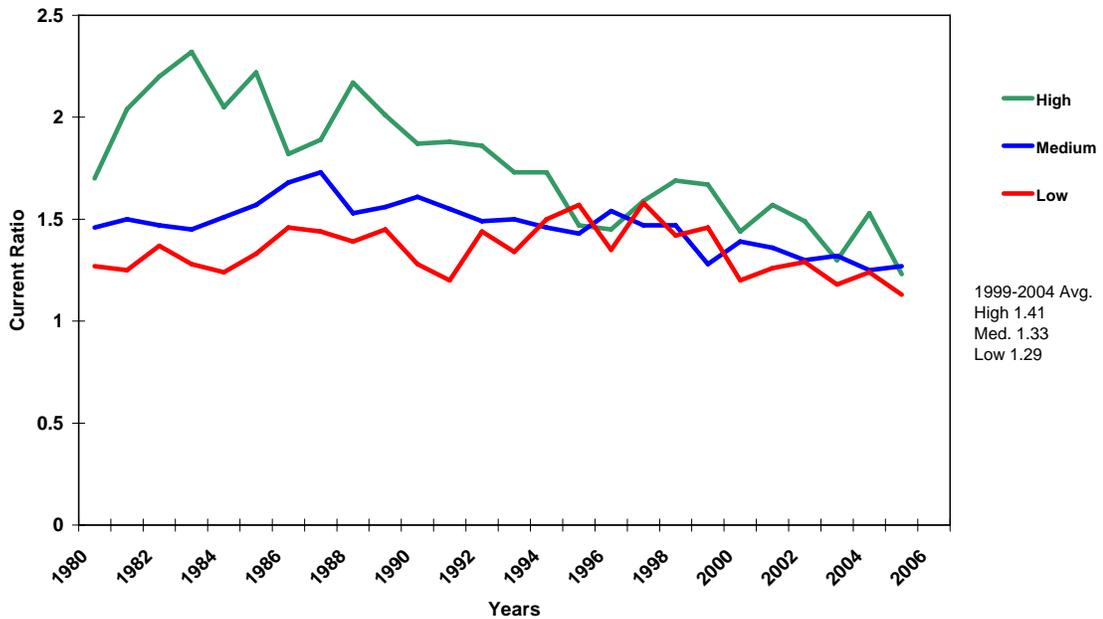
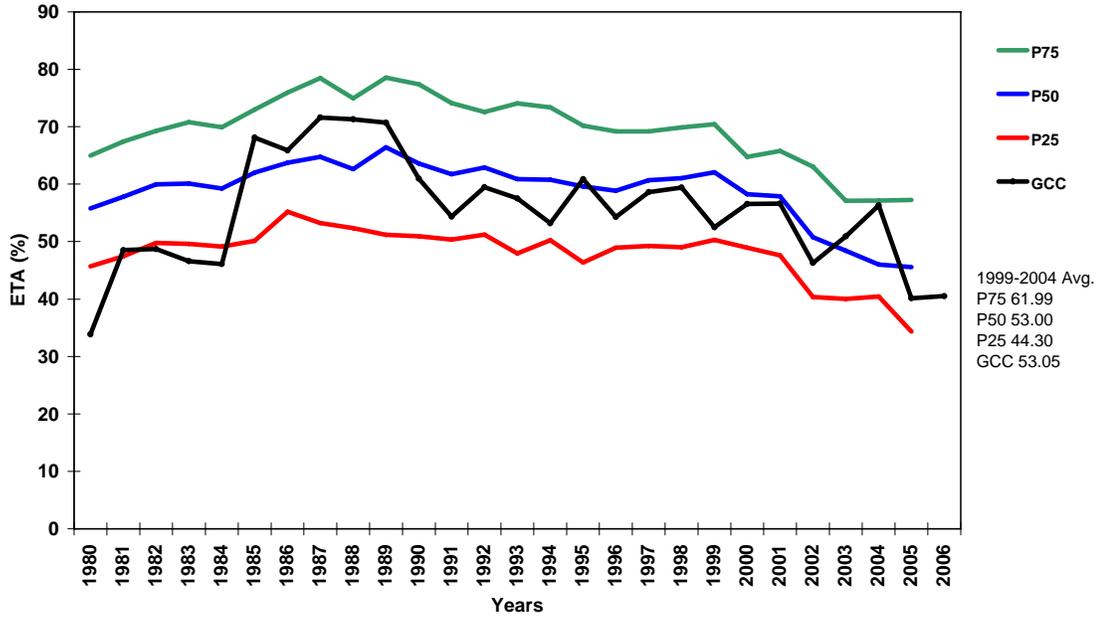


Figure 3-3. Current Ratio
Kansas Cooperatives Profit Group Means



**Figure 3-4. Equity to Assets
Garden City Co-op, Inc. and Kansas Cooperatives Percentiles, 1980-2006**



**Figure 3-5. Adjusted Equity to Assets
Garden City Co-op, Inc. and Kansas Cooperatives Percentiles, 1980-2006**

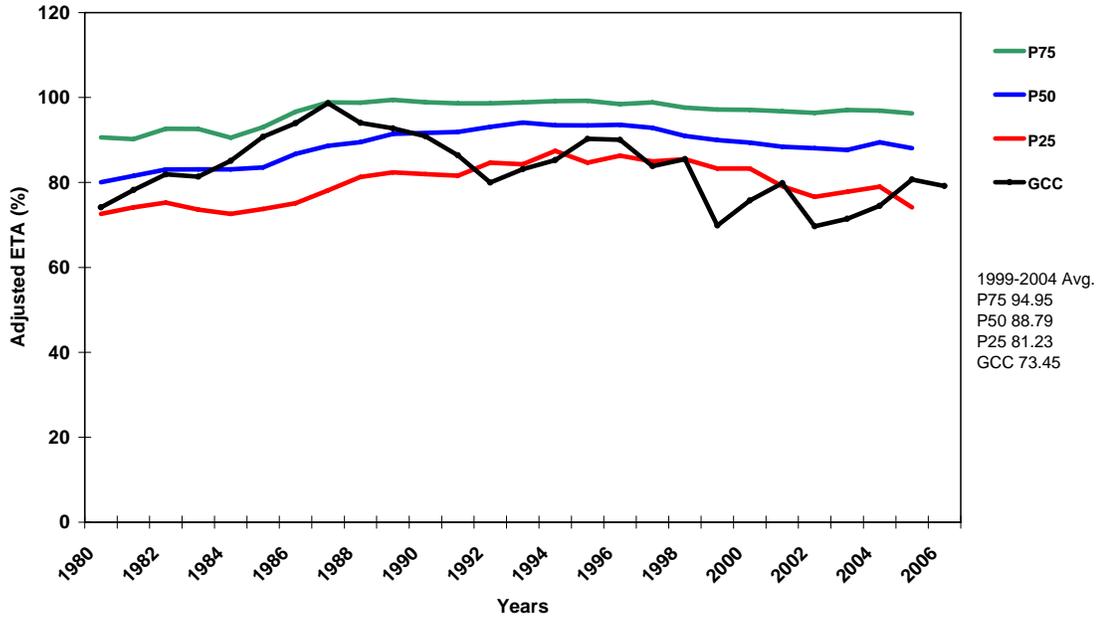


Figure 3-6. Gross Income to Personnel Expense
Garden City Co-op, Inc. and Kansas Cooperatives Percentiles, 1980-2006

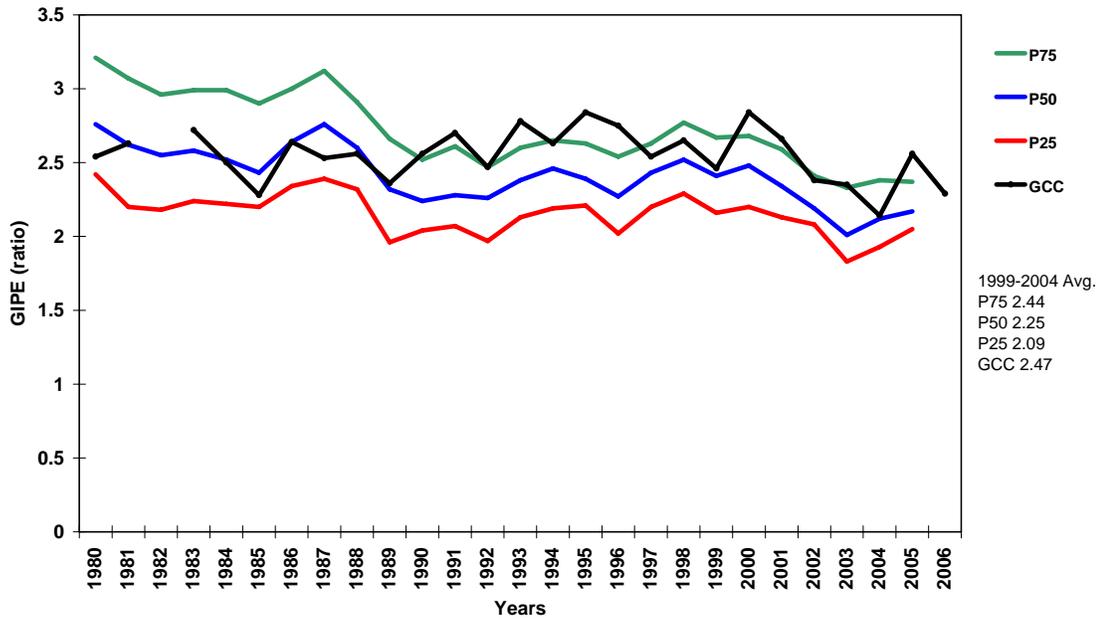
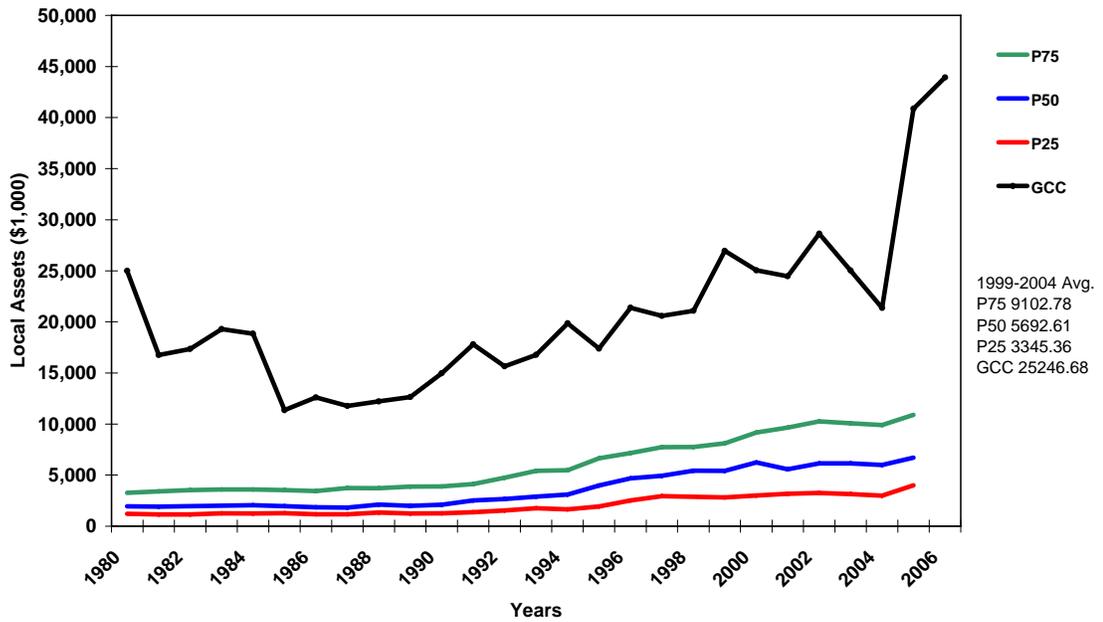


Figure 3-7. Local Assets
Garden City Co-op, Inc. and Kansas Cooperatives Percentiles, 1980-2006



CHAPTER 4: FINANCIAL PROJECTIONS

4.1 Strategies

Chapter Four evaluates four fundamental strategic questions: (1) "Where Are We Going?" if we continue business as usual, (2) "Where Do We Want To Go?" if we choose to improve on the current financial plan, (3) "How Do We Get There?" if we can choose among several viable alternative financial management strategies, and (4) "What Decisions Need To Be Made Now?"

4.2 Where is GCC Going?

If GCC continues business as usual, this can be evaluated by preparing a base plan financial projection that includes strict balance sheet management of liquidity or working capital and using the current income distribution and equity management program. This strategy is referred to as Strategy S0 (S zero). This strategy utilizes (1) the base sales, profit and income distribution plan, (2) the minimum or no growth fixed asset investment plan, (3) the sale of the FCStone investment, (4) the base outside business and investment plan with other cooperatives, especially regional cooperatives like CHS and CoBank, (5) the base outside business and investment plan with investor-oriented firms (IOFs), mostly joint-venture LLCs, such as Wind River Grain and East Kansas Chemical, and (6) the minimum equity redemption program currently followed.

The base plan manages liquidity on the balance sheet and minimizes seasonal debt and long-term bank debt within the liquidity objectives. Patron notes can be managed to achieve liquidity objectives as well. The base plan includes managing seasonal loans.

Patron notes are set at a specified level of \$5.6 million with a five year rotation (i.e., 20 percent being current and 80 percent long-term).

The base plan has no targeted objectives for solvency. Equity on the balance sheet is managed indirectly using the other assumptions about asset changes, income distribution, equity investment and the traditional equity redemption program for each equity class. This dictates the amount of equity remaining on the balance sheet, given the amount of new equity created and the amount of old equity redeemed.

A strict balance sheet management approach that includes setting a solvency target and related equity redemption budget is recommended. The approach is referred to as a targeted plan or best practice plan, which GCC is not currently using. Strategy S11, described later, evaluates this approach and assumes equity redemptions are the residual use of funds to achieve liquidity and solvency objectives. This base approach is very important when comparing other financial strategies. It allows for the alternatives to be compared fairly.

Where is GCC headed if they stick to the “status quo?” If the current business model and plan, including equity management practices continue, what kind of financial performance and equity redemptions are expected or possible under normal profit conditions? This important question is addressed as a prerequisite to evaluating alternative sales, profit and growth strategies.

Chapter 4 evaluates alternative financial projections based on normal profitability and applying the most likely strategy for asset investment, debt and equity financing and income generation and distribution. The tables and figures used in this chapter to describe the projection results are based on a larger and more detailed set provided to GCC. This more detailed information is included in Appendix B in electronic form for reference by the examining committee. It is confidential information and is not available in the published thesis document for public review.

Equity financing is based on a strategy that resembles as closely as possible the current equity investment and equity redemption methods. This financial performance projection is the base plan against which other alternatives are compared. It is referred to as the base strategy and is designated as Strategy “S0” or “S zero.”

The years chosen for the financial projection were 2007-2016. This projection required estimates of income generation (e.g., sales and expenses), income distribution (e.g., cash patronage refund rates), changes in assets (e.g., asset purchases), changes in liabilities (e.g., long-term debt payments), and changes in equity (e.g., equity redemptions). This information was used to create pro forma financial statements and supporting schedules for the projected years.

The financial planning software, FINPLAN, was used to calculate the financial results of these economic outcomes and possible decisions.

Base Plan Description and Analysis: Normal Profitability (S0)

Strategy S0 is the “status quo” strategy. As noted previously, this strategy utilizes (1) the base sales, profit and income distribution plan, (2) the minimum fixed asset

investment plan, (3) the sale of the FCStone investment, (4) the base outside business and investment plan with other cooperatives, especially regional cooperatives like CHS and CoBank, (5) the base outside business and investment plan with investor-oriented firms (IOFs), mostly joint-venture LLCs, such as Wind River Grain and East Kansas Chemical, and (6) the minimum equity redemption program currently followed.

Equity Classes. There are five separate equity classes listed in GCC's patronage accounting system. The five individual classes are combined into two aggregate classes as listed in the balance sheet, common stock (CS) and patronage ledger credits (PLC). The individual classes of equity are treated the same within each aggregate class. The two groups are individually shown on the pro forma projected balance sheet. See Table 4-1.

Voting members are expected to have one share of common stock at a par value of \$50. New members purchase that share with cash. There are 1,400 voting members in the records. Patrons who are not members are expected to have one share of participating equity at a par value of \$50. New non-voting patrons purchase their share with cash. There are 2,600 non-voting patrons in the records. It is assumed that these are unique members and patrons and that any overlap between co-ops that merged into GCC have been eliminated.

Member and non-member patrons are expected to accumulate a total of \$2,000 in common stock or participating stock. This is accomplished by distributing retained patronage refunds to common stock until the \$2,000 is achieved. Additional retained patronage refunds are distributed to patronage ledger credits. The amount of future business

done is estimated by each patron and manages each patron account independently to assure they achieve the \$2,000 requirement.

The remaining two allocated or deferred equity classes were combined into one group or equity class, patronage ledger credits (PLC). This class was established by GCC to manage future equity investment and redemption. Only GCC's "Patronage Ledger Credits," is eligible for additional investment from future retained patronage refunds in all strategies.

Liquidity and Solvency Targets. The base plan, S0, directly achieves liquidity targets but not solvency targets. The rate of profitability, equity investment due to income distribution, and equity redemption determine the financial structure. See Table 4-2.

Income Projection: Generation. The income projection represents what is expected or most likely to happen to revenues and expenses and therefore to income. It is represented by a pro forma operating statement. See Table 4-3.

Income Projection: Distribution. The distribution of total income is also reported and includes the following components: Dividends, Non-Patronage Earnings, Patronage Earnings, and Income Taxes. The applicable taxes are shown for Dividends, Non-Patronage Earnings, and the portion of Patronage Earnings that go to Retained Earnings.

The equity investment strategy is based on five factors: (1) the rate of non-patronage (non-member) business and earning distributed to retained earnings, (2) the rate of patronage earnings not allocated to patronage refunds but distributed instead to patronage or member-sourced retained earnings, (3) the portion of patronage refunds distributed in qualified form, (4) the rate of cash patronage refunds paid on qualified

patronage refunds and (5) the portion of patronage refunds distributed in non-qualified form.

The assumptions for the five factors are as follows:

Factor 1: Non-patronage business is assumed to be 46 percent for 2007-2016. This percent of earnings is distributed to non-patronage sourced retained earnings and includes the income taxes paid, so the net increase in equity is after taxes.

Factor 2: No patronage earnings are distributed to unallocated retained earnings.

Factor 3: All patronage earnings are distributed as patronage refunds in qualified form.

Factor 4: Cash patronage refunds are assumed to be 30 percent, leaving 70 percent of patronage refunds for investment as retained patronage refunds into the retained patronage equity class, Patronage Ledger Credits, as shown on the GCC balance sheet. This new equity investment into GCC PLC is equal to 37.8 percent (70% times 54%) of total income.

Factor 5: No patronage refunds are distributed as non-qualified retained patronage refunds.

Financial Structure. The financial structure projection represents what is expected to happen to assets, debt and equity. It is represented by a pro forma balance sheet and is reported in Table 4-1.

Redemption Policy and Program. The equity redemption strategy used for each financial strategy is based on the redemption policy. One of the most important decisions to be made by the board and management of GCC is the choice of a redemption policy and a specific program or strategy for each class of equity.

The equity redemption strategy is based on three factors: (1) the total budget available for redemptions, (2) the portion of the redemption budget allocated to each equity

class or pool and (3) the combination and priority of equity redemption methods used for each class. In general, S0 represents the current policy of the board.

We make estate settlement redemptions to all eligible classes of equity. Estate settlements receive the first priority for redemption.

Only natural persons with birth years are eligible to receive estate settlements. In all eligible classes, the patrons that are corporations and other organizations, as well as some natural persons for whom no birth year is known are normally grouped into the last birth year, 2006, in the equity matrices. It is assumed that this group is not eligible for estate settlements.

Redemptions to the remaining eligible equity classes, Preferred Stock A and Patronage Ledger Credits, combined into the class, PLC, use a combination of two methods. The methods are estates settlements or specials (move aways, etc. can be included) and revolving fund. In priority order they are: (1) specials, specifically estate settlements, and (2) revolving fund. Our short-form expression for the S0 redemption strategy is S0:SP+RF.

A summary of the S0 redemption program for each equity class is shown in Appendix B Table 10-15-S0. A more precise description of the program details is provided in the equity summary table for each class, the Appendix B Table 10-14. The details include the redemption methods used and the assumptions about each method as well as the actual cash flows.

Note that in S0 we assumed the objective was to lower the length of the revolving fund from the current length of 20 years to 15 years by the end of the 10 year projection period. The specific schedule is reported in Appendix B Table 10-14.4-S0. This schedule

ultimately determines the amount of equity left on the balance sheet and the solvency strength of the balance sheet.

An improved approach is used in S11, by requiring the achievement of a specific equity to asset target, such as 54 percent.

Equity Structure. Equity is managed at two levels, simultaneously: (1) on the balance sheet, the “macro” level, and (2) in the individual patron accounts, the “micro” level. The recommended approach is to first manage total equity at the balance sheet level by setting a solvency target, equity to assets. This provides a redemption budget equal to the amount of equity above the solvency target. The budget for each pool is then distributed among the individual patron accounts using the various redemption methods chosen for the redemption program.

Strategy S0 doesn't use a formal solvency or equity targeting procedure, but strategies S11-S15 do. Note that the S0 assumptions cause the equity to asset ratio to increase from 51 percent in 2007 to 74 percent in 2016, as reported in Table 4-2.

Cash Flow to Patrons. One way to understand the nature and impact of the S0 strategy is to review the cash flows produced by this strategy. Cash flows can be divided into cash patronage refunds, special redemptions, specifically estate settlements, and additional redemptions made using the revolving fund method.

Some cooperatives try to manage redemptions by managing cash flow instead of managing the balance sheet equity. For example, some co-ops restrict cash flow to patrons from cash patronage refunds and equity redemptions to a set percentage, such as 50 percent of net income. This is not advisable because for some co-ops or some years it should be lower and for other co-ops or years it should be higher. But for comparative purposes these

outcomes can be calculated. Look at Appendix B Table 10-15-S0 and find the row labeled “Total Cash Flow Proportion of Net Income %.”

Beginning Equity Matrix. The GCC patronage accounting system keeps track of allocated equity in individual patron accounts. As noted earlier, the information was imported, summarized and classified in various ways to facilitate the financial analysis done in this project.

Retained patronage refunds for GCC consists of two equity classes that were combined into one class, patronage ledger credits. Separate equity matrices or tables can be constructed for all classes of equity shown in the balance sheet. Tables or equity matrices are provided for the two aggregated equity classes, common stock and patronage ledger credits. See the Appendix B Table 10-12 set.

At the bottom of the beginning equity matrices are four summary statistics on each birth group based on the patron records following the 2006 fiscal year end. The four statistics are (1) number of patrons, (2) size of the minimum or smallest patron account, (3) size of the maximum or largest patron account and (4) size of the average patron account. This information is shown for each birth year and for all patrons combined.

Percent of Member Business. The percent of total patronage business done by the patron-owners in the PLC equity class for each birth group in the five most recent fiscal years of 2002-06 is calculated from the retained patronage records. It is shown as the “Percent of Member Business” row in Appendix B Table 10-13.1-S0. The ending equity matrix is described in more detail below. A percent of member business was calculated for each patron that had retained patronage refunds in 2002-06. The sum of estimated patron business divided by estimated total patron business is the percent of member business for

each patron. Since GCC had losses or low profits in 2002-2004, no patronage refunds were distributed. Therefore, the effective years for this calculation were 2005-06.

Ending Equity Matrix. The impact of strategy S0 on the equity level or balance remaining at the end of the projection or year 2016, by birth year and year retained, is also of interest. These equity matrices summarize future distributions of retained patronage refunds and the ending balances after these additions and reductions due to equity redemptions for PLC and other equity classes.

Appendix B Table 10-13.1-S0 is the ending equity matrix for patronage ledger credits for strategy S0 at the end of the ten-year projection, 2007-2016. The “Equity by Year Retained” rows of 2007-2016 show the new equity created during 2007-2016 and still in patron accounts. The basic structure of the equity matrix is the same as the beginning matrix.

4.3 Where does GCC Want to Go?

The third question, Where Does GCC Want to Go?, focuses on strict balance sheet management and the best practice plan. It is answered by selecting financial and equity management objectives. The objectives are grouped in two categories, the cooperative business and the patron. Cooperative business objectives include liquidity and solvency targets that specify the desired strength of the balance sheet, including cash or working capital and equity investment.

In February 2007 ten strategies, S1-S10, were evaluated by the Author Capper Cooperative Center. These strategies were reviewed by the board and management of GCC. Based on this analysis it was decided to revise some of the assumptions and narrow

the evaluation to five strategies. This thesis project is focused on the revised base strategy S0, and these five best practice strategies, S11-S15. These projections were completed in June 2007.

4.3.1 Strategy Factors

Six different strategies were evaluated, S0 and S11-S15. Three main factors were used to construct and categorize the strategies: (1) sales and income growth, (2) growth in assets, based on fixed asset purchase levels, and (3) balance sheet strength, based on the solvency or equity to asset targets chosen. Appendix B Table 10-3 shows how the six strategies are classified according to the first two factors. Equity to assets (ETA) in 2006 was 41.6 percent. An ETA target of 51 percent was set for 2007 and a target of 54 percent is set for 2007-2016 using S11-S15.

The primary set, S0, S11, S12 and S13, assume a no growth strategy, equivalent to adding \$1.7 million in fixed assets per year. S0 and S11 use a base sales strategy. S12 increases commercial petroleum sales by \$10 million per year for the five years, 2008-2012. S13 increases commercial petroleum sales by \$20 million per year for five years, 2008-2012. S14 and S15 are identical to S12 but represent higher growth strategies.

4.3.1.1 Sales and income level

Three basic sales and associated income levels are evaluated: normal or base, moderate and high. Normal uses the base sales projection and reflects the sales expected, given the current business model and plan. Strategies S0 and S11 assume normal sales.

Moderate sales growth occurs because of a specific business strategy of increasing sales by an additional \$50 million or 25 million gallons of non-patronage commercial or

broker petroleum sales and associated gross margins, operating expenses, CHS patronage refunds, accounts receivable and accounts payable. It is assumed that moderate sales growth begins in 2008, increasing \$10 million per year for 2008-2012. Strategies S12, S14 and S15 use the moderate sales growth strategy.

High sales growth occurs because of a specific business strategy of increasing sales by an additional \$100 million or 50 million gallons of non-patronage commercial or broker petroleum sales and associated gross margins, operating expenses, CHS patronage refunds, accounts receivable and accounts payable. It is assumed that high sales growth begins in 2008, increasing \$20 million per year for 2008-2012. Strategy S13 uses the high sales growth strategy.

Gross margins on this new business initiative are assumed to be 0.5 percent. Operating expenses are assumed to increase by \$100,000 (bad debt expense of \$40,000 and other operating expenses of \$60,000) per \$100 million increase in sales or 0.1 percent of sales, leaving a net operating margin of 0.4 percent of sales.

CHS patronage refunds are assumed to be 8 cents per gallon or \$4 million on 50 million gallons. So \$4 million in patronage refunds on \$100 million in sales is equivalent to other income of 4 percent of sales. Therefore, net income is approximately 4.4 percent of sales, a relatively high profit rate compared to other business units.

Accounts receivable and accounts payable increase by the equivalent of 10 days sales or \$2.8 million on \$100 million in additional sales. We assume no additional working capital is needed for the moderate and high sales growth strategies.

4.3.1.2 Growth in assets

Three asset growth options are evaluated. All three involve only internal growth through fixed asset purchases with uniform purchases each year. Other options could be constructed that use a combination of internal and external growth. External growth would be accomplished by purchasing bigger shares of existing joint venture businesses or purchasing other businesses to add to GCC's business portfolio. External growth options were evaluated in the initial study.

The first option is to maintain the fixed asset base at a constant level. There is no net growth, accomplished by purchasing fixed assets equal to the depreciation expense. This option purchases \$1.7 million in fixed assets each year. The rationale is to maintain the current business model indefinitely. Strategies S0, S11, S12 and S13 use this option.

The second option is to grow the current fixed asset base at a moderate growth rate. This option purchases \$4.5 million in 2008. The rationale is to grow the current business model internally and to test the impact of a significant one-time purchase. Strategy S14 uses this option.

The third option is to grow the current fixed asset base at a high growth rate. This option purchases \$9.0 million in 2008. The rationale is to grow the current business model internally and to test the impact of a significant one-time purchase. Strategy S15 uses this option.

4.3.1.3 Balance sheet strength

Balance sheet strength is measured by liquidity and solvency. Two liquidity measures are used: cash and working capital. Minimum cash is set at \$100,000. Minimum working capital for the base plan is based on the value specified in the loan covenants or \$3.9 million and then adjusted to increase at the same rate sales increase in the base plan or

2.5 percent. The impact of one solvency strength scenario is evaluated, which we term moderate solvency. The earlier study evaluated three solvency strategies, minimum, moderate and high. We believe the moderate strategy is most appropriate for this evaluation. This scenario specifies a set of 10 equity to asset (ETA) targets, one for each year, 2007-2016.

The moderate solvency scenario selected a more preferable long run solvency target of 54.0% ETA and builds the ETA by starting at 51% in 2007, and increasing to 54% for all remaining years, 2008-16. Strategies S11-S15 use a moderate solvency scenario.

Strategy S0 can also be categorized as a high solvency strategy. It employs a minimum redemption program, does not try to manage solvency directly, and ends up achieving a high solvency position of 51% in 2007 and steadily increases each year to 74.1% in 2016.

4.3.2 Description of Strategies

A brief description of each strategy is provided next. The financial projection results, reported in a series of tables for S0 and S11-S15, are contained in Appendix B.

4.3.2.1 Strategy S0

Strategy S0 is the “business as usual” strategy. It assumes normal sales and income. It also assumes a minimum fixed asset purchase each year equal to depreciation expense. However, it is not likely this pattern would be sustained for 10 years and would only be used if the dominant strategy was to maintain the current business. Another possible strategy would be to reduce the fixed asset investment below the depreciation rate, in other words, to “cash cow” the business and disinvest in the core business assets by not replacing them.

The base plan financial projections are provided for S0 and utilize only a liquidity target for balance sheet management. It begins with a base projection of income and income distribution, shown in Appendix B Table 10-1-S0, and the base projection of the balance sheet, shown in Appendix B Table 10-3-S0. It reflects the asset choices and assumptions and the liability or debt and equity financing choices and assumptions. The balance sheet is managed to achieve or exceed specific liquidity targets but not solvency targets. Targets for these measures are specified as noted at the bottom of Table 4-2. Equity redemptions are managed in a “manual” way by forcing a specific redemption program as described below. As a point of comparison, the actual solvency results of S0 exceed the solvency targets chosen for strategy S1, and noted on Appendix B Table 10-3-S1.

This strategy utilizes (1) the base sales, profit and income distribution plan, (2) the no growth or minimum fixed asset investment plan, (3) the sale of the FCStone investment, (4) the base outside business and investment plan with other cooperatives, especially regional cooperatives like CHS and CoBank, (5) the base outside business and investment plan with investor-oriented firms (IOFs), mostly joint-venture LLCs, such as Wind River Grain and East Kansas Chemical, and (6) the minimum equity redemption program currently followed.

The base plan manages liquidity on the balance sheet and minimizes long-term bank debt and seasonal loan debt within the liquidity objectives. Term loan interest rates are set at 5.87% and seasonal loan interest rates are set at 5.63%. This differential in rates encourages term loans to be paid off before seasonal loans, a behavior generally consistent with typical local co-op practices. It is also possible to proactively manage other debt, such

as patron notes, to more perfectly achieve liquidity objectives. However, patron notes are set at a specified level of \$5.6 million with a five year rotation (i.e., 20 percent being current and 80 percent long-term).

Note that the management of liquidity was improved from the previous study by proactively managing seasonal loans to better achieve the liquidity targets. Previously the seasonal loans were set at a value equal to a percentage of sales.

The base plan has no targeted objectives for solvency. But the solvency result is an equity to asset ratio of 74.1 percent by 2016, a very strong balance sheet. Equity on the balance sheet is managed indirectly using the other assumptions about asset changes, income distribution, equity investment and the traditional equity redemption program for each equity class. This dictates the amount of equity remaining on the balance sheet, given the amount of new equity created and the amount of old equity redeemed.

Two classes of allocated equity, common stock and patronage ledger credits, are actively managed for each patron-owner. Income distribution into the CS and PLC classes is shown in Appendix B Table 10-1-S0. Balances at the end of each fiscal year are shown in Appendix B Table 10-3-S0. Transactions in each equity class (additions, transfers, and redemptions) are shown in the equity summary tables, the Appendix B Table 10-14 set.

Redemptions to the retained patronage refund or deferred classes of equity, known as Patronage Ledger Credits in GCC's case, use a combination of methods in priority order (1) specials or estate settlements and (2) revolving fund. The details are reported in the Appendix B Table 10-14 set and Table 10-15.

The base plan, S0, directly achieves liquidity targets but not solvency targets. The rate of profitability, equity investment due to income distribution, and equity redemption determine the financial structure.

Each projection has three main components: (1) income as presented in the operating statement, (2) financial structure as presented in the balance sheet, and (3) equity structure as presented in the equity section of the balance sheet. A summary of the key assumptions and the factors that vary for each year of the projection components are shown in Appendix B Tables 10-1 through 10-8 for each strategy.

4.3.2.2 Strategy S11

Strategy S11 provides the most generous cash flow to patron-owners in the base sales and no growth situation. It is similar to S0 but achieves specific liquidity and solvency targets. The moderate solvency target scenario is used as described above. Two equity classes are actively managed, CS and PLC. We provide the financial projections for S11 and utilize both liquidity and solvency targets for balance sheet management along with a redemption budget. The methods used for each class are described in the Appendix B Table 10-14 set.

An ETA of 54% is considered adequate to protect the co-op against foreseeable risk, given the expected profitability. The ETA achieved in S0 in 2016 was about 74% so the difference of 20% represents the difference between minimum equity redemptions and maximum equity redemptions. In this case, redemptions are the residual use of excess equity above the targeted amount. This creates a maximum redemption budget and is the recommended approach to managing equity and making redemptions in the future.

4.3.2.3 Strategy S12

Strategy S12 is identical to S11 except it employs the moderate sales growth scenario of achieving an increase in commercial petroleum sales of \$10 million per year for the years, 2008-2012, a total increase of \$50 million above the base plan. It increases redemption cash flow to patrons, compared to S11, due to increased income. Cash patronage refunds and equity redemptions are higher than S0 and S11. The primary purpose of S12 is to illustrate the cash flow impact of a moderate increase in commercial petroleum sales.

4.3.2.4 Strategy S13

Strategy S13 is identical to S12 except it employs the high sales growth scenario of achieving an increase in commercial petroleum sales of \$20 million per year for the years, 2008-2012, a total increase of \$100 million above the base plan. It increases redemption cash flow to patrons, compared to S12, due to increased income. Cash patronage refunds and equity redemptions are higher than S0, S11 and S12. The primary purpose of S13 is to illustrate the cash flow impact of a high increase in commercial petroleum sales.

4.3.2.5 Strategy S14

Strategy S14 is identical to S12 except it assumes a moderate internal fixed asset growth event. A one-time fixed asset purchase of \$4.5 million is made in 2008. It illustrates the impact of growth on cash flow to patrons when employing a balance sheet management approach. Cash patronage and equity redemption cash flow to patrons is substantially lower in S14 than S12.

4.3.2.6 Strategy S15

Strategy S15 is the same as S14 except it assumes the high internal fixed asset growth event. A one-time fixed asset purchase of \$9.0 million is made in 2008. It illustrates

the impact of growth on cash flow to patrons when employing a balance sheet management approach. Cash patronage and equity redemption cash flow to patrons is substantially lower in S15 than S14.

4.3.3 Balance Sheet Management

By using a strategy that implements the base financial strategy, in terms of sales, profitability and asset changes, and also achieves specific financial structure targets for both liquidity and solvency it helps answer the question of where does GCC want to go. As a consequence, it also derives an overall equity redemption budget. This is called the balance sheet management approach. The solvency target determines the total amount of equity required on the balance sheet to finance assets and also determines the total amount of excess equity available for redemption. Equity redemptions are the residual use of funds to achieve the desired balance sheet.

The financial performance projections are reviewed for GCC based on using the S11-S15 strategies. The same assumptions are used as used for the S0 strategy except that balance sheet solvency or equity is managed by first achieving an equity to asset target value. Appendix B provides the set of table and figures that describe in detail the S11-S15 financial projections.

S11-S15 achieves specific financial structure targets for liquidity and solvency and, as a consequence, also derives an overall equity redemption budget. This targeting approach determines the total amount of equity required on the balance sheet to finance assets and also determines the total amount of equity available for redemption, which we specify as the equity redemption budget. Therefore, the financial performance projections used in the base plan are modified to meet the equity requirements of the targeted plan.

A solvency target is set for each year of the projection period, 2007-2016. In this case, redemptions are the residual use of excess equity above the targeted amount. This creates a maximum redemption budget and is the recommended approach to managing equity and making redemptions in the future.

To achieve this target we were able to increase redemptions in 2007-2016 above the base plan, S0, for those classes classified as flexible. We achieved this by increasing redemptions to the flexible classes by applying the additional budget as a revolving fund redemption. The flexible equity class is PLC.

Patron objectives include proportionality of investment and cash flow criteria used to evaluate the given equity redemption alternatives and the cooperative business objectives. GCC requires each patron-owner to accumulate \$2,000 of commons stock (CS) or equivalent and to see the remainder of equity investment placed in patronage ledger credits (PLC) or equivalent. This is the patron objective, which includes investment and cash flow used to evaluate equity redemption options and the business objectives. CS equity is redeemed with estate settlements. PLC equity is redeemed with estate settlements and a revolving fund, currently 21 years in length. Some additional age of patron redemptions are made to former Dighton owners on an age of patron basis at age 70. These cash flows are relatively small and have been ignored since the Dighton ownership is not separated out into a separate equity class and would be difficult to project in our projection system.

4.4 How does GCC get there?

A strategic financial planning analysis was completed to determine and evaluate several different financial management strategies that accomplish several objectives. The

objectives include determining if a particular sales and growth strategy is feasible and sustainable. The financial analysis uses financial projections and financial and equity management strategies recommended or approved by the management of GCC.

4.4.1 Analysis of Strategies

We will compare S0 and S11-S15 to see how they perform using several basic factors. Measures such as feasibility and sustainability, the length of the revolving fund equity structure in terms of the proportion of total equity that is unallocated retained earnings and cash flow to patrons on a total and after tax basis were evaluated. These comparisons should help in choosing which of these six alternative financial management strategies are best.

Each projection has three main components: income projection, financial structure projection and equity structure projection. The income projection uses a normal profit assumption. Total gross income and other income are identical for all strategies.

The financial and equity structure projections are represented by the projected balance sheets. Each strategy has a unique balance sheet.

The financial details of the results are included in the text, graphs and tables of this thesis and in Appendix B.

The six strategies, S0 and S11-S15, are evaluated at the co-op level by reviewing some selected performance measures. Patron cash flow and patron equity investment proportionality are used to evaluate the equity redemption strategies at the co-op level. Also used to evaluate redemption performance are equity turnover percentage, the lowest age achieved in an age of patron oldest first redemption, the length of the revolving fund if using a revolving fund, and the total and after tax cash flow paid to patron-owners.

The next step is to compare the strategies so that GCC can find the best option for their business in the future. S0, the base plan or “status quo” strategy, assumes normal sales and income. It also assumes a minimum fixed asset purchase each year, based on the assumption that recent fixed asset purchases have been sustained and purchases equal to depreciation expense are not required. However, it is not likely this pattern could be sustained for ten years, so it would only be used if the dominant strategy was to “cash cow” the business and disinvest in the core business assets by not replacing them. The base plan financial projection for S0 utilizes only a liquidity target for balance sheet management. The balance sheet is managed to achieve or exceed specific liquidity targets but not solvency targets. Targets for these measures are specified as noted at the bottom of Table 4-2. Equity redemptions are managed in a “manual” way by forcing a specific redemption program. S0 manages liquidity on the balance sheet and minimizes long-term bank debt within the liquidity objectives. It is also possible to proactively manage other debt, such as bank seasonal loans and patron notes, to more perfectly achieve liquidity objectives. However, seasonal loans as a percentage of sales volume and patron notes are at a specific level.

Solvency has no target objectives, but the solvency result is an equity-to-asset ratio of 73.9 percent by 2016, which is a very strong balance sheet and is stronger than the set target of 54 percent used in all the other strategies (S11-S15). Equity on the balance sheet is being managed indirectly using the other assumptions about asset changes, income distribution, equity investments and the traditional equity redemption program for each

equity class. This dictates the amount of equity remaining on the balance sheet, given that amount of new equity created and the amount of old equity redeemed.

S0 directly achieves liquidity targets but not solvency targets. The rate of profitability, equity investment due to income distribution, and equity redemption determine the financial structure.

Each projection S11-S15 has three main components: (1) income as presented in the operating statement; (2) financial structure as presented in the balance sheet; and (3) equity structure as presented in the equity section of the balance sheet. A summary of the key assumptions and the factors that vary for each year of the projection components are shown in Appendix B Tables 10-8 for each strategy.

4.4.4.1 Feasibility Sustainability

Feasibility and sustainability is achieved by all scenarios S0 and S11-S15. All targets of solvency were maintained except for S15 in 2008. The moderate sales combined with the high growth rate made it impossible to achieve the equity ratio goal of 54% until 2009.

4.4.4.2 Revolving Fund

Each scenario started with a 20 year revolving fund. S0 was fixed at a 15 year revolving fund and S11-S15 was not fixed. The end result of where the revolving fund is at year 2016 for each scenario was 5 years for S11, 4 years for S12, 2 years for S13, 5 years for S14, and 6 year revolving for S15. The largest reduction in revolving fund length over time was S13 with high sales and no added growth. S14 and S15 increased slightly over

S13 as growth dollars were added, but still maintained a low 5 to 6 year revolving fund. These are shown in Figure 4-2 and Appendix B Table 10-14.4 for each strategy.

4.4.4.3 Equity Structure

Equity structure varies for each strategy. The structure is shown in each balance sheet's "Equity Component Percentage" information. The total of S0's and S11's retained earnings has relatively the same total dollar of \$30M, but S0 has a 16% higher retained patronage refund than S11. By fixing S0 at a 15 year revolving fund it had a higher total equity at the end of the 10 years than S11, because S11 paid out more equity over the 10 years ending with a 5 year revolving fund. Revolving fund patronage ledger credits are illustrated in Appendix B Table 14.4 for each strategy.

4.4.4.4 Total Cash Flow to Patrons After Tax

Total cash flow to all patrons after tax, including cash patronage refunds and redemptions, contained in the equity summary totals is shown in Figure 4-3.

The total cash flow after tax for all projected years increases at a steady rate. S0 has the lowest total present value cash flow after tax of \$9.4M while S13 has the highest of \$24.5M. The strategies with added growth S14 and S15 show a lower present value cash flow after tax than S13 given the extra investment. Even though S14 increased investments by \$4.5M total present value cash flow after tax is only down \$2M from S12, with no added investment. This shift in cash flow can be observed in the pattern of total present value cash flow to patrons after tax over the years, 2007-2016. It is illustrated in Figure 4-4.

4.4.5 Summary by Strategy

4.4.5.1 Strategy S0

Strategy S0 is described as status quo or business as usual. It is sustainable with an unlocked solvency ratio that ends with a solvency ratio of 73.7% by year 2016. The

revolving fund starts at 20 years and then fixed at 15 years which was achieved in year 2012. Retained earnings ended at 46% of total equity and retained patronage refunds (patronage ledger credits) ended with 50% of the total equity. Total present value of cash flow was \$9.4M.

4.4.5.2 Strategy S11

Strategy S11 is similar to S0 but achieves specific liquidity and solvency targets. The solvency target used is 54% and also employs the minimum fixed asset purchase scenario with no increase in sales and profits. It is a combination of growth and solvency that provides for an upper level of redemption with a high level of cash flow to patron owners. This is being achieved by maintaining business as usual and managing the balance sheet with a given solvency. Two equity classes are actively managed, CS and PLC. In Table 4.5, the financial projection for S11 utilizes both liquidity and solvency targets for balance sheet management along with the redemption budget. The methods used for each class are described in the Appendix B Tables 10-3.

An ETA of 54% is considered moderate to protect GCC against foreseeable risk, given the expected profitability. The ETA achieved in S0 in 2016 was over 74%, so the difference of 20% represents the difference between minimum equity redemption and maximum equity redemption. In this case, redemptions are the residual use of excess equity above the target amount. This creates a maximum redemption budget and is the recommended approach to managing equity and making redemptions in the future. S11 would be preferred to S0 because it manages solvency on the balance sheet and provides more cash flow.

4.4.5.3 Strategy S12

Strategy S12 is much more likely to occur, is more realistic than S0 and S11, and is perhaps more preferable. It is identical to S11 but with a moderate sales increase of \$10MM year from 2008-2012. Fixed asset purchases are sufficient to maintain the existing fixed asset base indefinitely, and it employs a locked ETA of 54%. S12 has the second highest cash flow to patron-owners with a total of \$35.2MM after tax by year 2016. By S12 managing solvency on the balance sheet like S11 it is still a sustainable strategy even with a sizable increase of sales each year. This would be a recommend approach for the co-op to consider.

4.4.5.4 Strategy S13

Strategy S13 does provide the most generous cash flow to patron-owners at \$39.1MM after tax by year 2016 and the highest net income of \$9.3MM in year 2016. S13 is the same as S12 except it employs the high sales scenario of an additional \$20MM per year from 2008-2012. This higher profitability allows for the substantial increase in cash flow to patrons, compared to S11, because of the high cash patronage refunds and equity redemptions. S13 also proves that even with increasing sales by \$20MM per year the business remains stable and if this sales target could be reached it would pay high returns to members. GCC may want to scale in sales over a one to two year period rather than trying to increase sales by \$20MM in one year

4.4.5.5 Strategy S14

Strategy S14 is the same as S12 with \$1.7MM per year in fixed asset purchases, solvency target employed, and a moderate sales increase of \$10MM per year from years 2008-2012. The difference from S12 is the moderate growth scenario of an added

\$4.5MM for increased external investment growth. In this strategy with the added external investment, cash flow to patron-owners dropped by a total \$2.6MM after tax by year 2016 compared to the S12 strategy. S14 strategy shows the sustainability of the business when employing added sales as well as added expense. GCC could feel comfortable from a financial situation to continue to upgrade current assets, invest in an opportunity if it presents it self and still grow the petroleum business.

4.4.5.6 Strategy S15

Strategy S15 is identical as S14 except it uses the maximum external investment scenario of \$9.0MM. Moderate sales increase of \$10MM per year from 2008-2012 is assumed just like S12 and S14. S15 again illustrates the sustainability of the business when the balance sheet is managed even with a high level expense going to outside investments. If GCC was presented with a very large investment opportunity it could be seriously entertain the offer and have to pull back on expense in other aspects of the business.

4.5 What decisions need to be made now?

Information has been provided concerning the impact of alternative equity redemption strategies. If the assumptions are reliable and proposed strategies cover all alternatives of interest, then the board and management team should have adequate financial information on which to base a decision. Since decisions usually have political impacts and economic impacts not directly measured, these should be considered as well.

In general, the importance of profitability and balance sheet management is the best ways to improve equity management and the financial benefits to producers. Also emphasized is the importance of total and after-tax cash flows to patron-owners.

A recommendation would be to replace the current S0 strategy with an improved strategy such as S11-S15 because they more formally manage the balance sheet by adhering to liquidity and solvency targets. This results in owners of flexible class equity getting a revolving fund redemption based on an equity redemption budget that represents the “residual use of excess equity.”

Replacing the current S0 strategy with S11-S15 could offer advantages to GCC in helping them manage the current volatility that is challenging their business today. By using one of the improved strategies GCC could be better prepared to absorb a down turn in the market. The added profits gained from growing petroleum sales can be managed by the board of directors in different ways. One would be to add more to retained earnings to protect itself from a large down turn in the market. A second benefit of employing one of the new strategies is that it would put GCC in a better financial situation to continue to purchase independent businesses and or merge with other cooperatives who are struggling financially or from managing today’s current markets.

There are many more comparisons, which can be made between strategies. Other plans using different financial projections, financial decisions and equity management strategies can also be evaluated if appropriate.

Each strategy has advantages and disadvantages. The board and management should continue to discuss priorities including, but not limited to, the relative preference for cash flow and proportionality criteria and the implications for each. Since historically you have used the age of patron method in your redemption program, your decision should be made with consideration for patron expectations of additional redemptions.

Some alternatives not examined that may be of interest are other changes in income distribution. These could be increases or decreases in the cash patronage rate, currently at 50 percent. Or increases or decreases in the amount of patronage income distributed to retained earnings, currently at about 28 percent.

GCC needs to decide if they have sufficient information to choose an equity management strategy. One possible decision is to evaluate some additional alternatives.

Table 4-1 Balance Sheet SO

	Balance Sheet (\$1,000): S0					
	2005	2006	2007	2008	2012	2016
ASSETS						
Total Current Assets	29,750	27,923	28,590	29,293	32,285	35,587
Total Investments	8,520	10,022	14,408	18,901	30,168	39,735
Net Fixed Assets	10,073	14,812	14,809	14,806	14,797	14,791
Total Assets	48,342	52,757	57,807	63,000	77,249	90,113
LIABILITIES						
Total Current Liabilities	24,283	25,081	23,595	23,950	23,848	18,958
Total Long-Term Liabilities	4,651	5,706	6,133	4,730	4,730	4,730
Total Equity	19,397	21,971	28,080	34,319	48,671	66,425
Total Liabilities and Equity	48,332	52,757	57,807	63,000	77,249	90,113
FIXED ASSET TRANSACTIONS						
Sales (\$)	0	0	0	0	0	0
Purchases (\$)	1,135	0	1,700	1,700	1,700	1,700
Depreciation Rate (%)	0	0.00%	11.50%	11.50%	11.50%	11.50%

Source: Table 10-3-S0 in Appendix.

Table 4-2 Balance Sheet SO

	Balance Sheet (\$1,000): S0					
	2005	2006	2007	2008	2012	2016
FINANCIAL TARGETS						
Liquidity: Cash			100	100	100	100
Liquidity: Current Ratio			1.21	1.21	1.17	1.17
Liquidity: Working Capital			4097	4,200	4636	5245
Solvency: Equity/Assets						
FINANCIAL RESULTS						
Liquidity: Cash	46	50	100	100	100	100
Liquidity: Current Ratio	1.23	1.11	1.21	1.22	1.35	1.88
Liquidity: Working Capital	5,466	2,842	4,995	5,343	8,437	16,629
Solvency: Equity/Assets	40.12%	41.64%	48.57%	54.48%	63.01%	73.71%
Solvency: Adjusted Equity/Assets	80.62%	79.38%	82.08%	87.89%	91.14%	93.35%
Profitability: Return on Local Assets	2.70%	3.11%	3.74%	3.64%	4.14%	4.62%
Profitability: Return on Equity	1.66%	-1.80%	36.87%	25.39%	12.75%	10.98%

Source: Table 10-3-S0 in Appendix.

Table 4-3 Operating Statement SO

	OPERATING STATEMENT (\$1,000): S0					
	2005	2006	2007	2008	2012	2016
Sales	115,132	174,708	179,076	183,553	202,608	223,641
Total Operating Income	319	-312	397	471	949	1,544
Other Income	218	339	11,796	10,273	6,700	7,453
Total Income	537	27	12,193	10,744	7,649	8,996
Income Taxes	214	424	1,839	2,030	1,442	1,698
Net Income	324	-397	10,355	8,714	6,208	7,299

Source: Table 10-1-S0 in Appendix.

**Table 4-4 Balance Sheet
S11**

	Balance Sheet (\$1,000): S11					
	2005	2006	2007	2008	2012	2016
ASSETS						
Total Current Assets	29,750	27,923	28,590	29,293	32,285	35,587
Total Investments	8,520	10,022	14,408	18,896	30,235	40,474
Net Fixed Assets	10,073	14,812	14,809	14,806	14,797	14,791
Total Assets	48,342	52,757	57,807	62,994	77,317	90,852
LIABILITIES						
Total Current Liabilities	24,283	25,081	19,679	24,247	27,649	30,342
Total Long-Term Liabilities	4,651	5,706	9,188	4,730	7,917	11,450
Total Equity	19,397	21,971	28,940	34,017	41,751	49,060
Total Liabilities and Equity	48,332	52,757	57,807	62,994	77,317	90,852
FIXED ASSET TRANSACTIONS						
Sales (\$)	0	0	0	0	0	0
Purchases (\$)	1,135	0	1,700	1,700	1,700	1,700
Depreciation Rate (%)	0	0	0	0	0	0

Source: Table 10-3-S11 in Appendix.

Table 4-5 Balance Sheet S11

	Balance Sheet (\$1,000): S11					
	2005	2006	2007	2008	2012	2016
<u>FINANCIAL TARGETS</u>						
Liquidity: Cash			100	100	100	100
Liquidity: Current Ratio						
Liquidity: Working Capital			4097	4200	4636	5245
Solvency: Equity/Assets			0.51	0.54	0.54	0.54
<u>FINANCIAL RESULTS</u>						
Liquidity: Cash	46	50	100	100	100	100
Liquidity: Current Ratio	1.23	1.11	1.45	1.21	1.17	1.17
Liquidity: Working Capital	5,466	2,842	8,911	5,046	4,636	5,245
Solvency: Equity/Assets	40.12%	41.64%	50.06%	54.00%	54.00%	54.00%
Solvency: Adjusted Equity/Assets	80.62%	79.38%	75.90%	87.79%	84.06%	81.08%
Profitability: Return on Local Assets	2.70%	3.11%	3.74%	3.64%	4.14%	4.62%
Profitability: Return on Equity	1.66%	-1.80%	35.78%	25.68%	14.38%	13.81%

Source: Table 10-3-S11 in Appendix.

Figure 4.1 Strategy Construction Factors: Sales and Asset Growth

		Scheduled Fixed Assets & Investment Growth		
		None	Low Growth	High Growth
		+\$1.7M/yr	+\$1.7M/yr FA +\$4.5 M INV	+\$1.7M/yr FA +\$9.0M INV
Sales & Profit Growth	Base or Normal	S0 S11		
	Moderate +10M/yr 2008-12	S12	S14	S15
	High +20M/yr 2008-12	S13		

SOLVENCY TARGET

YES	NO
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Figure 4-2. Revolving Fund, Oldest Age of Equity Not Redeemed, Patronage Ledger Credits

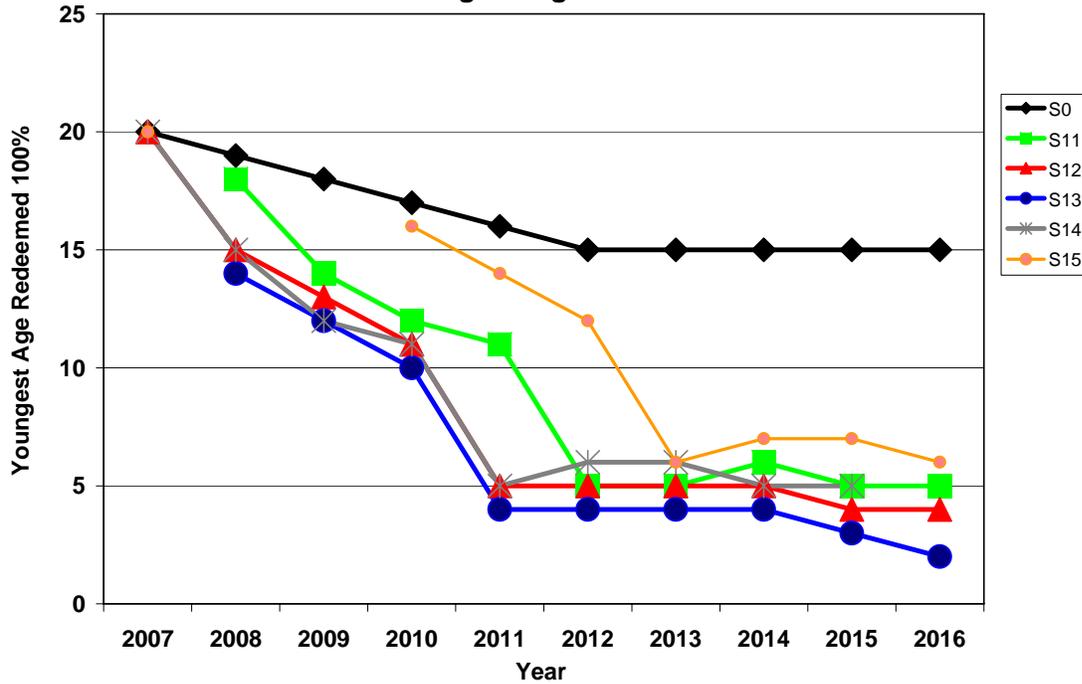


Figure 4-3. After Tax Cash Flow to Patrons

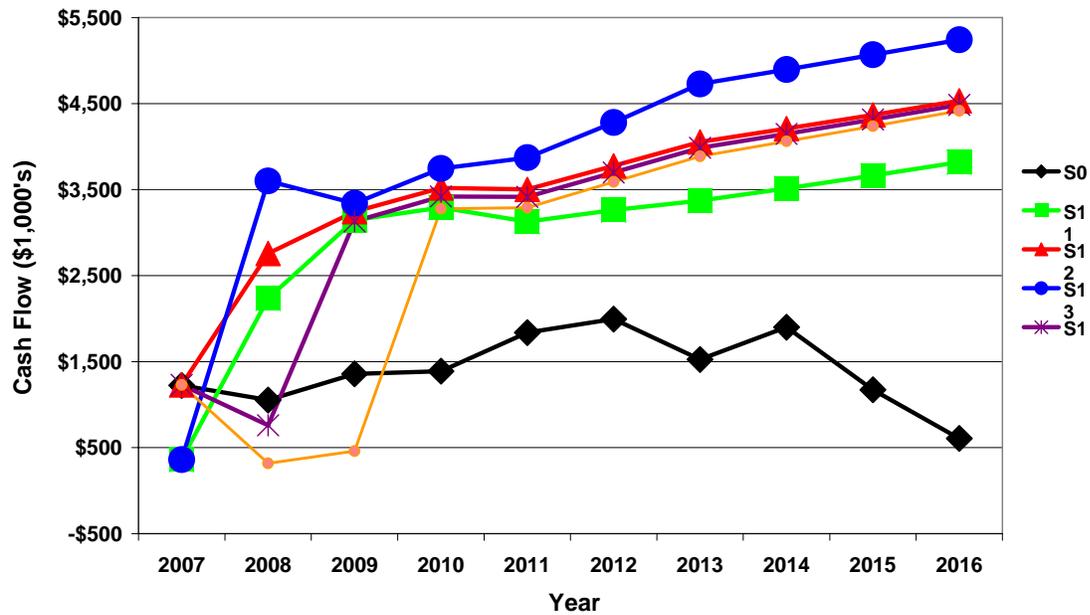


Figure 4-4. Present Value of Total After Tax Cash Flow to Patrons by Strategy, 2007-2016

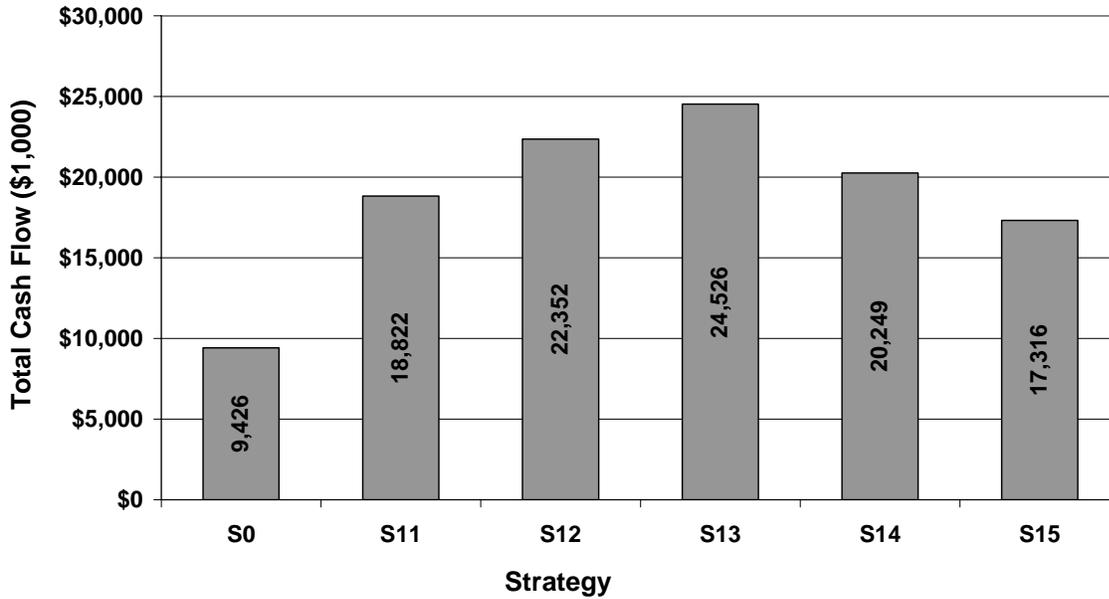


Figure 4-5. Return on Total Assets with Projections

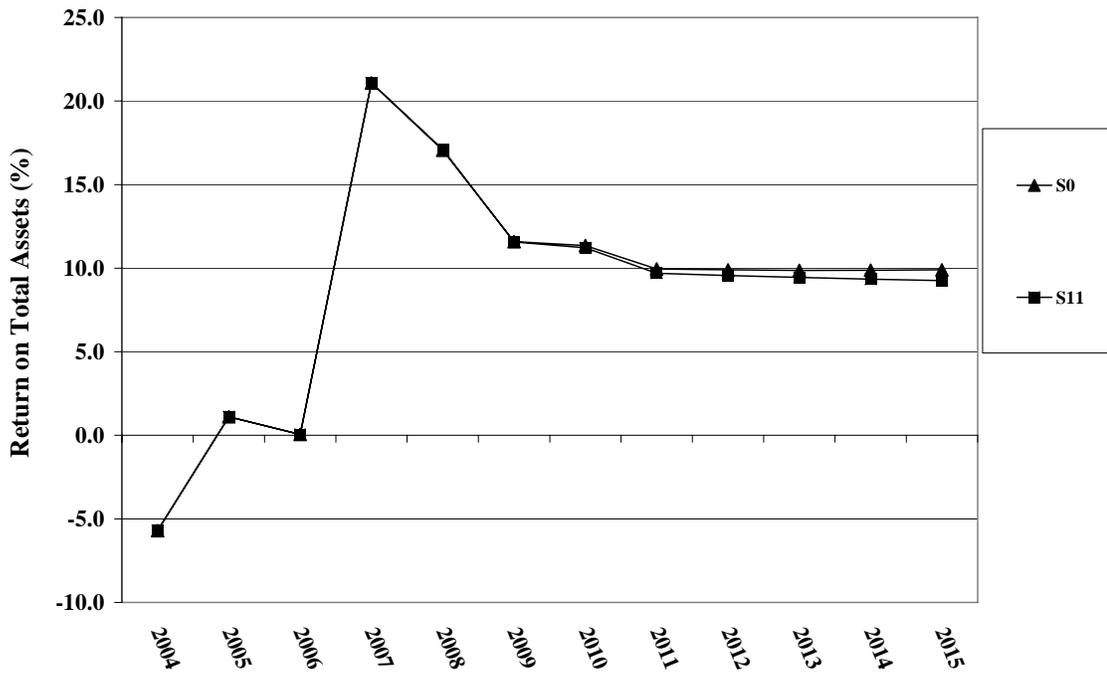


Figure 4-6. Return on Equity with Projections

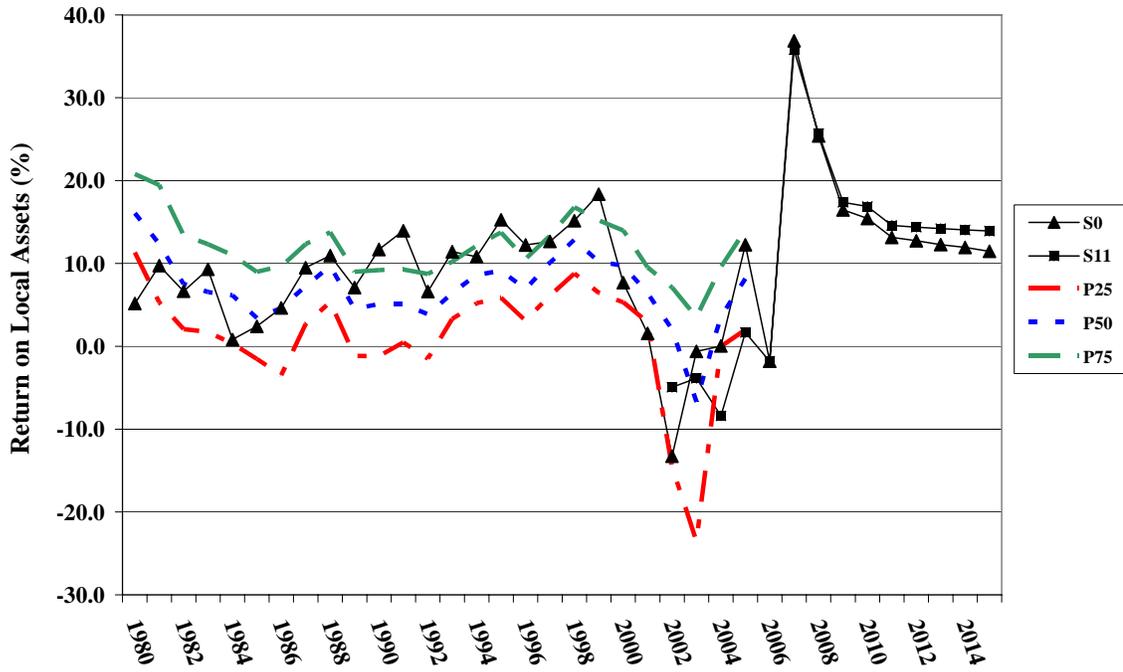


Figure 4-7. Equity to Assets with Projections

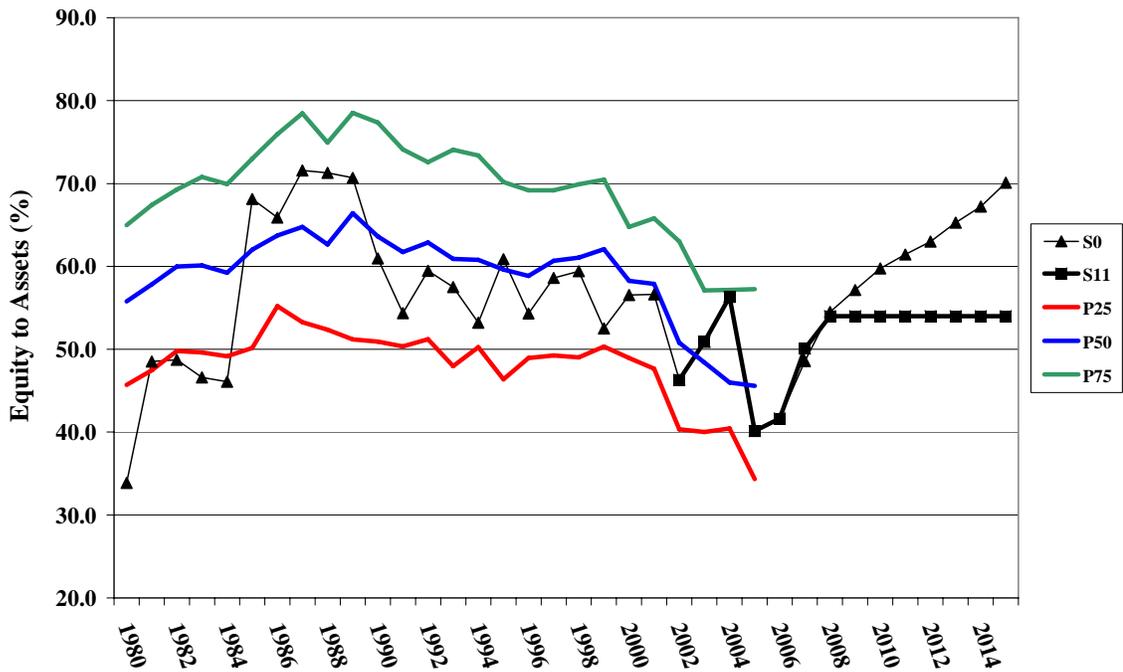


Figure 4-7B. Adjusted Equity to Assets with Projections

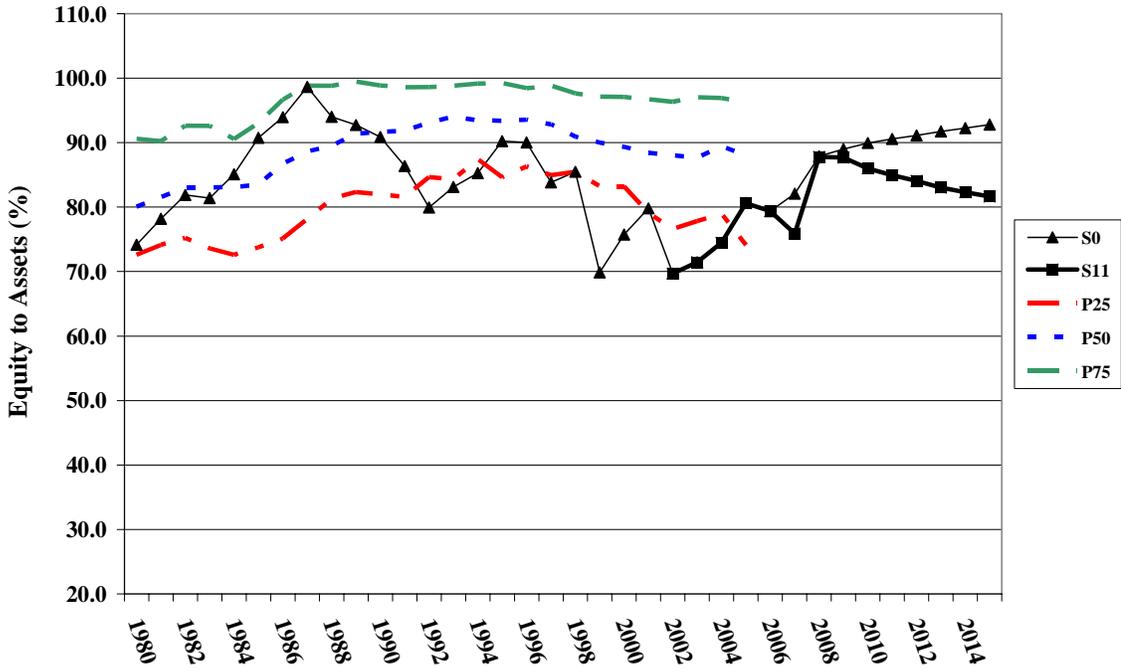


Figure 4-8. Local Assets with Projections

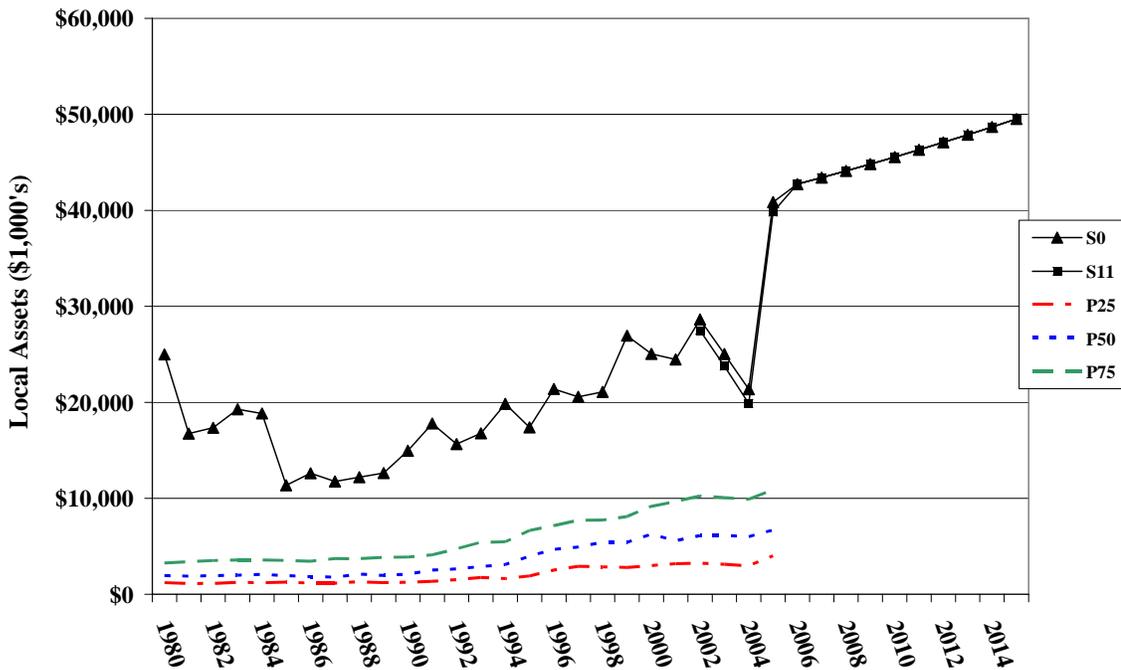


Figure 4-9. Gross Income to Personnel Expense with Projections

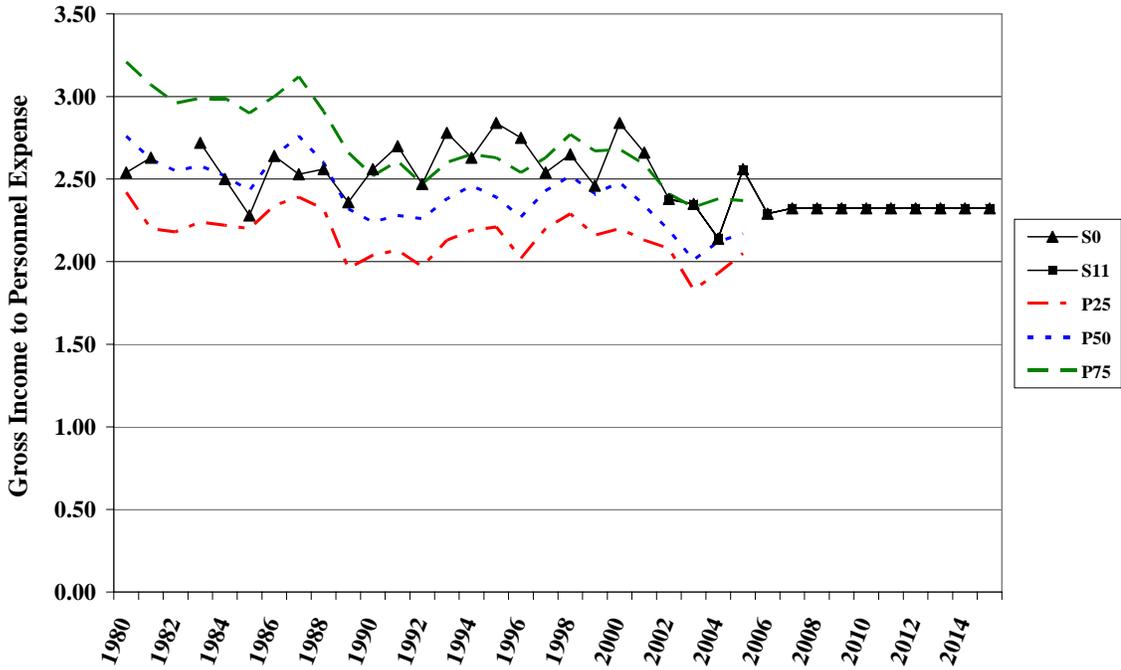
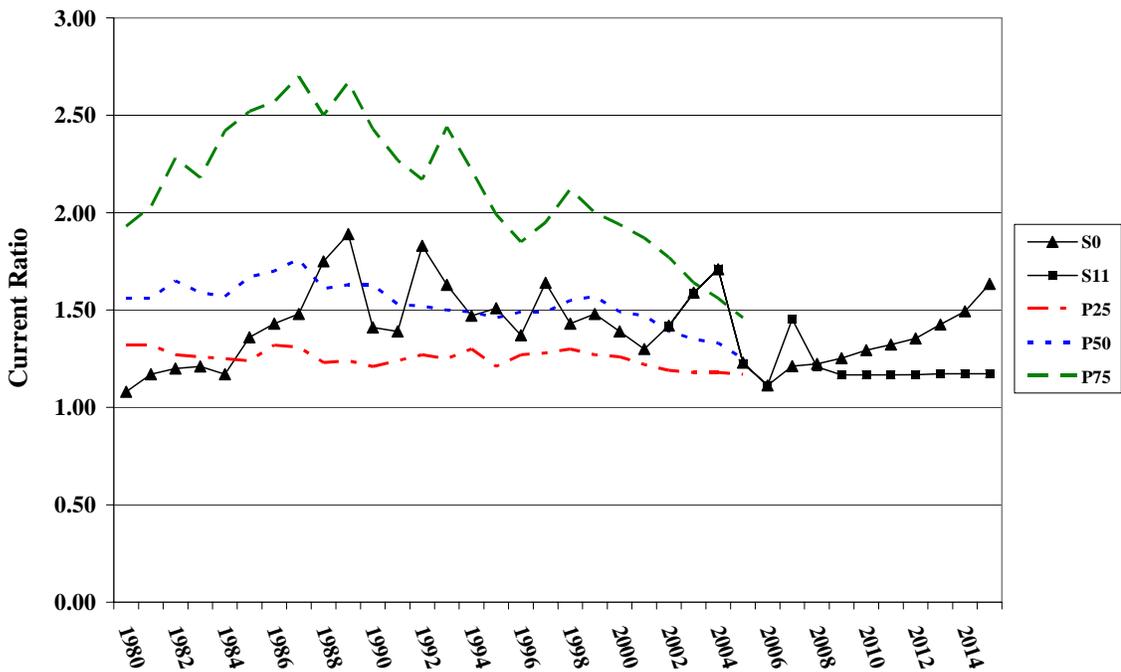


Figure 4-10. Current Ratio with Projections



CHAPTER 5: CONCLUSION

The business model for GCC is changing and will continue to change in the future. The increases in petroleum sales and the amount of outside investment opportunities have contributed the most to the rapid changes that are taking place. GCC has been in business for over 85 years and founded and built by its member-owners to allow them to always have the services they need and a place to market their commodities. GCC has weathered many challenges and changes over the years and has been relatively successful. Management and the board of directors of GCC know this all too well and strive to perform as their predecessors have done before them. The current expansion of their petroleum business, which is heavily dependent on patronage from CHS, has raised a few questions that need to be answered.

CHS patronage as explained in this study does not pay out a full return in cash each year. The patronage may only pay out thirty to thirty-five percent in cash each year with the remaining portion to be paid out at about five percent per year based on the decision made by the CHS board of directors each year. So the question was asked. Can GCC continue to be a viable co-op if the majority of the earnings from petroleum sales are deferred, and if so, how does that affect their ability to grow the business and increase investments? The answer to that question has been answered through the analysis performed in this study.

Based on the assumptions made for this analysis GCC can continue to be a strong and sustainable entity going into the future. The study answered four key questions. Who is GCC? Where is GCC? Where is GCC going? And finally how do they get there?

The most relevant question is the question of where is GCC going. The study showed that GCC could continue with business as usual, maintain profits, and provide an adequate return to its member-owners. The analysis also showed that if GCC was willing to expand its petroleum business even further, it could still continue to replace fixed assets when needed and also increase its outside investments when the time was right it could increase the strength of the company more and also return even more income to its member-owners. The result of this analysis is in harmony with the sole purpose of creating the Garden City Co-op. The board and management has found innovative ways to remain a strong viable company that services its members needs and at the same time gives them a return on their investment.

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