

## Privatization of Crown Corporations in Saskatchewan\*

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### INTRODUCTION

Privatization involves the sale of government owned assets to the public. This can involve initial public offerings in which the company becomes listed on the stock exchange. Companies may also be sold to other private companies and become wholly owned subsidiaries. These public entities may be owned by local, provincial, or federal governments. Governments may choose to sell these assets to generate funding, or to decrease losses in their budgets.

Many countries around the world have adopted avid privatization programs. These can also be referred to as denationalization programs. Over time, governments have begun to realize that public corporations serve no unique purpose to society. They are costly, inefficient, and do not provide exclusive benefits to the public. Through the 1970's and 80's, the U.K. government under Margaret Thatcher began denationalization. This was duplicated by programs in the United States, Canada, and the rest of the world.

Privatization may also follow deregulation and the introduction of competition. Deregulation occurs when services once considered essential are no longer monitored by the government. Regulation also implies that competition is not allowed in the industry. When deregulation occurs, competitors are allowed into the industry. At this time, prices, profits, and the way firms operate often changes. This can cause further problems for a firm that has been publicly owned. Many of these companies will become privatized at this time.

Many past studies have shown conflicting results of efficiency before and after privatization. Some researchers believe that the efficiency of firms cannot be compared pre and post-privatization since during the circumstances of privatization there can be limitations which fundamentally change a corporation. As well, companies that are public, are often regulated and have no private counterparts to compare to. Other researchers believe that once privatized, a company will be more efficient and profitable.

There are many reasons a company will be less efficient before privatization. These companies are not concerned with profits and often receive special subsidies and funding from their owners, the government. These companies

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are not monitored as readily as private companies and may experience management problems. After privatization, firms must report to shareholders and will be forced to cut costs and operate more efficiently.

Privatization has begun in Saskatchewan. In the past 20 years, many corporations that were once public have become private. The provincial government has analyzed the privatization decision process and has begun to privatize some corporations. As deregulation continues, one can only expect this trend to continue. In 1980, the government owned 20 Crown Corporations. At the end of 1997, Saskatchewan had 12 remaining Crown Corporations.

This paper will examine the process of privatization in Saskatchewan. Pre and post-privatization data will be considered to determine the efficiency and productivity of these firms. The analysis will show that private firms experience higher efficiency and productivity. Privatization will prove to have a positive impact on a firm.

## **HYPOTHESIS**

Public corporations often experience great inefficiencies and productivity problems. These corporations are often plagued with poor management, little or no supervision, and receive government funding to ensure survival. These factors, and others, contribute to the poor operating efficiency of a firm. Following privatization, a firm will be forced to operate efficiently to survive. They will be held accountable to shareholders. The firms will show increased measures of efficiency following privatization.

## **DATA SET**

Data was obtained from Compact Disclosure (1993 to 1997) and Crown Corporation Annual Reports (1983 to 1987). Firms that were analyzed included those that were privatized in Saskatchewan between 1985 and 1995. Firms meeting criteria and with a full data set included Cameco, Potash Corporation of Saskatchewan, Saskatchewan Wheat Pool, and Wascana Energy (formerly Saskatchewan Oil and Gas Corporation). Evaluations were completed for the three years prior to privatization and three years following. Evaluations were based on tests of efficiency, profitability, liquidity, and asset utilization.

## **LITERATURE REVIEW**

Mixed results have been found in past studies that have considered the performance of public, private, and mixed corporations. Some studies assert that public corporations operate at higher efficiency while the majority of research indicates that privatization will increase performance. Through all research that is available, there are differences in the methods of analysis. Some researchers prefer to

rate profitability ratios for public and private corporations. Others consider liquidity ratios, number of employee statistics, and many others. Goals of corporations and how these goals affect the corporation may also be a consideration. These different methods of evaluation contribute to discrepancies in research.

There is no question that the ownership of a firm affects a corporation in many ways. Public enterprises often receive funding from their owners, the government. These corporations may provide "unique" services and pursue special goals such as public interest and safety. This fact limits the comparability of private and public corporations. Boardman and Vining (1989) discuss this and other limitations to such a comparison. Regulation and monopoly power also constitute great differences between public and private firms. Since there are usually no private firms able to be in these industries, there is no available data to compare these firms. Boardman and Vining (1989) develop a model to consider these factors.

Pescatrice and Trapani (1980) discuss the objectives and efficiency of public and private corporations. Their results show that public firms minimize costs and have lower per unit costs than private firms. They state that the reasons for the greater efficiencies of public firms are accounted for by regulation and monitoring. This conclusion is contrary to the majority of research available. It is possible that in some industries, close monitoring and regulatory controls could help to reduce costs, but in most scenarios lack of monitoring and regulation will decrease the efficiency of a corporation.

Other arguments emerge to discourage privatization programs. De Fraja (1991) argues that the privatization of public companies leads to decreased efficiency in the entire industry. Public companies, which can operate inefficiently, encourage private companies to be competitive which benefits the industry and society. A major flaw in this argument becomes evident when one discovers that in most industries that are privatized, there is little or no competition which leads to monopolistic power. This may not be the best alternative for the industry and society. One must also examine the reasons for monopolistic power. There may be a shortage of firms in an industry because of barriers to entry including licencing requirements. A firm may also have monopolistic power because of the existence of economies of scale.

Numerous studies support findings that privatized firms do perform more efficiently and profitably than their public counterparts. Davies (1971) supports the conclusion that private corporations operate more efficiently, but states there may be other factors for consideration when contemplating the sale of a state owned asset. Kay and Silbertson (1984) agree that privatization does bring benefits to a corporation, but these benefits may also be gained through competition and liberalization. They state that efforts to promote competition (including privatization) are preferred to regulation. Boardman and Vining (1989) also support the theory that private firms are more efficient than public firms. Other researches agree with this

statement, including Pryke (1982), Megginson, Nash, Randenborgh (1994). Boardman and Vining (1989) extend their analysis to consider mixed enterprises. They find that mixed firms operate with the least efficiency of all available ownership options. When considering the sale of an asset, the government should sell the entire asset, or not sell at all.

### METHODOLOGY

Each company was analyzed for a seven-year period, commencing three years prior to privatization. The year of privatization was not included in the analysis due to the turnover period. The average value of a ratio for the three years prior to privatization was compared to the average value of the ratio for the three years following the privatization. If all three years of data were not available, a two-year period was analyzed. As well, an ANOVA test was used to determine the significance of the changes.

**Table 1: Ratios used in the analysis**

<b>Ratios Used in the Analysis</b>	<b>Used to Measure</b>	<b>Expected Change</b>
<b>Quick Ratio</b>	<b>Liquidity</b>	<b>No Expectation</b>
<b>Sales/Assets</b>	<b>Efficiency</b>	<b>Increase</b>
<b>Return on Assets</b>	<b>Profitability</b>	<b>Increase</b>
<b>Profit Margin</b>	<b>Profitability</b>	<b>Increase</b>
<b>Working Capital/Sales</b>	<b>Efficiency</b>	<b>No Prediction</b>
<b>Debt to Equity</b>	<b>Long term solvency</b>	<b>Decrease</b>
<b>Inventory Turnover</b>	<b>Asset utilization</b>	<b>No Expectation</b>

The results of the companies' average ratios are listed in Table 2. The compiled average is also computed and the change (average after privatization / average before privatization) for each ratio. A number greater than 1 indicates an increase in the ratio value and a number of less than 1 indicates a decrease in the ratio value following privatization.

**Table 2**  
**Individual Company Average Ratios**

Ratio	Cameco		Potash Corp. of Sk		Sk Wheat Pool		Wascana Energy		Average		Ratio
	Before	After	Before	After	Before	After	Before	After	Before	After	
Quick Ratio	2.05	2.2	2.06	1.19	0.72	0.7	1.32	1.19	1.54	1.32	0.86
Sales/Assets	0.19	0.23	0.2	0.25	2.39	3.01	0.6	0.15	0.85	0.91	1.08
Return on Assets	3.88	4.11	-0.03	5.03	4.04	4.29	14.83	-0.41	5.68	3.26	0.57
Profit Margin	0.19	0.16	0.04	0.13	0.66	0.01	0.33	-0.03	0.31	0.07	0.22
Working Capital/Sales	64.9	62.2	19.42	23.1	5.29	3.59	9.77	12.09	24.84	25.25	1.02
Debt to Equity	0.56	0.1	0.61	0.1	0.97	0.75	0.55	0.48	0.672	0.356	0.53
Inventory Turnover	2.2	2.22	4.74	5.01	9.52	12.84	10.15	18.27	6.65	9.58	1.44

The results of the test of significance for the Quick Ratio are given in Table 3. The Quick Ratio is a measure of the company's ability to cover short-term liabilities with available assets. There was no expected relationship between the ratio before and after privatization. The decrease in ratio could mean that the companies had increased liabilities, held larger inventories or had fewer assets. Of these alternatives, increased liabilities are the probable cause for the change. When companies become public, they are forced to borrow money and pay out loans to get financing versus the state-owned corporation that can receive funding from government grants and subsidies. The decrease in Quick Ratio is found to be negative but is not significant.

The result for the Sales/Assets ratio shows that there was an overall increase in this ratio. These results concur with the hypothesis that Sales/Assets would increase. This ratio is an efficiency measure and evaluates a company's ability to earn sales for a standard amount of assets. An increase in the ratio means there has been an increase in sales or a decrease in assets over time. Although this ratio does show an increase, the increase is not significant. These results could also be affected by the large decrease in the Sales/Asset ratio for Wascana Energy. Wascana was the only company to suffer a loss in this ratio while all other companies showed a significant increase. The significance of this ratio could be affected by this situation.

**Table 3: Quick Ratio ANOVA test for significance**

Anova: Single Factor						
<b>SUMMARY</b>						
<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>		
Column 1	4	6.154333	1.538583	0.415658		
Column 2	4	5.29	1.3225	0.409627		
<b>ANOVA</b>						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	0.093384	1	0.093384	0.226307	0.651101	5.987374
Within Groups	2.475854	6	0.412642			
Total	2.569238	7				

**Table 4: Sales/Assets ANOVA test for significance**

Anova: Single Factor						
<b>SUMMARY</b>						
<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>		
Column 1	4	3.378667	0.844667	1.091912		
Column 2	4	3.64	0.91	1.961867		
<b>ANOVA</b>						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	0.008537	1	0.008537	0.005591	0.942826	5.987374
Within Groups	9.161336	6	1.526889			4
Total	9.169873	7				

Return on Assets (ROA) measures a company's ability to earn income on their assets. Return on Assets is a common measure of company profitability. This ratio was predicted to increase but showed a large decrease. The decrease was not significant however ROA did exhibit a large variance. This could be due to the large

decrease for Wascana Energy. All other companies showed a positive ROA. The large decrease in ROA could be the sign of rapid purchasing of assets or of declining income.

**Table 5: Return on Assets ANOVA test for significance**

Anova: Single Factor

SUMMARY						
Groups	Count	Sum	Average	Variance		
Column 1	4	22.72667	5.681667	40.76876		
Column 2	4	13.02167	3.255417	6.112217		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	11.77338		11.77338	0.502267	0.505096	5.98737
Within Groups	140.6429		623.44049			4
Total	152.4163	7				

Profit margin was predicted to increase after privatization but showed a large decrease. Profit margin measures Net Income/Sales. A decrease in profit margin indicates a fall in profitability. It can be an indication that Cost of Goods Sold or other fixed costs are too high. As well, if Sales decrease and the break-even point for fixed costs is not met, the image of the company's image may be distorted. If a company has very high interest or other fixed costs, the ability to be profitable will decrease with a smaller amount of sales.

There was no prediction made for the change in Working Capital/Sales. This ratio showed an increase but the increase was not significant.

The debt to equity ratio for newly privatized companies is a significant issue for consideration. Following privatization, previously state-owned corporations will be forced to operate free of subsidies and grants from government. However, once public, corporations are free to have share offerings to the public to raise capital. The market is often very receptive to Initial Public Offerings (IPOs). Government organizations have established themselves as solid companies and investors perceive the companies to be stable. This may be due to the association with government. Like other government backed securities, investors may assume newly privatized companies will receive government backing in their early beginnings. A decrease in the debt to equity ratio shows that debt financing is decreased as firms begin to offer shares to the general public.

**Table 6: Profit Margin ANOVA test for significance**

<b>Anova: Single Factor</b>						
<b>SUMMARY</b>						
<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>		
Column 1	4	1.224	0.306	0.069216		
Column 2	40.266667	0.066667	0.008172			
<b>ANOVA</b>						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	0.114561		10.114561	2.960677	0.1361	5.987374
Within Groups	0.232165		60.038694			
Total	0.346726	7				

**Table 7: Working Capital/Sales ANOVA test for significance**

<b>Anova: Single Factor</b>						
<b>SUMMARY</b>						
<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>		
Column 1	499.37667	24.84417	747.9951			
Column 2	4	101.00525	25.25125	671.5669		
<b>ANOVA</b>						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	0.331434		10.331434	0.000467	0.983461	5.987374
Within Groups	4258.686	6	709.781			
Total	4259.017	7				



**Table 8: Debt to Equity ratio ANOVA test for significance**  
Anova: Single Factor

SUMMARY						
Groups	Count	Sum	Average	Variance		
Column 1	42.687	0.671750	0.038851			
Column 2	41.425	0.356250	0.099264			
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.199081	10.199081	2.882834	0.140448	5.987374	
Within Groups	0.414343	60.069057				
Total	0.613424	7				

**Table 9: Inventory Turnover ANOVA test for significance**

SUMMARY						
Groups	Count	Sum	Average	Variance		
Column 1	4	26.61	6.6525	14.65288		
Column 2	438.33333	9.583333	53.75924			
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	17.17957	1	17.17957	0.502238	0.505108	5.987374
	205.2364	63	34.20606			
Total	222.4159	7				

The ratio of Inventory Turnover measures the amount of inventory a company may keep on hand at any given time. It also measures the rate that inventory goes through the process of being purchased, processed, and finally, sold. A high inventory turnover rate is good because it is a sign that a company keeps a low amount of inventory at any given time. A low inventory amount will free up assets for other purposes and make sure the company does not lose money with inventory that is not

being used. There was no prediction for the change in Inventory Turnover, but the positive ratio shows that the companies that were analyzed decreased the amount of inventory held and were able to use assets for other purposes.

## CONCLUSION

Although none of the results obtained showed significance, many ratios moved in relation to their predictions. Sales/Assets, Working Capital/Sales, and Inventory Turnover showed increases while Quick Ratio, Return on Assets, Profit margin, and Debt to Equity ratio showed decreases. The results of this study indicate that after privatization, a company may become more efficient but will not become more profitable.

The results that showed a decrease in profitability may be skewed by one company. Wascana Energy showed high decreases in Profit Margin and Return on Assets. These measures may contribute to the low significance of the results and the negative relationship to the expected results. There were also high variances in many of the ratios, which could decrease the significance of the tests.

When considering privatization in the future, the Saskatchewan and Canadian governments should consider the goals of privatization. If the main goal of privatization is to raise funding for the government, privatization is an acceptable and positive alternative. If the goal of privatization is to increase profitability of the firm, the government should re-analyze the situation and make sure the industry and society will benefit from the decision. There are many other goals of privatization and these should all be considered before government decides to release an asset from state ownership.

More research is needed to conclude that privatization will increase the efficiency and profitability of a corporation. This analysis should be done using a larger sample of Canadian privatization cases. To continue with this analysis, other provinces and the federal government should be analyzed. The available information for the Saskatchewan case shows that privatization does not result in exceptional benefits for the corporation. This analysis does not include benefits for the industry, society, and government. These interests may be more important than the future prospects of profitability and, as deregulation and competition increases, privatization may be seen as the only option for state-owned enterprises.

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