INFORMING THE THEORY OF COLLECTIVE ENTREPRENEURSHIP: INVESTMENT CHOICE

A Dissertation
presented to
the Faculty of the Graduate School
at the University of Missouri-Columbia

In Partial Fulfillment
of the Requirements for the Degree

Doctor of Philosophy

by
MOLLY CHAMBERS

Dr. Michael L. Cook, Dissertation Supervisor

AUGUST 2007

The undersigned, appointed by the dean of the Graduate School, have examined the dissertation entitled

INFORMING THE THEORY OF
COLLECTIVE ENTREPRENEURSHIP:
INVESTMENT CHOICE

Presented by Molly Chambers,

A candidate for the degree of Doctor of Philosophy,

And hereby certify that, in their opinion, it is worthy of acceptance.

Professor Michael L. Cook

Professor Peter G. Klein

Professor Michael E. Sykuta

Professor David J. O'Brien

Professor John S. Howe

My dear brothers and sisters, stand firm. Don't let anything move you. Always give yourselves completely to the work of the Lord. Because you belong to the Lord, you know that your work is not worthless.

1 Corinthians 15:58, New International Reader's Version

ACKNOWLEDGEMENTS

I would to thank my committee members Dr. Michael L. Cook, Dr. Peter G. Klein, Dr. Michael E. Sykuta, Dr. David J. O'Brien, and Dr. John S. Howe for their time, patience, and insightful comments throughout the revision of several drafts of this dissertation. In addition, I would like to thank Dr. Douglas J. Miller for his assistance in advice regarding econometric analysis.

Kristi Livingston and Gail Foristal were also critical to the completion of my dissertation given their assistance with survey preparation, logistics, and budgeting. I would be remiss not to thank them accordingly.

Finally, I would like to thank all survey respondents and interview participants in and around Renville County who graciously reviewed surveys, theories, and case histories with me. These residents invited me into the farm operations, into their businesses, into their boardrooms, and into their homes. My experience in Renville County provided me with valuable experience. There remain certain survey respondents that I would like to name in writing for their dedication in helping me to foster important relationships in the community that allowed me to further my research. However, I refrain from naming them publicly in order to respect confidentiality agreements.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ABBREVIATIONS

ACS	American Crystal Sugar
CCFE	Co-op Country Farmers Elevator
GLS	Gompers, Lerner, and Scharfstein, 2005
GOE	Golden Oval Eggs
MCP	Minnesota Corn Processors
MN	Minnesota
ND	North Dakota
NGC	New Generation Cooperative
SMBSC	Southern Minnesota Beet Sugar Cooperative
TCE	Transaction Cost Economics
U.S.	United States
USDA	United States Department of Agriculture

ABSTRACT

Olson's seminal work on the logic of collective action predicts that individuals will not act collectively to further common economic goals except under certain conditions. This work utilizes transaction cost economics, an ownership cost framework, and the concept of entrepreneurial spawning to analyze the conditions that lead to the emergence of collective ventures. A deviant research case approach is utilized to direct the intensive collection of primary data while engaging in theory building. The empirical results indicate that risk mitigation, investor networks, exit options, voice processes, and previous experience are the most significant factors catalyzing the emergence of collective entrepreneurship.

CHAPTER 1: MOTIVATION AND RESEARCH PROBLEM

1.1 MOTIVATION

Entrepreneurship has been identified as a key component of economic development. Yet, this "vital element" is left out of most current economic development models and is underappreciated in our current development theories (Schramm, 2004). In the 1990's we began to see a new type of entrepreneur arising, active in rural agricultural development. These entrepreneurs were engaged in founding a large number of a new type of cooperative, called New Generation Cooperatives (NGC) (Patrie, 1999). Instead of organizing traditional, defensive cooperatives, which primarily function, to "safeguard on-farm returns," these NGCs organized as offensive entities seeking Ricardian or Schumpeterian rents (Cook and Plunkett, 2006). The evolution of this new type of ownership led to a wave of "cooperative fever" in which a large number of NGCs were founded. (Harris et al., 1996; Patrie, 1999). This concept of collective entrepreneurship has now evolved into a market strategy for producers. If entrepreneurship is the driving force behind our market economy, we are interested in where new collective businesses come from and what motivates individuals to form them (Mises, 1949).

We are specifically interested in the concept of collective entrepreneurship and in informing the process by which individuals collaborate as a group to seize wealth creation opportunities. Preliminary studies in the organization and formation of NGCs have shown that we typically observe an initial core of individuals that creates or exploits a profit opportunity jointly. As the NGC develops, we notice an absence of a single actor dynamic in that, often, a group of five to twenty individuals initially explores the idea or

opportunity (Tong, 1997). When we analyze this type of entrepreneurship through the lens of neoclassical economics and theories regarding collective action, we have reason to believe that the joint nature of opportunity recognition and enterprise creation by a group of individuals may alter the entrepreneurial process. This study of collective entrepreneurship seeks to determine attributes of the collective entrepreneurial process. Given Olson's (1965) work, we can predict that a group of collective entrepreneurs may not act in the same fashion as a single entrepreneur. The following discussion of Olson's work on The Logic of Collective Action explains why.

1.1.1 The Concept of Collective Entrepreneurship: Why a Neoclassical Framework Predicts that Groups Will Not Act to Achieve Their Common Economic Interest unless Certain Conditions are Present

The field of entrepreneurship, in general, lacks a coherent conceptual framework for analysis (Low). More discouraging, however, is that collective entrepreneurship, as a line of inquiry, has gone largely untapped. Cook and Plunkett (2006) proposed that collective entrepreneurship merits researchers' attention. Traditionally, social scientists assumed that groups with common economic interests would act to achieve those interests; much in the same manner that an individual would seek their rational self-interest. However, Olson (1965) predicts, "rational, self-interested individuals will not act to achieve their common or group interests" unless certain conditions are present: the existence of a privileged group, special incentive mechanisms, or coercion. Olson hypothesizes that heterogeneity among the objective functions of the individuals that compose the group may deter collective action. For example, an individual may possess different preferences or experience varying returns to collective action due to differences

in the nature of their assets. Rational individuals, when acting as a group have a tendency to "free ride" because the entire group may benefit from their efforts. They are not the sole beneficiaries to their actions or their resource inputs, but rather, the group may have access to returns in a manner that is non-separable or non-excludable. Non-excludability of returns to collective action is one component that exacerbates the separation of control rights and claimant rights. However, any misalignment of residual control rights and residual claimant rights, whether created through governance, management, or distribution of profits creates a space in which heterogeneity of member objective functions can lead to free ridership and the potential for internal group conflict. Thus, from a traditional cost and benefit analysis of the individual's objective function, we cannot expect a rational individual to contribute to collective entrepreneurship in the same manner that he would contribute to a sole endeavor. Olson's theoretical framework calls us to investigate further the costs and benefits of collective entrepreneurship.

1.2 REFINING THE RESEARCH QUESTION

Considering Olson's theory, we have reason to believe that collective entrepreneurship may differ from sole entrepreneurship on dimensions other than simply the number of actors involved. I am interested in exploring collective entrepreneurship, more specifically, how this phenomenon emerges. Since no conceptual framework for this type of analysis exists, this exploratory work must attempt to define essential elements as we begin to build a theory of collective entrepreneurship. My challenge, in selecting a starting point for theory building, is three-fold: I must first select a proxy for

collective entrepreneurship, identify a supra-method for qualitative and quantitative analysis, and determine a space within which to perform the analysis.

1.2.1 Selecting a Proxy to Inform Collective Entrepreneurship

I am interested in explaining what we have observed in terms of the collective, entrepreneurial market strategies that producers have used in order to expand their operations. Ideally, I want to analyze bottom-up approaches to rural development and agribusiness development and begin to explain these models well enough in order to determine whether such approaches can be replicable. Finally, I am interested in patron-ownership, as this has been the dominant form of collective entrepreneurship used by those involved in production agriculture. With these criteria in mind, I chose to focus my work on New Generation Cooperatives. Producers continue to be innovative with this collective ownership model, developing various complex hybrids (Cook and Chaddad). However, for this exploratory work, I am choosing to concentrate on a type of collective entrepreneurship that was instrumental in engaging producers in active forms of investment and offensive[1] market strategies: the New Generation Cooperative.

Table 1.2.1 outlines certain distinct organizational characteristics of NGCs as compared with traditional cooperatives. I do not include these more traditional, defensive models of collective ownership as collective entrepreneurial ventures because they rely on passive or quasi-passive means to generate risk capital (Krumpleman-Farmer, 2005).

[1] See Cook and Plunkett, 2006 for a discussion of the term "offensive" in relation to cooperatives. This term generally refers to a cooperative that is investor-oriented (not solely patron-oriented) in that the cooperative intends for the producers to extract rents as investors, not solely as producers.

Table 1.2.1 The Structure of Ownership and Control Rights in Cooperatives

THE STRUCTURE OF OWNERSHIP AND CONTROL RIGHTS IN COOPERATIVES	
TRADITIONAL COOPERATIVE	**NEW GENERATION COOPERATIVE**
▪ Open membership	▪ Defined membership
▪ Growth capital from retained earnings	▪ Growth capital from up-front equity investments and pooled retains
▪ No obligation to deliver raw materials	▪ Binding delivery contracts: right and obligation to deliver
▪ No investment liquidity	▪ Investment liquidity through limited transferable equity shares
▪ No appreciation of investment	▪ Capital appreciation through limited secondary market valuation

(Cook, Klein, Chambers 2005)

These traditional cooperatives utilize retained earnings as their primary source of growth capital. Membership is open and voluntary, entailing no obligation on the part of members to deliver inputs or utilize cooperative services. Open membership and passive investment comes at a price however—there is no appreciation in the value of investments made through retained earnings and no investment liquidity. By limiting membership to those individuals willing to actively invest risk capital up-front and consent to binding delivery contracts[2], NGCs are able to create the asset of tradable, appreciable shares. This type of structure allows individuals to combine their resources and to collaborate as a group to commit both resources and raw inputs to endeavors,

[2] This constrains investment to patrons of the organization. Therefore, in most instances, investors must also be raw input producers.

seeking wealth creation opportunities. This present research will utilize the NGC organizational form as a proxy for collective entrepreneurship.

1.2.2 Selecting a Supra-method to Inform Collective Entrepreneurship

Torraco (2002) identifies five methods for theory building: Dubin's methodology, grounded theory research, meta-analysis research, social constructionist research, and case study research. A method is chosen based on the particular research interest of the theorist and the topic under consideration. Dubin's methodology is a strictly quantitative approach to theory development utilized in order to deduce generalizable laws. This method is not suitable for this present analysis because it is "unable to adequately represent the fluidity and emergent nature of many social and organizational phenomena" (Torraco, p.358). Grounded theory research is a purely inductive approach to theory building. Researchers develop theoretical implications from a particular set of data. This can generate novel findings, however, it is often difficult to generalize these findings or reconcile findings with existing theory. Meta-analysis attempts to synthesize findings from previous studies. Since collective entrepreneurship is an emergent topic, this method of investigation is not currently feasible. Finally, social constructionist research is a tool that models how individuals make sense of the world around them. The only output of constructionist research is a model of how individuals attach meaning to social experiences.

Case study research is an effective tool to begin to inform the concept of collective entrepreneurship because it provides three unique opportunities: the ability to combine deductive and inductive approaches, the possibility of including quantitative and

qualitative data, and a basis for generalizing our results when utilizing existing theory to design our case study.

1.2.2.1 Case Study Research as a Theory Building Strategy

Consulting existing theory in order to develop a priori constructs allows the researcher an opportunity to expand existing, related theories as well as to have a strong conceptual background upon which to analyze empirical results. A researcher may begin by consulting accepted paradigms. These paradigms are utilized to develop a set of theoretical constructs to be tested in the field. After preliminary field studies, the researcher analyzes initial data, considers the theoretical implications, then returns to theory to refine subsequent tools for investigation. Thus, the researcher is able to essentially combine deductive and inductive approaches through an iterative process. It is also possible to consider both qualitative and quantitative data when analyzing a case study (Eisenhardt, 1989).

Strict deductive approaches make it difficult for researchers to generate new hypotheses or explore new phenomenon (Emigh, 1997). They simply test pre-defined theories. Thus, theory building necessitates a measure of inductive analysis. As discussed above, however, we limit our ability to generalize and relate findings to accepted theories if we restrict ourselves to an inductive approach. By utilizing an iterative approach that begins deductively, the researcher is able to select cases based on certain constructs predicted a priori to have an impact on the researchable phenomenon. The researcher then selects cases based on theoretical sampling— maximizing the potential each case has for enhancing new theoretical approaches. When selecting a case

study, we are not searching for a statistical, random, sampling. It is more effective, given limitations in the number of in depth case analyses that can be performed, to select extreme cases or polar opposites (Eisenhardt, 1989; Pettigrew, 1990). This enhances the researcher's ability to uncover nuances useful for generating new hypotheses.

One highly productive form of case research involves comparative cross-case pattern analysis. In cross-case analysis, we attempt to select cases in order to fill conceptual categories. By juxtaposing the cases and our results, we begin to amass data that informs different facets of our selected paradigms. In addition to cross-case analysis, case research becomes more rigorous when we utilize triangulation.

1.2.2.2 Triangulation: Incorporating Measures of Confirmatory Analysis in a Single Research Case

Denzin (1970) presented four types of triangulation: (1) methodological, (2) theoretical, (3) data, and (4) investigator. Triangulation is another term for mixed method analysis. Through triangulation, researchers are able to achieve a level of internal validity by confirming their analytical findings through a variety of approaches. We gain higher levels of confidence and additional information regarding our case results when combining techniques. One of my goals, in developing the present research strategy to study collective entrepreneurship, was to find a manner to employ each form of triangulation mentioned above.

Methodological data refers to utilizing various methods—often qualitative and quantitative—to analyze case evidence. Data triangulation infers that the researcher utilizes data from a variety of primary sources, secondary sources, or time-periods. Investigator triangulation refers to involving more than one investigator in a project.

Finally, theoretical triangulation involves utilizing more than one theory to study a phenomenon.

In selecting a specific case to research, it would be beneficial to employ as many types of triangulation as possible. The present research case will utilize a both qualitative and quantitative data. I address the means by which I incorporate data and investigator triangulation in Section 1.2.3. Finally, Chapter Three will discuss in detail the theoretical models utilized in the development of constructs and the formulation of testable hypotheses. The theoretical paradigms incorporated into the study of collective entrepreneurship include theories regarding collective action, entrepreneurship, and ownership. Olson's predictions provide the general motivation for the analysis of collective entrepreneurship as a phenomenon warranting investigation as distinct from sole entrepreneurship. Therefore, Olson's theory provides the base paradigm for case selection.

1.2.2.3 Deviant Case Analysis: Generating the Maximum Amount of Knowledge with a Limited Number of Research Cases

If we approach this research from an Olsonian perspective, we must recognize that our theoretical prediction leads us to conclude that groups will not act collectively to achieve their economic interests (unless they are a privileged group, engage in coercion, or utilize some form of selective incentive). If we are exploring collective entrepreneurship, we are observing a phenomenon that does not conform to Olson's general theoretical prediction. Social scientists utilize the extreme, unusual, or deviant case as the most effective means of building or expanding theory (Mitchell, 1983.) By definition, a deviant case is a case that does not perform to theoretical predictions

(Mahoney, 2005). The goal, in analyzing cases that deviate from accepted theory is to determine whether the general theory is "wrong or whether there were some special or new factors present in the deviant cases which permitted the unexpected to occur" (Lipset, p. 99, 1967).

Our goal in this analysis is to expand our theory of collective action, specifically of collective entrepreneurship. By utilizing a deviant case analysis, we can examine theoretical outliers and unusual cases in the hopes of looking for patterns, expanding the types of variables we concentrate on in analysis, and enriching our theoretical models (Helman 1997). Utilizing deviant case method is an attractive tool for an economist because the model is inherently deductive. Therefore, we can adhere to the tradition of performing deductive analysis while developing new theoretical hypotheses and expanding our theories in directions that respond to relevant issues. Strict deductive are not useful for new theory generation. However, when we use theory to identify anomalous patterns and investigate those patterns, we are able to enhance our theories and improve their predictive ability (Emigh, 1997). Therefore, we are looking for an outlier, a group of individuals that was able to act collectively to achieve their economic interests. In addition, a more distinct and accomplished case, will increase our ability to build a theory of collective entrepreneurship.

In identifying a deviant case to pursue, the greater the level of collective entrepreneurial cooperation, the more attractive the space will be to explore. Theoretically, this allows us to demonstrate that the case is indeed an outlier. Practically, repeated collective entrepreneurship among a large group of individuals allows us to perform comparative analysis and to do so with a population that is large enough to

perform statistical analysis. From roughly 1970 to 2000, we witness patron-owners forming a growing number of NGCs. In retrospect, we can now see that this historical wave of NGC formation resulted in two dense pockets of NGC investment: one cluster in the Red River Valley of North Dakota and another in Renville County, MN. Adoption occurred in other areas of the United States but was more diffuse or is at an embryonic stage or development[3].

1.2.3 Selecting a Space to Inform Collective Entrepreneurship

I chose to begin with an investigation of the emergence of collective entrepreneurship in Renville for four reasons—two historical and two to promote rigor. Historically, the organizational genesis of collective ownership of the first NGC model in the Red River Valley occurred through the conversion of an investor-owned firm into a NGC (I include additional details on this conversion in the next chapter.). In addition, as interest in the NGC form of ownership brewed, Renville took the lead in sharing their models with interested parties from around the country and abroad. As discussed in Section 1.2.2.2, one method of enhancing case study rigor is to incorporate additional forms of triangulation. As a result of previous research conducted by the Graduate Institute of Cooperative Leadership at the University of Missouri, I had access to a unique data set that included extensive interview material and secondary data compiled by four separate researchers over a period of approximately thirteen years. By utilizing this data, I was able to incorporate a limited measure of data and investigator triangulation into the Renville case analysis.

[3] See Merrett et al. (2003, forthcoming) for a Directory of NGCs that confirms this.

1.3 RESEARCH PROBLEM

The claim of this research is that collective entrepreneurship is indeed distinct. I seek to build on Olson's "Logic of Collective Action" by exploring one type: collective entrepreneurship. In doing so, I plan to inform the concept of collective entrepreneurship by utilizing deviant case analysis to highlight the theoretical constructs and variables we should consider when building a theory of collective entrepreneurship. In order to adequately consider the economic interest of an organization, I must also explore collective entrepreneurship through two units of analysis: the organization and the individual member. Therefore, I plan to begin this conceptual investigation by presenting a short descriptive history of the collective entrepreneurial endeavors in Renville, MN. I then analyze the individual objectives of those who commit resources to these endeavors. While certain individuals may have contributed to collective entrepreneurship in a variety of capacities, individual share investment (and the simultaneous patronage commitment of a non-financial raw material input) is the primary dimension by which each individual is tied to the NGC. Therefore, I concentrate on this form of investment. In addition, the individual investment decision is an attractive consideration because it is an observable, measurable link feasible to use for performing empirical analysis.

In summary, this present work explores the concept of collective entrepreneurship through a deviant case analysis investigating factors that uses the NGC as a proxy for collective entrepreneurship. We will narrow the research problem to focus on examining how collective entrepreneurship emerged in Renville County, MN. Recognizing that the evaluation of individual objective functions informs group behavior, we will explore why individuals choose to commit resources to collective entrepreneurial endeavors.

CHAPTER 2: BACKGROUND

This chapter gives the reader additional background details on the space and the organizational actors selected for the deviant case analysis. The justification for the deviant case approach and the focus of Renville County, MN are detailed in Chapter One. In this chapter, I begin by describing Renville County the state of agricultural production, and the predominance of cooperatives as a business structure in Minnesota. I then develop a short descriptive history of a few of the cooperatives that developed in the area, as well as the NGCs evaluated in the empirical section of this work. These descriptions provide the reader with an overview of the emergence of the collective entrepreneurial organizations that we will be investigating further in the empirical section of our analysis.

2.1 RENVILLE COUNTY, MINNESOTA[4]

Located in Minnesota's western Corn Belt, Renville County is home to more than 1,500 family farms[5]. In 2002, the average farm size was 570 acres and the average market value of products sold per farm was over $270,000. Renville ranked number one in Minnesota in acres of corn for grain and soybeans with 247,053 and 245,244 acres, respectively. Renville County also ranked third in the state in acres of sugarbeets harvested with slightly more than 48,000 acres (U.S. Census of Agriculture, 2002; National Agricultural Statistics Service).

Minnesota leads the nation in acres of sugarbeets planted, with approximately 486,000 acres planted in 2004. This state is also a large producer of corn and soybeans,

[4] Several sections in Chapter 2 review information adapted from previous work presented in Cook, Klein, and Chambers, 2005.
[5] All Renville County and MN State Agricultural Statistics in this section refer to 2002 data.

ranking fourth in the nation in acres of corn and third in the nation of acres of soybeans planted. Average farm size in Minnesota is about 340 acres, as compared to the U.S. average of 441 acres. The average value of agricultural products sold per farm is $106,083, above the U.S. average of $94,245 (U.S. Census of Agriculture, 2002).

With 841 cooperatives and 185 credit unions, Minnesota is one of the nation's leaders in terms of the number of organizations in the state using the cooperative governance structure[6]. Around half of these cooperatives are agricultural cooperatives. A recent study found 311 Minnesota cooperatives generating $6.07 billion in revenues, 79,363 jobs, and $10.89 billion in economic impact (Folsom). Moreover, Minnesota leads the nation in NGCs, with 42. (North Dakota is second, with 33, and Iowa ranks third, with 31) (Merrett et al., 2003)[7].

Renville's land is productive, but transportation costs often put area farmers at a commodity trading or marketing disadvantage. Barge terminals on the Mississippi River, and processing mills in the Twin Cities area, are some 100 miles away. Rail service is relatively expensive and unreliable. "These farmers pay close attention when there is talk of increasing the value of their corn and reducing the costs of transportation" (Gerber)[8].

---

[6] Statistics regarding MN Cooperatives and NGCs refer to 2003 data.

[7] Merrett is currently preparing an updated directory of NGCs and Producer-Owned LLCs. The 2007 edition is currently incomplete. Therefore, I do not reference current data. In addition, Folsom's 2003 piece has not been updated. Therefore, the 2003 Merrett et al. is better suited to give the reader a frame of reference from the same time period of the Folsom study.

[8] In interviews and written comments, respondents indicated that they saw investment in NGCs as an attempt to narrow the corn basis in the area by increasing the demand for corn in the area. The premise of this present analysis is that multiple market opportunities (such as a wide basis) exist in a given situation. Therefore, the entrepreneurial opportunity set includes multiple equilibria. Even if we narrow the producer's goal to adding value to their corn, there potentially exist unlimited investment opportunities to add value to corn. This study, then, focuses primarily on microanalytics and the economics of organization in an attempt to discern the process by which the entrepreneurial transaction was selected from among multiple equilibria.

Nonetheless, Renville is widely recognized as a highly innovative community, one where producers experiment with the latest technologies and business arrangements. Starting in the early 1990s, Renville County became known for numerous progressive and innovative producer owned and controlled cooperatives. Six of these were of the configuration called the NGC. The NGCs included Southern Minnesota Beet Sugar Cooperative (SMBSC), ValAdCo, Golden Oval Eggs (GOE), Churchill Cooperative, MinAqua, and Minnesota Energy. The City of Renville, home to four NGCs, bills itself as America's "Cooperative Capital."

2.2 RENVILLE'S FIRST NGC: SOUTHERN MINNESOTA BEET SUGAR COOPERATIVE

In 1906, a sugar processing plant opened in Chaska, Minnesota, near Minneapolis. Growers who delivered to the plant were primarily from southern Minnesota (Minnesota Historical Society). However, in 1918, a farmer from northwestern Minnesota, in the Red River Valley, sent sugarbeets to the Chaska factory. Within a few years, other farmers from the Red River Valley were also producing small crops of sugarbeets to send to Chaska (University Archives). In the early 1920s, the Red River Valley growers convinced the Minnesota Sugar Company to build a plant in their area, on the condition that area farmers help finance the project (Minnesota Historical Society, Kotov). A company that would later become known as the American Crystal Sugar Company (ACS) ultimately purchased this Minnesota Sugar plant in 1925 (Kotov).

In 1941, the Southern Minnesota Beet Growers Association (SMBGA) began representing sugarbeet growers in southern Minnesota in negotiations with American Crystal Sugar (ACS), a publicly traded investor-oriented firm (Trucano 3). Southern

Minnesota growers continued to deliver their beets to the ACS facility in Chaska. With increased processing capacity, Minnesota growers began to increase sugarbeet production. In order to achieve greater production efficiency they invested in specialized equipment, such as defoliators and harvesters. This equipment was not used in other crop rotations, including corn and soybeans (Cattanach et al). The absence of a processing facility in Southern Minnesota would leave farmers owning equipment of little alternative value. In addition, long hauls to sugarbeet processing facilities tend to reduce grower returns, not only in terms of transportation costs but also in terms of lost sucrose content. Grower payments are generally based on the "extractable sucrose content of their beets" (Cattanach et al.). And, sucrose content declines quickly after harvesting, depending upon piling and temperature conditions (Brester and Boland, 290).

Domestic agricultural policy played an important role in the growth of the sugarbeet industry of the Upper Midwest during the Post World War II period. The Sugar Act of 1948 supported domestic sugar prices and, consequently, production. This act, which remained in effect until 1974, "established domestic and import quotas" (Minnesota Historical Society). Foreign policy also played a role in sugar production decisions. Sugar is produced in almost every country; and cane producers have a cost of production advantage. When trade ceased between the United States and Cuba in the early 1960s, the US sugar industry hoped they would see a boost in their production quotas (Minnesota Historical Society). However, sugar imports from other nations made up the shortfall. American Crystal Sugar's strategic reaction was retrenchment, selling off what assets they could and closing plants that were too unattractive to be purchased

(Minnesota Historical Society). The domestic industry found itself this is the volatile, excess capacity, low-margin environment in the late 1960s.

By the early 1970s, growers in the Renville area had a substantial investment in sugarbeet equipment. Nevertheless, the Chaska plant, to which southern Minnesotan growers delivered, was an aging facility. Citing "small size, obsolescence, high cost of freighting beets, and the cost of renovating and adding pollution controls," ACS announced its decision to close the Chaska plant in 1971 (Southern Minnesota Sugar Cooperative). This left sugarbeet growers in southern Minnesota with few options, none of them immediately attractive. The SMBGA began the search for a sugar-manufacturing firm willing to build a processing facility in southern Minnesota. SMBGA approached several established companies including Michigan Sugar Company, Utah and Idaho Sugar Company, Amalgamated Sugar, C&H, Cargill, General Mills, Pillsbury, and International Multifoods. The companies' responses were generally consistent: returns on investment in processing were not large enough to warrant building a new factory. Area growers concluded "if a factory were to be built," they would "have to do it themselves" (Trucano 8).

Meanwhile, growers in the Red River Valley were uneasy with the prospect of ACS plant closings. They also had growing concerns that ACS was not properly maintaining the remaining factories (Volkin and Bradford). Therefore, the Red River Valley Growers Association (RRVGA) sought representation on American Crystal's board of directors (Volkin and Bradford). Members of the association decided to begin raising capital to purchase 100,000 ACS shares to ensure that growers could "exert sufficient growing power to influence" corporate decisions. In the process, however,

RRVGA decided to see if ACS would be willing to sell the organization outright. After almost two years of negotiations, antitrust hearings, and complex legal and financial arrangements, American Crystal Sugar, a New Jersey corporation, converted to a cooperative on June 14, 1973 (Volkin and Bradford). Thus, growers in the Red River Valley owned their own processing facility. However, progress in southwestern Minnesota was slower[9].

A core group of growers was determined to have a processing facility in southwest Minnesota as well. Southern Minnesota Beet Growers Association spent much of 1972 holding exploratory meetings with growers. Their plans to build their own processing facility began with SMBGA board members initially asking growers to put up only $5 per acre "to use as seed money" (Trucano 9). In order to choose the optimal site for construction of a new processing facility, SMBGA set the following location decision criteria:

> (1) a central location was of critical importance because of the need to minimize freight problems (the Growers Association vowed not to repeat the freight problems experienced at Chaska); (2) adequate space (at least 600 acres) to permit the construction of waste water holding ponds and to serve as a buffer against neighboring landowners; (3) access to good highways and a financially-sound railroad; (4) availability of electricity; and (5) availability of a good water supply. (Trucano 10)

SMBGA selected a section of land bordering Highway 212, just east of Renville, as the best location (Trucano 10).

[9] Many events in this descriptive historical account were on-going and concurrent. Please refer to Table 2.2.1 at the end of this section for a timeline demonstrates the sequence of events.

As growers' attempts to arrange the financing, construction, and management of the sugarbeet processing facility ensued, obstacles continually challenged their resolve. Growers contributed equity capital to the venture in proportion to the acres of sugarbeets they contracted to deliver. Much of this equity capital was financed through a series of individual loans and guaranty funds. However, the complexity and uncertainty of the long-term debt financing agreement delayed construction. The delayed construction, combined with design problems, mechanical breakdowns, unresponsive management, and ill-prepared workers led to poor operating and financial results. Consequently, some growers did not fulfill their contracts, further exacerbating the problem of operating efficiencies.

While processing facilities opened and slicing began in 1975, it was not until 1978 that the cooperative was able to resolve many of these operating challenges. Finally, in 1978, the cooperative's board of directors amended their bylaws, hired new management, and finalized long-term financing agreements (See Trucano for further details). Today Southern Minnesota Beet Sugar Cooperative (SMBSC), the new generation cooperative, processes and markets sugarbeets and its co-products for the producer owners. The considerable lag between the emergence of SMBSC and its future profitability may explain why additional producers did not immediately form additional NGCs in the region. Almost a decade passed between the inception of SMBSC and the second formation of a cooperative with a similar governance structure in this area of Southwestern Minnesota.

During this time, growers in the area were examining the model of Suiker Unie in the Netherlands, a producer owned sugar beet cooperative[10]. Suiker Unie leaders "questioned why U.S. sugar beet cooperatives only worked with sugar when most beets are grown in three year crop rotation schemes" (Egerstrom 136). This led some growers to consider expanding the "sugar beet" model to other crops*. In other words, producers became interested in developing similar NGCs to vertically integrate into processing crops that were rotated with sugar beets, specifically corn and soybeans.

[10] Red River Valley growers originally drew ideas regarding their governance structure from the model of Suiker Unie in the Netherlands (Egerstrom, 136).

Table 2.2.1 Timeline of the Early Years: Southern Minnesota Beet Sugar Cooperative

TIMELINE OF THE EARLY YEARS: SOUTHERN MINNESOTA BEET SUGAR COOPERATIVE	
1906	▪ Sugarbeet plant opens in Chaska, MN
1941	▪ Southern Minnesota Beet Growers Association formed to represent sugarbeet growers in southern Minnesota in negotiations with American Crystal Sugar
1960	▪ Sugarbeets continue to be an important crop in the region, despite growing concern that government support for the sugar industry may be waning
1971	▪ Chaska Plant Closes
1972	▪ Growers in southern Minnesota begin organizing to build their own processing facility in Renville, MN to be named Southern Minnesota Beet Sugar Cooperative
1973	▪ Growers in Red River Valley buy remaining American Crystal Sugar facilities and convert the company to a cooperative ▪ Southern Minnesota Beet Sugar Cooperative signs a joint mangement agreement with American Crystal Sugar
1974	▪ Southern Minnesota Beet Sugar Cooperative must delay plans to open their factory due to construction delays and the uncertainty of financing arrangements
1975	▪ Southern Minnesota Beet Sugar Cooperative begins processing sugarbeets, but their success was fraught with management and technical problems
1976	▪ Southern Minnesota Beet Sugar Cooperative and American Crystal Sugar consider a merger ▪ Merger proposal fails to receive 2/3 vote among American Crystal Sugar shareholders
1977	▪ Proposed merger with American Crystal Sugar is defeated again ▪ Southern Minnesota Beet Sugar Cooperative's financial backers fought to "cut their losses" and withdraw from the Renville processing facility ▪ Some growers decided not to plant their contracted acreage
1978	▪ Southern Minnesota Beet Sugar Cooperative hires their own management team and amends bylaws to penalize growers who did not plant their full 1977 crop ▪ Southern Minnesota Beet Sugar Cooperative finally signs a long-term loan agreement that was achieved with the help of a loss-sharing agreement between construction lenders and the contractor
1980	▪ Second year of successful operations at Southern Minnesota Beet Sugar Cooperative

2.3 MINNESOTA CORN PROCESSORS

It was not until 1980 that another influential NGC emerged in this area. Farmers "disillusioned with corn prices" decided to pursue a strategy of processing their own products (Gerber). Growers formed Minnesota Corn Processors (MCP) in order to process corn into "ethanol, starches, syrups, dextrose, feed, and corn oil" (Buschette 2). The MCP plant was located in Marshall, Minnesota, approximately fifty miles from Renville. Aided by, $1.86 million in tax-increment financing from the city, MCP's $55 million plant opened in 1983. While their success was not immediate, MCP's eventual prosperity led them to expand three times in the early 1990s.

Corn growers who had not been involved in SMBSC were especially interested in investing in MCP because they had seen the success of SMBSC and were not able to take part[*]. Sugarbeet growers in the area were able to bid up land rents prices because their crop generated higher margins. The "closed" nature of SMBSC as a NGC meant that producers who did not buy shares during an MCP equity offering could not sign a marketing agreement to deliver corn to MCP unless they were able to buy shares from a current MCP equity holder. During MCP's profitable years, initial equity holders experienced greater than 100% returns on their initial investments as stock price rose from $2.06 1980 to $4.50 in the mid-1990s (Crooks). Therefore, equity holders were unwilling to sell or transfer shares to other corn producers. This meant that some producers were not able to buy shares or deliver to SMBSC. In addition, corn producers

[*] The author conducted over 70 interviews during the process of gathering qualitative and quantitative data. In addition, the author consulted audio and written interview materials gathered by previous investigators. Paragraphs including observations compiled from interview transcriptions, interviews notes, and survey respondents' written comments will be marked with this symbol (*). This technique is preferred for syntax and flow of the descriptive narrative included in this Background chapter.

would have to invest in additional equipment if they were to enter into sugarbeet production. Many corn growers had been waiting for a chance to generate the high margins that sugarbeet growers had attained and did not want to "miss out" on a chance to invest in another venture.

2.4 CO-OP COUNTRY FARMERS ELEVATOR

Co-op Country Farmers Elevator (CCFE) is a traditional, local supply cooperative that provides agronomy and grain marketing services to its member-patrons[11]. In the late 1980s, CCFE recognized that a "large number of their patrons would reach retirement age within a few years," causing the cooperative to suffer cash flow constraints in redeeming member equity (Buschette 3), a pressing issue for many traditional cooperatives such as Co-op Country. Redemption of patrons' allocated equity is a decision made at the "discretion of the Board of Directors". The three traditional methods for redeeming equity capital are a) revolving allocated equity on a first in – first out basis, b) percentage of equities approach, and c) special cases – i.e. a predetermined age or settlement of estates. CCFE's Board of Directors utilized this third approach and set an age of seventy-two as the target date. As the average and median age of the membership increased, CCFE leaders realized they would face a serious working capital issue in the not too distant future.

To address this issue, CCFE board members began exploring potential investments that would serve as an additional source of income to meet the coming equity payment demands on the cooperative. The cooperative was interested in an investment

[11] Please see Table 1.2.1 for the property rights implications of this organizational structure.

opportunity that would generate non-allocated permanent equity capital from non-member patronage to fund upcoming member-equity payouts and to reduce the payout age in the future. To this end, the Board began exploring an investment in sow multiplier units. The Board and CCFE management ruled out an investment in ethanol because, they felt, MCP already allowed farmers in the area the potential to invest in this type of venture.

Discussion over potential investments in sow multiplier units leaked to the membership before the Board had a chance to finalize the proposal*. Talk of a proposal that would involve CCFE entering the swine industry became emotionally charged as member-owners worried that CCFE would be encroaching upon small family hog operations and would soon be a competitor. In addition, member-owners that were closer to the age of member equity payouts were not convinced that investment in a new venture was the best strategy for enabling members to redeem their equity in a more timely manner. The older generation of patrons, then, was reluctant to encourage CCFE to invest in a venture that may risk or delay the payout of their retained patronage refunds. CCFE bylaws did not require the Board to bring a proposal for such an investment to a membership vote. However, members requested that CCFE present the issue to the entire membership for a vote.

A majority of Co-op Country members rejected an investment in sow multiplier units due to concerns that the cooperative's involvement in the industry would drive local farmers out of the hog business*. Board members were disheartened after the vote – and concerned that their plan to resolve their equity redemption problem would not come to fruition. Within days, however, board members began receiving phone calls from

members, urging them to develop alternative business plans and offering to support ventures that allowed farmers to become joint investors with Co-op Country. Co-op Country management continued to explore other business opportunities including turkey meat production and laying barn facilities for egg production. An advisory board was set up to report to the CCFE Board on the opportunities that they investigated.

In 1992, after the multiplier unit business idea failed to pass a membership vote, CCFE was concerned that members who did not represent the interests of its current patrons or who may not represent the interests of those involved in production agriculture too heavily influenced the organization*. This misalignment of current control rights and current residual claim rights may occur in traditional cooperatives. Often, members who have been patrons of the cooperative for several years accumulate relatively more retained equity capital than newer members. However, the longtime patrons may also be scaling down their production as retirement age approaches. Therefore, the current users of the organization are contributing to the current residual. But, control rights remain in the hands of the majority due to a one-member one-vote structure.

In the case of CCFE, the approaching equity "bubble" was specifically due to a large portion of their members approaching retirement age. These members had allocated equities from periods of high grain prices (the 1970s). The economic preference of retiring members is to retrieve their retained equity from the cooperative. Therefore, if control of the organization were to remain in the hands of retiring members, they may drain the cooperative of equity capital. CCFE attempted to transfer a greater degree of the control rights to current patrons by redefining the criteria for patron-membership. Because of this restructuring, individuals who did not purchase at least five

thousand dollars worth of service from CCFE within a calendar year would no longer be able to be voting members of Co-op Country. This shift was intended to reduce a certain amount of heterogeneity within the voting membership.

CCFE members allowed the cooperative to pursue opportunities in laying hen facilities*. The agreement specified that the emerging organization would compensate CCFE for the costs associated with feasibility studies, equity drives, and initial management of the new venture. CCFE Board members had initially envisioned forming a new capital-seeking division of CCFE in order to facilitate equity redemption payouts[12]. As discussed above, however, members expressed a preference for the development of a new business as a joint investment opportunity between individual investors and CCFE. Therefore, CCFE did not develop a new business division to solve their equity redemption challenges as originally envisioned. Instead, a new NGC called Golden Oval Eggs (GOE) was created. CCFE invested twenty-five per cent of the initial equity capital required for GOE.

An investment company called Midwest Investors was also established. The intent in establishing this entity was to fund a variety of collective ventures opportunities through this umbrella organization*. Midwest Investors was to become a type of venture capitalist fund for the promotion of value-added businesses, selling shares, and promoting a variety of NGCs. However, the laying operation was the only venture funded through this organization. Midwest Investors has since been dissolved.

[12] See Cook and Chaddad, 2004 for a discussion of cooperatives' quest for permanent equity capital and their reliance on capital-seeking entities such as nonredeemable shares, strategic nonmember business units, and strategic alliances.

2.5 VALADCO

2.5.1 Genesis

A group of thirty-nine original investors decided to pursue the swine production idea rejected by Co-op Country's membership (Buschette 5). Co-op Country was a large organization with heterogeneous membership[13]. A subset of CCFE members decided that the investment opportunity was attractive enough that they wanted to develop a multiplier business as a group*. Having received a mandate from their members not to pursue investments in the swine industry, Co-op Country shared their industry research and business plan with the newly created NGC, ValAdCo.

ValAdCo began by setting up an advisory committee[14] to investigate the legal and financial aspects of setting up their own multiplier operation. Two weeks later, there was enough interest that each advisory committee member contributed one hundred dollars to cover mileage and incidental expenses. These committee members then began soliciting investment from potential investors. Potential investors were required to make an initial five hundred dollar investment upfront while business plans were finalized. To become a member of ValAdCo, an investor was required to buy shares which were tied to marketing agreements specifying corn delivery obligations. Initially, minimum share investment was around $9,000. However, during the organizing stages, this equity capital was collected in promissory notes. Through subsequent equity offerings, ValAdCo grew to a membership of about 49 corn producers.

---

[13] Please see Section 2.4 for discussion of an example of this heterogeneity as it related to preferences of longtime members and incoming patrons.

[14] Not all advisory committee members became investors in ValAdCo.

2.5.2 Economic Goal of Collective Action: ValAdCo

ValAdCo's intent was to add value to members' corn. Investors hoped to add value to their corn by vertically integrating into the supply chain. Organizers envisioned that utilizing corn for feed in sow multiplier units would provide two benefits: (1) rents generated from the sow operation and (2) efficiencies gained through a local fertilizer supply*. Previous generations of farmers in the area had more diversified farming operations. Small animal agriculture on diversified farms presented a source of fertilizer. However, this source of fertilizer was no longer as prevalent as farms in the area specialized into corn, soybeans, and sugarbeets. Fertilizer now had to be imported into the region at substantial cost. By investing in a large sow multiplier operation, investors saw an opportunity to generate a savings on fertilizer costs.

2.5.3 Evolution of the Ownership Structure: ValAdCo

ValAdCo organizers worked from the bylaws of the NGCs with which their organizers were familiar—MCP, SMBSC, and Dakota Growers Pasta (a NGC in North Dakota)—to develop their NGC governance structure*. Organizers had access to these bylaws because they were members of these organizations. In addition, ValAdCo organizers utilized pre-existing connections with legal and accounting services that were already familiar with the NGC structure due to their association with SMBSC. About sixty percent of ValAdCo investors had previous NGC investment experience from their involvement with SMBSC or MCP.

2.5.4 Opposition

In addition to opposition of certain local farmers to investment in the hog industry, ValAdCo faced problems early in their development over potential environmental problems. They faced difficulties obtaining environmental permits to develop multiplier facilities on the scale that they envisioned.

However, by 1999, ValAdCo had built one of the biggest and most controversial hog farms in the state (Losure). For a number of years, this NGC was considered a pioneer in a growing producer-owned livestock sector. They pioneered a new technology that involved storing manure in open lagoons. This technology, now characterized as "failed" and "outdated," led to costly environmental regulation, legal fees, negative media coverage, and community opposition (Losure).

2.6 GOLDEN OVAL EGGS

2.6.1 Genesis

As discussed in Section 2.4, CCFE was interested in establishing a capital-seeking entity to alleviate the forthcoming horizon problem[15]. When initial plans to develop a sow multiplier business division were voted down by the membership, CCFE members suggested that Board and Management spearhead the development of alternative investment opportunities. CCFE members were particularly interested in investment opportunities that would allow multiple investors to enter into a venture partnership with CCFE. The CCFE Board established an advisory committee to explore alternative investment opportunities and oversee feasibility studies.

[15] The term horizon problem here refers to the coming equity redemption demands.

2.6.2 Economic Goal of Collective Action: GOE

The CCFE Advisory Committee developed a plan to add value to members' corn by using it as feed in layer operations. They chose to produce raw, liquid egg to lower transportation costs (Buschette 4). Golden Oval developed a strategy called the "Totally Integrated Food System" (Golden Oval). This system began with high quality grains produced by shareholders, relied on a single local supplier for pullets, and linked laying barns with breaking and cooling systems – allowing Golden Oval to control all aspects of production from the feed to the final liquid product. Organizers envisioned the integrated system would provide significant levels of quality and consistency (Buschette 6).

2.6.3 Evolution of the Ownership Structure: GOE

The advisory committee utilized pre-existing connections with law offices and accounting services that were familiar with the NGC structure due to their association with SMBSC. Co-op Country invested twenty-five percent of the initial equity requirements for Golden Oval Eggs. GOE accessed the remaining equity capital required through the sale of investment shares to approximately three hundred grain producers in the Renville area. About sixty percent of these original investors had NGC investment experience due to previous investments in SMBSC, MCP, or ValAdCo.

On September 1, 2004, GOE converted to a Limited Liability Company (LLC). Such an entity was rare in 1994 when GOE originally formed. The state of MN did not enact LLC statutes until 1992 (State of MN, Statute 322B). Through a series of expansions, GOE now has about seven hundred shareholders. In 1999, GOE decided to expand their facilities by constructing additional laying barns in Thompson, Iowa. The

first phase of production began in 2000. GOE completed further expansion of the Iowa complex, including the construction of additional laying barns and a feed mill, in 2004 (Golden Oval Eggs).

2.6.4 Collaboration

CCFE management and staff took an active role in analyzing the egg industry, establishing industry contacts, and conducting the GOE equity drive. The CEO of CCFE fostered the development of GOE while continuing in his capacity as the manager of CCFE. Subsequently, the CEO decided to manage GOE full time and to turn over leadership of CCFE to new management. GOE eventually reimbursed CCFE for the costs incurred while managing the establishment of GOE including staff wages.

2.7 UNITED MILLS

Recognizing the need to meet increased feed milling requirements, the boards of Co-op Country, Golden Oval, and ValAdCo decided to negotiate the construction of a new feed mill, United Mills. A "collaborative venture between a value-added co-op and a traditional co-op was a new idea….Such a project had simply not been considered before" (Buschette 5). Organized as a cooperative in 1993 and built in 1994, the three founding members equally divided the equity investment of $750,000.

United Mills had a joint management agreement with Co-op Country. Treated as a cost center, a standardized price allocated on a per ton basis was used uniformly across the membership; variable delivery fees and future capitalization allotments were also included. During the first three years, production efficiencies and increased volumes lowered the per ton charges from $20 to $6. Within three and one half years the

members' original investment had been paid off. The NGCs were able to meet their milling needs for rations, while Co-op Country generated direct profits from selling the milled product. Co-op Country generated the paperwork to notify members when their scheduled grain deliveries were due to ValAdCo and GOE. Co-op Country was also the delivery point for members delivering the grain for fulfillment of their marketing agreements with ValAdCo and GOE. No patronage was allocated on grain delivered through this pass-through arrangement.

2.8 DESCRIPTIVE HISTORY PROVIDED TO AID IN THE INTERPRETATION OF EMPIRICAL ANALYSIS

This Chapter presented a brief descriptive history of a sample of the cooperatives formed in the Renville area. The details provided familiarize the reader with some of the concepts to be discussed in subsequent empirical analysis.

CHAPTER 3: CONCEPTUAL FRAMEWORK

Olson's work on collective action is the foundation on which we may argue that an investigation of the nature of collective entrepreneurship is necessary (1975). Olson predicts groups will not collaborate to achieve their economic goals as an individual would, due to heterogeneity of individual objective functions. His theory proposes that collective action will only occur when there exists a privileged group, some form of selective incentive, or coercion. A privileged group in Olson's terminology may be correlated with size, but only in such instances as a reduction of size reduces the costs arising from (1) misalignment of residual claimant and control rights or (2) heterogeneity of member preferences. I refer to the misalignment of residual claimant and residual control rights as organizational inefficiencies (Milgrom and Roberts, 1992).

3.1 THEORETICAL PERSPECTIVES

In the context of collective entrepreneurship, this logic would predict that there may exist multiple economic opportunities for entrepreneurial collaboration[16]. However, owners will not collaborate to exploit these opportunities for their economic gain unless they are able to utilize coercion, employ selective incentives, or become a privileged group. The decision to invest in the ventures we will analyze was voluntary, in a legal sense. Therefore, to speak to the collective nature of this phenomenon, the conceptual approach should allow us to explore potential selective incentives, organizational

[16] This possibility is supported by theories in the entrepreneurship literature that look at the recombination or resources, increasing returns, and complexity theories. These system theories may predict (potentially unlimited) multiple equilibria. See Arthur (1988 and 1997), McKelvey (1999 and 2004), and Krugman (1997) for a discussion of these theories.

efficiency, and organizational strategies that function to reduce the costs arising from heterogeneity of owner preferences. To address venture creation, our framework must allow us to incorporate theories regarding the emergence of entrepreneurship.

To inform a theory of collective entrepreneurship, we will utilize the method of theoretical triangulation presented in Chapter One. This study utilizes three theories as building blocks to analyze economic incentives, heterogeneity costs, organizational inefficiency costs, and the emergence of entrepreneurship. The following section explains why each theory was chosen and introduces preliminary hypotheses.

3.1.1 Economic Incentives: Transaction Cost Economics

I begin by addressing Olson's prediction that certain selective incentives may allow individuals to achieve their common goals. Although a variety of selective incentives may be employed in promoting collective action, in this introductory study we focus on the economic incentives that may have increased the propensity for cooperation. The rationale for this focus is based on Sexton and Iskow's (1988) claim that the economic role of a cooperative in a market economy is a critical factor in the success or failure of emerging agricultural cooperatives. Thus, we need to use as a building block a theory that informs economic organization: the joint collaboration of economic actors, vertical integration, and joint vertical integration[17].

Transaction Cost Economics (TCE) is the dominant paradigm for analyzing economic organization (See Williamson, 1991). TCE allows us to analyze the economic

[17] A theory that explains joint vertical integration is specifically necessary because we are investigating the case of the patron-owned organizations. This involves some form of horizontal collaboration for vertical investment.

incentives for vertical integration as well as the selection of organizational form. The theory predicts that economic organizations emerge as a result of actors' attempts to minimize transaction costs.

3.1.2 Reducing Heterogeneity Costs: The Ownership of Enterprise

Olson's second prediction is that privileged groups may act to achieve their economic goals. A privileged group functions in a manner that aligns member preferences and reduces organizational inefficiencies. Hansmann's theory of enterprise ownership is incorporated into the conceptual framework because his concept of ownership costs allows us to analyze costs arising from the misalignment of the residual control rights and residual claimant rights. In addition, Hansmann's theory blends nicely with a TCE approach.

Hansmann breaks his theory of the ownership of enterprise down into two types of costs: the costs of market contracting and the costs of ownership. He predicts that an efficient governance structure will emerge which achieves the lowest combined costs of market contracting and of ownership. Hansmann's ideas regarding the costs of market contracting parallel TCE concepts. In those instances, I explain and test Hansmann's market contracting cost concepts in the TCE sections of this work. However, I explain investigate ownership costs derived from Hansmann's theory separately.

3.1.3 The Emergence of Entrepreneurship: Organizational Spawning

In the absence of a dominant theoretical framework in the domain of entrepreneurship, there are numerous competing theories that may be chosen to study the emergence of a sole entrepreneur (Chiles, Low, 2001; Phan, 2004). There has been what

Low considers a "disproportionate and unproductive time" spent attempting to define entrepreneurship or look at "who" entrepreneurs are. In addition, psychology and sociology have largely concentrated on "why" individuals engage in entrepreneurial activity (Stevenson and Jarillo, 1990). Literature that looks at the emergence of entrepreneurship is therefore sparse since the bulk of research does not address emergence per se. However, literature regarding emergence can be segmented into four broad categories: the Fundamental Properties Approach, the Complex Adaptive Systems Approach, the Social Networks Approach, and the Ecological Approach.

The Fundamental Properties Approach considers four key elements of emergence: intention, boundaries, resources and exchange (Katz and Gartner, 1988). We normally think of the criteria unfolding in order. However, a new business may not always be the goal when some type of entrepreneurial activity begins. For example, we may observe an individual that begins a hobby (intention) in their garage (resources). An individual may only decide set up a small business (boundaries) after beginning to sell merchandise (exchange). There is some discussion among scholars as to how many of the key criteria constitute emergence[18]. However, in general, researchers address at least three of the four criteria in order to describe emergence. The drawback to this theory is that it is largely descriptive. Therefore, the level of complexity that the analysis involves does not lend itself to drawing generalization from a population.

The Complex Adaptive Systems Approach originates in complexity theory. This approach applies the concepts of positive feedback, recombination, increasing returns, and adaptation. The difficulty in applying this theory is that when we look at a

[18] This disagreement was referenced by Scott Shane during the PhD Entrepreneurship Seminar, Case Western University, June 2005.

population there is not a defining point at which to begin our analysis. All prior action may matter. The Complex Adaptive Systems may accurately explain emergence given all information; however, it does not propose a starting point for our data collection.

The Social Networks Approach emphasizes the importance of social ties in the emergence of entrepreneurship (Shane and Cable, 2003; Burt, 1992; Coleman, 1998; Granovetter, 1973). Often, however, there is a wide range of social ties that may matter: personal, familial, customer, supplier, or capital provider. These networks may constitute a facilitation force, but there is little evidence to suggest that the networks may be the driving force behind emergence. Theories regarding networks may need to be incorporated in theory of entrepreneurship; however, they alone cannot be expected to be sufficient to explain the phenomenon.

The Ecological Approach (Aldrich, 1993) looks at intra-population processes and the effect that density may have on organizational founding rates. This type of approach is useful for making inferences regarding an entire population over the life cycle of an innovation. However, the theory is less focused on investigating differences among individual actors within a population and more useful for describing the emergence process of a population in its entirety. Since we are interested in investigating a subset of the population of NGCs, this theory is not well suited to the present inquiry. In addition, the NGC as a form of collective entrepreneurship may be too recent of a phenomenon to evaluate properly from the theoretical perspective of the ecological approach.

For the purposes of this inquiry, we are interested in a theory of emergence that allows for the incorporation of the key approaches described above, but that allows us to analyze emergence through observable, measurable relationships that can lend

themselves to empirical analysis. The Spawning Approach (Gompers, Lerner, and Scharfstein, 2005; henceforth GLS) allows us to look at many of the constructs that would be pertinent to the approaches listed above, while allowing us a defined starting point for the analysis: organizational ties.

Spawning refers to a process where persons formerly affiliated with a 'parent' firm form their own venture. Statistics show that, in high-income countries, eighty-one percent of entrepreneurs are already employed when beginning their new business (Minniti and Bygrave, 2004). These statistics led to the consideration of previous organizational ties as having some impact on nascent entrepreneurs. The spawning theory hypothesizes two types of spawned organizations: the reactionary child and the entrepreneurial child. Section 3.4 further explains the spawning approach as well as the differences between these two types of spawning.

Transaction costs and ownership costs give us a basis for evaluating the likelihood that entrepreneurs will seize a potential opportunity. However, complexity theory calls our attention to the possibility of an infinite number of possible recombinations of assets and owners (McKelvey, 2004). We are interested in introducing a theory that may narrow the set of possible opportunities to be selected from among multiple equilibria. By introducing the notion of spawning and the theoretical constructs presented in this approach, we hope to shed some light on how collective entrepreneurs may become acquainted with possible opportunities or select entrepreneurial endeavors from an opportunity set.

3.1.4 Construct Approach

The theories presented above regarding transaction costs, ownership costs, and spawning conditions will each be utilized to inform a new theory of collective entrepreneurship. Concepts from each of these three base theories will be developed into theoretical constructs and used in hypothesis testing (according to the theory building approach outlined in Eisenhardt, 1989). The following sections present the constructs to be tested, explaining how the construct is hypothesized to affect investment.

3.2 TRANSACTION COSTS

Transaction cost economics analyzes emergence of governance structure as well as level of vertical integration from the vantage point of three criteria: asset specificity, uncertainty and frequency. The theory posits that the appropriate governance structure evolves or is chosen in order to minimize costs that may arise due to the situations described by each of these criteria. This concept is often referred to as the discriminating alignment hypothesis and involves the notion that the governance structure and the transaction are aligned to minimize transaction costs. The hypothesis is that economic actors seek to organize transactions to economize on bounded rationality while simultaneously safeguarding themselves against the hazards of opportunism (Williamson 1991).

Typically, research in transaction costs focuses on ex post governance mechanisms to reduce opportunistic behavior or on ex ante incentive alignment in order to avoid hold-up. Both of these types of inquiry are specific to a certain transaction. Therefore, they assume that a transaction has been considered. This theory cannot be

expected to fully explain collective entrepreneurship because the option space within which many collective entrepreneurial ventures develop may be ex ante transaction selection. Part of our inquiry should address how the entrepreneurial activity or transaction was selected, which this theory does not address. Introducing the GLS spawning theory will help mitigate these constraints.

From an entrepreneurial standpoint, the emphasis that transaction cost economics places on asset specificity is ideal. If we look at entrepreneurship as the fundamental recombination of assets for the creation of new assets, and assume that economic actors are also seeking to protect their current assets, the notion of asset specificity gives us an excellent framework for analyzing the entrepreneurial opportunities that may be available to an economic actor. However, the number of recombinations and opportunities available to any specific actor may be unimaginable or unlimited, each one representing a possible solution among multiple equilibria. Theories regarding the structure of ownership may not be able to explain fully which opportunities are seized or why. Therefore, this theoretical framework is supplemented with the notion of spawning described later in this chapter.

This study looks at asset specificity and uncertainty, investigating how these antecedents to transaction costs, experienced ex ante or ex post, may have affected an individual's decision to invest as well as their level of investment. The following sections explain these concepts. After a discussion of each concept, I present the related hypotheses.

3.2.1 Asset specificity

Asset specificity refers to "the degree to which an asset can be redeployed to alternative uses and by alternative users without sacrifice of productive value" (Williamson 1991). There are six general types of asset specificity studied in TCE: site specificity, physical asset specificity, human asset specificity, dedicated assets, brand names, and temporal asset specificity.

3.2.1.1 Site specificity

Site specificity often looks at co-location which could reduce many costs of exchange including transportation costs. Generally, site specificity employs the notion that, once a specific investment has been made, assets are "highly immobile" (Joskow, 1988). Most often, transaction cost economics looks at site specificity in terms of its potential to allow for ex post investment opportunism. However, I explore how site specificity may affect an individual's propensity to invest ex ante.

Due to family and social networks, an investment in farmland may be seen as highly immobile. In addition, the value of farm output is subject to transportation costs and the relative nature of grain scarcity within the geographical region. Therefore, individuals with immobile assets in locations subject to high transportation costs or high levels of grain market saturation may experience a stronger incentive to invest. In the case of the present study, limited to a single location, there is no justification to expect differing levels of transportation costs or spatial economy attributes. Thus, the focus of this study's inquiry will be the level of individual location attachment. The operating

hypothesis is that propensity to invest will increase as the individual's level of site specificity, or place attachment, increases.

Hypothesis 3.2.1.1 Individuals that possess strong ties to the investment site will be more likely to invest.

3.2.1.2 Physical asset specificity

Physical asset specificity examines the extent to which an investment is made in specialized equipment for trade with a particular buyer. If we were to look at the case of investment in Southern Minnesota Beetsugar Cooperative, for example, we would consider that farmers who already owned equipment to raise sugarbeets would be more willing to make an investment in that NGC. Equipment to raise sugarbeets, such as defoliators and harvesters, was not used in other crop rotations, including corn and soybeans (Cattanach et al). When the Chaska plant closed, farmers who had been growing beets no longer had a buyer in the region[19]. Therefore, farmers who were to be left with these assets and no market for their sugarbeets we would predict to be more interested in the prospect of investing in a beetsugar processing facility than would farmers who did not own specialized equipment.

In the case of ValAdCo and GOE, the degree of specificity of the equipment involved is not expected to have as much weight as a determining factor for investment. Farmers who invest in these ventures may well be searching for another market outlet for their corn. And, they may be seeking higher payment for corn delivered to their NGC

[19] Please refer to Section 2.2 for a review of the SMBSC example.

than payments received from other grain handlers[20]. However, corn being a major commodity, the market for corn would not be expected to disappear entirely as did the market for sugarbeets when American Crystal Sugar closed their plants. Therefore, while the operative hypothesis is that physical asset specificity positively impacts investment, this factor may be somewhat diluted due to the highly tradable nature of corn as a commodity.

Hypothesis 3.2.1.2 Individuals that have higher levels of specific physical asset investment will be more likely to invest.

3.2.1.3 Human asset specificity

Human asset specificity involves specific skills or knowledge that arises, often as a result of "learning by doing". This knowledge or skill is then more valuable in the specific transaction than in its next best use. It is hypothesized that high levels of human asset specificity will lead to emergence of entrepreneurial endeavors where this specific knowledge will be utilized. Therefore, individuals who possess higher degrees of human asset specificity in relation to a certain venture would be more likely to invest[21]. When considering the New Generation Cooperative and its unique structure, one example of human asset specificity to consider would be previous NGC Board service or NGC investment.

[20] Non-investors may be considering utilizing corn for feed in their own livestock operations. However, to gain economies of scale, this may require a significant investment.

[21] Please note that constructs of human asset specificity may be closely related to the notion of previous experience or learning introduced later within the spawning conditions framework.

Hypothesis 3.2.1.3 Individuals that possess specific skills or knowledge valuable to the venture will be more likely to invest.

3.2.1.4 Dedicated assets

Dedicated assets are investments by the seller with the expectation of a considerable amount of trade with one particular buyer. I do not expand upon this construct here because it is not specifically included in the empirical analysis. Dedicated assets are excluded mainly because we need a repeated game framework in order to test for the effect of dedicated assets. In an emergent venture, the "buyer" in this scenario would not exist yet. This concept has meaning, however, within a repeated game analysis where the actor possessing dedicated assets may have been held up and subsequently decides to vertically integrate.

Although we do not specifically test this construct, it is necessary to introduce the term because this concept is the foundation for the concept of "lock-in" addressed in Section 3.2.3.2. It is hypothesized that high degrees of dedicated assets increase an individual's propensity to invest.

Hypothesis 3.2.1.4 Individuals forced to forego quasi rents from dedicated assets will be more likely to invest in subsequent rounds** (not tested)

3.2.1.5 Brand names and temporal asset specificity

Brand names and temporal asset specificity are two additional sources of asset specificity mentioned in the literature (Williamson 1991). Brand name specificity looks at investments made pertaining to a certain brand. Temporal specificity looks at asset

specificity as it pertains to technological or perishable goods. During the initial investigation and interview phases of the research case, these aspects of specificity were not indicated as important factors. Given limitations on survey length, these types of asset specificity were not tested by the survey instrument.

3.2.2 Uncertainty

Uncertainty, in this context, refers to the inability to perfectly foresee the actions or behavior of another party engaged in the transaction. Strategically, uncertainty may instigate actors to make agreements to cooperate or vertically integrate to minimize that uncertainty. However, the expectations of a high level of uncertainty ex post regarding the transaction, once an agreement has been negotiated, would reduce the likelihood that an actor would like to engage in contracting. Therefore, it is hypothesized that high levels of ex post contracting uncertainty will reduce an individual's propensity to invest.

Hypothesis 3.2.2.1 Individuals forecasting low levels of ex post contracting uncertainty will be more likely to invest.

As explained previously, typically TCE focuses on ex post contractual or organizational arrangement to mitigate uncertainty. However, due to TCE theoretical assumptions regarding bounded rationality, we must realize that individual's may not be able to assess accurately the levels of ex post uncertainty. This requires individuals to forecast certain expectations regarding the behavior of other parties involved in the transaction. Actor's expectations can be viewed as being formed through a pattern of localized deduction coupled with inductive reasoning (Arthur, 1994).

3.2.3 Market Contracting Costs

Hansman (1996) proposes a theory that is similar to that of the TCE discriminating alignment hypothesis. He contends that an efficient governance structure emerges which achieves lowest combined costs of market contracting and of ownership. Market contracting costs are closely related to the transaction cost approach. However, the market contracting theory enables us to highlight certain aspects of these costs. In addition, this theory provides the theoretical basis for the analysis of ownership costs.

Market contracting costs arise from certain "market imperfections" (24). And, he contends that these costs can be reduced by assigning ownership to the affected patrons. Therefore, we can expect that the existence or degree of these costs may have some effect on an individual's decision to become an owner. Eight market contracting costs are defined: (1) simple market power, (2) ex post market power (or "lock-in"), (3) risks of long-term contracting, (4) asymmetric information, (5) strategic bargaining, (6) communication of patron preferences, (7) compromising diverse patron preferences, and (8) alienation.

The present work does not test all of these constructs. This market contracting theory is simply being used to highlight underlying aspects of the transaction cost approach. The theoretical constructs this study considers are primarily the concepts of (1) ex post market power ("lock-in") (2) risks of long-term contracting, and (3) asymmetric information.

3.2.3.1 Ex post market power or "lock-in"

Lock-in occurs as a result of two conditions: a significant transaction-specific investment made upon entering a transaction and the existence of incomplete contracting. Incomplete contracting refers to a case in which due to the duration, complexity, or uncertainty involved in a transaction, the contract may not address all possible or future contingencies. These two conditions can result in a form of "lock-in" whereby a party loses the "protective option of costless exit" (Hansmann 25, 1996). For this construct, it is hypothesized that as the anticipated level of ex post "lock-in" increases, the probability of emergence will decrease. Agents will be less motivated to commit resources to a venture the higher the risk of "lock-in."

Hypothesis 3.2.3.1 Individuals forecasting a low probability of lock-in will be more likely to invest.

3.2.3.2 Risks of long-term contracting

A long-term contract has the potential to expose agents to additional risks that are not associated with short-term contracts. While this could be due, in part, to the affect that bounded rationality has on the agents' ability to predict future circumstances, risks of long-term contracting are also closely associated with an increased level of opportunistic behavior that may develop over the course of the contract. When an agent foresees risks associated with long-term contracting, we can predict that the agent would be less likely to want to enter into such an agreement. Therefore, the higher degree of long-term contracting risks an agent foresees, the lower the likelihood of emergence of a new venture.

Hypothesis 3.2.3.2 Individuals forecasting low levels of long-term contracting risk will be more likely to invest.

3.2.3.3 Asymmetric Information

The concept of asymmetric information results from bounded rationality. This concept underscores the idea that not all participants in a transaction may have the same level of or access to information. When there is asymmetric information in regards to a transaction, the most efficient governance structure would be for ownership to fall in the hands of those with better information (Hansmann, 1996). For the purposes of the present study, we predict that those individuals who perceived that they would have better information regarding the venture would be more inclined to participate in the emergence of the venture. Therefore, a positive correlation with symmetrical information and the commitment of resources in hypothesized.

Hypothesis 3.2.3.3 Individuals who perceive themselves to have higher levels of access to information will be more likely to invest.

3.3 COSTS OF OWNERSHIP

An efficient ownership structure will minimize the combined costs of market contracting and ownership. Ownership costs arise (1) from the separation of ownership and control rights (2) and from shared ownership by a group of individuals. Therefore, we recognize two different categories of ownership costs: agency costs and the costs of collective decision-making (Hansmann, 1996).

3.3.1 Agency Costs

When ownership and control rights are separated, through responsibilities assigned to management or another governing body, agents are in a position where they do not bear the full wealth effects of their actions. This concept is related to information asymmetry because the agent may be able to take advantage of information to which the owner is not privy. Agency costs, however, exacerbate information asymmetry by providing an incentive for the persistence of these asymmetries. While contracting of various forms, including organizational structure, may correct some of these incentives or improve informational asymmetry through monitoring or bonding arrangements, the inevitable incompleteness of contracts infers that they cannot completely resolve agency issues. Contracts are unavoidably incomplete, leaving residual claims and residual control rights that cannot effectively be specified, verified, or enforced (Jensen and Meckling, 1976; Milgrom and Roberts, 1992). Hansmann addresses two types of agency costs: managerial opportunism and monitoring costs.

Managerial Opportunism

Managerial opportunism occurs when an agent engages in "self-dealing transactions" (Hansmann , 37, 1996). Due to information asymmetries, managers may find it possible to shirk or divert a portion of the firm's residuals to themselves. Thus, costs may arise when the owners delegate responsibilities to an agent. In organizations with multiple owners, managers may also find it within their control and to their advantage to cater to competing interests among the owners or their representatives—to individual member-patrons or certain Board members. It is hypothesized that those

investors who perceive that the group will be ineffective in controlling managerial opportunism will have a lower propensity to invest.

Hypothesis 3.3.1.1 Individuals who believe the group will effectively constrain agents' ability to engage in self-dealing transactions will be more likely to invest.

Monitoring Costs

Monitoring may be more costly among a group of owners because the owners must (1) monitor operations, (2) exchange pertinent information among owners, and (3) bring a decision to bear on the agent (Hansmann, 1996). The costs involved in monitoring may rise as the number of venture owners rises. First, there would exist significant duplication of effort if each owner is to remain fully informed. Second, an individual owner's incentive to monitor decreases as the number of owners increases because the benefits from monitoring can not necessarily be captured by the individual who monitors. Benefits from monitoring may flow to the entire group of owners. As we investigate collectively owned organizations, we can expect certain differences as the size of the ownership group increases.

According to this theoretical perspective, as the expected degree of agency costs rise, the probability of emergence will decrease. In addition, we can expect to see some discrepancies in individual behavior depending upon the size of the group. Within larger groups we may see greater agency costs, greater free riding on behalf of some individuals who shirk their monitoring responsibility, or greater apathy in terms of monitoring as we approach what Olson would deem a "latent" group (1965).

Hypothesis 3.3.1.2a Individuals who perceive that they will experience low monitoring costs will be more likely to invest.

Hypothesis 3.3.1.2b Privileged groups will be more likely to engage in collective entrepreneurship.

3.3.2 Collective Decision-Making Costs

Collective decision-making costs arise due to heterogeneous preferences among the owners. Decisions made at the level of the cooperative may affect owners differently. Therefore, when the cooperative sets policy or strategy, the resulting outcome may have varying degrees of cost involved for one party or another. Collective decision-making costs are associated with the following four areas: (1) costly decisions, (2) costly process, (3) resolving conflicts, (4) and participation (Hansmann, 1996). This present analysis explores the first three costs.

3.3.2.1 Costly decisions

Costly decisions occur when a group of owners makes inefficient decisions. A less than optimal decision may occur due to an individual that is able to exert undue influence on the outcome of a vote or policy. In addition, the organization may be unduly swayed by a minority opinion or an opinion that is not supported by the economic situation. Another concept closely related to this idea is that of influence costs (See Cook 1995). It is hypothesized that higher levels of expected inefficiencies due to costly decisions, will lower the probability of emergence. Individuals will be less likely to

commit resources to an endeavor if they perceive as the probability of inefficiencies due to costly decisions rise.

Hypothesis 3.3.2.1 Individuals who expect the group to make wealth-maximizing decisions will be more likely to invest.

3.3.2.2 Costly Process

Due to information asymmetries and heterogeneous preferences, a great deal of time and effort may be spent in order to come to a consensus among owners. In addition, various voting schemes may have varying impacts on the decided outcomes (See Miller, 1992). To mitigate these costs, various boards or other governing bodies are formed. However, the presence of these boards allows for agency costs to arise. A costly process may manifest itself in a slow, bureaucratic organization. In extreme cases, however, it can lead to gridlock or inaction. As expected costs to the decision-making process arise, it is hypothesized that the probability of emergence decreases. Individuals would be less likely to commit resources to an endeavor if they perceive that the entrepreneurial rents may be lowered through a costly decision-making process. Decision-making processes can become more costly as they become more time-consuming or as unrepresentative minorities engage in coalition building to gain control of decision-making processes.

Hypothesis 3.3.2.2 Individuals who expect the group to reach decisions through a timely, representative process will be more likely to invest.

3.3.2.3 Resolving Conflicts

When owners with heterogeneous preferences invest in an organization, conflicts of interest may arise. For example, we may consider that to reach an agreement, concessions are made or incentives are put in place at the level of the organization. The case may also arise in which, upon making a decision that penalizes a part of their membership, an organization may be required to compensate the losers. Organizations often attempt to mitigate the costs associated with resolving conflicts through the governing process (coercion) or through specific selective incentives. However, gains made in mitigating conflict may result in an inefficient allocation of resources from an economic standpoint.

Hypothesis 3.3.2.3 Individuals who expect the group to incur minimum conflict costs will be more likely to invest.

3.4 SPAWNING CONDITIONS

The spawning approach takes into consideration statistics that report that eighty-one percent of entrepreneurs are employed when commencing their venture. GLS review preliminary case research and propose a theory that involves two reasons why employees may choose to leave their current employer, developing entrepreneurial opportunities outside of the parent organization. They present two possible motivations for entrepreneurs to leave a previous organization and develop their own venture: reactionary spawning and entrepreneurial learning.

3.4.1 Reactionary Spawning

Reactionary spawning occurs when an employee leaves the firm to develop an idea on his own that the firm was unable or unwilling to pursue (GLS, 2005). According to the spawning theory, the reactionary firm is the offspring of a large organization that does not seize the chance to develop an entrepreneurial opportunity. The parent organization may be reluctant to pursue an entrepreneurial endeavor because it wisely chooses to focus on its core competencies. Or, it may be that the organization is more bureaucratic. Thus, the organization's hierarchical decision-making processes or its internal capital markets may render the organization slow to respond to changes that take place in the market. Hierarchical organizations may also have more difficulty processing the "soft information" or uncertain information surrounding an entrepreneurial endeavor. Therefore, higher-level managers may not be capable of evaluating entrepreneurial opportunities.

Hypothesis 3.4.1.1 Ventures may emerge as a reaction against large, slow, bureaucratic, hierarchical organizations.

Hypothesis 3.4.1.2 Ventures may emerge as a reaction against rigid internal capital markets in a parent organization.

Hypothesis 3.4.1.3 Ventures may emerge from a parent organization unable to seize uncertain opportunities.

Hypothesis 3.4.1.4 Ventures may emerge from a parent who chooses to focus on core competencies.

3.4.2 Entrepreneurial Learning

The second type of spawned entity, according to GLS, can be characterized as an entrepreneurial learner. These entrepreneurial entities are spawned from relatively younger, smaller organizations that have been venture capital backed. The hypothesis is that the employees in these organizations have business start-up experience, knowledge of the venture creation process, and have been exposed to a network of contacts that facilitate the founding of a new venture. In addition, individuals that go to work for these small start-up firms may have a higher tolerance for risk. Therefore, they may be more apt to found new business for the same reasons that they were willing to go to work for a start-up. Finally, GLS predict that entrepreneurial learning organizations are likely to spawn more ventures.

Hypothesis 3.4.2.1 Ventures are likely to emerge from individuals that have business start-up experience and industry contacts.

Hypothesis 3.4.2.1 Ventures are likely to emerge from individuals that experience utilizing venture networks.

Hypothesis 3.4.2.2 Individuals involved in venture start-ups are likely to be less risk averse.

Hypothesis 3.4.2.3 Parents with an entrepreneurial learning organizational environment are more likely to spawn new organizations.

3.5 APPLICATION OF CONCEPTUAL FRAMEWORK

Many of the organizational and individual attributes that researchers would need to measure to assess the constructs explained in the preceding sections are not available from secondary data sources. Therefore, I gathered primary data to test each of the constructs and the related hypotheses outlined in this chapter. Chapter Four will present the methods and procedures that I employed in data collection.

CHAPTER 4: METHODS AND PROCEDURES

To begin to investigate the emergence of collective entrepreneurship, we can investigate the economic goals of groups and organizations. However, according to Olson (1965), we must analyze not only group behavior, but also the individual choices and personal interests of the individuals that comprise the group. Katz and Gartner (1988) suggest consideration of four properties of emerging organizations: intent, resources, boundaries, and exchange. We reviewed the economic goal or intent of each NGC in Chapter 2. The empirical analysis, then, will attempt to address the second property of emerging organizations: resource commitment.

The sole manner by which an individual could become a ValAdCo or GOE member was to purchase equity shares in the venture[22]. Since share investment also represents the primary method by which an individual could commit resources to the NGC ventures, it provides us with a convenient proxy for the individual's participation in emergence. Therefore, to provide a rigorous description of collective entrepreneurship, I chose to investigate the phenomenon taking the individual and their investment decision as the unit of analysis for the empirical section of this study.

4.1 SURVEY PREPARATION

This deviant case analysis looks to Renville, a small town that excelled in a specific area: NGC development. Four additional investigators from the University of Missouri had established contacts among NGC investors in the county: Dr. Michael L.

[22] In the case of NGCs, a share purchase is linked to a marketing agreement: capital and raw material commitments are a simultaneous transaction.

Cook, Leland Tong, Stacia Markway, and Dr. Peter G. Klein. This provided me the opportunity to incorporate a measure of investigator triangulation as discussed in Chapter One.

My first step was to reestablish connections with individuals in the Renville area to ensure that we would be able to gain participation and cooperation. The first visit to Renville involved interviews with key informants to begin developing a descriptive history of the ventures developed in the area. I traveled to Renville with two advisors from my committee so that we could make formal introductions and requests for information. I also looked to establish a list of contacts that would be helpful in gaining access to necessary information.

After narrowing the set of possible theories that were expected to inform the concept of the emergence of collective entrepreneurship, I returned to Renville in order to conduct interviews with key informants. The purpose of these interviews was to gain enough background information regarding each NGC in the area to identify which NGCs would best allow me to test the theories regarding transaction costs, ownership costs, and spawning conditions[23]. I also needed sufficient qualitative data concerning these organizations to formulate pertinent survey items. In addition, it was imperative that the survey language be familiar to the local residents and pose questions in such a way that respondents would feel comfortable responding.

I decided to focus my research on two specific NGCs: ValAdCo and GOE. These two organizations represented an interesting comparative study due to their history. As I compiled a descriptive history of ValAdCo, it revealed that a majority of CCFE member-

[23] As discussed in Chapter One, this technique is referred to as theoretical sampling.

owners voted against the idea for hog multiplier units. The proponents of the venture consequently created a new organization and pursued the venture as a separate entity. Among the accounts of organizational emergence that I gathered through the initial interview process, the ValAdCo narrative most closely resembled a reactionary account[24]. In addition, it was a relatively small organization which would allow me to investigate claims regarding size of ownership group and latency discussed in Chapters 1 and 2 (Hansmann, 1996; Olson 1965).

GOE organizers' descriptive account was relatively more learning-based. Through their experiences with SMBSC and MCP, they had success developing NGCs to build facilities to process their crops. A subset of GOE membership had extensive experience developing value-added ventures and governing NGCs. Therefore, they wanted to replicate a process that they had profited from in the past. And, they wanted to do so in a way that leveraged their current crop rotation. In addition, the pool of GOE members was relatively large. Finally, both ValAdCo and GOE had strong ties with CCFE and SMBSC. This made it possible to measure these ties and to test constructs related to a reactionary or an entrepreneurial learning hypothesis across two potential parent organizations.

The sample population that I chose was the total active membership of CCFE from 1989 to 1993. This five-year window would be the best proxy for all individuals who were informed and eligible to invest in both ventures. The closest listing that I could obtain of these individuals was a list containing all individuals that had any remaining

[24] I gathered descriptive histories of the emergence of ValAdCo, GOE, MCP, Churchill Cooperative, MinAqua, Phenix, Minnesota Energy, Bushmill Ethanol, and Chippewa Valley Ethanol Cooperative. Additionally I gathered information regarding the history of SMBSC and CCFE.

retained equity in CCFE as of November 2007. Equity retains recorded by CCFE could have been from two sources: the local cooperative (CCFE) or a regional cooperative. The regional cooperative pays out equity at seventy-two years of age. Therefore, if an individual from our targeted sample population (CCFE members from 1989-2003) ceased to deliver grain to CCFE approximately before the age of sixty, he may have received his patronage payouts from both local and regional cooperatives. These individuals may have been excluded from the sample. However, I had no means to identify them or to estimate their numbers.

The next step was to operationalize the theoretical constructs to be tested into survey items. While completing the survey, I returned to Renville to finalize the mailing list and pre-test a draft of the survey with key local informants. This allowed me to confirm all the logistics concerning the mailing, to review the wording of the questions, and to discuss incentives that we could use in order to increase the survey response rate. We chose to offer a two-hundred dollar gift certificate to six random respondents as an incentive to increase the survey response rate.

4.1.1 Survey Logistics

The final mailing list from the population discussed above included 1316 addresses. Of the 1316 surveys mailed, the U.S. Postal Service returned (a) 54 because the individual was deceased and (b) 215 marked undeliverable. Within two months of the survey mailing, the response rate was hovering around 15%. To improve my statistical estimates, I needed more observations. Therefore, I obtained potential respondent phone numbers from local phone books and the internet.

I was able to call potential survey respondents and schedule appointments to complete the survey with them in their home or another convenient location. However, I was unable to obtain contact information for 221 potential respondents: (1) no phone number was listed or (2) I was not able to verify a phone number that matched their name and address even though the Post Office had not identified their survey as undeliverable. I was not able to confirm that these potential respondents had received their survey. Therefore, I removed them from the possible sample size.

The final category of individuals removed from the possible sample size was individuals to whom the survey did not pertain. These individuals were generally not producers at the time of ValAdCo and GOE equity drives. Not being producers, they could not fulfill marketing agreements and, therefore, would not have been eligible to purchase shares either NGC[25]. Generally, non-producers were included on the mailing list for one of the following reasons: (1) the individual was a child or spouse of a producer under whose name grain had been sold; (2) the individual was too young to have been a producer at the time of ValAdCo or GOE equity drives but had sold grain to CCFE in subsequent years; (3) the individual had bought feed or other supplies from the cooperative for horses or other animals, but was not involved in production agriculture; (4) the individual joined CCFE after 1993 but was included in the mailing list due to their current equity retains. These individuals were included in the sample population but reduced the survey response rate even though the survey did not pertain to them. To remedy this, I met with key informants in the area that were able to identify the

[25] In some NGCs, the NGC would allow non-producers to invest as long as the fulfilled the marketing agreement by delivering corn. This corn would have to be purchased on the market. However, due to IRS limitations regarding cooperatives, there were limitations on the percentage of non-producers that could be member-investors in the cooperative.

individuals to whom the survey would not pertain. I amended the total possible sample size to reflect this information.

After my final visit to Renville County to finish soliciting survey responses, I returned with 207 completed surveys from a total possible sample size of 378 respondents. Thus, the survey response rate was 54.76%. To the best of my knowledge, the results from these survey responses are adequate and reflect the general view of the entire population.

Table 4.1.1 Rural Investment Survey: Response Results

Rural Investment Survey: Response Results	
Population of CCFE Patrons	1316
Deceased	54
Undeliverable	215
No Phone Number Found, No way to contact	221
Survey Does not Pertain	448
Total Possible Sample Size	**378**
Surveys Returned	207
Response Rate	**54.76%**

4.2 EMPIRICAL METHODS

As part of the descriptive analysis included in the Background section of this work, I spoke to the economic intent of these entrepreneurial groups as well as the organizational boundaries that they employed within the NGC framework. The empirical section of this work looks at Katz and Gartner's third criteria: resources (1988). We are interested in what motivated individuals to commit resources to this collective venture. And, we are interested in which theoretical constructs explained in Chapter 3 will have an

impact on the commitment of resources. Therefore, we would like to test the following models:

Organizational emergence = f (TC, OC, SC)

Commitment of Resources = f (TC, OC, SC)

To do so, we turn to the individual unit of analysis. I began with binary logit models that compare non-investors to investors. I utilize the theoretical constructs explained in the Chapter 3 to determine which variables have an impact on investment. I run regressions employing transaction costs, ownership costs, and spawning costs separately. Then, I combine constructs from all three theories to test these constructs simultaneously.

Binary Logistic Models:

(0,1) = f (TC)

(0,1) = f (OC)

(0,1) = f (SC)

(0,1) = f (TC, OC, SC)

Finally, I utilize ordered logistic regressions to test whether the same variables that predict investment will also predict strength of investment. I test this using a dependent variable that categorizes individual's level of investment as a percentage of their total farm asset value. Respondents indicated, by category, whether they (1) did not invest in the NGC, (2) invested 0-3%, (3) invested 4-7 %, (4) invested 8-12% and (5) invested greater than 12%. This categorical information was recoded as (1) 0%, (2) 3%, (3) 6%, (4) 9%, and (5) 12%. This recoding does not affect the results, as the regression simply uses the numbers as ordered categorical indicators.

Ordered Logistic Models

(0, 3, 6, 9) = f (TC)

(0, 3, 6, 9) = f (OC)

(0, 3, 6, 9) = f (SC)

(0, 3, 6, 9) = f (TC, OC, SC)

CHAPTER 5: EMPIRICAL ANALYSIS

In this chapter, I present the empirical results from the survey data. I then analyze these results according to the hypotheses outlined in the Conceptual Framework. Regressions referenced in this chapter are those equations that resulted in the best model fit. I present the results as log odds ratios. The independent regressors are generally categorical variables. Since we cannot claim that these independent variables represent interval or continuous data, marginal interpretations of these coefficients could be misleading.

Log odds of less than one represent a negative relationship with the dependent variable. Log odds of greater than one represent a positive relationship with the dependent variable. I have also included the beta coefficients in the tables so that the reader can refer to these for the variable sign. It is convenient to have these signs as a reminder when reviewing results.

5.1 THE EFFECT OF TRANSACTION COSTS ON THE COMMITMENT OF RESOURCES

I begin by testing models that investigate the effect of transaction costs on the commitment of resources to a collective entrepreneurial endeavor. These models are estimated using a binary logistic regression. The model for each organization, ValAdCo and GOE, is estimated separately. The models tested are derived from the following general equations:

$$\text{Investment} = f(\text{Transaction Costs})$$

$$\text{Did Not Invest / Invested} = f(\text{Transaction Costs})$$

(0,1) = f (Transaction Costs)

The transaction cost models for ValAdCo and GOE were both significant and were able to predict investment accurately 92.5% and 86.1% of the time, respectively.

Table 5.1.1 reviews the constructs discussed in Chapter 3. This table includes the name of the construct, the expected sign according to the stated hypotheses, the name of the variable representing the construct, and a synopsis of the survey item from which the data on each variable was gathered.

Table 5.1.1 Independent Variables Tested in Transaction Cost Equations: Theoretical Construct, Expected Sign, Variable Name, and Construct Description

Table 5.1.1 Independent Variables Tested in Transaction Cost Equations: Theoretical Construct, Expected Sign, Variable Name, and Construct Description			
Theoretical Construct	**Expected Sign**	**Variable Name**	**Construct Description**
Asymmetric Information			
▪ Ex ante investment	+	Info2Decide	Informed investment decision
▪ Ex post investment	+	Update	NGC performance updates
Uncertainty			
▪ Organization/Market	-	Pay4Grain	Grain delivery payment
Asset Specificity			
▪ Ex Post Market Power ("Lock in")	+	Exit	Share investment liquidity[26]
▪ Risks of Long-Term Contracting	-	Risk	Risk of share investment[16]
▪ Site Specificity	+	YrsOwnLand	Generations of land ownership
▪ Site Specificity	+	Location	Site location impact
▪ Physical Asset Specificity	+	Complement	Complement to farming operation.
▪ Human Asset Specificity	+	Corn	Agronomic Expertise
Control Variable			
▪ Capital Availability	n/a	AvailK	Free Cash Flow

[26] Note: This is a form of dedicated asset specificity.

Empirical Results for Binary Logistic Regressions Estimating Transaction Cost Constructs

Table 5.1.2 Transaction Costs Binary Logistic Regression Reference Model: ValAdCo

Table 5.1.2 Transaction Costs Binary Logistic Regression (0,1) = f (Transaction Costs) Reference Model: ValAdCo			
Variables	B	Exp(B)	Sig.
Constant	-6.399	.002	.001
Exit	**1.105**	**3.021**	**.000**
Update	.400	1.492	.138
Pay4Grain	**-.349**	**.706**	**.054**
Risk	**-.492**	**.611**	**.019**
AvailK	---	---	---
YrsOwnLand	-.002	.998	.602
Location	---	---	---
Complement	**.368**	**1.445**	**.018**
Corn	---	---	---
Info2Decide	---	---	---
Model Chi-Sq		111.937	(sig) .000
-2LL			78.185
% Correct			92.5%

Table 5.1.3 Transaction Costs Binary Logistic Regression Reference Model: GOE

Table 5.1.3 Transaction Costs Binary Logistic Regression (0,1) = f (Transaction Costs) Reference Model: GOE			
Variables	B	Exp(B)	Sig.
Constant	-3.869	.021	.029
Exit	**.507**	**1.660**	**.003**
Update	**.588**	**1.800**	**.023**
Pay4Grain	-.032	.968	.845
Risk	**-.585**	**.557**	**.000**
AvailK	-.277	.758	.018
YrsOwnLand	-.002	.998	.654
Location	---	---	---
Complement	**.239**	**1.270**	**.073**
Corn	---	---	---
Info2Decide	.182	1.200	.368
Model Chi-Sq		106.567	(sig) .000
-2LL			123.558
% Correct			86.1%

5.1.1 Information Asymmetry

The survey instrument measured ex ante and ex post information asymmetries. To explore ex ante information asymmetries, respondents evaluated whether they had enough information to decide whether of not to invest in the NGC. To explore foreseen ex post information asymmetries, respondents indicated whether they believed they would have frequent updates as to the performance of the NGC if they invested. The questions for this construct reflect symmetric information. Therefore, *we would predict variables regarding this construct to be positive and significant*.

5.1.1.1 Information Asymmetry Ex Ante

The level of information asymmetry perceived prior to the investment indicated little impact on individual's propensity to invest. This variable was not significant in either equation. The inclusion of this variable does improve the model's ability to predict investment in the case of GOE, although the p-value is 0.368[27]. While not significant, this variable does infer a positive correlation between investment and those individuals that believe they possessed more complete information.

In the case of ValAdCo, this variable generally yields a negative correlation when we model transaction costs. From respondents' comments in an interview setting, I hypothesize that a high level of negative environmental press is responsible for the negative correlation and a portion of this insignificance. Respondents stated they had ample information regarding a ValAdCo investment due to debates in the newspaper, on

[27] The smaller the p-value, the more strongly we reject the null hypothesis that the construct has no effect on the dependent variable. In this study, p-values of 0.10 or 0.05 are generally considered significant.

the radio, and at town meetings. ValAdCo encountered opposition while seeking permits to begin their venture. Therefore, some aspects of the organization's development and challenges were highly publicized.

5.1.1.2 Information Asymmetry Ex Post

A unit increase in the level of information symmetry that the respondents perceived they would be privy to ex post investment increases the log odds of investment by a factor of 1.5 in the case of ValAdCo and by a factor of 1.8 in the case of GOE (p= 0.023). In general, this variable displays significance. The p-value indicated in the ValAdCo reference model is high (p= 0.138). However, the ex post information asymmetry variable generally displays higher significance as we tests various model specifications for ValAdCo[28].

5.1.2 Uncertainty

This variable measures respondents' expectations regarding NGC financial success and behavior ex post NGC share investment. One form of bilateral relationship-specific uncertainty that we can investigate when discussing a NGC is uncertainty regarding grain payments. Respondents assessed their level of uncertainty regarding NGC payments for grain deliveries made. This uncertainty arises due to NGC grain payment methods. Depending upon their bylaws, NGCs may utilize a pooling system for

[28] Please see the Tables 5.6.1 – 5.6.6 containing additional models specified in the analysis of transaction costs.

payment of grain instead of a cost of goods sold approach[29]. Pooling system payments allow capitally constrained organizations to manage cash flows.

Organizations employing a pooling payment approach initially make a partial payment for grain when a patron delivers. They employ a revenue-minus-cost approach for the operation. When cooperative accounts are settled, patrons may receive an additional grain payment (over and above the previous partial payment) at the discretion of the board. If the cooperative in fact generates a residual, patrons generally receive the additional grain payment, increasing the total amount that they receive for grain deliveries to a price that approximates averaged market values per bushel over the delivery period[30].

The cooperative board has a fiduciary responsibility to protect the cooperative entity. Therefore, board members may override organizational bylaws or payment schedules to protect NGC assets. If the NGC does not generate a residual, the cooperative may not be obligated to pay for grain. In addition, the entity may come under pressure from lending organizations to utilize this organizational flexibility to meet other fiscal responsibilities. Thus, the pooling payment approach has the possibility of introducing a substantial amount of uncertainty into the transaction[31].

---

[29] ValAdCo and GOE both used a pooling payment method of accounting.

[30] In the case of NGCs, a cooperative may require producers to make certain deliveries at specfied times. The goal is to minimize storage costs for the cooperative, not penalize producers who deliver on time but may have been scheduled to deliver while the market price was low. Therefore, it may be necessary to average prices, paying a similar price for all grain deliveries during the period in question. Some cooperatives employ a cost of goods sold payment method is an alternative to the pooling payment approach.

[31] Any uncertainty with regards to whether or not the cooperative will be able to generate a residual is compounded due to the fact that investors could possibly be forgoing not only dividends on their investment, but also payment for the inputs supplied.

Shareholders may be at a disadvantage, given the discretionary flexibility granted to the board. Investors may perceive limited organizational safeguards to protect themselves against a potentially opportunistic board. We expect uncertainty with respect to board member's behavior to be a deterrent to investment. Rational actors would seek to safeguard themselves against this uncertainty. Therefore, we would *expect the payment method represented in this construct to have a negative impact on investment*.

Uncertainty regarding payment for grain was a significant deterrent to investment in the case of ValAdCo. For each unit increase in uncertainty, the log odds of investment decreased by a factor of 0.6. Thus, respondents were less likely to invest if they perceived uncertainty arising from the pooling payment approach[32].

In the case of GOE, uncertainty regarding grain payments was not a significant predictor of investment. I interpret this discrepancy to the comfortable interlocking relationship that GOE enjoyed with Co-op Country. Shareholders fulfilled GOE grain delivery obligations by delivering directly to Co-op Country. GOE contracted Co-op Country to manage grain payments, although payment amounts were at discretion of the GOE Board. In addition, Co-op Country and GOE shared offices as well as senior management during their equity drive. Due to this relationship, it is hypothesized that GOE gained a certain level of legitimacy. This conjecture is developed in Chapter Six. Please see Section 6.3.3.2 for further analysis of this relationship.

5.1.3 Asset Specificity

[32] We must remember that uncertainty regarding payment for grain is directly related to uncertainty regarding NGC profitability. However, this profitability is only a consideration due to the pooling payment approach: grain payments may be partial if revenues do not exceed costs.

5.1.3.1 Ex post Market Power: "Lock-in"

For the purposes of this study, we predict individuals forecasting a low probability of lock-in will be more likely to invest. We hypothesize that liquidity of investment, or the existence of appreciable and transferable shares, is a factor that motivates NGC investment. Within the framework of a traditional cooperative, there is no potential for a return on capital investments due to the absence of these appreciable, transferable shares.

The survey instrument explored ex post market power by asking individuals to rate how confident they were that NGC shares would be liquid and transferable at low transaction costs. This would allow investors to exit the NGC when they desired. The concept of dedicated asset specificity and the lock-in construct both lead us to *predict this independent variable will be positive and significant*.

Tradable, appreciable shares are an organizational innovation that sets NGCs apart from traditional cooperatives. Tradable, appreciable shares only function, however, when membership is closed—meaning that only those who are members of the cooperative have the right and obligation to deliver their products and share in the residual. This innovation contradicts what some consider traditional cooperative values that emphasize that membership be open, deliveries be voluntary, and the cooperative remain successful through loyalty. Open, voluntary membership presents supply control

difficulties for a cooperative[33]. In addition, any retained member equity accrued in the cooperative is often non-tradable and non-appreciable[34].

NGC proponents argue that members need a tool to be able to retrieve their equity from the traditional cooperatives. The non-redeemable equity that is retained in a member's name within the traditional cooperative governance structure represents an exit barrier. Does the option to exit present a threat to cooperatives by destroying loyalty? Or, do exit options increase investment in cooperatives? Here we find that a one unit reduction in the likelihood that respondents perceived they were to be "locked-in" increased the log odds of investment by a factor of 1.5 in the case of GOE and by a factor of 3 in the case of ValAdCo. Thus, our evidence suggests that exit options increase an individual's propensity to invest. As readers will see in the coming tables, the exit option variable remained one of the most significant and strongest predictors of investment across models.

5.1.3.2 Long-Term Contracting Risk

While shares in a NGC are transferable and appreciable, their market is thinner than public stock markets. Buying a share[35] in a NGC also entails signing a marketing agreement. Corn is typically sold on a spot market or a futures market. Therefore,

[33] Open membership also would imply the possibility of assigning an infinite number of shares thereby diluting each member's investment and dividend claim.

[34] This statement does not apply to cooperatives that have developed programs for the transfer of retained equity. An example would be those cooperatives that employ base capital plans.

[35] Please note that when I refer to shares I am referring to delivery rights in the context of these NGCs. Regardless of the number of shares held, ValAdCo and GOE origingally employed a one-person-one vote governance system. Therefore, voting shares do not necessarily correspond to ownership of delivery rights. This is the typical for the NGC structure, however, this can lead to misalignment of residual control rights to residual claimant rights. Regardless, the NGC structure may represent an improvement in the alignment of property rights over traditional cooperatives which tend to allow for disproportionate (with respect to retained equity capital) voting rights over timed.

buying shares in an endeavor and signing a marketing agreement to sell corn to that enterprise represents a substantially longer, less flexible contracting commitment. To capture this reality, the survey explored with respondents how risky they perceived an investment in the specific NGC to be. The sign on this variable is *expected to be negative and significant*. In other words, the greater the perceived investment risk (which involves not only the share investment but also a long-term contract in the form of a marketing agreement) the less likely investment is to occur.

An investment in NGC shares and the corresponding right and obligation to deliver represented by the marketing agreement represents a risk of long-term contracting for producers. For each unit increase in the level of long-term contracting risk perceived by the respondent, the log odds of investment decrease by a factor of 0.5 in the case of GOE and 0.6 in the case of ValAdCo. This variable remains robust in both cases and across all models. The range of the exp(b) is robust in various model specifications, fluctuating around 0.5 to 0.6.

5.1.3.3 Site Specificity

According to Hypothesis 3.2.1.1 developed in Chapter 3, we would expect that higher levels of site specificity would motivate investment. Two measures of site specificity were used in the survey instrument. First, we evaluate the number of years the family has owned farmland in the vicinity to assess whether site-specific land ownership has an affect on an individual's propensity to invest in collective ventures utilizing their farm products. We would expect the number of years that farmland has been in the family to positively influence investment. The second measure referring to site

specificity seeks to determine whether the location of collective venture building site constituted a motivating factor for the respondent's investment decision. We would hypothesize that locating the venture in the potential investor's local community has a positive influence on propensity to invest.

Site specificity would positively influence investment unless intergenerational farm families are also less progressive, employing a more traditional approach to farming. In this sense, a more traditional farming approach would mean the number of acres farmed is fewer and the farm is engaged in raising a small variety of animals. Respondents indicated that a persistence of established investment strategies and a commitment to retaining farm production under the control of small family farms among long-time residents might have been factors mitigating site specificity.

Results regarding the number of years the respondent or their extended family had owned land in the area were not significant in the case of either NGC. This result is likely due to a low level of variability in the responses generated. The average respondent owned land in the area for over 87 years.

Results indicated that the second site specificity variable was also insignificant. Location may generate some positive wealth affects for the local community by providing employment, purchasing inputs locally, or affecting the corn basis. Unfortunately, however, both NGCs were involved in animal agriculture. Therefore, potential negative consequences to the community due to pollution, public debate, and potential conflicts with neighbors may have counteracted some of the benefits of local investment. Because of the local controversy over intensive animal agriculture, site

specificity may prove a complex construct, difficult to accurately measure in the present research case.

The survey included an alternate variable, "Far" that looked at whether any respondent had invested in an NGC farther than 100 miles away from Renville County. This variable was to be used to test the reliability of location measures. I found that only about 19% of respondents chose to invest outside the local vicinity, which may show a slight preference for local investment. It is possible, however, that a high percentage of investment in local ventures is simply a result of greater levels of access to information, or transaction costs resulting from corn delivery costs or procurement fees[36]. It is not clear that local investment preference evidence by the "Far" variable is due to site specificity.

When the "Far" variable was included in transaction cost models it was not significant, p-values hovered around 0.35 and the logs odds were generally 1.5 to 2 for GOE and ValAdCo, respectively. This may be interpreted to mean that those who invested in GOE and ValAdCo were more apt to invest farther away as well, which is contrary to the hypothesis of the effect of location.

One way to gain further evidence as to whether ValAdCo and GOE investors were generally more apt to invest in NGCs is to test for a correlation between investment in ValAdCo and investment in GOE. I found a Spearman's rho correlation of approximately 0.318, indicating that these investors may have had a higher propensity to

[36] An NGC share investment is tied to a raw input delivery requirement. In some instances, a shareholder may opt not to deliver, allowing the NGC to procure grain on his behalf. When the NGC procures grain for a shareholder, a procurement fee is often charged. Therefore, there may be an inherent disincentive to invest in an NGC at some distance from the potential shareholder's locale.

invest in NGC ventures in general. I found little evidence to support the site specificity hypothesis or the notion that location matters.

5.1.3.4 Physical Asset Specificity

To measure physical asset specificity, the survey asked respondents to indicate whether an investment in each NGC would complement their existing farming operation. According to Hypothesis 3.2.1.2, physical asset specificity positively influences investment. If an individual were already invested in physical assets that could be more valuable as a part of the NGC relationship, they would be more likely to invest.

The empirical results support this hypothesis. In fact, for each unit increase in the level the respondent believed that their current assets that would be complemented by the investment, the log odds of investment increased by 1.3 in the case of GOE and 1.4 in the case of ValAdCo. Physical asset specificity remained a strong predictor of investment in the case of both NGCs and across various model specifications[37].

5.1.3.5 Human Asset Specificity

Human asset specificity is hypothesized to have a positive correlation with investment. As a proxy for human asset specificity, respondents indicated how many years experience they had as corn producers. Presumably, an individual could change professions or raise alternative crops. In some sense, however, there is a certain amount

[37] In respondent interviews, physical asset specificity was strongly related to whether the individual producer was a net corn producer or a net corn buyer. Those individuals involved in livestock production did not see an NGC investment as a complement to their current operation, but rather as a substitute to the expansion of their individual livestock investments. Given the delivery requirements, net corn buyers would not benefit from the supply aspect of the NGC share investment. In addition, existing investments in the hog industry could specifically deter investment in ValAdCo depending on the investor's industry forecasts.

of sunk human capital investment that is lost if the individual switches professions or introduces alternative crops into their rotation.

For the present case, not investing in the NGC does not mean that the individual would no longer be able to produce corn. It simply means they may be forgoing additional rents on their corn that could have been generated by making an investment in NGC shares. Most of the respondents are expected to have some experience raising corn. Due to the low level of specificity involved, we could expect that the affect of this human asset specificity measure on investment in a NGC would be quite low. In this case, we do not expect this variable to be a significant factor motivating investment.

Measures of human asset specificity were significant and positive in some instances, but they were not robust across the various models. In addition, when the human asset specificity measure was included in a model, it generally reduced the model's ability to predict investment.

The general insignificance of the human asset specificity variable likely reflects the fact that nearly all respondents were corn producers[38]. There was little variability in the data. The cases in which this variable was significant may better reflect the age of the grower at the time. That is, some growers have fewer years of experience, were too young to be involved in growing corn at the time, and did not invest for their age—not due to the effects of human asset specificity.

[38] Greater variability in this variable would have given us a better picture of investment constraints. Non corn producers would have been less likely to invest due to lower financial returns on the supply contract and to producer-member governance requirements. In retrospect, I may have overcome this issue by asking survey respondents to indicate the amount of corn they bought or sold on average. Generally, a shareholder was required to be a corn producer or an agricultural producer in order to adhere to 1) delivery requirements and 2) IRS regulations of cooperative entities. A certain margin of error is possible, however, due to grain procurement services and IRS leniency with respect to a certain percentage of membership.

Recognizing that age effects may have had an impact in this regard, I estimated models including age and age squared. These variables, however, did not significantly improve the transaction cost model.

5.1.4 Control Variable

Availability of capital to invest was used as a control variable in the transaction cost model. This variable did not show significance in the case of ValAdCo. However, in the case of GOE, capital availability had a significant negative impact on investment. We can interpret this finding in two ways. The first possibility is that those who chose not to invest in the venture did not do so due to lack of capital. They had other reasons for not investing. This is certainly plausible and can be substantiated with the survey results.

Another reason this variable may be negative and significant is that loans for investment in GOE may have been forthcoming. Therefore, individuals who invested may not have felt that they necessarily had enough capital or assets for investment. However, they were able to borrow in order to make the GOE investment. Approximately 48% of respondents borrowed funds in order to make an investment in GOE. Seventeen percent of respondents who invested extended an existing operating loan while 31% took out a new loan to invest in GOE.

5.2 THE EFFECT OF OWNERSHIP COSTS ON THE COMMITMENT OF RESOURCES

The second set of binary logistic models investigates the effect of ownership costs[39] on the commitment of resources to a collective entrepreneurial endeavor. The model for each organization, ValAdCo and GOE, is estimated separately. The models tested are derived from the following general equations:

$$\text{Investment} = f(\text{Ownership Costs})$$

$$\text{Did Not Invest / Invested} = f(\text{Ownership Costs})$$

$$(0,1) = f(\text{Ownership Costs})$$

The ownership cost models for ValAdCo and GOE were both significant and were able to predict investment accurately 90.2% and 78.1% of the time, respectively.

As a reminder, I include a table that lists the constructs discussed in the Conceptual Framework. This table includes the name of the construct, the expected sign according to the stated hypotheses, the name of the variable representing the construct, and a brief description of the tested construct.

Table 5.2.1 Independent Variables Tested in Ownership Cost Equations: Theoretical Construct, Expected Sign, Variable Name, and Construct Description

Table 5.2.1 Independent Variables Tested in Ownership Cost Equations: Theoretical Construct, Expected Sign, Variable Name, and Construct Description			
Theoretical Construct	**Expected Sign**	**Variable Name**	**Construct Description**
Agency Costs			
▪ Monitoring	+	Stage	Ability to hire expertise
▪ Monitoring	+	Hire	Monitoring ability ex ante management[40]
▪ Managerial Opportunism	+	Management	Bring decisions to bear on

[39] In this context, the ownership costs referenced are those perceived or forecasted by a potential investor.

[40] This construct is not available for GOE.

Table 5.2.1 Independent Variables Tested in Ownership Cost Equations: Theoretical Construct, Expected Sign, Variable Name, and Construct Description			
Theoretical Construct	**Expected Sign**	**Variable Name**	**Construct Description**
			management
Collective Decision-Making Costs			
▪ Costly Decisions	+	Board	Board preference consideration
▪ Costly Decisions	+	Best	Wealth-maximizing decisions
▪ Costly Process	+	Minority	Representative process
▪ Costly Process	+	Fairsay	Organizational fair say
▪ Resolving Conflicts	+	Resolve	Conflict resolution policies

Empirical Results for Binary Logistic Regressions Estimating Ownership Cost Constructs

Table 5.2.2 Ownership Costs Binary Logistic Regression Reference Model: ValAdCo

Table 5.2.2 Ownership Costs Binary Logistic Regression (0,1) = f (Ownership Costs) Reference Model: ValAdCo			
Variables	B	Exp(B)	Sig.
Constant	-11.545	.000	.000
Hire *	.079	1.083	.796
Stage *	-.150	.860	.599
Mgmt	**.602**	**1.825**	**.044**
Bd *	.032	1.033	.894
Best	**.592**	**1.808**	**.024**
Minority	.171	1.186	.380
Fairsay	**.882**	**2.415**	**.001**
Resolve	-.026	.975	.897
AvailK	-.068	.934	.622
Model Chi-Sq		111.944	(sig) .000
-2LL			84.550
% Correct			90.2%

Table 5.2.3 Ownership Costs Binary Logistic Regression Reference Model: GOE

Table 5.2.3 Ownership Costs Binary Logistic Regression (0,1) = f (Ownership Costs) GOE			
Variables	B	Exp(B)	Sig.
Constant	-3.855	.021	.001
Hire	---	---	---
Stage	**.432**	**1.540**	**.101**
Mgmt	**-.453**	**.635**	**.063**
Bd	.108	1.114	.570
Best	.273	1.315	.209
Minority	-.035	.965	.813
Fairsay	**.558**	**1.746**	**.002**
Resolve	.122	1.129	.481
AvailK	**-.264**	**.768**	**.006**
Model Chi-Sq		69.594	.000
-2LL			164.684
% Correct			78.1%

5.2.1 Agency Costs

It is important to note that agency costs can take several forms within a cooperative. The board is elected to represent the owners of the organization. A key duty of the board is to hire and monitor management. Management, then, is responsible for carrying out the Board's direction as well as the day-to-day functioning of the cooperative. I will refer to management as the agent.

The existence of a governing board is not different from a publicly-traded corporation. However, as the owners are also patrons of the firm within the cooperative structure, decisions made by the Board may directly affect the owner's on-farm returns in addition to the return on investment at the level of the NGC. This direct link is less common in a publicly traded company with a wide class of shareholders.

For the purposes of this study, respondents indicated (1) their confidence in the ability of the board to manage initial operations until management was hired[41], (2) the board's ability to hire expertise, and (3) the extent to which they believed the board would be able to control managerial opportunism. All three constructs are hypothesized to positively influence investment. The statements infer that monitoring costs would be low and the agent would act with the best interests of the owners. Therefore, agency costs within the organization would be minimized.

The variable "Hire" represented the first construct. This construct was only tested for ValAdCo. Since GOE already had a management team in place when the equity drive occurred, this survey item was not included for GOE. The local elevator manager from CCFE planned to manage GOE and request that the board find a replacement CEO for

[41] Construct not tested for GOE.

CCFE. In the case of ValAdCo, this variable was not significant and the log odds were close to one. This means that respondents' confidence in the board being able to monitor operations had little effect on investment.

The second variable, termed "Stage," assessed respondents' views regarding the ability of the board to hire qualified management at the right stage of development. Hiring senior management, in particular the CEO, is one of the key roles of a cooperative board. For ValAdCo, this variable was not significant. And, the log odds are not far enough from one (exp(b) = 0.860) to argue that this variable presents a negative effect, although the beta coefficient is negative. Those who invested initially did so when plans for management were not finalized. And, the initial organizers were arranged as more of an advisory committee. These aspects may have had an impact of the insignificance of this variable.

In the case of GOE, the "Stage" variable showed some significance with a p-value of 0.101. With each unit increase in confidence that the Board would hire good management, the log odds of investment increases by a factor of 1.540. Golden Oval Eggs had a temporary board in place at the time investors made their investment decision. Co-op Country assembled this Board as an advisory board. In addition, management was already in place for GOE. The CEO of CCFE managed both operations for a period until the CCFE board hired a replacement for his position. The discrepancy in the significance of this variable between the case of ValAdCo and that of GOE may be due, in part, to the differences in the level of organizational development at the stage when investments were solicited (before an initial management team had been identified in the case of ValAdCo

and after identification in the case of GOE). Familiarity with the management likely attributed to the positive significance of this variable for GOE.

The third agency cost variable looked at how confident respondents were that management would pursue the direction expressed by the board. This variable is listed as "Management" in the table of independent variables. In the case of ValAdCo, this variable had a significant effect on investment. For each unit increase in the respondent's confidence that managerial opportunism would be low, the log odds of investment increased by a factor of 1.8.

For GOE, the p-value was 0.06 and the beta coefficient was negative, showing that for each unit increase in the investor's confidence that management would follow the board's directions, the log odds of investment decreased by a factor of 0.635. If management diverts from the board's direction, we would suspect that this would reveal managerial opportunism and, theoretically, lower investment. However, as we will see in the next section, variables concerning the board showed little correlation with investment in the case of GOE. If we take into account the findings of the "Stage" variable, we see that individuals who were more likely to invest expressed confidence that the board would hire good management. It is possible, then, that the "Management" variable is showing us that, while investors perceived they would have good management, they were not necessarily looking for a board-driven organization.

Given the level of influence that the CCFE CEO had on the development of GOE, we can infer that GOE is an agent-driven organization with a strong CEO and comparably weaker board. Investors, in interviews, expressed confidence in

management's ability. Respondents also indicated that strong ties to CCFE management constituted a motivating factor in their investment decision.

5.2.2 Collective Decision-Making Costs

The less costly investors perceive collective-decision making to be, the more likely we would consider that it would be for them to invest. In order to get an overview of collective decision-making costs, we will look at three constructs: costly decisions, costly process, and resolving conflicts. The survey instrument presented each of these constructs in a manner that reflects low costs of collective decision-making. Therefore, we expect a positive correlation for all three constructs.

5.2.2.1 Costly Decisions

The survey evaluated costly decision-making in two separate items. We expect that respondents who believed NGC would conduct decision-making with relatively low costs or inefficiencies are more likely to invest.

The first survey construct evaluating decision costs measured the respondents' level of confidence as to whether the board would consider their preferences. This variable is named "Board." The "Board" variable was not significant in the case of ValAdCo or GOE. And, the log odds are close to one, showing only a slight positive effect. We will later see that respondents were much more likely to place an importance on the idea of having "fair say." Respondents, in interviews, indicated that the board should be less focused on preferences and more focused on "fairness" and profit.

The second costly decision measure is labeled "Best" in Table 5.2.1. This variable asked respondents to indicate whether they believed the board would make

efficient business decisions or be swayed by the personal preferences of board members. In the case of ValAdCo, this variable showed significance. For each unit increase in the respondent's level of confidence that the Board would not be swayed by influential Board members or their personal preferences, the log odds of investment increased by a factor of 1.8.

For GOE, the p-value was 0.2. However, the log odds ratio is approximately 1.3. We see that confidence in the Board in this respect may have had some effect on GOE investment, but the significance is weak. This could be another indication of a relatively passive board or strong agent.

5.2.2.2 Costly Process

To evaluate respondents' views regarding the costs of the decision-making process, respondents were asked to indicate (1) whether they were concerned that minority interests would control the organization and (2) how confident they were that they would have their "fair say" in the organization. We would predict that lower perceived costs to the process would increase the probability of an individual investing. Therefore, we should expect a positive, significant correlation.

The first question concerning minority interests was labeled "Minority." "Minority" was not significant in either case. And, the coefficients were too close to one to argue that this variable had an impact on investment.

The second costly process measure was "Fair say." For both NGCs, the "Fair say" variable showed the most significance and made more of an impact on investment than any other ownership cost. For ValAdCo, for each unit that a respondent's

confidence of having their fair say increased, the log odds of investment increased by a factor of 2.4. Golden Oval Eggs showed a similar relationship between fair say and investment, with a log odds of approximately 1.7. I will address the importance of these findings regarding process in Section 6.2.1.

5.2.2.3 Resolving conflicts

To assess respondents' beliefs regarding the organization's ability to resolve conflicts, respondents were asked to rate their confidence in NGC conflict resolution policies. We would predict the greater the organization's perceived ability to resolve conflicts, the more likely an individual would be to invest. Therefore, we would expect this variable to have a positive, significant correlation with investment.

This construct did not show significance for either NGC. Given the level of insignificance, and the closeness of both log odds estimates to one, it is not clear that the organization's ability to resolve conflict had any effect on the odds of investment. These results likely reflect the fact that investors were largely unfamiliar with the formal organizational bylaws. Only 15% of ValAdCo investors and 14% of GOE investors strongly agreed that they were familiar with the bylaws of the organization when they made their investment decisions.

5.3 THE EFFECT OF SPAWNING CONDITIONS ON THE COMMITMENT OF RESOURCES

5.3.1 The Role of Spawning in the Informing Collective Entrepreneurship

Through preliminary research and interviews, I established that both ValAdCo and GOE had strong ties to CCFE and weak ties to SMBSC. As part of the analysis of the emergence of collective entrepreneurship, I wanted to test whether either of these relationships was strong enough for either organization to be considered a "parent." And, if considered a parent, I wanted to test which theoretical explanation, reactionary spawn or entrepreneurial learner, best characterized the emergence of ValAdCo versus GOE.

In order to test whether these types of spawning conditions had influence on the founding of ValAdCo and GOE, I developed several constructs to establish organizational ties and to gauge the level of reactionary or entrepreneurial spawning. From the descriptive analysis of ValAdCo, we would predict more reactionary variables to be significant in the case of ValAdCo. From the story of GOE, we would predict this organization to show more positive correlations with variables that argue for an entrepreneurial learning interpretation. However, according to the GLS findings, we should expect entrepreneurial learning, overall, to have more explanatory power than the reactionary variables. In their study, they found most of the ventures considered fit better with the theory of entrepreneurial learning.

5.3.2 Entrepreneurial Learning Constructs: How These Theories Inform Collective Entrepreneurship

Constructs developed from the reactionary and entrepreneurial learning hypotheses were included in the survey instrument in order to test which spawning conditions may best inform the investment decision. By testing a variety of constructs, we can begin to inform the concept of collective entrepreneurship. Informing the theory would then allow us to understand and eventually predict investment in collective entrepreneurial ventures.

5.3.3 Empirical Results

The final set of binary logistic models that I present investigates the effect of spawning conditions on the commitment of resources to a collective entrepreneurial endeavor. The model for each organization, ValAdCo and GOE, is estimated separately. The models tested are derived from the following general equations:

$$\text{Investment} = f(\text{Spawning Conditions})$$

$$\text{Did Not Invest / Invested} = f(\text{Spawning Conditions})$$

$$(0,1) = f(\text{Spawning Conditions})$$

The ownership cost models for ValAdCo and GOE were both significant and were able to predict investment accurately 88.1% and 78.1% of the time, respectively.

Table 5.3.1 lists the constructs tested. This table includes the name of the construct, the expected sign according to the stated hypotheses, the name of the variable representing the construct, and a synopsis of the survey item from which the data on each variable was gathered. In this instance, the expected sign refers to the sign that we would

expect from an organization that fit the “reactionary” model or the “entrepreneurial learning” model. The opposite sign could reflect a higher association with a different type of spawning. For example, a negative sign on an entrepreneurial learning variable could indicate a more reactionary organization.

Table 5.3.1 Independent Variables Tested in Spawning Condition Equations: Theoretical Construct, Expected Sign, Variable Name, and Construct Description

Table 5.3.1 Independent Variables Tested in Spawning Condition Equations: Theoretical Construct, Expected Sign, Variable Name, and Construct Description			
Theoretical Construct	**Expected Sign**	**Variable Name**	**Construct Description**
Reaction against Bureaucracy			
▪ Diversification: Focus	+	Focus	CCFE should focus
▪ Diversification	+	TooDiverse	CCFE to become too diversified
▪ Bureaucracy	+	Slow	CCFE was slow to react to market
▪ Bureaucracy	+	Preferences	CCFE member heterogeneity
▪ Bureaucracy- Hierarchy	+	Before	Before multiplier vote, CCFE's decision process was slow
▪ Reaction: Market	+ / -	Idea	Multipliers poor investment
▪ Reaction: Product	+	Disagreement	Disagreement over venture
▪ Reaction: Funds	+	Funds	Internal capital market disagreement
▪ Reaction: Residual	+	Residual	Impact of internal capital market decisions on member wealth
▪ Reaction: Product	-	Compete	Ventures posed competition
▪ Reaction: Product	+	Reluctant	CCFE reluctant venture (opposite of EL)
Entrepreneurial Learning			
▪ Experience: Start-up	+	BusExp	Prior venture experience
▪ Experience: Structure-Specific	+	Pay2Play	Familiarity with NGC structure
▪ CC more entrepreneurial	+	After	After multiplier vote, CCFE's decision process was quicker
▪ Networks: Prior Use	+	Comfort	Previous investment experience, comfort with fellow investors
▪ Networks: Social (Co-op Specific)	+	SocK	NGC Social network
▪ Networks: Business (Co-op Specific)	+	BusK	NGC Business network
▪ Networks: Social (CCFE)	+	CC Soc K	CCFE Social network
▪ Networks: Business (CCFE)	+	CC Bus K	CCFE Business network
▪ Networks: Social (SMBSC)	+	SMBSC Soc K	SMBSC Social network
▪ Networks: Business (SMBSC)	+	SMBSC Bus K	SMBSC Business network

Empirical Results for Binary Logistic Regressions Estimating Spawning Condition Constructs

Table 5.3.2 Spawning Conditions Binary Logistic Regression Reference Model: ValAdCo

Spawning Conditions Binary Logistic Regression (0,1) = f (Spawning Conditions) ValAdCo			
Variables	B	Exp(B)	Sig.
Constant	-9.514	.000	.000
BusK	.657	1.928	.001
Pay2Play	.850	2.340	.000
Comfort	.982	2.670	.000
Compete	-.423	.655	.003
Disagreement	.476	1.609	.031
CCBusK	-.779	.459	.000
Control	---	---	---
Before	---	---	---
Model Chi-Sq		104.177	(sig) .000
-2LL			87.790
% Correct			88.1%

Table 5.3.3 Spawning Conditions Binary Logistic Regression Reference Model: GOE

Spawning Conditions Binary Logistic Regression (0,1) = f (Spawning Conditions) GOE			
Variables	B	Exp(B)	Sig.
Constant	-2.715	.066	.014
BusK	---	---	---
Pay2Play	.247	1.280	.055
Comfort	.582	1.790	.000
Compete	-.271	.763	.031
Disagreement	---	---	---
CCBusK	---	---	---
Control	-.236	.790	.089
Before	.191	1.210	.202
Model Chi-Sq		53.461	(sig) .000
-2LL			161.253
% Correct			78.1%

5.3.4 Entrepreneurial Learning

5.3.4.1 Experience

The first set of constructs examined the individual's prior experience and the effect that may have had on investment in the new venture. I look at previous experience with hogs, poultry, as well as developing a new business. I include one additional variable that is important to our analysis, since we are dealing with a specific organizational type: familiarity with the structure and functioning of a NGC. According to the GLS theory, previous experience in these areas would indicate a measure of spawning that is entrepreneurial in nature. Therefore, we would expect positive signs on these variables to indicate an entrepreneurial offspring.

5.3.4.2 Networks

The second set of constructs measures the effect of network contacts on the founding of ValAdCo and GOE. I include survey items evaluating the strength of social networks and business networks for CCFE, SMBSC, ValAdCo, and GOE. I also investigate the influence of previous joint investment networks and the respondents' level of comfort with these networks.

By including separate social and business networks variables for each organization (CCFE, SMBSC, ValAdCo, and GOE) we can investigate whether network ties to one organization are stronger than ties to another. We would expect that higher levels of networking with individuals investing in ValAdCO or GOE would result in a higher probability of investing in each of those organizations, respectively. In addition,

we would expect strong network ties to CCFE or SMBSC to indicate a possible parent-spawn relationship.

In general, network-motivated investment infers spawning conditions that were more entrepreneurial than reactionary according to the GLS framework. Therefore, organizations showing positive coefficients on these variables can be characterized as entrepreneurial spawns.

5.3.4.3 Organizational Change

In Section 5.3.7, I describe constructs that measure the level of bureaucracy associated with CCFE. I would like to mention here briefly, however, that if the signs on these constructs are reversed we can interpret this as evidence that CCFE is a relatively more dynamic, entrepreneurial parent. Therefore, those variables may provide some measure of CCFE's entrepreneurial nature. If CCFE is indicated as parent to both organizations, however, we need to establish that there was some change at CCFE that made the organization more entrepreneurial after the vote on the multiplier project and before the investment in GOE. This may indicate a structural shift. Therefore, I included "Before" and "After" variables. The "Before" variable is examined in Section 5.3.7. Briefly, the "Before" variable will investigate how quickly CCFE was able to move ideas through the organization prior to the multiplier vote. Its corollary, then, the "After" variable, evaluates whether CCFE was less bureaucratic after the vote on the multiplier project.

5.3.5 Empirical Findings Regarding Entrepreneurial Spawning

For both ValAdCo and GOE, entrepreneurial learning constructs best informed the investment decision. The survey instrument tested two general types of entrepreneurial learning constructs: previous experience and network connections. Overall, previous learning showed the most significance. Therefore, I will address this aspect first.

5.3.5.1 Previous Learning

The variable "Pay2Play" assessed whether previous experience with the organizational structure of a NGC had an impact on the respondent's investment decision. The results indicate that for each unit increase in the respondent's familiarity with the organizational structure the log odds of investment increase by a factor of 2.3 in the case of ValAdCo and 1.7 in the case of GOE. Each respondent's investment pattern also supports this result: approximately 60% of investors in both organizations had previously invested in a NGC. Therefore, we can substantiate that the bulk of investors were familiar with the organizational structure through experience. This finding can provide us with a certain confidence in the reliability of this construct.

The survey also analyzed previous experience with joint investment networks. The variable "Comfort" assessed whether respondents had worked with those investing in the NGC before and would have been comfortable investing with them. For each unit increase in a respondent's level of comfort with fellow investors, the log odds of investment increased by a factor of 2.6 in the case of ValAdCo and 1.8 in the case of GOE.

The third set of variables asked respondents to indicate any experience they had starting a new business, raising hogs, or raising poultry[42]. None of these variables showed significance in the models. Correlation coefficients that looked at whether these variables correlated with investment showed little significance as well. Spearman's rho correlation coefficients indicated a minute correlation between investment and previous experience starting a new business. For ValAdCo, the correlation was 0.149, p=0.035. For GOE, the correlation was 0.160, p=0.023. Previous hog and poultry experience showed no significance and a slight negative correlation.

This result is contrary to an entrepreneurial learning hypothesis. However, further analysis of the case explains why this result occurred. Respondents indicated that some hog farmers saw the ValAdCo venture as a possible source of competition. Therefore, it is logical that those with more experience raising hogs were in the subset of non-investors. However, there were individual instances of hog farmers with experience that decided to lend their expertise in the organization of ValAdCo. About 43% of respondents indicated that they had no experience raising hogs.

Eighty-three percent of respondents indicated that they had no experience with broiler or laying hen operations. Another five percent indicated that they had 10 years of involvement or less with broiler or egg production. The concept of a venture involving eggs or poultry was advanced at CCFE, however, specifically for the reason that very few individuals were involved in a sizable poultry operation. The expectation was that the

[42] General experience in small animal agriculture raising hogs or poultry does not necessarily translate into the specific skills needed to manage a large sow multiplying operation or laying barns. However, this is the only related experience that applied to any respondents. Less than 5 respondents indicated any significant investment in hogs; none indicated any form of specialization at the time of the ValAdCo venture, but rather were involved in spot market transactions. Regarding broiler or layer operations, only one respondent indicated any significant investment.

venture would not attract the controversy that a hog venture had attracted because fewer members would view this venture as competing with their on-farm operation.

5.3.6 Entrepreneurial Networks

5.3.6.1 Social Capital

Measures of social capital were generally negative and insignificant for both organizations across model specifications. This holds true for social capital in the NGC in question, in SMBSC, or in CCFE. There are two interpretations of this insignificance, both supported in interviews or through written comments. The first interpretation is that investors, in fact, knew one another, but were not close enough to consider the other investors part of their social network. The second interpretation is specific to ValAdCo. The hypothesis is that a majority of the respondents knew each other well and that a significant portion of those who did not invest did so because they did not want to invest with certain individuals.

For ValAdCo, we must consider that these results may or may not be reliable. At the time of investment, there was considerable effort made in order to protect the identity of investors due to the controversy surrounding the venture. Non-disclosure of investor identity was maintained at the request of investors. Therefore, respondents may not have accurately assessed the level of social capital that they maintained with investors.

Measures of social capital corresponding to relationships with members from potential parents such as SMBSC or CCFE were also explored. These measures of social capital showed little correlation with investment in ValAdCo or GOE.

5.3.6.2 Business Capital

Business Capital was a much more reliable predictor of investment than social capital. For each unit increase in the respondent's rating of the strength of business relationships with fellow investors, the log odds of investment increased by 1.9 in the case of ValAdCo. For, GOE, this business capital variable was generally positive but not significant. GOE was a larger organization with more investors. Therefore, it is plausible that the size of the organization scaled down individuals' response to this survey item. For a larger organization, it is less likely that a large number of members will all be considered part of a respondent's business network.

I analyzed possible correlations between business networks among SMBSC members to see if this had any impact on investment in ValAdCo or GOE. However, this variable did not show significance. Business networks among CCFE members were significant in the case of ValAdCo. What is interesting to note, however, is that these business networks did not show the positive correlation that we would predict in the case of an entrepreneurial learning spawn. For each unit increase in the strength of CCFE business connections that a respondent reported, the log odds of investment decreased by a factor of 0.5. This finding might explain, from a socioeconomic standpoint, why ValAdCo investors proceeded to invest even though a majority of CCFE members rejected the multiplier unit idea. ValAdCo investors were less likely to have strong business connections to fellow CCFE members. Therefore, they were less likely to suffer negative consequences in their business relationships due to an investment in ValAdCo.

Respondent comments, both written and oral, support this viewpoint. Investors were aware of a certain amount of controversy surrounding ValAdCo when they made

their initial equity investment. However, certain respondents chose to invest in ValAdCo due to loose ties to CCFE[43]. Investors situated further from the hog sites believed any negative social response to ValAdCo would not affect them personally. Investors owning property further from the hog sites reported being comfortable with the investment because they would not be perceived as inciting their neighbors (given the distance of the barns). In addition, these investors could remain largely anonymous because hog barns were built on another investor's property and ValAdCo leadership was willing to protect the identity of their investors.

For GOE, the variable assessing business capital within CCFE was generally not significant, although in some regressions indicated a p-value of 0.08. Business capital in this case also showed a slight negative correlation with investment, decreasing the log odds of investment by a factor of 0.794. This finding is informative because it may infer that a portion of GOE investors did not consider that they were members of CCFE. This provides an interesting reason as to why an entrepreneurial spawn may break away. It is plausible to consider that CCFE spawned GOE in order to attract investment from clients who were not current CCFE members. Those individuals may have then become CCFE members ex post investment or increased the amount of business they transacted with CCFE. Certainly, CCFE benefited from handling these respondents grain. GOE linked share investments to delivery contracts that specified delivery of grain through CCFE.

[43] Certain respondents indicated that they depended on area farmers for services, rental agreements, and networking. Respondents preferred to invest in controversial ventures at a greater distance from their personal farm properties as an attempt to minimize conflict with those individuals with whom they conducted a significant portion of their economic and personal exchange.

5.3.6.3 Why Spawn?

The final set of variables for the entrepreneurial learning spawn hypothesis dealt with the question of "why spawn?". In the case of a GLS reactionary spawner, the idea or business plan could not be carried out within the existing organization for one reason or another. The GLS theory, however, indicates no reason why entrepreneurial offspring establish a separate business entity. If we find that entrepreneurial learners gained networks and experience from an organization; and we can argue that organization is costly; we are left to question why entrepreneurs would break away to form a new organization. When a new organization is founded there are certain costs involved in terms of set up including legal fees, permitting, and incorporation. Certain of these costs could be mitigated or avoided all together if the entity were developed within the organization. So, there must be some benefit to entrepreneurial spawning.

After initial interviews to explore potential hypotheses as to why the organization would break away, a set of survey items was developed to explore this question. ValAdCo, clearly could not be pursued as part of CCFE because this venture was rejected by a membership vote. Therefore, these questions pertain solely to GOE. The survey items explored three separate hypotheses regarding capacity, choice, and control.

5.3.6.3.1 Monitoring or Managerial Capacity

The first question explored entrepreneurial spawning motivations from a Coasian perspective. Coase advanced the notion that transaction costs may rise as a manager approaches limits in terms of the amount of diversity or the size of the organization that he has the capacity to manage (1937). We could interpret this in terms of the capacity of

the owner to monitor the operation as well, as Coase's discussion of the entrepreneur in this article did not separate the question of management from ownership. Therefore, the survey instrument investigated whether it would have been confusing for members to run two businesses out of one organization. The empirical results indicated no correlation between investment and the limits of managerial capacity or the capacity of owners to monitor their investment. That does not necessarily mean that this was not a factor in the strategic decision to form a separate entity. It does infer, however, that this criterion did not motivate investment, which is the question we are looking to answer as part of our analysis of spawning. Analyzing the response frequencies showed that approximately 60% of investors and non-investors alike disagreed with the statement.

5.3.6.3.2 Investor Choice

The choice variable was developed from a grounded theory approach. Grounded theory is a tool utilized to generate hypotheses from exploratory work regarding a specific case. During initial interviews, respondents indicated that once the idea for a CCFE investment in multiplier units was voted down, a subset of CCFE members approached senior management and requested that CCFE develop investment opportunities where individual members would be able to invest as partners with CCFE in a venture. The idea was that individuals could make their own investment choice and Co-op Country would risk less member equity. This may make the venture more likely to be approved by Co-op Country membership. In following this logic, the survey instrument asked the respondents whether GOE was developed as a separate business so individuals could make their own decision whether to invest. The results indicated no

clear distinction between investors and non-investors on this criterion. However, this construct was not equally distributed among response categories. A majority of respondents agreed with the statement: 84.5% of investors and 62.4% of non-investors. This may indicate that investor choice was indeed a slight motivator for GOE investment.

5.3.6.3.3 Control Rights

Finally, the survey instrument investigated whether investors were interested in forming a new organization due to the fact that they were looking to more closely align residual control rights with residual claimant rights. If GOE were to remain a part of CCFE, individuals who did not invest directly in GOE through a share purchase may still control the organization to a certain extent. CCFE members would retain some amount of control over the organization. But, CCFE members would not bear the full wealth affects of their decisions because their investment was a passive investment made through their retained patronage investment in CCFE. The operating hypothesis is that investors would prefer an alignment of residual control and residual claimant rights, and that they would perceive setting up GOE as a separate organization to advance this goal. Thus, the survey instrument asked the respondents whether those who invested were able to have more control over business management by developing GOE as a separate entity.

This is the only variable that shows any significance related to the break-away question. The empirical analysis shows p-values of 0.089. However, the sign is opposite that of what the operating hypothesis would predict. Rather than having a positive impact on investment, investors showed a slight tendency to disagree with this statement. For each unit increase in the level of control that a respondent indicated was gained by

developing GOE as a separate organization, the log odds of investment decreased by a factor of 0.790.

This finding could be yet another indication that the investors were not tightly focused on control and monitoring of the organization. GOE investors may have had more of an investment club mentality[44]. In other words, their goal would be best characterized as rent seeking. The separate organizational structure facilitated the capture of residuals by the shareholders. Our empirical results can be interpreted as indicating that these shareholders were attracted by the strong management relationship with CCFE, were expecting an agent-driven organization, were primarily interested in residual claims, and consequently did not put a premium on control rights.

5.3.7 Empirical Findings Regarding Reactionary Spawning

5.3.7.1 Diversification

To determine whether the degree of diversification may have led ValAdCo or GOE to break away from CCFE, the survey instrument asked members to indicate if they (1) preferred CCFE to focus on their core competencies and (2) believed CCFE was to benefit from diversification into multiplier or egg production. If these factors positively influence investment, both cases would be congruent with a reactionary spawning hypothesis. However, neither of these variables showed statistical significance in the spawning condition models.

[44] In interviews, GOE investors indicated less interest in being directly involved in management or governance of the venture than did ValAdCo investors.

5.3.7.2 Bureaucracy

Indication that CCFE was a bureaucratic or hierarchical organization would also lend support to hypotheses that signal the emergence of an organization for reactionary motivations. CCFE members were asked whether they perceived CCFE as slow to react to market changes, whether CCFE member heterogeneity preferences adversely affected project consensus, and whether project consensus was too time-consuming. A positive correlation with investment for these constructs would indicate that individuals invested in ValAdCo or GOE for reactionary reasons. None of the reaction to bureaucracy constructs showed significance in the spawning condition models.

Although insignificant, for each unit increase in the amount of organizational lethargy identified by respondents, the log odds of investment in ValAdCo and GOE increased by a factor of 1.3 and 1.2, respectively. The empirical results indicate that inclusion of this criterion does not improve the model's ability to predict investment in the case of ValAdCo, therefore this finding is unreliable for ValAdCo investors.

However, in the case of GOE, this construct improved the ability of the model to predict investment with a p-value of 0.202[45]. From these results, we may consider that the slow progress of the organization on prior endeavors may have motivated some individuals to invest in GOE. This indicates that the organization may have been experiencing some change within this period that resulted in a more entrepreneurial atmosphere and outlook among the member-owners.

[45] These results refer to the variable name "Before" referenced in Tables 5.3.1 and 5.3.3.

5.3.7.3 Reaction against Strategy

GLS discuss instances where the parent organization is reluctant to pursue strategy because of disagreement over a specific product, a market strategy, or internal capital market financing. I test for similar constructs. CCFE members were asked whether members (1) believed the multiplier units represented a poor investment choice, (2) disagreed with the market strategy (entering the hog or egg markets), (3) disagreed over internal capital financing plans, (4) were concerned about the impact of internal capital financing plans on member wealth, and (5) were reluctant to enter ventures. For these variables, we would expect individuals investing for reactionary reasons to agree with these statements. Therefore, we would expect a positive correlation between reactionary spawning and these variables.

One additional variable was included to explore whether investors considered the proposed ventures a competitive threat. For this variable, it is expected that individuals who did not perceive the new venture to represent competition for them would be more likely to invest. Therefore, we would expect a negative correlation between this variable, "Compete," and investments. "Compete" is included in this section because it represents a potential reason for reactionary spawning. Cooperative members, who view a venture as competition to their on-farm operation would not want the cooperative to invest in such a venture. However, perceiving a venture as minor competition or a good business opportunity may spawn a new venture under reactionary conditions.

5.3.7.4 Reaction against Competition

Differences of opinion with respect to whether a given CCFE venture would position the organization to compete against its owners could be one condition that might motivate reactionary spawning. In this sense, heterogeneity of member-owner preferences or conflict in terms of the product market to be developed would be the basis for a fraction of the membership to react against the bureaucracy and break away to form their own venture. Two categories of respondents might have perceived that CCFE venture would increase competitive pressures against them. The first category of respondents that foresaw competition was those engaged in either hogs or poultry—in other words, the specific product area being pursued by the venture. The second category of respondents that foresaw competition was composed of net grain buyers. Respondents who were involved in animal agriculture in general, were often net grain buyers. And, if CCFE's involvement in either venture caused the price of corn, a major input to their rations, to increase, this represented competition in their eyes.

Empirical results in the case of ValAdCo and GOE both indicate a correlation between competition and investment. For each unit increase in the level of competition that the respondent perceived the new venture to represent, the log odds of investment decreased by 0.655 (in the case of ValAdCo) to 0.763 (in the case of GOE.) The result for ValAdCo is slightly stronger and much more significant. Therefore, we would consider that there was a stronger reaction against the hog multiplier investment opportunity than there was against an egg venture. This is likely because net grain buyers would be opposed in both cases. However, as discussed earlier, very few respondents were involved in the poultry sector.

5.3.7.5 Disagreement

The strongest evidence that we find to differentiate between ValAdCo and GOE in terms of spawning conditions pertains to the degree of disagreement perceived among investors at the organizational level of CCFE. The survey explored the level of opposition that respondents perceived to each venture opportunity: multiplier units and laying barns. In the case of GOE, this variable did not improve the model's ability to predict investment and generally showed a negative correlation with investment. These results show that disagreement was not perceived as an issue among investors.

In the case of ValAdCo, however, for each unit increase in the level of controversy concerning the multiplier units identified by the respondent, the log odds of investment increased by a factor of 1.609. This is an especially strong finding because the general population surveyed perceived high levels of disagreement in CCFE regarding the multiplier issue. Investors, however, perceived even higher levels of controversy. Empirically, we can show that their disagreement affected their investment. Thus, ValAdCo investors appear to have been motivated to invest due to a failure to pursue the venture at the level of CCFE.

5.4 COMBINING THEORETICAL CONSTRUCTS

After analyzing each theory separately, I attempt to combine the theories together in order to determine whether the emergence of collective entrepreneurship could be better informed by combining constructs from all three theoretical perspectives. Each of the constructs that improved a model's ability to predict investment were combined into single model. I used a forward entry likelihood ratio method to develop a

model that would give us the highest predictive ability with the least amount of independent variable information. The models tested are derived from the following general equations:

Table 5.4.1 Model Specifications for Combined Theoretical Approach

Investment = f (Transaction Costs, Ownership Costs, Spawning Conditions)
Did Not Invest / Invested = f (Transaction Costs, Ownership Costs, Spawning Conditions)
(0,1) = f (Transaction Costs, Ownership Costs, Spawning Conditions)

By combining the theoretical approaches, we are able to improve the model's predictive ability. Models for ValAdCo and GOE were both significant and were able to predict investment accurately 96.3% and 87.6% of the time, respectively.

Empirical Results for Binary Logistic Regressions Testing a Combined Theoretical Approach

Table 5.4.2 Binary Logistic Regressions for Combined Theoretical Reference Model: ValAdCo

(0,1) = f (TC, OC, SC) ValAdCo			
Variables	B	Exp(B)	Sig
Constant	-19.339	.000	.000
Transaction Costs			
Exit	.976	2.655	.018
Risk	-.767	.465	.025
ComplementOp	. 728	2.071	.017
Ownership Costs			
Mgmt	.799	2.224	.049
Best	1.211	3.358	.038
Spawning Conditions			
BusK	1.059	2.883	.003
Pay2Play	.788	2.200	.016
Comfort	.637	1.890	.054
CC BusK	-1.596	.203	.003
Model Chi-Sq		149.211	(sig) .000
-2LL			40.911
% Correct			96.3%

Table 5.4.3 Binary Logistic Regressions for Combined Theoretical Reference Model: GOE

(0,1) = f (TC, OC, SC) GOE			
Variables	B	Exp(B)	Sig
Constant	-6.634	.001	.004
Transaction Costs			
Exit	.406	1.500	.057
Update	.664	1.943	.049
Risk	-.674	.510	.000
AvailK	-.365	.694	.010
ComplementOp	.283	1.326	.074
Info2Decide	.304	1.355	.233
Ownership Costs			
Stage	.459	1.583	.271
Fairsay	.299	1.349	.233
Mgmt	-.697	.498	.054
Spawning Conditions			
Pay2Play	.276	1.317	.112
Comfort	.254	1.289	.241
Before	.341	1.406	.115
Compete	.214	1.239	.294
Control	-.48	.614	.029
Model Chi-Sq		111.234	(sig) .000
-2LL			100.705
% Correct			88.9%

5.4.1 ValAdCo Model for Combined Theoretical Approach

When we combine the three theoretical approaches, the transaction costs constructs of uncertainty and information asymmetry are excluded. These model components least informed the model's predictive ability. The significance of the information asymmetry variable, "update," fluctuated even among various model specifications including only transaction cost variables. Therefore, when included in a more general model, the "update" variable no longer proved significant.

From among the ownership constructs, we retain one agency cost construct and one collective decision-making construct: "management" and "best," respectively. These variables were two of only three variables that proved significant in the ownership cost reference model. The third variable that demonstrated significance in our reference

model was “fair say.” When included in this model, “fair say” retained its significance but lowered the model’s predictive ability. The model including “fair say” also reported recognizable differences in the log odds of the “fair say” and “exit” variables. For these reasons, a model excluding this variable was chosen as the reference model to discuss a combined theoretical approach. For comparison, however, this equation is included in Table 5.6.13.

For the spawning condition constructs, the two reactionary variables no longer prove significant. When “disagreement” and “compete” are included in the model, they increase the model’s predictive ability by 0.05%. However, inclusion of these variables results in parameter estimates that are less consistent with the models estimated separately. In addition, the forward entry maximum likelihood estimation approach excluded these variables. Therefore, I chose not to use them in the reference model for the combined theoretical approach. The reader may review the model that includes these variables in Table 5.6.13.

5.4.2 GOE Model for Combined Theoretical Approach

Two transaction cost constructs included in the base model were excluded in the present equation combining theoretical approaches. The variables estimating uncertainty and site specificity were removed. Neither of these variables was significant in the base transaction cost model. All of the ownership constructs from our base model showed that significance were retained. All of the spawning condition constructs from the base model were also included. Although the variables “comfort” and “compete” lost some significance, they continue to improve the model’s predictive ability.

5.5 LEVEL OF INVESTMENT

After analyzing the constructs that affect investment, we look to determine whether the same factors are able to inform the level of investment that the individual commits to a collective entrepreneurial endeavor. These models are estimated using an ordered logistic regression. The model for each organization, ValAdCo and GOE, is estimated separately. The models being tested are derived from the following general equations:

Level of Investment = f (Transaction Costs)

% of total farm assets invested = f (Transaction Costs)

(0%, 3%, 6%, 9%, 12%)[46] = f (Transaction Costs)

Level of Investment = f (Ownership Costs)

% of total farm assets invested = f (Ownership Costs)

(0%, 3%, 6%, 9%, 12%) = f (Ownership Costs)

Level of Investment = f (Spawning Conditions)

% of total farm assets invested = f (Spawning Conditions)

(0%, 3%, 6%, 9%, 12%) = f (Spawning Conditions)

[46] The actual categories included in the survey indicated the following ranges: no investment, 0-3%, 4-7%, 8-12% and greater than 12%. The survey responses were recoded as 0, 3, 6, 9, and 12, respectively. This recoding only represents general categories. Differences in the actual percentage number do not affect results.

Empirical Results for Ordinal Logistic Regressions Estimating Transaction Cost Constructs

Table 5.5.1 Ordered Logistic Regressions Estimating Transaction Cost Constructs

Table 5.5.1
Ordered Logistic Regressions
Estimating Ownership Cost Constructs
% of total farm assets invested = f(Transaction Costs)

	(1)	(2)	(3)	(4)
Organization	ValAdCo	ValAdCo	GOE	GOE
Variables	Estimate Sig.			
T = 0%	4.893 .001	5.685 .002	4.091 .001	3.819 .012
T = 3%	6.267 .000	7.215 .000	6.091 .000	6.035 .000
T = 6%	7.449 .000	8.468 .000	7.349 .000	7.340 .000
T = 9%	8.434 .000	9.593 .000	8.745 .000	8.765 .000
Exit	.797 .000	.831 .000	.300 .018	.274 .048
Update	.618 .004	.608 .012	.670 .000	.441 .031
Pay4Grain	-.335 .008	-.300 .031	-.015 .891	.017 .879
Risk	-.424 .002	-.418 .004	-.275 .005	-.285 .007
AvailK	---	-.168 .139	---	-.175 .032
YrsOwnLand	---	-.001 .590	---	-.001 .434
Location	---	.657 .333	---	1.062 .009
Complement Operation	---	.204 .115	---	.207 .048
Corn	---	.013 .438	---	-.006 .666
Info2Decide	---	-.024 .874	---	.170 .285
Model Chi-Sq Sig.	109.227 .000	115.585 .000	72.475 .000	81.696 .000
-2LL	191.872	188.485	287.116	287.505

Empirical Results for Ordinal Logistic Regressions Estimating Ownership Cost Constructs

Table 5.5.2 Ordered Logistic Regressions Estimating Ownership Cost Constructs

Table 5.5.2 Ordered Logistic Regressions Estimating Ownership Cost Constructs % of total farm assets invested = f(Ownership Costs)			
	(1)	(2)	(3)
Organization	ValAdCo	ValAdCo	GOE
Variables	Estimate Sig.		
T = 0%	10.010 .000	10.099 .000	2.501 .008
T = 3%	11.367 .000	11.372 .000	4.349 .000
T = 6%	12.523 .000	12.423 .000	5.633 .000
T = 9%	13.495 .000	13.329 .000	6.927 .000
Hire	.248 .321	---	---
Stage	-.178 .455	---	.388 .101
Mgmt	.292 .227	.412 .032	-.062 .748
Bd	.159 .370	---	-.007 .964
Best	.716 .003	.709 .001	.117 .543
Minority	-.056 .727	-.012 .938	-.117 .349
Fairsay	.855 .000	.828 .000	.427 .007
Resolve	-.119 .325	---	-.105 .438
AvailK	-.130 .212	-.154 .125	-.211 .006
Model Chi-Sq Sig.	116.464 .000	110.635 .000	55.456 .000
-2LL	200.656	201.165	322.374

Empirical Results for Ordinal Logistic Regressions Estimating Spawning Condition Constructs

Table 5.5.3 Ordered Logistic Regressions Estimating Spawning Condition Constructs

Table 5.5.3 Ordered Logistic Regressions Estimating Spawning Condition Constructs % of total farm assets invested = f(Spawning Conditions)		
	(1)	(2)
Organization	ValAdCo	GOE
Variables	Estimate Sig.	
T = 0%	6.266 .000	2.714 .004
T = 3%	7.402 .000	4.456 .000
T = 6%	8.411 .000	5.706 .000
T = 9%	9.25 .000	7.118 .000
BusK	.288 .024	---
Pay2Play	.577 .000	.290 .010
Comfort	.656 .000	.389 .000
Disagreement	.315 .059	---
Compete	-.405 .001	-.211 .060
CCBusK	-.418 .002	---
Control	---	-.156 .157
Before	---	.180 .136
Model Chi-Sq Sig.	89.699 .000	46.159 .000
-2LL	221.861	303.716

5.5.1 Findings Concerning Level of Investment

The results concerning level of investment demonstrate that strength of investment is related to constructs similar to those found to motivate the decision to invest. We find that all three models are significant. In addition, the thresholds for investment level are highly significant in each model. Finally, all of our constructs retain the same signs and similar levels of significance. This finding is especially strong considering that our parameter estimates refer to what effects move an individual from one category of investment level to another. These parameter estimates, then can be expected to switch signs without challenging our findings. In this case however, we demonstrate that our findings are robust even when considering level of investment. Two variables in the GOE ordinal logistic model lose significance but retain their sign: those variables were "management" and "control."

5.6 ADDITIONAL MODELS EXAMINED

Tables 5.6.1 – 5.6.13 are included to provide further detail on various models examined during the course of the empirical analysis.

Table 5.6.1 Transaction Cost Binary Logistic Regressions: ValAdCo Models 1-5

Table 5.6.1 Transaction Cost Binary Logistic Regressions: ValAdCo 1-5					
	(1)	(2)	(3)	(4)	(5)
Organization	ValAdCo	ValAdCo	ValAdCo	ValAdCo	ValAdCo
Variables	B Exp(B) Sig.				
Constant	-4.619 .010 .004	-4.272 .014 .010	-4.380 .013 .007	-4.931 .007 .018	-6.679 .001 .001
Exit	.982 2.669 .000	.993 2.698 .000	1.058 2.879 .000	.984 2.676 .000	1.027 2.794 .000
Update	.524 1.689 .036	.580 1.785 .026	.465 1.592 .081	.520 1.681 .039	.495 1.641 .039
Pay4Grain	-.467 .627 .003	-.478 .620 .026	-.477 .620 .004	-.451 .637 .006	-.350 .705 .042
Risk	-.464 .629 .014	-.462 .630 .018	-.488 .614 .016	-.458 .633 .016	-.490 .612 .011
AvailK	--- 	-.154 .857 .251	---	---	---
YrsOwnLand	--- 	---	-.001 .999 .667	---	---
Location	--- 	---	---	.286 1.331 .740	---
Complement Operation	---	---	---	---	.361 1.435 .017
Corn	---	---	---	---	---
Info2Decide	---	---	---	---	---
Model Chi-Sq Sig.	105.165 .000	106.517 .000	106.019 .000	104.333 .000	111.198 .000
-2LL	89.475	88.123	84.103	88.980	83.442
% Correct	89%	86.6%	89.4%	88.9%	90.9%

Table 5.6.2 Transaction Cost Binary Logistic Regressions: ValAdCo Models 6-10

Table 5.6.2 Transaction Cost Binary Logistic Regressions: ValAdCo 6-10					
	(6)	(7)	(8)	(9)	(10)
Organization	ValAdCo	ValAdCo	ValAdCo	ValAdCo	ValAdCo
Variables	B Exp(B) Sig.				
Constant	-6.399 .002 .001	-5.989 .003 .001	-6.171 .002 .003	-6.198 .002 .003	-7.145 .001 .009
Exit	1.105 3.021 .000	1.006 2.736 .000	1.107 3.026 .000	1.090 2.975 .000	1.162 3.195 .000
Update	.400 1.492 .138	.523 1.688 .042	.434 1.544 .117	.384 1.468 .159	.390 1.476 .188
Pay4Grain	-.349 .706 .054	-.446 .640 .006	-.349 .706 .058	-.347 .707 .056	-.321 .726 .083
Risk	-.492 .611 .019	-.451 .637 .019	-.498 .608 .019	-.493 .611 .018	-.500 .607 .021
AvailK	--- 	--- 	-.086 .918 .543	--- 	-.109 .897 .464
YrsOwnLand	-.002 .998 .602	--- 	-.001 .999 .611	-.002 .998 .603	-.003 .997 .653
Location	--- 	--- 	--- 	.056 .946 .954	.632 .531 .539
Complement Operation	.368 1.445 .018	--- 	.360 1.433 .024	.366 1.442 .020	.379 1.461 .021
Corn	--- 	.036 1.036 .083	--- 	--- 	.049 1.050 .045
Info2Decide	---	---	---	---	---
Model Chi-Sq Sig.	111.937 .000	108.421 .000	112.309 .000	111.006 .000	116.081 .000
-2LL	78.185	86.218	77.813	77.784	72.709
% Correct	92.5%	86.6%	91.9%	92.4%	91.1%

Table 5.6.3 Transaction Cost Binary Logistic Regressions: ValAdCo Models 11-14

Table 5.6.3 Transaction Cost Binary Logistic Regressions: ValAdCo 11-14					
	(11)	(12)	(13)	(14)	
Organization	ValAdCo	ValAdCo	ValAdCo	ValAdCo	
Variables	B Exp(B) Sig.				
Constant	-4.357 .013 .008	-6.438 .002 .021	-5.950 .003 .004	-4.826 .008 .003	---
Exit	.992 2.698 .000	1.146 3.146 .000	1.106 3.024 .000	.994 2.703 .000	---
Update	.596 1.814 .029	.529 1.697 .111	.588 1.800 .066	.507 1.660 .042	---
Pay4Grain	-.489 .613 .003	-.345 .708 .076	-.369 .691 .052	-.452 .636 .005	---
Risk	-.451 .637 .019	-.478 .620 .031	-.482 .618 .026	-.451 .637 .019	---
AvailK	--- 	-.152 .859 .329	-.123 .884 .405	--- 	---
YrsOwnLand	--- 	-.002 .998 .626	-.001 .999 .674	--- 	---
Location	--- 	.937 .392 .389	--- 	--- 	---
Complement Operation	--- 	.455 1.576 .013	.423 1.526 .016	--- 	---
Corn	--- 	.049 1.050 .044	--- 	--- 	---
Info2Decide	-.138 .871 .435	-.270 .763 .234	-.249 .780 .249	--- 	---
Far	--- 	--- 	--- 	.737 2.089 .314	---
Model Chi-Sq Sig.	105.784 .000	117.552 .000	113.694 .000	104.917 .000	---
-2LL	88.855	71.239	76.428	88.396	---
% Correct	88.4%	89.9%	91.9%	88.3%	---

Table 5.6.4 Transaction Cost Binary Logistic Regressions: GOE Models 1-5

Table 5.6.4 Transaction Cost Binary Logistic Regressions: GOE 1-5					
	(1)	(2)	(3)	(4)	(5)
Organization	GOE	GOE	GOE	GOE	GOE
Variables	B Exp(B) Sig.				
Constant	-3.326 .036 .028	-2.445 .087 .121	-3.077 .046 .051	-.906 .404 .596	-4.463 .012 .007
Exit	.439 1.550 .005	.437 1.548 .006	.459 1.583 .003	.370 1.448 .025	.465 1.592 .004
Update	.759 2.137 .000	.801 2.228 .000	.749 2.115 .001	.695 2.004 .003	.694 2.003 .002
Pay4Grain	-.117 .890 .438	-.068 .934 .671	-.089 .915 .559	-.153 .858 .323	-.079 .924 .604
Risk	-.591 .554 .000	-.605 .546 .000	-.588 .555 .000	-.657 .518 .000	-.574 .563 .000
AvailK	--- 	-.309 .734 .006	---	---	---
YrsOwnLand	--- 	---	-.004 .996 .530	---	---
Location	--- 	---	---	1.538 .215 .009	---
Complement Operation	--- 	---	---	---	.245 1.277 .041
Corn	---	---	---	---	---
Info2Decide	---	---	---	---	---
Model Chi-Sq Sig.	95.125 .000	103.184 .000	94.309 .000	94.474 .000	99.423 .000
-2LL	140.545	132.486	135.815	127.108	136.247
% Correct	81.2%	81.8%	81.9%	79.4%	84.7%

Table 5.6.5 Transaction Cost Binary Logistic Regressions: GOE Models 6-10

Table 5.6.5 Transaction Cost Binary Logistic Regressions: GOE 6-10					
	(6)	(7)	(8)	(9)	(10)
Organization	GOE	GOE	GOE	GOE	GOE
Variables	B Exp(B) Sig.	B Exp(B) Sig.			
Constant	-4.285 .014 .012	-3.427 .032 .031	-3.537 .029 .040	-1.621 .198 .378	-1.135 .321 .576
Exit	.495 1.641 .003	.443 1.557 .005	.500 1.648 .003	.489 1.631 .005	.539 1.715 .003
Update	.671 1.956 .004	.752 2.121 .001	.686 1.986 .003	.536 1.709 .029	.479 1.615 .049
Pay4Grain	-.046 .955 .768	-.113 .893 .459	-.027 .973 .868	-.077 .926 .627	-.029 .972 .865
Risk	-.588 .556 .000	-.589 .555 .000	-.598 .550 .000	-.664 .515 .000	-.653 .521 .000
AvailK	--- 	--- 	-.280 .756 .016	--- 	-.338 .713 .010
YrsOwnLand	-.004 .996 .540	--- 	-.002 .998 .634	-.004 .996 .533	-.002 .998 .491
Location	--- 	--- 	--- 	1.821 .162 .004	2.016 .133 .004
Complement Operation	.278 1.321 .023	--- 	.275 1.316 .030	.305 1.356 .021	.320 1.377 .019
Corn	--- 	.003 1.003 .827	--- 	--- 	.021 1.021 .271
Info2Decide	---	---	---	---	---
Model Chi-Sq Sig.	99.676 .000	95.173 .000	105.747 .000	100.542 .000	108.275 .000
-2LL	130.449	140.497	124.378	116.794	109.061
% Correct	85.5%	81.2%	83.7%	82.8%	80.9%

Table 5.6.6 Transaction Cost Binary Logistic Regressions: GOE Models 11-14

Table 5.6.6 Transaction Cost Binary Logistic Regressions: GOE 11-14					
	(11)	(12)	(13)	(14)	
Organization	GOE	GOE	GOE	GOE	
Variables					
Constant	-4.048 .017 .014	-4.308 .013 .028	-3.869 .021 .029	-3.294 .037 .030	---
Exit	.433 1.541 .006	.496 1.642 .004	.507 1.660 .003	.412 1.510 .008	---
Update	.617 1.854 .010	.590 1.804 .025	.588 1.800 .023	.769 2.157 .000	---
Pay4Grain	-.120 .887 .430	-.045 .956 .788	-.032 .968 .845	-.144 .866 .342	---
Risk	-.569 .566 .000	-.562 .570 .000	-.585 .557 .000	-.587 .556 .000	---
AvailK	---	-.259 .772 .034	-.277 .758 .018	---	---
YrsOwnLand	---	-.005 .995 .499	-.002 .998 .654	---	---
Location	---	.744 2.104 .281	---	---	---
Complement Operation	---	.249 1.282 .071	.239 1.270 .073	---	---
Corn	---	.012 1.012 .525	---	---	---
Info2Decide	.269 1.309 .144	.113 1.120 .575	.182 1.200 .368	---	---
Far	---	---	---	.495 1.640 .372	---
Model Chi-Sq Sig.	97.339 .000	98.525 .000	106.567 .000	95.800 .000	---
-2LL	138.331	119.066	123.558	137.074	---
% Correct	83.5%	84.7%	86.1%	82.7%	---

Table 5.6.7 Ownership Cost Binary Logistic Regressions

Table 5.6.7 Ownership Cost Binary Logistic Regressions						
	(8)	(8)	(9)	(10)	(11)	(12)
Organization	GOE	ValAdCo	ValAdCo	GOE	GOE	ValAdCo
Variables	B Exp(B) Sig.					
Constant	-3.855 .021 .001	-11.538 .000 .000	-11.545 .000 .000	-3.588 .028 .000	-3.681 .025 .000	-11.592 .000 .000
Hire	---	---	.079 1.083 .796	---	---	---
Stage	.432 1.540 .101	-.128 .880 .637	-.150 .860 .599	---	---	---
Mgmt	-.453 .635 .063	.605 1.831 .043	.602 1.825 .044	-.093 .911 .602	-.217 .805 .253	.577 1.781 .017
Bd	.108 1.114 .570	.054 1.056 .809	.032 1.033 .894	.311 1.364 .058	---	---
Best	.273 1.315 .209	.609 1.838 .017	.592 1.808 .024	.478 1.613 .014	.403 1.496 .051	.576 1.779 .016
Minority	-.035 .965 .813	.177 1.194 .355	.171 1.186 .380	---	---	.169 1.184 .375
Fairsay	.558 1.746 .002	.900 2.459 .000	.882 2.415 .001	---	.616 1.852 .000	.892 2.439 .000
Resolve	.122 1.129 .481	-.040 .960 .832	-.026 .975 .897	.270 1.309 .077	.196 1.216 .232	-.036 .964 .848
AvailK	-.264 .768 .006	-.072 .930 .597	-.068 .934 .622	-.262 .769 .003	-.272 .762 .004	-.066 .936 .617
	---	---	---	---	---	---
Model Chi-Sq Sig.	69.594 .000	111.878 .000	111.944 .000	56.622 .000	67.684 .000	111.636 .000
-2LL	164.684	84.616	84.550	180.428	167.963	84.857
% Correct	78.1	90.2%	90.2%	73.7%	78.2%	90.2%

Table 5.6.8 Spawning Condition Binary Logistic Regressions: ValAdCo Models 1-6

Table 5.6.8 Spawning Condition Binary Logistic Regressions: ValAdCo 1-6						
	(1)	(2)	(3)	(4)	(5)	(6)
Organization	ValAdCo	ValAdCo	ValAdCo	ValAdCo	ValAdCo	ValAdCo
Variables	B Exp(B) Sig.					
Constant	-6.834 .001 .000	-8.907 .000 .000	-6.407 .000 .002	-6.091 .002 .000	-7.015 .001 .000	-8.844 .000 .000
BusK	.225 1.252 .070	.225 1.253 .078	.291 1.337 .030	.226 1.253 .086	.224 1.251 .072	.275 1.317 .043
Pay2Play	.516 1.675 .000	.492 1.635 .000	.575 1.777 .000	.586 1.797 .000	.501 1.651 .000	.654 1.924 .000
Comfort	.633 1.883 .000	.651 1.917 .000	.674 1.961 .000	.656 1.928 .000	.643 1.902 .000	.623 1.865 .000
Disagreement	---	.377 1.457 .035	---	---	---	---
Compete	---	---	-.395 .674 .002	---	---	---
Idea	---	---	---	-.325 .723 .021	---	---
BusExp	---	---	---	---	.489 1.631 .268	---
Before	---	---	---	---	---	.264 1.302 .116
Model Chi-Sq Sig.	63.674 .000	67.409 .000	78.516 .000	73.644 .000	64.902 .000	69.559 .000
-2LL	132.820	125.234	114.797	118.324	131.591	116.043
% Correct	80.5%	83.2%	83.3%	83.8%	79.9%	81.4%

Table 5.6.9 Spawning Condition Binary Logistic Regressions: ValAdCo Models 7-12

Table 5.6.9 Spawning Condition Binary Logistic Regressions: ValAdC0 7-10				
	(7)	(8)	(9)	(10)
Organization	ValAdCo	ValAdCo	ValAdCo	ValAdCo
Variables		B Exp(B) Sig.		
Constant	-8.116 .000 .000	-7.006 .001 .000	---	-6.681 .001 .000
BusK	.265 1.303 .059	.278 1.321 .033	---	.333 1.395 .047
Pay2Play	.577 1.782 .000	.524 1.689 .000	---	.527 1.695 .000
Comfort	.683 1.979 .000	.530 1.699 .000	---	.638 1.893 .000
Disagreement	.375 1.455 .054	---	---	---
Compete	-.322 .724 .022	---	---	---
Idea	-.156 .855 .324	---	---	---
Beetgrower ‘92	---	1.199 3.317 .016	---	---
CC Bd	---	---	---	---
SocK	---	---	---	-.175 .839 .320
SMBSC Social	---	---	---	---
SMBSC Business	---	---	---	---
CCBusK	---	---	---	---
CCSocK	---	---	---	---
Model Chi-Sq Sig.	85.203 .000	69.540 .000	---	64.716 .000
-2LL	106.764	126.954	---	131.778
% Correct	83.1%	82.9%	---	79.3%

Table 5.6.10 Spawning Condition Binary Logistic Regressions: Models GOE 1-6

Table 5.6.10 Spawning Condition Binary Logistic Regressions: GOE 1-6						
	(1)	(2)	(3)	(4)	(5)	(6)
Organization	GOE	GOE	GOE	GOE	GOE	GOE
Variables	B Exp(B) Sig.					
Constant	-3.162 .042 .000	-3.043 .048 .001	-2.105 .122 .003	-2.524 .080 .003	-3.291 .037 .000	-4.520 .011 .000
BusK	.035 1.035 .774	.053 1.055 .657	.053 1.054 .669	.062 1.064 .616	.033 1.033 .788	.073 1.076 .584
Pay2Play	.238 1.268 .045	.228 1.256 .055	.211 1.235 .082	.203 1.226 .096	.233 1.262 .050	.196 1.217 .134
Comfort	.456 1.577 .000	.428 1.534 .000	.393 1.481 .001	.429 1.536 .000	.444 1.559 .000	.544 1.723 .000
Disagreement	--- 	-.005 .995 .965	---	---	---	---
Compete	--- 	--- 	-.311 .732 .008	---	---	---
Idea	--- 	--- 	---	-.125 .883 .243	---	---
BusExp	--- 	--- 	---	---	.564 1.757 .124	---
Before	--- 	--- 	---	---	---	.216 1.241 .138
Model Chi-Sq Sig.	39.486 .000	36.987 .000	43.517 .000	40.061 .000	41.871 .000	48.481 .000
-2LL	191.972	187.494	179.522	185.850	189.586	171.883
% Correct	72.5%	71.0%	71.4%	72.4%	70.7%	75.5%

Table 5.6.11 Spawning Condition Binary Logistic Regressions: GOE Models 7-12

Table 5.6.11 Spawning Condition Binary Logistic Regressions: GOE 7-12						
	(7)	(8)	(9)	(10)	(11)	(12)
Organization	GOE	GOE	GOE	GOE[47]	GOE	GOE
Variables	B Exp(B) Sig.					
Constant	-2.154 .116 .031	-2.465 .085 .000	-3.203 .041 .000	-3.092 .045 .000	-2.928 .054 .000	-3.055 .047 .000
BusK	.071 1.073 .575	.030 1.030 .806	.084 1.087 .509	.208 1.231 .211	.116 1.123 .382	.098 1.103 .466
Pay2Play	.189 1.208 .127	.240 1.271 .044	.192 1.212 .117	.276 1.318 .025	.228 1.256 .067	.218 1.244 .075
Comfort	.397 1.487 .001	.451 1.570 .000	.461 1.586 .000	.484 1.623 .000	.492 1.635 .000	.468 1.597 .000
Disagreement	.077 1.080 .549	---	---	---	---	---
Compete	-.306 .737 .012	---	---	---	---	---
Idea	-.075 .928 .509	---	---	---	---	---
Beetgrower ‘92	---	-.902 .406 .029	---	---	---	---
CC Bd	---	---	.007 1.007 .955	---	---	---
SocK	---	---	---	-.263 .769 .117	---	---
SMBSC Social	---	---	---	---	-.172 .842 .106	---
SMBSC Business	---	---	---	---	---	-.088 .916 .429
Model Chi-Sq Sig.	43.965 .000	44.469 .000	39.158 .000	42.175 .000	43.579 .000	41.472 .000
-2LL	176.298	186.989	183.881	189.282	185.153	187.261
% Correct	70.4%	72.5%	72.0%	74.3%	73.9%	74.5%

[47] Please note VIF stats for K were between 2.3 and 2.6 (i.e below 4).

Table 5.6.12 Spawning Condition Binary Logistic Regressions: Best Fit

Table 5.6.12 Spawning Condition Binary Logistic Regressions (Best Fit)					
	(13)	(14)	(15)	(16)	(17)
Organization	GOE	GOE	ValAdCo	GOE	GOE
Variables	B Exp(B) Sig.				
Constant	-2.906 .055 .000	-3.042 .048 .000	-9.514 .000 .000	-1.321 .267 .101	-2.715 .066 .014
BusK	.228 1.256 .146	.143 1.154 .327	.657 1.928 .001	---	---
Pay2Play	.203 1.225 .100	.202 1.224 .098	.850 2.340 .000	.277 1.320 .019	.247 1.280 .055
Comfort	.457 1.579 .000	.454 1.575 .000	.982 2.670 .000	.475 1.608 .000	.582 1.790 .000
Disagreement	---	---	.476 1.609 .031	---	---
Compete	---	---	-.423 .655 .003	-.317 .728 .009	-.271 .763 .031
CCBusK	-.230 .794 .082	---	-.779 .459 .000	---	---
CCSocK	---	-.113 .893 .344	---	---	---
Control	---	---	---	-.252 .777 .055	-.236 .790 .089
Before	---	---	---	---	.191 1.210 .202
Model Chi-Sq Sig.	43.347 .000	41.012 .000	104.177 .000	47.279 .000	53.461 .000
-2LL	185.385	187.720	87.790	175.759	161.253
% Correct	73.9%	74.5%	88.1%	73.9%	78.1%

Table 5.6.13 Combined Theoretical Approach Binary Logistic Regressions

Table 5.6.13 Combined Theoretical Approach Binary Logistic Regressions (0,1) = f (TC, OC, SC)					
	(1)	(2)	(3)	(4)	(5)
Organization	ValAdCo	GOE	GOE	ValAdCo	ValAdCo
Variables	B Exp(B) Sig.				
Constant	-19.339 .000 .000	-6.634 .001 .004	-6.555 .001 .002	-38.867 .000 .012	-20.701 .000 .001
Transaction Costs					
Exit	.976 2.655 .018	.406 1.500 .057	.437 1.548 .033	2.006 7.433 .062	.990 2.692 .026
Update	--- 	.664 1.943 .049	.576 1.779 .073	---	---
Risk	-.767 .465 .025	-.674 .510 .000	-.630 .532 .000	-1.029 .358 .072	-.780 .458 .035
AvailK	--- 	-.365 .694 .010	-.352 .703 .008	---	---
ComplementOp	. 728 2.071 .017	.283 1.326 .074	.277 1.320 .055	1.595 4.926 .026	.794 2.212 .032
Ownership Costs					
Info	--- 	.304 1.355 .233	.317 1.373 .158	---	---
Stage	--- 	.459 1.583 .271	-.334 .716 .212	---	---
Fairsay	--- 	.299 1.349 .233	.186 1.205 .438	2.506 12.260 .037	---
Mgmt	.799 2.224 .049	-.697 .498 .054		1.208 3.346 .082	.720 2.054 .096
Best	1.211 3.358 .038	---	---	1.241 3.458 .152	1.416 4.120 .029
Spawning Costs					
BusK	1.059 2.883 .003	---	---	1.221 3.391 .063	1.199 3.318 .005
Pay2Play	.788 2.200 .016	.276 1.317 .112	.214 1.239 .191	.962 2.617 .013	.943 2.567 .013

Comfort	.637 1.890 .054	.254 1.289 .241	.126 1.134 .515	.895 2.447 .047	.703 2.020 .037
CC BusK	-1.596 .203 .003	---	---	-3.108 .045 .045	-1.925 .146 .005
Before	---	.341 1.406 .115	.329 1.389 .109	---	---
Compete	---	.214 1.239 .294	.117 1.124 .524	---	---
Control	---	-.489 .614 .029		---	---
Disagreement	---	---	---	---	.230 1.258 .509
Compete	---	---	---	---	-.386 .680 .166
Model Chi-Sq Sig.	149.211 .000	111.234 .000	102.298 .000	163.040 .000	151.436 .000
-2LL	40.911	100.705	109.641	27.081	37.354
% Correct	96.3%	88.9%	87.6%	95.6%	96.8%

CHAPTER 6: CONCLUSIONS

To conclude, I would like to review the dimensions on which the present analysis has served to advance a theory of collective entrepreneurship. The three theories presented in the conceptual framework suggested a set of constructs for empirical analysis. I compare and contrast the theoretical approaches in terms the ability of the constructs derived from these theories to inform collective entrepreneurship.

The case research strategy prescribed by Eisenhardt (1989) emphasizes the iterative nature of theory building. As discussed in Chapter One, this dictates that the researcher must return to the literature to explore the possible incorporation of new theories and concepts when interpreting empirical results. Therefore, when appropriate, I introduce concepts from the literature that inform or underscore the importance of empirical findings.

6.1 CONCLUSIONS REGARDING THE EFFECTS OF TRANSACTION COSTS ON THE COMMITMENT OF RESOURCES

6.1.1 Information Asymmetry

Ex ante information asymmetry was not revealed as a significant factor when testing hypothesis 3.2.3.3. This could reflect awareness of a level of uncertainty involved in any entrepreneurial activity. It is interesting to note, however, that we did witness that confidence in management through interlocking relationship with another organization and the strength of previous business contacts were factors motivating investment. The significance of these factors may have mitigated the effects of ex ante information asymmetry by acting as proxies for the best information available ex ante. Further

analysis of the concept of collective entrepreneurship may benefit from identifying the strategies that individuals and groups utilize to reduce ex ante asymmetries in information. It is possible that identification of these strategies will better inform the significance and nature of information asymmetry in instances where investors perceive asymmetry as unavoidable.

Ex post beliefs in symmetrical information generally proved significant for both organizations, increasing the log odds of investment by a factor of 1.5 – 2. One potential reason for the strength of this finding is that a reduction in information asymmetry may reduce agency and collective decision-making costs. Information asymmetry is typically identified as a key source of these ownership costs (Jensen and Meckling, 1976; Hansmann, 1996).

Upon further inspection of the empirical results, however, we uncover that the ex post information asymmetry construct loses strength in the case of ValAdCo, but stays strong in the case of GOE. This difference may indicate that the size of the group matters to expectations regarding information asymmetry[48]. Smaller groups may perceive that they are tight knit and can remain informed regarding organization's performance. However, as size of the investment group increases, concerns over asymmetric information seem to rise as well. This could indicate that larger investment groups may be expected to demand more formal transparency.

Hansmann (1996) postulates that patron ownership can reduce the costs of information asymmetry because when the patrons are owners, the incentive for the firm

[48] This is congruent with Olson (1965) and Hansmann's (1996) predictions that size or privileged nature of a group will affect the group's ability to achieve their economic goals.

to act opportunistically and exploit informational advantages is reduced (28). However, we can recognize that, among numerous patrons, incentives for individual patrons to "exploit their informational advantage at the expense of others" may develop (p. 29). This dynamic would increase ownership costs. The empirical findings of the GOE case may represent limited empirical evidence of Hansmann's warning regarding numerous patrons. Further research may allow us to determine at what point, on the margin, additional members begin to increase ownership costs in collective entrepreneurial endeavors.

6.1.2 Asset Specificity

6.1.2.1 Ex post Market Power or Lock-in

One of the most significant factors in the analysis brings us back to Olson's primary dilemma. Collective action will not occur without the existence of a privileged group, some type of selective incentive, or coercion. This theory follows from the premise that individuals will find it in their best interest to free ride, in other words to refrain from contributing to group action in proportion to the benefits they receive. The role of coercion, then, is a means to lock-in participation in a collective endeavor. Coercion, selective incentives, and privileged groups may all act to increase the costs of defecting and limit some instances of free riding.

The catch is that coercion, represented here as lock-in, perceived ex ante acts as a deterrent to investment. We find that the opportunity to exit increases the probability of investment in collective entrepreneurship. Therefore, it is in the best interest of the organization to design credible exit mechanisms.

Traditionally, the concept of loyalty is discussed as a strategy for the cooperative to retain member business and increase the competitiveness of their operation (Zeuli and Foltz, 2006; Baarda 2002; FAO, 1997). In addition, retained member equity is redeemable and generally not accompanied by any incentive to trade. Instances where members transfer retained equity are limited to cases where the cooperative creates special incentives that encourage members to trade retained capital (See the discussion of base capital plans in Chaddad and Cook, 2004). Loyalty may be a form of selective social incentive or social coercion that maintains member business. However, our results indicate that emerging organizations will increase investment through a strategy that allows for entry and exit of recurrent transactions as well as member equity. Coercion seems to be less effective than would a scheme of selective incentives that allow for exit while encouraging entrance and commitment.

In essence, we discover that loyalty is not captured through lock-in, but rather by the ability to exit. Rather than lock producers, their business, and their capital into an organization, a stronger competitive force seems to be to engage producers by presenting them with an array of selective incentives that motivate producers to commit resources. Those who insist on locking investors into their resource commitment may be discouraging investment. We are in a quandary because collective action requires that individual actors be willing to continue to commit resources, ideally in proportion to the benefits they receive. However, the ability to discontinue commitment of resources or to transfer that commitment to another party seems to provide an impetus for the initial

investment. The solution, it seems, may involve allowing entry and exit, but negotiating the costs involved[49].

In this study, we looked at transaction costs, ownership costs, and spawning conditions. When testing these three conceptual vantage points independently, transaction costs were better predictors of resource commitment. This finding suggests that when we are creating selective incentives to increase the costs of exit, the NGC may extract the most cooperation by employing selective incentives that affect the value of specific assets. For example, all other factors remaining equal, we would expect that the opportunity for earlier investors to have first rights of refusal on subsequent equity drives would motivate the average investor to a higher degree than would an agreement to increase their voting power (an incentive affecting ownership costs).

6.1.4.2 Long-Term Contracting Risk

The type of risk that individual participants faced in purchasing NGC shares may best be characterized as long-term contracting risk[50]. The empirical results suggest that a unit increase in the level of long-term contracting risk perceived decreased the log odds of investment by approximately 0.6. All other factors being equal, those who perceived

[49] As an example, I include a simple scenario that looks solely at profit motivations. Consider the following. If the NGC generates a residual, shareholders would be foregoing profits, making exit costly and unattractive. If the NGC fails to generate a residual, it would be beneficial for the NGC to have contractual arrangements in their bylaws or marketing agreements that render exit or non-compliance more costly than continuing to participate in the collective venture. Reasons for entry and exit into a patron-based collective entrepreneurial ventures are often more complex than a simple venture-level profits. We must consider preferences derived from rent generation strategies at the producer level as well. Therefore, selective incentives regarding entry and exit may likely be highly complex.

[50] Given the preceding discussion of exit options, a discussion of long term contracting risk may seem unnecessary. However, as discussed in Chapter 5, marketing agreements and relatively thin NGC share markets often contribute to long term contracting risk.

less risk were more likely to invest and, according the ordered logistic regression results, invested more.

The concept of an entrepreneur can be traced back to Cantillon (1755). Cantillon described entrepreneurs as risk-bearing or risk-taking agents. The relationship between entrepreneurship and risk has continued to be a focus of the theory of entrepreneurship. This relationship has been extended to include incalculable risks, termed uncertainty (Knight, 1946). While entrepreneurship is risky, a reduction in the level of risk perceived can increase investment. The joint nature of collective entrepreneurship may be a mechanism to reduce risks that each individual associates with the endeavor. Limited empirical evidence also suggests that the number of individuals involved in a collective entrepreneurial endeavor may decrease the level of risk perceived either due to an increase in risk-sharing or to relatively smaller levels of investment per individual actor. Finally, the empirical analysis of long-term contracting risk in collective entrepreneurship suggests that, contrary to our concept of sole entrepreneurship, no individual emerges as prime leader or risk bearer.

If we compare ValAdCo and GOE, we see that ValAdCo was a relatively smaller organization in terms of membership. ValAdCo had 39 original investors where as GOE had approximately 300. In addition, the empirical results demonstrate that, on average, ValAdCo's members invested a larger percent of their total farm asset value (Please refer to Table 6.1.1.) asset value. When we compare the levels of risk perceived by investors in each NGC, we find that GOE investors consistently identified lower risk in the organization. Approximately fifty-two percent of ValAdCo investors perceived long-term contracting risk, compared to about thirty-three percent of GOE investors. Fifty-

nine percent of ValAdCo investors agreed that their ValAdCo investment was their riskiest at the time, compared to thirty-six percent of GOE investors. It is difficult to interpret, from the available data, whether this result stems directly from an increase in the number of individuals involved. It is likely that the reduction in risk perceived is an indirect result of the number of individuals involved in the venture. As the number of investors increases, the data shows a general decrease in the percent of total farm assets invested per individual[51].

Table 6.1.1 Level of Investment in the NGC as a Function of Total Farm Asset Value: The Larger the Organization, the Lower the Percentage of Wealth Invested

Level of Investment in the NGC as a Function of Total Farm Asset Value: The Larger the Organization, the Lower the Percentage of Wealth Invested		
Percent of Total Farm Assets Invested	Percent of ValAdCo Investors	Percent of GOE Investors
0 - 3%	40.4	63.0
4 - 7 %	27.7	23.5
8 - 12%	14.9	9.9
> 12%	17.0	3.7
Total	100.0	100.0

One potential drawback of involving more individuals in the venture as a strategy to reduce risk is that gains from risk sharing could be reduced by increases in ownership costs as the number of owners with heterogeneous preferences rises. This relationship sheds a new perspective on the case of GOE. As the number of owners involved in

[51] In addition, it is difficult to extract from the data the degree to which learning and legitimacy may have lowered the level of risk perceived. As the emergence of ValAdCo occurred first, we may have had a higher degree of learning on the part of investors (although this argument is somewhat limited to second-hand learning due to the fact that many individuals who would have "learned" from ValAdCo were not investors). In terms of legitimacy, however, we may attribute a reduction in the perception of risk to be partially attributed to a higher level of legitimacy in the GOE venture. As discussed later in 6.6.3.3, GOE may have borrowed a degree of legitimacy from CCFE.

decision-making rises, there is a potential tendency for collective decision-making costs to rise as well. The empirical results suggested that investors were less concerned with control rights, perceived a passive board, and may have been motivated to invest due to expectations of an agent-driven organization[52]. In essence, GOE seemed to evolve as more of an investment club where investors expected lower levels of involvement in collective decision-making, relying more heavily on management to control the organization. By deferring a certain level of decision-making authority to a management-driven organization, GOE may have been able to avoid a portion of the increase in ownership costs that would accompany gains from risk-sharing due to heterogeneous member preferences[53].

These considerations bring us to consider one alternative explanation as to why GOE investors may have perceived lower levels of risk than did ValAdCo investors. Qualitative data from interviews indicate GOE was at a more advanced stage of organizational development when initiating their equity drive. Specifically, potential GOE investors were already familiar with the proposed management at the time of the investment decision. Therefore, it would be interesting to investigate further whether the stage of organizational development at time of investment solicitation shows any correlation in investors' perceptions of the risks involved.

---

[52] This finding lies in sharp contrast to respondent's view of ValAdCo. ValAdCo was referred to as a board-driven organization. Accusations included that certain board members gained too much influence and did not hire management early enough in the development of the venture. Therefore, the data seem to indicate that GOE is an agent-driven organization while ValAdCo was a board-driven organization.

[53] The danger, of course, is that a reduction in collective decision-making costs achieved through a transfer of authority to management may result in an increase in costs associated with monitoring and managerial opportunism.

Theoretically, we may infer that differences in organizational development of the venture may lead to investors perceiving that they possess more complete information. Therefore, it may be fruitful to investigate changes in the level of information asymmetry perceived at varying stages of organizational development.

6.1.4.3 Site Specificity

6.1.4.3.1 Implications for Rural Development with respect to Financial Returns

In binary logistic regressions, constructs regarding site specificity demonstrated little significance. However, survey respondents indicated a high level of concern regarding environmental issues related to animal agriculture. Since both NGCs were involved in animal agriculture and were indicated in written comments as having had environmental problems, there is some concern that the site specificity constructs may be less than reliable. In other words, people may want to invest locally, but not when local investment may trigger environmental concerns or community opposition causing investors to bear negative externalities.

To further investigate the site specificity construct, respondents were asked whether they had invested in similar value-added businesses farther than 100 miles from the Renville County area. In other words, if we can prove the converse, that those who invested in Renville NGCs did not invest elsewhere, we may be able to infer a certain amount of preference for local investment. The data, however, lead us to infer that local investment was not strongly preferred.

The empirical results suggest that those individuals who invested in ValAdCo and GOE were slightly more apt to invest in value-added agriculture outside of their

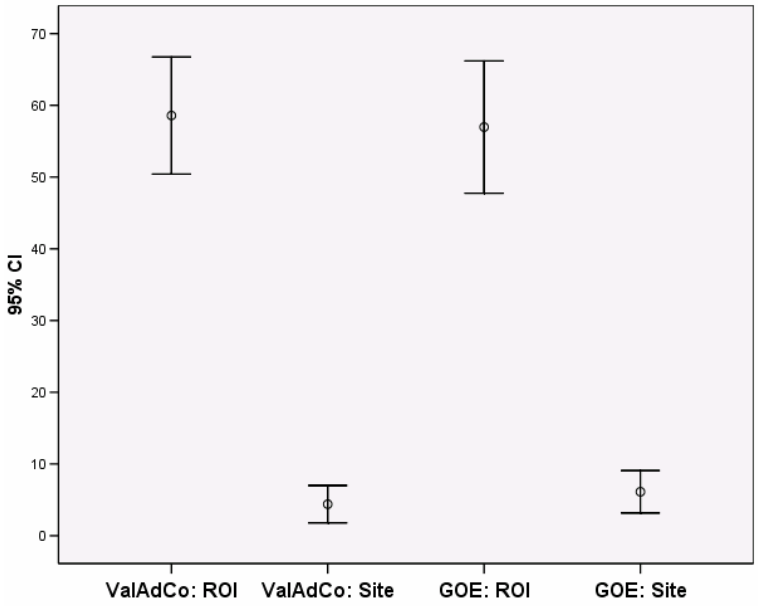
immediate area as well. In binary logistic regressions (Please see equation 14 in Tables 5.6.33 and 5.6.6), constructs looking at investment farther than 100 miles from Renville showed a non-significant but positive correlation for both organizations. In the case of GOE, the addition of this "Far" variable increased the model's ability to predict investment as compared to the reference transaction cost model. Spearman's rho correlations suggest a small, positive, and significant correlation between investing in ValAdCo and investing in value-added businesses farther than 100 miles from Renville (Spearman's rho coefficient = 0.152, p = 0.013). In the case of GOE, the Spearman's rho coefficient was positive but insignificant.

We can further elaborate on the relevance of site specificity by analyzing the importance of site specificity as compared to investor's assessment of the importance of returns. Investors were asked to divide 100 points among various reasons that motivated their investment in the NGC. If we review the descriptive statistics of the investor subset in Table 6.1.2 we see that investors were overwhelmingly motivated by returns on their investment. Investors in ValAdCo assigned a mean of 60.17 points to a return on investment motivation and 4.36 points to a local investment preference. Investors in GOE assigned a mean of 51.24 points to a return on investment motivation and 10.16 points to a local investment preference. Therefore, on average, investors indicated that 50-60% of their investment decision was based on their expected return on assets where as only 4-10% of their decisions was motivated by their dollars were being invested locally. The Error Bar Graphs shown in Table 6.1.3 confirm these findings by demonstrating the difference in the average amount of points assigned to each variable. The lines represent the reach of a 95% confidence interval.

Table 6.1.2 Comparing Motivations for Investment: Percent of Decision Motivated by Returns on Investment vs. Site Specificity in the Cases of ValAdCo and GOE

Comparing Motivations for Investment: Percent of Investment Decision Motivated by Returns on Investment vs. Site Specificity in the Cases of ValAdCo and GOE							
	N	Min	Max	Sum	Mean	Std. Deviation	Variance
ValAdCo: ROI	47	20	100	2828	60.17	23.291	542.449
ValAdCo: Site	47	0	25	205	4.36	6.784	46.019
GOE: ROI	85	0	100	4355	51.24	26.736	714.801
GOE: Site	85	0	75	864	10.16	13.008	169.211

Table 6.1.3 Error Bar Plot Comparing Motivations for Investment: Percent of Decision Motivated by Returns on Investment vs. Site Specificity in the Cases of ValAdCo and GOE



Thus, we may conclude that rural development is more of a by-product of collective entrepreneurship than a direct outcome. The data supports this conclusion in two ways. First, some positive, significant correlation was found between those who

invested locally and those that invested in similar ventures farther than 100 miles from home. Secondly, the empirical results demonstrate that return on investment is indeed more important than location. Rational investors are expected to behave in this manner for two reasons: (1) the funds directed toward the organization are intended as an investment, not a donation and (2) development cannot occur unless rents are accrued from the collective entrepreneurial venture. Any gains to rural development from entrepreneurship are hypothesized to flow through returns on investment or positive externalities. Therefore, returns on investment are a necessary part of the model. The impact of collective welfare benefits of collective entrepreneurship, however, may be better assessed by exploring the distribution of those returns. This present analysis does not address the distribution of returns from collective entrepreneurship from a welfare perspective. However, I briefly address issues of residual distribution at the end of this chapter (See Section 6.3.3.4).

Overall, results do not indicate a strong level of causality between site specificity and investment in collective entrepreneurship. Investors, therefore, may not exhibit strong preferences for local investment simply as a tool for rural development. However, if positive financial returns are expected, investors show a slight preference to invest locally.

6.1.4.3.2 Implications for Rural Development with respect to Long-Term Contracting Risk

The interaction of variables concerning long-term contracting risk and site specificity present more encouraging prospects regarding collective entrepreneurship as a strategy for rural development. In analyzing long-term contracting risk, we found limited

empirical evidence suggesting that larger groups of individuals tend to invest a smaller percentage of their assets and attribute lower levels of risk to collective entrepreneurial ventures. This infers that collective entrepreneurship may be an effective strategy for individuals lacking sufficient capital to proceed with a venture or for individuals hesitant to bear the full risk of a venture. It is difficult to distinguish between these two potential reasons for collective entrepreneurship given the present data. However, the relatively low levels of investment present in larger collective ventures could signify that collective entrepreneurship can be used as a strategy for resource-poor environments.

In the case of GOE, where level of investment and level of perceived risk were both lower, location shows some signs of significance. Although the empirical analysis of the variable "Location" were not robust in logistic regression, the Spearman's rho coefficient showed a correlation of 0.232 ($p = 0.003$) between location and investment in the GOE venture. By contrast, the Spearman's rho coefficient regarding the effects of the ValAdCo "Location" variable showed a correlation of 0.009 ($p = 0.901$) between location and investment in the ValAdCo venture.

I am not aware of any data that considers the percent of assets invested by sole entrepreneurs in their businesses. Therefore, I can only make comparisons between the two present cases. However, researchers have found that approximately eighty-one percent of entrepreneurs in developing countries choose to begin their new venture while remaining employed at their current job (Minniti and Bygrave, 2004; Christiensen and

Bower, 1996). These statistics indicate that sole entrepreneurs may be devoting only a portion of their capital[54] in order to mitigate entrepreneurial risk.

6.1.4.4 Physical Asset Specificity

Empirical results suggest that respondents who perceived an investment in collective entrepreneurial activities would increase returns to their specific physical assets were more likely to invest. In other words, entrepreneurs were more likely to invest in those opportunities that complemented the value of their current physical assets. This is consistent with a resource-based view of entrepreneurship[55].

The effect of physical asset specificity on investment may suggest that patron-owned firms have some advantage in initiating collective entrepreneurial ventures. By definition, patron-owners contribute assets as inputs for the cooperative venture[56]. Therefore, the potential for increased rents (as a result of NGC investment) to the physical assets used in production motivates investment. To explore this conjecture further, it would be necessary to study non-patron owned forms of collective entrepreneurship. Patron-ownership may increase the probability of emergence or it may simply shift the nature of specific assets that motivate investment.

---

[54] In the context of working at one firm while starting another the goal may be to minimize the risk to their current returns from human capital (i.e. financial income). Therefore, these entrepreneurs may be diversifying their human capital investment between their current employment and the entrepreneurial venture. Similarly, they may safeguard their financial capital by risking only given portion assets.

[55] See the following pieces for a discussion of resource-based theory and its relation to entrepreneurship: Foss and Ishikawa, 2006; Lewin and Phelan, 1999; Foss, Klein and Klein, 2005.

[56] For ValAdCo and GOE physical assets were contributed as raw material inputs. However, varying forms of patron ownership involve various contributions (such as labor for employee-owned firms).

6.1.4.5 Human Asset Specificity

It is possible that some forms of collective entrepreneurship will be more closely tied to different types of asset specificity. For, example we found that physical asset specificity has a significant positive affect on investment in patron-owned firms. Human capital specificity generally proves to be an insignificant factor in the decision to invest in patron-owned firms. This may not hold true for non-patron collective entrepreneurship. For example, we might expect these relationships to reverse when owners are linked to the collective entrepreneurial endeavor through an employee relationship.

6.2 CONCLUSIONS REGARDING THE EFFECTS OF OWNERSHIP COSTS ON THE COMMITMENT OF RESOURCES

6.2.1 Collective Decision-Making Costs

In reviewing the costs of collective decision-making, we find that the costs involved in the decision-making *process* consistently show more empirical significance than potential losses to costly decisions made. In other words, the empirical survey results of this study suggest that an investor's confidence in organizational processes affects their investment decision more than the final decisions that an organization may make. There are two possible reasons for this result: an indirect effect or a direct effect.

The first possibility involves the indirect effects of uncertainty. The costs of future decisions may be incalculable: the board may not have been chosen and disagreements that may arise remain unforeseen. Therefore, investors cannot accurately assess the costs of future decisions. The process, however, may be more clearly defined. Often, organizations present a prospectus that includes the formal bylaws of the organization. This is a proxy, at least, for the future formal rules of the game. Therefore,

investors may simply assign more weight to those criteria for which they have better information when making an investment choice.

On the other hand, process may directly affect the investment decision. Process may simply matter more to investors. The statistical results in this present research support this simpler conjecture. If we analyze the variable "Fair say" we see that it is highly significant to investment: more significant than whether the investor envisions that the board will take their preferences into consideration, more significant than whether investors perceive that the board will make decisions that are best for the cooperative. This finding is supported by Hirschman's (1970) theory of voice, exit, and loyalty.

Hirschman suggests that exit and voice are the two reaction mechanisms available to members when the organization is in decline or is not delivering expected benefits to its members. We have seen, in our analysis of transaction costs that exit options had a significant, positive influence on investment. Hirschman theorizes that exit is the main economic mechanism that members use when dissatisfied with an organization while voice is the main political mechanism. Exit, in this framework, is akin to Adam Smith's invisible hand, where economic actors are free to enter and exit transactions in the marketplace. It is also supported by a Schumpeterian framework in which economic actors create and destroy relationships. Voice, whether constructive or confrontational, is more informative in that it entails the possibility that the organization may be able to react or respond to member's concerns. The empirical results indicate that the voice and exit mechanisms identified in Hirschman's work as means to increase loyalty (and

consequently organizational longevity) may also act as a means to promote investment[57]. Hirschman's work explains that the absence of voice and exit mechanisms may lead to organizational decline. The present analysis suggests that the availability of voice and exit mechanisms may promote investment leading to organizational emergence.

A second theory that supports the idea of process as crucial and an antecedent to organizational development is Zusman's model of the constitutional selection of collective-choice rules. Zusman develops a game theoretic approach to modeling cooperative design under uncertainty. This model predicts two primary stages of cooperative development: the constitutional phase and the operational phase (Zusman 1992; Cook, Iliopoulos, and Chaddad, 2004). Zusman predicts that actors first engage in Pareto optimal constitutional choice rules. This phase occurs first due to multiple game solutions and uncertainty regarding future payoffs during the operational phase.

The present empirical analysis supports Zusman's predictions by suggesting that investors put more weight on assessing the costly process, or constitutional structure, than on the future operational decisions, or costly decisions, when making their investment decision. Indeed, investors seem to follow a similar sequence as suggested by Zusman. Further investigation as to why individuals first attempt to adapt to uncertainty through procedural mechanisms, may require the inclusion of theories from related disciplines such as behavioral economics or the social psychology of organization.

[57] Voice is a political control mechanism and may relate to ownership constructs such as participation to which Hansmann (1996) refers.

6.2.1.1 Resolving Conflicts

The construct measuring the potential investor's confidence in the organization's ability to resolve conflicts between the NGC and its members was insignificant across models and organizations. This result stands in stark contrast to the strong positive impact that familiarity with the general rules of the game has on investment. The "Pay to Play" variable, presented as a spawning condition construct, asked the respondent if they had a broader, conceptual familiarity with the nature or idea behind a NGC structure. This infers that they have a general understanding of the way in which the organization is structured, but were less familiar with the specific formal rules of the organization. When the survey directly asked investors whether they were familiar with the specific organizational bylaws when investing, sixty-eight percent of ValAdCo investors agreed. However, only fifty-one percent of GOE investors agreed that they had familiarity with GOE bylaws when they made their investment decision. This provides support for an argument that familiarity with the general nature of the organization through experience or a basic knowledge of the informal rules of the game may have a strong influence on investment.

In light of these results, it is possible that informal rules of the game are a better predictor of investment than knowledge of the formal rules of the organization. One possible explanation for this involves uncertainty. Formal rules may change if majority vote within the organization changes the bylaws. On the other hand, in the "Pay to Play" variable, investors indicated knowledge of the informal rules coupled with experience to mitigate uncertainty.

6.3 CONCLUSIONS REGARDING THE EFFECTS OF SPAWNING CONDITIONS ON THE COMMITMENT OF RESOURCES

6.3.1 Previous Experience: Structure-Specific

When considering the spawning conditions, the empirical results indicate that familiarity with the organizational structure of investment has a significant positive influence on an agent's propensity to invest. It is important to note, however, that first-hand experience in terms of familiarity with the NGC governance structure is not a *necessary* condition for investment. Of 47 investors, approximately 30% of ValAdCo investors had no prior experience as NGC investors. Of the 85 GOE investors that responded, 32% had not previously invested in a NGC[58].

Some respondents hypothesized that beet growers may have been more likely to invest in NGCs due to their experience with the governance structure or the higher rents generated in growing beets. I attempted to use the instance of being a beet grower at the time of investment as a proxy for first-hand familiarity with the organizational structure or to corroborate conjectures indicating that the additional rents generated from this crop affected investment. However, growing beets at the time reduced the model's ability to predict investment when included in the binary logistic regressions testing spawning conditions. In the case of GOE, growing beets at the time showed no significance, was not consistent across various model specifications, and had a negative impact on investment when included as a covariate in the reference model discussed in Chapter 5.

[58] Admittedly, we see that a majority of investors did have first-hand experience with NGC investment structures. First-hand experience is a higher predictor of investment (r=0.318). This correlation may explain why adoption and dissemination of the NGC structure is slow and localized. However, it does leave an opportunity space (possibly as high as a thirty percent chance) to argue that replication is feasible. This argument is referenced in the last paragragh of Section 6.3.1.

The fact that the growing beets showed a potential negative correlation in relation to investment in GOE could be related to respondent's observations that those who grew only corn and soybeans (i.e. were not involved in growing beets) were anxious to be involved in a NGC venture[59].

If we attempt to make inferences regarding the dissemination of the NGC as a governance structure, the "Pay to Play" variable may provide a starting point. Merrett et al. (2003) compile a directory of NGCs and Producer-Owned LLCs finding that the bulk of these organizations are located in North Dakota and Minnesota. The NGC model and its counterpart the LLC, however, later gained predominance as a producer market strategy in Iowa, Illinois, Nebraska, Kansas, and Missouri over the following years (Merrett et al., forthcoming). By recognizing that propensity to invest in, or adopt, this organizational form is affected by previous structure-specific experience, we can begin to understand the concentrated preliminary pockets of adoption. By adding to this observation the fraction of individuals who invested with no previous NGC investment experience, and a slight tendency toward local investment preferences, we may be able to begin to piece together an argument that explains the geographical dissemination of this governance structure.

[59] Beet growers grow corn and soybeans as part of their rotation. And, were members of SMBSC, the only local buyer for sugarbeets. However, farmers that had no involvement in beets (i.e. primarily followed a corn-soybean rotation) had limited previous opportunities for investing in NGC ventures. When the opportunity for a GOE investment was realized, these farmers could become GOE members with an upfront investment but little on-farm operation changes. By contrast, becoming a SMBSC member at the time would have involved changing crop rotations, investing in additional equipment, and competing to buy SMBSC shares that were rising in price*.

6.3.2 Networks

From the analysis of networks that motivated investment in these two collective entrepreneurial ventures, we found networks positively influence emergence. The empirical results regarding the "Comfort" variable suggest that any previous joint investment experience may facilitate the emergence of collective entrepreneurship. These investment networks are significant in both organizations and present even when respondents do not consider that they maintain more direct business network ties. In the case of GOE, investors showed little propensity for direct business ties, but did indicate some previous joint investment with fellow investors.

The impact that these weaker ties exhibit across models is clearly coherent with sociologists' findings regarding the strength of weak ties and the value of bridging social capital (Granovetter, 1973; Putnam, 2000; Dasgupta and Serageldin, 2000). The empirical analysis in Chapter 5 revealed that variables testing the effects of social capital, which can be construed to represent a stronger tie resembling bonding capital, are of less value to the emergence of collective entrepreneurship than the variables in this analysis that looked at previous investment networks and business networks[60].

Our analysis of long-term contracting risk and agency costs in the case of GOE led us to postulate that this organization maintained more of an investment club mentality. It is interesting to note that, while business networks showed no significance

[60] Joint investment networks and business networks investigated in this analysis may be related to concepts such as bridging social capital because they entail weak horizontal ties (Woolcock and Narayan, 2000; Woolcock, 2001). However, the joint investment and business networks that affected investment in the case of this analysis primarily consisted of intracommunity ties. In contrast, bridging social capital primarily refers to extracommunity networks. Client, supplier, and lawyer networks identified as important in the GLS framework most closely resemble linking social capital (Woolcock 2001).

in the case of GOE, previous investment networks demonstrated a positive, significant correlation. This further supports the idea of an investor club mentality. In addition, the concept of investment networks begins to suggest dimensions on which we may be able to distinguish among various types of collective entrepreneurship.

When analyzing the types of networks that mattered to the emergence of ValAdCo, we are also able to expand the implications of our theories regarding networks, and more specifically, regarding spawning in general. ValAdCo investors revealed a strong propensity to invest based on existing business networks. These business networks signify a somewhat more direct, stronger tie (involving personal interaction) than that of an investment network. GOE investors revealed no such preference. These results mimic our findings regarding ex post information asymmetry—that ValAdCo investors may consider themselves a tighter knit, privileged group and therefore demand less formal transparency. The significance of these business contacts provides empirical confirmation of the importance of business network contacts as predicted by GLS' spawning framework.

The spawning framework, however, primarily regards business networks as a network of contacts that facilitate business creation. Existing networks facilitate creation. By contrast, the ValAdCo provides evidence that a related circumstance may also be true: absence facilitates creation. We find that creation may also be a result of structural holes rather than network ties. ValAdCo investors showed a greater propensity to invest given an absence of business networks among members of CCFE. CCFE voted against the development of a multiplier project. Therefore, an investment in ValAdCo would be expected to go against the majority of CCFE member's interests. If a potential investor

considered CCFE business networks highly valuable to his operation, we would expect that his propensity to invest would be lower. Binary logistic regressions showed the log odds of investment in ValAdCo to be increasing when investors perceived an absence of business networks among CCFE members (Of course, we could interpret this result to be largely caused by the fact that non-investors did not consider themselves to be business partners with ValAdCo investors. However, this does not change the result of the argument). Due to these structural holes, ValAdCo investors may have perceived that they were less likely to suffer repercussions from their business partners resulting from their investment in multiplier units. Essentially, the case of ValAdCo provides an example of how the absence or rejection of certain networks may also lead to the emergence of entrepreneurship. A rejection of potential networks may begin to explain why some ventures are characterized as reactionary.

6.3.3 Expanding the Theoretical Constructs associated with Spawning

We have seen how the inclusion of concepts such as investment networks or the absence of network may prove additive to the theory of spawning. However, we have yet to address a fundamental question of the spawning framework. If we accept that entrepreneurs establish strong venture contacts in their parent organization, that there is no indication that the parent opposes the venture, and that organization is costly, we are left to question why spawning occurred. One method to provide an explanation is to explore gains made possible through spawning that are not accessible when developing the new venture as a division of the parent. I begin by addressing this issue. I then

analyze the motivation for spawning by considering the corollary, what gains would be foregone by not spawning.

ValAdCo had no opportunity to develop as a division, since CCFE membership voted down its inception. Therefore, to shed light on the motivation for entrepreneurial spawning, we must analyze the case of GOE.

6.3.3.1 Rents from Spawning

CCFE benefited in four primary ways by spawning GOE: (1) an increase in their supplier base, (2) the ability to generate permanent capital (3) the preservation of CCFE member control rights, and (4) a mechanism for capturing residual claims in proportion to risk capital investments.

6.3.3.1.1 Increasing the supplier base

Traditional cooperatives operate in a low margin commodity sector that relies on generating revenues by handling large volumes of grain. Per bushel handling fees are one of the primary sources of revenue for local elevators. By acting as a primary grain handler for all GOE deliveries of grain, CCFE was able to access scale efficiencies. A certain amount of these scale efficiencies were gained by attracting new business.

Developing GOE as a separate entity was an insightful strategy from a social standpoint because this allowed CCFE to handle a larger volume of grain without eroding local loyalties. Local respondents indicated a high degree of loyalty to their primary grain handlers. In instances where CCFE was not the primary grain handler for a particular GOE investor, the investor did not recognize any breach in loyalty to their primary grain handler when diverting grain shipments to CCFE.

CCFE was simply acting as a conduit for grains delivered to GOE. Therefore, popular perception did not perceive that CCFE was indeed attracting grain shipments away from other local grain handlers. Moreover, if investors maintained loyalty to their primary grain handler, CCFE still benefited: GOE investors could ask CCFE to procure grains on their behalf, but for a cost of five cents a bushel. In effect, CCFE generated the potential to divert grain shipments from their competitors without being perceived as a threat and without growers recognizing any shift in loyalty.

6.3.3.1.2 Generating Permanent Capital

Traditional cooperatives maintain two primary sources of capital: permanent equity capital and redeemable equity capital. When members patronize the cooperative, they receive benefits in proportion to their patronage. A portion of those benefits is retained by the cooperative as capital allocated to that member. This capital is redeemable following the cooperative bylaws and decisions made by the Board of Directors. Permanent equity capital is non-redeemable. Strategies for accessing permanent capital are attractive to traditional cooperatives in order to remain competitive[61]. A reliance on allocated equity bases can leave cooperatives in a precarious financial situation when a large portion of their members seek to redeem equity. In addition, a strong base of non-allocated equity allows the cooperative to reduce the amount retained from patron transactions or accelerate equity redemption schedules. Increasing the level of returns paid to patrons allows the cooperative to be more competitive.

[61] See Chaddad and Cook 2003 for a discussion of strategies for accessing permanent capital.

Any grain handling associated with GOE as a separate entity translated into permanent equity capital for CCFE. Indeed, even those GOE investors that were members of CCFE were not allocated patronage based on deliveries made to GOE (even though the delivery site was CCFE location). Thus, spawning GOE meant that CCFE did not have to pay patronage on GOE grain deliveries, as this constituted non-member business[62].

6.3.3.1.3 Preserving Member Control Rights

If GOE was developed as a division of CCFE and allowed new investors to enter CCFE as members, this would have resulted in a dilution of CCFE members' control rights. Since organizational control in CCFE is based on a one-member one-vote mechanism, the inclusion of new members would reduce the level of control that the original CCFE members were able to exercise over the cooperative decisions made. Inclusion of additional members would likely increase the degree of heterogeneity present within the cooperative.

6.3.3.1.4 Capturing Residual Claims

In a traditional cooperative, residual claims are distributed in proportion to use: for example, in proportion to the number of bushels of corn delivered. CCFE could have solicited investment for GOE from its members, however, this risk capital would not be rewarded[63]. Creating GOE under a separate governance structure allowed for the

[62] Non-member business would incur income tax liability, however. Cooperatives pass tax liability through to members on member business.

[63] CCFE had no credible capital acquisition mechanism because they only distribute returns based on patronage. The traditional cooperative has no means of rewarding capital investments.

creation of a mechanism to reward risk capital. The NGC governance structure distributes residual claims in proportion to patronage as well as capital investments. This is achieved by linking share investments to grain delivery requirements.

Distribution of residual claims in proportion to investment was a primary concern if CCFE was to achieve the goal of obtaining access to yet another source permanent equity capital. By investing in GOE, CCFE was able to create two streams of income to build permanent equity capital: handling fees charged on non-member business and residual claims as a GOE investor. Investor benefits are separate from the question of why spawn because they can be accessed by any investor. Nevertheless, it is important to remember that CCFE also benefited from the emergence of GOE as an investor. They were able to share risk and access new streams of permanent unallocated capital. This permanent, unallocated capital would allow them to expedite payout of retained equity, reduce amounts retained from patronage transactions, or improve their balance sheet but reducing the proportion of unallocated to allocated capital.

6.3.3.2 Risks to Non-Spawners

If we find support for the spawning hypothesis, that substantial portions of businesses are formed while employees or members are part of an existing business, then we may speculate that existing businesses risk training their own competition. It is preferable to be in a position where you can capture rents from teaching and learning. Under this scenario, a spawning organization can benefit from training potential partners.

In assessing agency costs, I found limited empirical evidence that suggested GOE was an agent-driven organization. Moreover, the data suggested that respondents were

motivated to invest, to a certain degree due to the confidence they had in CCFE and its management. Thus GOE, as a spawned offspring, was able to reduce uncertainty and increase the opportunity for emergence by borrowing legitimacy from the CCFE parent (See Aldrich & Fiol,1994 for a discussion of legitimacy in the context of entrepreneurship). Spawning may be a win-win situation for the parent and the spawn. A spawned entity may borrow legitimacy, while the parent may gain additional business and network partners. GOE demonstrated that spawning itself may be a potential revenue source to parents. In addition to increasing profits through grain handling fees, CCFE was able to charge GOE for managerial costs and office space.

6.3.3.3 Previous Experience as a Source of Legitimacy

ValAdCo and GOE differed on the dimension of size, but they also differed in that they solicited investment at different stages in their organizational development. GOE had the services of CCFE staff, a potential CEO, and the willingness of a large investor—CCFE—when they began soliciting investment. ValAdCo, a much smaller organization without the backing of a large investor such as the local cooperative, solicited seed capital investment from interested parties at a much earlier stage.

If we consider that GOE may have gained a level of external legitimacy by borrowing it from CCFE and the reputation of their management, we are left to question whether ValAdCo had access to legitimacy and how it may have been generated. In analyzing investor's responses, we uncover an interesting dynamic. The data reveal that ValAdCo relied more on the reputations of fellow investors than GOE. Respondents were asked whether the fact that successful farmers they knew were investing influenced

their decision to invest. In the case of GOE, 28.5% of investors disagreed with this statement. In the case of ValAdCo, only 8.5% of investors disagreed. In the absence of external legitimacy, it would appear that ValAdCo was able to access a greater degree of internal legitimacy from the reputation of fellow investors. This dynamic is self-reinforcing because as an increasing number of reputable investors enter the venture, they may be able to attract additional investors. The collective nature of the venture allows this group dynamic to develop. Thus, patron-driven collective entrepreneurship may be able to access forms of legitimacy unavailable to a single investor engaging in entrepreneurship.

6.3.3.4 Distribution of residual

There is one final aspect revealed through the empirical analysis that may be necessary to add to the spawning framework. Gompers et al (2005) discuss various reasons for reactionary spawning. They focus on such motivations as the inability to access capital funds for project development or the inability of the entrepreneur to market a new technology from within the parent organization. When we analyzed organizations breaking away from a parent, however, we found evidence of investors seeking returns that would have been unavailable to them if the project were to be developed within a parent organization. Spawners may, in fact, break away in order to capture a new revenue stream or a greater portion of the residual than would have been available if the organization remained part of the parent. Thus, it would be beneficial to incorporate the notion of rent-seeking into the spawning framework.

6.4 CONCLUSIONS REGARDING THEORY

In comparing the results from each theoretical model tested independently, we note that transaction costs economics explains most of the variance in investment. This could be because information regarding current assets and the specificity of those assets is most prevalent when patron investors are making the resource commitment decision. The producer-investor perceives a higher degree of certainty when assessing costs related to assets currently under his control: his on-farm production possibilities and his current market contracting costs.

It is important to note that agency costs and collective decision-making costs are often less well defined in the earlier stages of investment because the exact make-up of the board or managerial staff may not be determined until after the equity drive is complete. The advisory committees in place during the initial phases of NGC development are not necessarily composed of the same individuals or the same set of skills that will characterize future board leaders or management personnel. Given the higher degree of uncertainty related to ownership costs, it seems rational that producer-investors would weight transaction costs more heavily when making their investment decision.

However, it is important to note that model specifications solely analyzing transaction costs are not the best predictors of investment. We may improve upon the predictive ability of transaction costs economics in regards to predicting patron collective entrepreneurship by adding constructs related to ownership costs and spawning conditions. The predictive ability of our models was most powerful for both organizations when the constructs from all three theories were combined.

6.5 SUMMARY

This present work has begun to inform the concept of collective entrepreneurship by analyzing organizations that emerge through patron investment. To begin, we can postulate that there exist various forms of patron-driven collective entrepreneurship. The analysis of transaction costs calls us to continue to develop a theory of collective entrepreneurship by investigating patron versus non-patron ownership. The analysis of ownership costs underlines the importance examining potential differences between agent-driven organizations, board-driven organizations, and investor-driven organizations[64]. We have also found limited empirical evidence suggesting that we can expect size to affect the form of collective entrepreneurship engaged in, which in turn affects the constructs that matter most in motivating investment. This is especially true in regards to ownership costs, where size may affect not only degree but also the type of ownership costs that matter. This is likely due to the tendency of costs of collective decision-making to rise as membership and their heterogeneous preferences increase.

Exit and voice, two concepts usually associated with the decline of an organization inform organizational emergence within this analysis. Investors seem to be familiar with the two prominent control mechanisms at their disposal when dissatisfied with an organization. Therefore, when evaluating emergent opportunities, they assess the exit and voice mechanisms presented to them in the governance structure in order to decide whether to commit resources. Investors are reluctant to enter ventures where they perceive that they will be locked-in. They seek to verify the existence of low cost exit mechanisms when evaluating resource commitment decisions. Given a high level of

[64] Investor-driven organizations may exhibit more of an investment club mentality.

uncertainty associated with optimal wealth-maximizing decisions during future operational phases, investors exhibit a tendency to focus on the efficiency of organizational procedures. Thus, potential patron-investors closely evaluate the costs involved with organizational processes when making their investment decision.

Patron-owned collective entrepreneurship seems to be attractive as a mechanism to spread the inherent risk often associated with entrepreneurship. Investors may further mitigate the level of risk they incur by investing lower levels of their personal assets when engaging in collective entrepreneurship. Finally, patron-driven collective entrepreneurship may be able to solve the chicken-and-egg problem of legitimacy by generating a measure of self-reinforcing internal legitimacy.

CHAPTER 7: FUTURE RESEARCH

This chapter explores further avenues in building a theory of collective entrepreneurship and possible opportunities for future research. As a first step, I consider how we might further develop the present analysis. I propose that it would be instructive to investigate how transaction costs, ownership costs and spawning conditions may be related. For example, do the spawning conditions of previous experience with the NGC structure or previous joint ventures with fellow investors lower the ownership costs of establishing a new venture? On the other hand, could we characterize knowledge of the NGC organizational structure as specific human capital? Analyzing the relationships between these three theories allows us to begin solidifying a coherent theoretical foundation for the study of collective entrepreneurship.

7.1 ALTERNATIVE SPACES

We have uncovered several areas ripe for future research. The first step that might be taken is to attempt to replicate a similar analysis in a distinct location to further investigate the case of collective entrepreneurship with specific regard to NGCs or patron-owned entities. This would allow us to amass evidence of external validity. This second deviant case analysis would also provide an opportunity for testing some of the conclusions of this present analysis that may be specific to agricultural commodities or to NGCs in particular.

Another informative example of a deviant case analysis would be to explore collective entrepreneurship in another institutional or cultural setting. Selecting an international location well known for its high levels of collective action would be one

possible strategy. The distinct cultural norms, institutional incentives, and governance structures employed in this setting would provide researchers with an excellent opportunity to compare and contrast emergence.

7.2 ALTERNATIVE PROXIES

If we were to begin to branch outside of the NGC framework while remaining in producer-owned agricultural processing strategies, it would be instructive to explore the growing sector of collective entrepreneurial endeavors organizing as Limited Liability Companies (LLCs). If learning and previous experience indeed play a role in emergence, we would benefit from analyzing the evolution of the NGC model to NGC-LLC hybrids, NGC-LLC conversions, or simply to LLCs. What did producers learn about collective entrepreneurship that leads them to adopt a new organizational form? Are there elements of a LLC model that stimulate emergence but are unavailable within a NGC governance structure?

In addition, cases that compare patron to non-patron examples of collective entrepreneurship will be beneficial in helping us to determine the different forms that collective entrepreneurship may take. In the present analysis, we found that transaction cost economics was able to explain more of the variance in investment than the other theories explored. Whether or not this relationship holds for non-patron collective entrepreneurship requires further examination.

7.3 Alternative Methods

The abundance of constructs that point toward the impact of previous experience or existing assets on emergence beg the researcher to consider methods that allow us to incorporate a greater measure of dynamics into our empirics. If experience matters, we must move beyond a snapshot approach to the analysis of collective entrepreneurship. A first step toward this goal may be to develop descriptive case histories that include individual-level longitudinal and panel data to understand more thoroughly the systems in which these dynamics operate.

Ultimately, however, it seems sensible to consider game theoretic approaches. One observation that respondents repeatedly called to my attention was that certain investments they made were motivated out of the concept of reciprocity. Elinor Ostrom (2000) establishes the critical nature of this phenomenon in her analysis of repeated games in a laboratory situation. Collective entrepreneurial endeavors may allow us to explore group reciprocity from many levels. I was unable to model these nuances of previous experience and reciprocity in this present analysis. However, the incorporation of a repeated game approach would allow the researcher to model reciprocity. For example, we may be able to develop models that allow actors to demonstrate reciprocity by making token investments. Several respondents indicated that they made investments that were only partially congruent with their personal objective function. Respondents revealed that these "token" venture investments were motivated by a need to respond in-kind to individuals who supported their previous business venture. Methods that

employ game theoretical approaches may prove fruitful for further theoretical development.

Once external validation of significant constructs has been amassed through case replication, the next step would be to test these constructs in a manner that allows us to investigate a broader cross-section of collective entrepreneurial endeavors. The difficulty in proceeding with the analysis of a larger set of collective entrepreneurial firms is that it may be difficult to collect such micro level data. The variables that researchers would likely employ would be primarily intra-firm or investor-specific characteristics.

7.4 ALTERNATIVE COMMODITIES OR PRODUCT SECTORS

For the present analysis, we had an empirical advantage in that both of the organizations compared utilized corn as their raw input commodity. However, a valuable approach would involve considering alternative commodities or product sectors when expanding a theory of collective entrepreneurship. I would like to suggest two possibilities from the agricultural sector.

Over approximately a thirty-year period, the sugarbeet processing industry in the United States has evolved to be dominated by the NGC governance structure. The descriptive history of American Crystal Sugar and SMSBC as discussed in Chapter 2 remains somewhat incomplete without a discussion of the following years that led the U.S. Sugarbeet industry to be largely governed by producers organized as NGCs. The domination of an industry by one type of governance structure opens the door to a unique opportunity to explore the nature of dissemination of a governance form, the impact of

temporal asset specificity, and organization of strategic producer-alliances in the absence of alternative markets for a given commodity.

A second industry that would allow us to inform a theory of collective entrepreneurship from a different perspective is the ethanol industry. The emergence of the ethanol industry in the United States was largely driven by producer investment in production facilities. An array of unique institutional and supply chain arrangements may have facilitated the emergence of these biorefineries as locally owned entities. Therefore, this would be an interesting case to consider as we go beyond the organizational characteristics of patron-owned collective entrepreneurship and begin to analyze institutional facets.

7.5 CONSTRUCTS THAT REQUIRE ADDITIONAL EXPLORATION

7.5.1 Size and Heterogeneity

Size was an element discussed frequently regarding the conclusions of this present analysis. We recognized that size likely affects not only the degree of certain costs, but also which costs (transaction, ownership, or spawning conditions) may matter most in terms of emergence. In future theory building exercises, it would be wise to allow for greater variation on this dimension when designing a research strategy.

This strategy would call for the researcher to investigate the emergence of a range of collective entrepreneurial ventures selected based on a theoretical sample of degrees of latency. These studies would compare various degrees of "latent" ventures to "privileged" ventures. The challenge is in accurate theoretical sample identification.

Size, as referred to by Olson, is not necessarily a strict numeric concept. Special devices or social incentives may be constructed to effectively transform a large group into a "privileged" group. This is true because when we discuss "size" we are referring more specifically to the degree of heterogeneity present among the preferences and interests of the individuals constituting a group. Therefore, if there exist circumstances that work to align these preferences, a group that may otherwise be characterized as latent may indeed become privileged.

Researchers need to design accurate methods of measuring heterogeneity. And, when we seek to build theory by investigating differences stemming from the degree of latency in a collective entrepreneurial venture, we must identify determinants other than size that may allow the researcher to assess the level of heterogeneity during the initial theoretical sampling phase of investigation.

7.5.2 Process

Some evidence from the analysis of ownership costs suggests that the stage at which funds are solicited in the process of organizational development have an impact on one aspect of emergence—the commitment of resources. If we extrapolate from this finding, we are called to consider the impact of process on the emergence of collective entrepreneurship in general. At a more fundamental level, we may find that process may in fact affect whether or not emergence occurs. The literature on entrepreneurship and collective action both identify the importance of processes—most notably the processes of discovery and decision-making (Kirzner, 1997; Shane and Venkataraman, 2000).

Therefore, we have substantial evidence that process may be a fruitful dimension to explore in future research.

7.6 INFORMING THE CONCEPT OF COLLECTIVE ENTREPRENEURSHIP: THE ITERATIVE PROCESS

Theory building is an iterative process (Eisenhardt, 1989). Thus, at the end of any exercise to inform theory, we must expect to return to the analysis of related literature. For this reason, I would like to end with a two suggestions in terms of avenues to explore in future literature reviews for theoretical development. To begin, it would be useful to review any existing literature on the concept or nature of collective entrepreneurship and to explore how this literature may or may not relate to the findings in this present study. Secondly, it would be useful to review any studies that report empirical evidence supporting the work of Hirschman (1970), Hansmann (1996), Olson (1975), or GLS. This would allow us to assess how these related empirical analyses may inform future theoretical or empirical analysis of collective entrepreneurship.

APPENDIX

A.1 SURVEY INSTRUMENT

On the following pages the reader will find a copy of the survey discussed in Chapter 4. The survey was mailed to respondents in November, 2006. This copy of the survey is included for references purposes only. As noted in the survey instruction included in the document, the actual survey employed color-coded pages.

Division of Applied Social Sciences
College of Agriculture, Food and Natural Resources
University of Missouri-Columbia
Agricultural Economics – Agricultural Education – Agricultural Journalism – Rural Sociology

You are a progressive farmer. Please share your wisdom regarding rural investment with us. The results of this survey will benefit farmers by evaluating how more investment can be spurred in farmer-owned enterprises.

This is an historical study that asks you to reflect on your opinions and motivations in the late 1980s to mid 1990s. You will not be completing the entire survey, but rather a portion depending upon whether or not you made an investment in certain organizations.

Your participation is voluntary, but much appreciated. We value your input. To thank you for completing this survey, we would like to offer you the chance to **win a $200 gift certificate. Six winners will receive a gift certificate to Cabela's, Home Depot, or Target—you choose!** To enter, fill out the card enclosed. Then, place the card in the blank envelope. This envelope may be placed in the Business Reply envelope and returned with your survey. Entries and surveys will be separated when received to maintain confidentiality.

Research results will be reported only as aggregated information. Confidentiality of individual responses will be maintained. By completing and returning this survey, you are consenting to include the information provided in the aggregate results.

If you have any questions about this project, please contact Michael L. Cook. Please mail the completed survey in the enclosed Business Reply envelope to this address:

University of Missouri
Attn: Michael L. Cook
125 Mumford Hall
Columbia, MO 65211-6200

Michael L. Cook
University of Missouri
125 Mumford Hall
Columbia, MO 65211-6200
Phone: 573-882-0140
E-mail: cookml@missouri.edu

If you have questions about your rights as a research participant, contact the following office:
Campus Institutional Review Board
University of Missouri
438 McReynolds Hall
Columbia, MO 65211
Phone: 573-882-9585
E-mail: umcresearchcirb@missouri.edu

RURAL INVESTMENT SURVEY

These questions give us an understanding of your **preferences** and the **scope of your farming operation.**

1. Since what year have **YOU** or **YOUR EXTENDED FAMILY** (parent, grandparents) **OWNED LAND** in Renville or surrounding counties?

   YEAR : _____ (Please mark zero if not applicable)

2. Have you invested in any value-added businesses **FARTHER THAN 100 MILES** from Renville?

   ❒ No ❒ Yes

3. **HOW LONG** have you been involved in growing the following crops?

CROP	YEARS		CROP	YEARS
Sugarbeets	_____ years		Wheat	_____ years
Corn	_____ years		Alfalfa	_____ years
Soybeans	_____ years	Other _____	_____	_____ years

4. Are (were) you a **MEMBER** of the following organizations? Please check the appropriate box. If a member, please indicate the **approximate DATE** you joined.

COOPERATIVE	NO	YES	YEAR JOINED
Southern Minnesota Beet Sugar Cooperative	❒	❒	_____
Co-op Country Farmers Elevator	❒	❒	_____
ValAdCo	❒	❒	_____
Golden Oval Eggs	❒	❒	_____
Phenix Biocomposites	❒	❒	_____
Minnesota Corn Processors	❒	❒	_____
Chippewa Valley Ethanol Cooperative	❒	❒	_____
Min Aqua Fisheries	❒	❒	_____
Churchill Cooperative	❒	❒	_____
Other: _____		❒	_____

5. Have you served on the **BOARD** the following organizations? Please check the appropriate box. If you have been a board member, please indicate the **approximate DATE** you joined the Board.

COOPERATIVE	NO	YES	YEAR JOINED
Southern Minnesota Beet Sugar Cooperative	❒	❒	_____
Co-op Country Farmers Elevator	❒	❒	_____
ValAdCo	❒	❒	_____
Golden Oval Eggs	❒	❒	_____
Phenix Biocomposites	❒	❒	_____
Minnesota Corn Processors	❒	❒	_____
Chippewa Valley Ethanol Cooperative	❒	❒	_____
Min Aqua Fisheries	❒	❒	_____
Churchill Cooperative	❒	❒	_____
Other: _____		❒	_____

6. Please check all co-ops for which **YOU OR A FAMILY MEMBER** attended an **informational** meeting.

❒ Southern Minnesota Beet Sugar Cooperative
❒ Co-op Country Farmers Elevator
❒ ValAdCo
❒ Golden Oval Eggs
❒ Phenix Biocomposites
❒ Minnesota Corn Processors
❒ Chippewa Valley Ethanol Cooperative
❒ Min Aqua Fisheries
❒ Churchill Cooperative
❒ Other: _____

7. In what **YEAR** do you plan to (did you) **STOP ACTIVELY FARMING**?

YEAR : _____

8. Please indicate your current **AGE**. : _____ **years**

9. Prior to the Co-op Country vote on the swine multiplier project (1992), how many years of experience did you have in the following **agricultural production activities**? Please mark zero for those that do not apply.

Hogs _____ years **Poultry** _____ years

10. Prior to the Co-op Country vote on the multiplier project, did you have **experience developing a new business (private or cooperative)**?

❒ No ❒ Yes

Please respond to these statements while considering your opinions **PRIOR TO** the founding of **VALADCO.** Please circle your reaction on a scale of 1-7. **(1 = STRONGLY DISAGREE** and **7 = STRONGLY AGREE)**

PRIOR TO THE FOUNDING OF VALADCO…		**STRONGLY DISAGREE**						**STRONGLY AGREE**
11.	I preferred to deliver my grain to an organization that I owned rather than one I didn't	1	2	3	4	5	6	7
12.	I believed farmers get better prices for their commodities by investing in value-added agriculture	1	2	3	4	5	6	7
13.	The desire to create employment opportunities in the area affected my decision to invest or not invest in value-added co-ops	1	2	3	4	5	6	7
14.	Co-op Country members wanted the co-op to **stick to what it did best**— agronomy services and grain marketing	1	2	3	4	5	6	7
15.	In the early 90s, Co-op Country was slow to react to MARKET changes	1	2	3	4	5	6	7
16.	Prior to the vote on the multiplier project, Co-op Country members had **too many different preferences** to get agreement on a new project	1	2	3	4	5	6	7
17.	For Co-op Country, **investing** in multiplier units was never a good idea	1	2	3	4	5	6	7
18.	Traditionally, members of Co-op Country were reluctant to enter into new ventures	1	2	3	4	5	6	7
19.	In the early 90s, decisions made at **Co-op Country** were based on what was **best for the co-op, not personal preferences**	1	2	3	4	5	6	7
20.	**MANAGEMENT** at Co-op Country **pursued the direction expressed by the Board**	1	2	3	4	5	6	7
21.	The **BOARD** at Co-op Country took my **preferences into consideration**	1	2	3	4	5	6	7
22.	I considered many **Co-op Country members** to be part of my SOCIAL network	1	2	3	4	5	6	7
23.	I considered many **Co-op Country members** to be part of my BUSINESS network	1	2	3	4	5	6	7
24.	I considered many **Southern MN members** to be part of my SOCIAL network	1	2	3	4	5	6	7
25.	I considered many **Southern MN members** to be part of my BUSINESS network	1	2	3	4	5	6	7
26.	In the early 90s, decisions made at **Southern MN** were based on what was **best for the co-op, not personal preferences**	1	2	3	4	5	6	7
27.	**BEFORE** the vote on the multiplier project, it took a long time for projects to get through Co-op Country	1	2	3	4	5	6	7
28.	**AFTER** the vote on the multiplier project, Co-op Country was able to move ideas more quickly through the organization	1	2	3	4	5	6	7

Please react to these statements while reflecting on your motivations **during the formation of ValAdCo.** Circle your reaction on a scale of 1-7. **(1 = STRONGLY DISAGREE** and **7 = STRONGLY AGREE)**

DURING THE FORMATION OF VALADCO…	**STRONGLY DISAGREE**						**STRONGLY AGREE**
29. I considered many **ValAdCO members** to be part of my SOCIAL network	1	2	3	4	5	6	7
30. I considered many **ValAdCo members** to be part of my BUSINESS network	1	2	3	4	5	6	7
31. My familiarity with the structure of cooperatives where you had to "pay to play" strongly influenced my decision to invest in ValAdCo	1	2	3	4	5	6	7
32. I had ample information to decide whether or not to invest in ValAdCo	1	2	3	4	5	6	7
33. I believed I would have frequent updates as to the performance of ValAdCo if I invested	1	2	3	4	5	6	7
34. I was confident that ValAdCo **Board members** would **take my preferences into consideration** if I invested	1	2	3	4	5	6	7
35. I was confident that ValAdCo **management** would pursue the direction expressed by the Board	1	2	3	4	5	6	7
36. I believed ValAdCo would hire qualified **management at the right stage** of development	1	2	3	4	5	6	7
37. I believed the ValAdCo Board would be able to monitor operations until management was hired.	1	2	3	4	5	6	7
38. I was confident my shares would have value and therefore I could exit ValAdCo when I desired	1	2	3	4	5	6	7
39. I believed ValAdCo would make business decisions based on what was **best for the co-op, not personal preferences**	1	2	3	4	5	6	7
40. I had worked with those investing in ValAdCo before and would have been comfortable investing with them	1	2	3	4	5	6	7
41. I was uncertain whether ValAdCo would pay for grain delivered	1	2	3	4	5	6	7

DURING THE FORMATION OF VALADCO…	STRONGLY DISAGREE						STRONGLY AGREE
42. ValAdCo had strong policies in place to resolve conflict that might arise between the co-op and its members.	1	2	3	4	5	6	7
43. Co-op Country members were in **disagreement** as to **whether** to go into the multiplier business	1	2	3	4	5	6	7
44. Co-op Country members were in **disagreement** as to where the **funds** would come from for investment in the multiplier business	1	2	3	4	5	6	7
45. Co-op Country members thought that the co-op would become **too diversified** if it invested in the multiplier business	1	2	3	4	5	6	7
46. Co-op Country members wanted to **get their money out** of Co-op Country, not have it reinvested in the swine industry	1	2	3	4	5	6	7
47. Some Co-op Country members had too much influence in the co-op for the amount of member equity they held	1	2	3	4	5	6	7
48. I felt as though the multiplier units would be **competing** with me	1	2	3	4	5	6	7

Please react to these statements while reflecting on your motivations **during the formation of ValAdCo**.

49. I invested in ValAdCo… (**Please check all that apply.**)
    - ❒ As a seed capital investor
    - ❒ For feasibility studies
    - ❒ During the initial offering
    - ❒ In subsequent equity offerings
    - ❒ N/A: I did not invest in ValAdCo

50. What organization had the **GREATEST INFLUENCE** on the **DEVELOPMENT** of **ValAdCo**?
    Please check **ONE**.
    - ❒ Minnesota Corn Processors (MCP)
    - ❒ Co-op Country Farmers Elevator
    - ❒ Southern Minnesota Beet Sugar Cooperative
    - ❒ Other _____

51. Was **location** of the building site a **factor in your decision** to invest (or not) in ValAdCo?

    ❒ No ❒ Yes

Please react to these statements while reflecting on your motivations **during the formation of Golden Oval**. Circle your reaction on a scale of 1-7. (**1 = STRONGLY DISAGREE** and **7 = STRONGLY AGREE**)

DURING THE FORMATION OF GOLDEN OVAL...	STRONGLY DISAGREE						STRONGLY AGREE
52. I considered many **Golden Oval members** to be part of my SOCIAL network	1	2	3	4	5	6	7
53. I considered many **Golden Oval members** to be part of my BUSINESS network	1	2	3	4	5	6	7
54. My familiarity with the structure of cooperatives where you had to "pay to play" strongly influenced my decision to invest in Golden Oval	1	2	3	4	5	6	7
55. I had ample information to decide whether or not to invest in Golden Oval	1	2	3	4	5	6	7
56. I believed I would have frequent updates as to the performance of Golden Oval if I invested	1	2	3	4	5	6	7
57. I was confident that Golden Oval **Board members** would **take my preferences into consideration** if I invested	1	2	3	4	5	6	7
58. I was confident that Golden Oval **management** would pursue the direction expressed by the Board	1	2	3	4	5	6	7
59. I believed Golden Oval would hire qualified **management at the right stage** of development	1	2	3	4	5	6	7
60. I was confident my shares would have value and therefore I could exit Golden Oval when I desired	1	2	3	4	5	6	7
61. I believed Golden Oval would make decisions based on what was **best for the co-op, not personal preferences**	1	2	3	4	5	6	7
62. Golden Oval had strong policies in place to resolve conflict that might arise between the co-op and its members	1	2	3	4	5	6	7
63. I had worked with those investing in Golden Oval before and would have been comfortable investing with them	1	2	3	4	5	6	7
64. I was uncertain whether Golden Oval would pay for grain delivered	1	2	3	4	5	6	7

DURING THE FORMATION OF GOLDEN OVAL...	STRONGLY DISAGREE						STRONGLY AGREE
65. Co-op Country members were in **disagreement** as to **whether** to go into the egg industry	1	2	3	4	5	6	7
66. Co-op Country members were in **disagreement** as to where the **funds** would come from for investment in the egg industry	1	2	3	4	5	6	7
67. Co-op Country members thought that the co-op would become **too diversified** if the co-op invested in the egg industry	1	2	3	4	5	6	7
68. Co-op Country members wanted to **get their money out** of Co-op Country, not have it reinvested in the egg industry	1	2	3	4	5	6	7
69. I felt as though Co-op Country would be competing with me in the egg industry	1	2	3	4	5	6	7
70. It would have been confusing for members to run two businesses out of one organization	1	2	3	4	5	6	7
71. By developing Golden Oval as a separate organization, those who invested were able to have more control over how the business was managed	1	2	3	4	5	6	7
72. Golden Oval was developed as a separate business so individuals could make their own decision whether to invest alongside Co-op Country	1	2	3	4	5	6	7
73. It would have been less costly to develop Golden Oval as part of Co-op Country	1	2	3	4	5	6	7
74. Without the investment made by Co-op Country, Golden Oval would never have been developed	1	2	3	4	5	6	7

Please react to these statements while reflecting on your motivations **during the formation of Golden Oval**.

75. I invested in Golden Oval… (**Please check all that apply**.)
    - ❒ As a seed capital investor
    - ❒ For feasibility studies
    - ❒ During the initial offering
    - ❒ In subsequent equity offerings for Renville
    - ❒ In subsequent equity offerings for the Thompson, IA plant
    - ❒ N/A: I did not invest in Golden Oval

76. What organization had the **GREATEST INFLUENCE** on the **DEVELOPMENT** of **Golden Oval**? Please check **ONE**.
    - ❒ Minnesota Corn Processors (MCP)
    - ❒ Co-op Country Farmers Elevator
    - ❒ Southern Minnesota Beet Sugar Cooperative
    - ❒ Other _____

77. Was **location** of the building site a **factor in your decision** to invest (or not) in Golden Oval?

    ❒ No ❒ Yes

➢ If you **INVESTED in VALADCO**, please continue to the **PINK** page.
The PINK page begins with question # 78.

➢ If you **DID NOT INVEST in VALADCO**, please continue to the **BLUE** page.
The BLUE page begins with question # 97.

Please react to these statements while reflecting on your motivations **when investing in ValAdCo**.
Circle your reaction on a scale of 1-7. (**1 = STRONGLY DISAGREE** and **7 = STRONGLY AGREE**)

WHEN INVESTING IN VALADCO…		**STRONGLY DISAGREE**						**STRONGLY AGREE**
78.	I was familiar with the organizational bylaws of ValAdCo before investing	1	2	3	4	5	6	7
79.	I believed I would be able to keep an eye on my investment	1	2	3	4	5	6	7
80.	I was confident I would have my fair say in the organization	1	2	3	4	5	6	7
81.	I did not have to worry that a minority would take control of the organization	1	2	3	4	5	6	7
82.	It was important for me to feel as though I was a part of ValAdCo	1	2	3	4	5	6	7
83.	When deciding to invest, I considered my investment in ValAdCo to be risky	1	2	3	4	5	6	7
84.	At the time, the investment in ValAdCo was my riskiest investment	1	2	3	4	5	6	7
85.	I researched the hog industry on my own and decided to invest	1	2	3	4	5	6	7
86.	The fact that successful farmers I knew were investing in ValAdCo influenced my decision to invest	1	2	3	4	5	6	7
87.	The amount I invested was constrained due to a lack of available funds at the time	1	2	3	4	5	6	7
88.	My investment in ValAdCo complemented my farming operation	1	2	3	4	5	6	7

89. **Why** did you **invest in ValAdCo? Please check all that apply**.

- ❒ To make a positive return on my investment
- ❒ Investing in multiplier units was a good idea
- ❒ I knew the hog industry well
- ❒ I knew we could run a good value-added business
- ❒ The investment didn't seem too risky
- ❒ The facilities were to be built in my area
- ❒ I knew those spearheading the organization
- ❒ I didn't want my business dependent on government payments
- ❒ OTHER (PLEASE SPECIFY) _____

90. Please **divide 100 points** among **each reason you checked**, according to importance.

- _____ **pts:** To make a return on my investment
- _____ **pts:** Investing in multiplier units was a good idea
- _____ **pts:** I knew the hog industry well
- _____ **pts:** I knew we could run a good value-added business
- _____ **pts:** The investment didn't seem too risky
- _____ **pts:** The facilities were to be built in my area
- _____ **pts:** I knew those spearheading the organization
- _____ **pts:** I didn't want my business dependent on government payments
- _____ **pts:** OTHER (PLEASE SPECIFY) _____

PLEASE CONTINUE TO THE BACK OF THIS PAGE

91. What **source of funds** was used to invest in ValAdCo?
- ❒ Redirected funds from farm capital expenditure
- ❒ Redirected funds from personal finances or savings
- ❒ Extended operating loan
- ❒ Took out new loan

92. Did you finance the purchase of your shares from your traditional source of credit?
- ❒ Didn't finance shares
- ❒ No
- ❒ Yes→ If so, did you deal with the same individual at the bank to finance the shares?
  - ❒ No
  - ❒ Yes

"Skin in the game" is a term that **refers to a significant investment or financial commitment** in a specific asset. **When someone says they have "skin in the game,"** it means **they have put a significant amount of their own money on the line.**

93. How large was your **financial commitment** in ValAdCo?

1	2	3	4	5	6	7
NO "SKIN in the game"						Significant "SKIN in the game"

94. **Now think of "skin in the game" in terms of investing your reputation.**
How much of your **reputation** did you have on the line in ValAdCo?

1	2	3	4	5	6	7
NONE on the line						Significant amount on the line

95. Approximately what percent of your **total farm asset value** did you invest in ValAdCo?
- ❒ 0-3%
- ❒ 4-7%
- ❒ 8-12%
- ❒ > 12%

96. What level of **return did you expect** on your investment in ValAdCo?
- ❒ 6-10%
- ❒ 11-15%
- ❒ 16-20%
- ❒ > 20%

➢ If you **INVESTED in GOLDEN OVAL,** please continue to the **YELLOW PAGE**. The YELLOW PAGE begins with question #107.

➢ If you **DID NOT INVEST in GOLDEN OVAL,** please continue to the **GREEN PAGE**. The GREEN PAGE begins with question #126.

97. **Why** did you **NOT invest in ValAdCo? Please check all that apply**.

- ❒ I did not expect a decent return on my investment
- ❒ Investing in multiplier units was a not good idea
- ❒ The bylaws didn't appear to be enforceable
- ❒ I was already invested in swine
- ❒ I did not know the hog industry well
- ❒ I didn't want to be tied to a delivery contract
- ❒ The investment seemed too risky
- ❒ I did not know those spearheading the organization
- ❒ OTHER (PLEASE SPECIFY) _____

98. Please **divide 100 points** among **each reason you checked**, according to importance.

- _____ **pts:** I did not expect a decent return on my investment
- _____ **pts:** Investing in multiplier units was a not good idea
- _____ **pts:** The bylaws didn't appear to be enforceable
- _____ **pts:** I was already invested in swine
- _____ **pts:** I did not know the hog industry well
- _____ **pts:** I didn't want to be tied to a delivery contract
- _____ **pts:** The investment seemed too risky
- _____ **pts:** I did not know those spearheading the organization
- _____ **pts:** OTHER (PLEASE SPECIFY) _____

Please react to these statements while reflecting on your motivations **during the ValAdCo equity drive**. Circle your reaction on a scale of 1-7. (**1 = STRONGLY DISAGREE** and **7 = STRONGLY AGREE**)

DURING THE VALADCO EQUITY DRIVE…		STRONGLY DISAGREE						STRONGLY AGREE
99.	I considered an investment in ValAdCo to be risky	1	2	3	4	5	6	7
100.	I was familiar with the organizational bylaws of ValAdCo when I made my decision not to invest	1	2	3	4	5	6	7
101.	I believed I would have my fair say in ValAdCo if I were to invest	1	2	3	4	5	6	7
102.	I believed an unrepresentative minority would take control of ValAdCo	1	2	3	4	5	6	7
103.	If it weren't for the controversy at Co-op Country, I would have invested in ValAdCo	1	2	3	4	5	6	7
104.	I would have invested in ValAdCo if the minimum investment would have been smaller	1	2	3	4	5	6	7
105.	I would have invested in ValAdCo, but it didn't complement my farming operation	1	2	3	4	5	6	7
106.	I had assets available that I could have invested in ValAdCo, but I chose not to	1	2	3	4	5	6	7

➢ If you **INVESTED in GOLDEN OVAL,** please continue to the **YELLOW PAGE**. The YELLOW PAGE begins with question #107.

➢ If you **DID NOT INVEST in GOLDEN OVAL,** please continue to the **GREEN PAGE**. The GREEN PAGE begins with question #126.

- If you **INVESTED in GOLDEN OVAL,** please continue to the **YELLOW PAGE**. The YELLOW PAGE begins with question #107.

- If you **DID NOT INVEST in GOLDEN OVAL,** please continue to the **GREEN PAGE**. The GREEN PAGE begins with question #126.

Please react to these statements while reflecting on your motivations **when investing in Golden Oval**. Circle your reaction on a scale of 1-7. (**1 = STRONGLY DISAGREE** and **7 = STRONGLY AGREE**)

WHEN INVESTING IN GOLDEN OVAL…		**STRONGLY DISAGREE**						**STRONGLY AGREE**
107.	I was familiar with the organizational bylaws of Golden Oval before investing	1	2	3	4	5	6	7
108.	I believed I would be able to keep an eye on my investment	1	2	3	4	5	6	7
109.	I was confident I would have my fair say in the organization	1	2	3	4	5	6	7
110.	I did not have to worry that a minority would take control of the organization	1	2	3	4	5	6	7
111.	It was important for me to feel as though I was a part of Golden Oval	1	2	3	4	5	6	7
112.	When deciding to invest, I considered my investment in Golden Oval to be risky	1	2	3	4	5	6	7
113.	At the time, the investment in Golden Oval was my riskiest investment	1	2	3	4	5	6	7
114.	I researched the egg industry on my own and decided to invest	1	2	3	4	5	6	7
115.	The fact that successful farmers I knew were investing in Golden Oval influenced my decision to invest	1	2	3	4	5	6	7
116.	The amount I invested was constrained due to a lack of available funds at the time	1	2	3	4	5	6	7
117.	My investment in Golden Oval complemented my farming operation	1	2	3	4	5	6	7

118. **Why** did you **invest in Golden Oval? Please check all that apply**.

- ❒ To make a positive return on my investment
- ❒ Investing in the egg industry was a good idea
- ❒ I knew the egg industry well
- ❒ I knew we could run a good value-added business
- ❒ The investment didn't seem too risky
- ❒ The facilities were to be built in my area
- ❒ I knew those spearheading the organization
- ❒ I didn't want my business dependent on government payments
- ❒ OTHER (PLEASE SPECIFY) _____

119. Please **divide 100 points** among **each reason you checked**, according to importance.

- _____ **pts:** To make a positive return on my investment
- _____ **pts:** Investing in the egg industry was a good idea
- _____ **pts:** I knew the egg industry well
- _____ **pts:** I knew we could run a good value-added business
- _____ **pts:** OTHER (PLEASE SPECIFY) _____
- _____ **pts:** The investment didn't seem too risky
- _____ **pts:** The facilities were to be built in my area
- _____ **pts:** I knew those spearheading the organization
- _____ **pts:** I didn't want my business dependent on government payments

PLEASE CONTINUE TO THE BACK OF THIS PAGE

120. What **source of funds** was used to invest in Golden Oval?
- ❒ Redirected funds from farm capital expenditure
- ❒ Redirected funds from personal finances or savings
- ❒ Extended operating loan
- ❒ Took out new loan

121. Did you finance the purchase of your shares from your traditional source of credit?
- ❒ Didn't finance shares
- ❒ No
- ❒ Yes→ If so, did you deal with the same individual at the bank to finance the shares?
  - ❒ No
  - ❒ Yes

"Skin in the game" is a term that **refers to a significant investment or financial commitment** in a specific asset. **When someone says they have "skin in the game,"** it means **they have put a significant amount of their own money on the line.**

122. How large was your **financial commitment** in Golden Oval?

1	2	3	4	5	6	7
NO "SKIN in the game"						Significant "SKIN in the game"

Now think of "skin in the game" in terms of investing your reputation.

123. How much of your **reputation** did you have on the line in Golden Oval?

1	2	3	4	5	6	7
NONE on the line						Significant amount on the line

124. Approximately what percent of your **total farm asset value** did you invest in Golden Oval?
- ❒ 0-3%
- ❒ 4-7%
- ❒ 8-12%
- ❒ > 12%

125. What level of **return did you expect** on your investment in Golden Oval?
- ❒ 6-10%
- ❒ 11-15%
- ❒ 16-20%
- ❒ > 20%

Thank you for completing this survey. Please turn to the LAST PAGE.

126. **Why** did you **NOT invest in Golden Oval? Please check all that apply**.
- ❒ I did not expect a decent return on my investment
- ❒ I did not know those spearheading the organization
- ❒ Investing in the egg industry was a not good idea
- ❒ The bylaws didn't appear to be enforceable
- ❒ I was already invested in the egg sector
- ❒ I did not know the egg industry well
- ❒ The investment seemed too risky
- ❒ I didn't want to be tied to a delivery contract
- ❒ OTHER (PLEASE SPECIFY) _____

127. Please **divide 100 points** among **each reason you checked**, according to importance.
- _____ **pts:** I did not expect a decent return on my investment
- _____ **pts:** I did not know those spearheading the organization
- _____ **pts:** Investing in the egg industry was a not good idea
- _____ **pts:** The bylaws didn't appear to be enforceable
- _____ **pts:** I was already invested in the egg sector
- _____ **pts:** I did not know the egg industry well
- _____ **pts:** The investment seemed too risky
- _____ **pts:** I didn't want to be tied to a delivery contract
- _____ **pts:** OTHER (PLEASE SPECIFY) _____

Please react to these statements while reflecting on your motivations **during the Golden Oval equity drive.** Please circle your reaction on a scale of 1-7. (**1 = STRONGLY DISAGREE** and **7 = STRONGLY AGREE**)

DURING THE GOLDEN OVAL EQUITY DRIVE…		**STRONGLY DISAGREE**						**STRONGLY AGREE**
128.	I considered an investment in Golden Oval to be risky	1	2	3	4	5	6	7
129.	I was familiar with the organizational bylaws (rules of the game) of Golden Oval when I made my decision not to invest	1	2	3	4	5	6	7
130.	I believed I would have my fair say in Golden Oval if I were to invest	1	2	3	4	5	6	7
131.	I believed an unrepresentative minority would take control of Golden Oval	1	2	3	4	5	6	7
132.	I didn't want to invest twice. I was already investing in Golden Oval as a member of Co-op Country.	1	2	3	4	5	6	7
133.	I would have invested in Golden Oval if the minimum investment to be a member would have been smaller	1	2	3	4	5	6	7
134.	I would have invested in Golden Oval, but it didn't complement my farming operation	1	2	3	4	5	6	7
135.	I had assets available that I could have invested in Golden Oval, but I chose not to	1	2	3	4	5	6	7

This section of the survey takes an in-depth look at the formation of ValAdCo.

136. How would you best describe the group that formed ValAdCo? Please check all that apply.
- ❒ We didn't know each other well at the beginning, we just came together for this venture
- ❒ We had previously been members of another cooperative
- ❒ We were friends but hadn't done business together before
- ❒ We were neighbors
- ❒ Other _____

137. Did you consult bylaws from any other organizations in drafting the bylaws for ValAdCo?

❒ No

❒ Yes →If so, please list the name of the organization(s): _____

138. Did any of the organizations with which you were previously involved give you the idea, experience, or impetus to start ValAdCo?

❒ No

❒ Yes →If so, please list the name of the organization(s): _____

139. Had you been involved with organizing a closed cooperative venture before?
- ❒ No
- ❒ Yes

140. Had you been involved with organizing an equity drive before?
- ❒ No
- ❒ Yes →If so, please list the name of the organization(s): _____

141. Had you worked with Dougherty, Rumble and Butler (lawyers) before? Please check the answer that best describes any prior affiliation.
- ❒ No
- ❒ Yes, as a founding member of another cooperative
- ❒ Yes, as a board member of another cooperative
- ❒ Yes, as a member of a another cooperative

142. Had you worked with Schuetzle and Carlson (accountant) before? Please check the answer that best describes any prior affiliation.
- ❒ No
- ❒ Yes, as a founding member of another cooperative
- ❒ Yes, as a board member of another cooperative
- ❒ Yes, as a member of a another cooperative

143. Had you worked with St. Paul Bank for Cooperatives before? Please check the answer that best describes any prior affiliation.
- ❒ No
- ❒ Yes, as a founding member of another cooperative
- ❒ Yes, as a board member of another cooperative
- ❒ Yes, as a member of a another cooperative

136. Did you have any other business contacts that were helpful in getting ValAdCo started?

_____

_____

137. **What personal contacts were helpful in getting ValAdCo started**?
Please include names if possible. Individual names will not be shared, we will simply analyze the number of times a name was mentioned for statistical and network analysis.

_____

_____

138. Were you compensated in shares or otherwise for the work that you did organizing ValAdCo?
❒ No
❒ Yes→ If yes, do you believe that this compensation covered your time, energy, and expenses?
❒ No
❒ Yes
Please elaborate if you choose:_____

_____

Please circle **your reaction on a scale of 1**-7. (**1 = STRONGLY DISAGREE** and **7 = STRONGLY AGREE**)

	DURING THE FORMATION OF VALADCO…	**STRONGLY DISAGREE**						**STRONGLY AGREE**
139.	More Co-op Country members would have voted for the multiplier project if they would have been better informed about the business opportunity	1	2	3	4	5	6	7
140.	More Co-op Country members would have voted for the multiplier project if they would have been voting with their pocket books and not their emotions	1	2	3	4	5	6	7
141.	I had useful contacts in the multiplier industry prior to starting this venture.	1	2	3	4	5	6	7
142.	Even if the membership vote were favorable, trying to develop ValAdCo as a part of Co-op Country would have slowed-up the process.	1	2	3	4	5	6	7
143.	I had worked with many of the investors before	1	2	3	4	5	6	7
144.	I had worked with our suppliers before	1	2	3	4	5	6	7
145.	I had worked with Dekalb before	1	2	3	4	5	6	7
146.	Getting the group of individuals together to invest was not difficult	1	2	3	4	5	6	7

This section of the survey takes an in-depth look at the formation of Golden Oval.

155. How would you best describe the **group that formed Golden Oval**? Please check all that apply.
- ❒ We didn't know each other well at the beginning, we just came together for this venture
- ❒ We had previously been members of another cooperative
- ❒ We were friends but hadn't done business together before
- ❒ We were neighbors
- ❒ Other _____

156. Did you consult bylaws from any other organizations in drafting the bylaws for Golden Oval Eggs?
- ❒ No
- ❒ Yes → If so, please list the name of the organization(s): _____

157. Did any of the organizations with which you were previously involved give you the idea, experience, or impetus to start Golden Oval?
- ❒ No
- ❒ Yes → If so, please list the name of the organization(s): _____

158. Had you been involved with organizing a closed cooperative venture before?
- ❒ No
- ❒ Yes

159. Had you been involved with organizing an equity drive before?
- ❒ No
- ❒ Yes →If so, please list the name of the organization(s): _____

160. Had you worked with Dougherty, Rumble and Butler (lawyers) before? Please check the answer that best describes any prior affiliation.
- ❒ No
- ❒ Yes, as a founding member of another cooperative
- ❒ Yes, as a board member of another cooperative
- ❒ Yes, as a member of a another cooperative

161. Had you worked with Schuetzle and Carlson (accountants) before? Please check the answer that best describes any prior affiliation.
- ❒ No
- ❒ Yes, as a founding member of another cooperative
- ❒ Yes, as a board member of another cooperative
- ❒ Yes, as a member of a another cooperative

162. Had you worked with St. Paul Bank for Cooperatives before? Please check the answer that best describes any prior affiliation.
- ❒ No
- ❒ Yes, as a founding member of another cooperative
- ❒ Yes, as a board member of another cooperative
- ❒ Yes, as a member of a another cooperative

155. Did you have any other business contacts that were helpful in getting Golden Oval started?

_____

_____

156. **What personal contacts were helpful in getting Golden Oval started?**
Please include names if possible. Individual names will not be shared, we will simply analyze the number of times a name was mentioned for statistical and network analysis.

_____

_____

157. Were you compensated in shares or otherwise for the work that you did organizing Golden Oval?
❒ No
❒ Yes→ If yes, do you believe that this compensation covered your time, energy, and expenses?
❒ No
❒ Yes
Please elaborate if you choose:_____

_____

Please circle **your reaction on a scale of 1**-7. (**1 = STRONGLY DISAGREE and 7 = STRONGLY AGREE**)

	DURING THE FORMATION OF GOLDEN OVAL…	**STRONGLY DISAGREE**						**STRONGLY AGREE**
158.	More Co-op Country members would have invested in Golden Oval if they would have been better informed about the business opportunity	1	2	3	4	5	6	7
159.	I had useful contacts in the egg industry prior to starting this venture.	1	2	3	4	5	6	7
160.	Trying to develop Golden Oval as a part of Co-op Country would have slowed-up the process of getting the business started	1	2	3	4	5	6	7
161.	I had worked with many of the investors before	1	2	3	4	5	6	7
162.	I had worked with our suppliers before	1	2	3	4	5	6	7
163.	I had worked with those who were going to be purchasing our product before	1	2	3	4	5	6	7
164.	Getting the group of individuals together to invest was not difficult	1	2	3	4	5	6	7

Thank you for completing this survey. Please remember that research results will be reported only as aggregated information. Confidentiality of individual responses will be maintained.

If you would like, please include your name and contact information here.
❒ **Please check this box if you would like a copy of the aggregated survey results.**

Name _____

Street Address _____

City _____ **State**_____ **Zip Code** _____

E-mail address _____

Telephone Number ( ) _____-_____

Please include any additional comments you may wish on this page. Your opinion is important to us!

Thank you.

REFERENCES

Aldrich, H. "Using An Ecological Perspective To Study Organizational Founding Rates," Entrepreneurship Theory and Practice, 14(3): 7-24, 1990.

Aldrich, H., and Fiol, M. "Fools Rush In? The Institutional Context of Industry Creation," Academy of Management Review 19(4): 645-670, 1994.

Anderson, P. Book Review: The Entrepreneurship Dynamic: Origins of Entrepreneurship and the Evolution of Industries." Administrative Science Quarterly, 47 , 733-4, 2002.

Arthur, W. B. "Inductive Reasoning and Bounded Rationality (The El Farol Problem), American Economic Review, Papers and Proceedings, 84, 406-411, 1994.

Arthur, W.B., "Self-Reinforcing Mechanisms in Economics," The Economy as an Evolving Complex System, p. 9-31, Edited by P.W. Anderson, K.J. Arrow and D. Pines, Addison-Wesley, Reading, MA, 1988.

Arthur, W.B., S. Durlauf, and D. A. Lane, "Introduction: Process and Emergence in the Economy," The Economy as an Evolving Complex System II, p. 1-14, Edited by W. Brian Arthur, Steven Durlauf and David Lane, Addison-Wesley, Reading, MA, 1997.

Baarda, J. "Major Changes in Agriculture Raise Big Questions for Nation's Cooperatives," Rural Development, Business and Cooperatives Programs Publication, United States Department of Agriculture, November 2002. http://www.rurdev.usda.gov/rbs/pub/nov02/major.html.

Buschette, P. "New Generation Cooperatives: Case Study, Golden Oval," Illinois Institute for Rural Affairs. No date.

Cantillon, Richard. Essay on the Nature of Commerce in General. New Brunswick: Transaction Publishers, 2001.

Cattanach, A.; A. Dexter, and E. Oplinger. "Sugarbeets." University of Wisconsin-Madison Extension Service, July, 1991. http://corn.agronomy.wisc.edu/AlternativeCrops/Sugarbeets.html

Chaddad, Fabio R. and Michael L. Cook. "Understanding New Cooperative Models: An Ownership-Control Rights Typology," Review of Agricultural Economics 26(3), 348–360, 2004.

Chaddad, Fabio R. and Michael L. Cook. The Emergence of Non-Traditional Cooperative Structures: Public and Private Policy Issues," Paper presented at the

NCR-194 Research on Cooperatives Annual Meetings, Kansas City, MO, Oct 29, 2003.

Chiles, T. Alan D. Meyer, and Thomas J. Hence. "Organizational Emergence: The Origin and Transformation of Branson, Missouri's Musical Theaters." Organization Science. Forthcoming.

Chiles, T., V. Gupta, and A. Blueborn. "Toward a New Entrepreneurship Paradigm: Venturing Beyond Creative Destruction and Entrepreneurial Discovery," Management Science, Forthcoming.

Christensen, C., and J. Bower. "Customer Power, Strategic Investment, and the Failure of Leading Firms." Strategic Management Journal 17, 197-218, 1996.

City of Renville. "Co-op Capital of The USA." Reprinted from an article in the Basin Electric Power Cooperative Magazine, Bismark, ND. http://www.ci.renville.mn.us/coopcap/page1.htm

Coase, R. "The Nature of the Firm," Economica 4, 386-405, 1937.

Cook, M.L. "The Future of U.S. Agricultural Cooperatives: A Neo-Institutional Approach." American Journal of Agricultural Economics 77 (5), December 1995, 1153-59.

Cook, M.L. and F.R. Chaddad, "Redesigning Cooperative Boundaries: The Emergence of New Models," American Journal of Agricultural Economics, 86.5, 1249-53, 2004.

Cook, M.L., F. Chaddad and C. Iliopoulos. "Advances in Cooperative Theory Since 1990: A Review of Agricultural Economics Literature", in Restructuring Agricultural Cooperatives, ed. G.W.J. Hendrikse, Erasmus University Press, Haveka, 2004, pp 65-90.

Cook, M. and C. Iliopoulos. "Beginning to Inform the Theory of the Cooperative Firm: Emergence of the New Generation Cooperative," The Finnish Journal of Business Economics, April 1999, 525-535.

Cook, M.L and P. Klein and M. Chambers. "Organizational Innovation: The Case of Renville." Presentation at the Annual Meeting of the American Association of Agricultural Economics, Providence, RI, July 2005.

Cook, M.L. and B. Plunkett, "Collective Entrepreneurship: An Emerging Phenomenon in Producer-Owned Organizations," Journal of Agricultural & Applied Economics, 38(2), 421-8, 2006.

Crooks, Anthony C. "Lost Horizon: Membership 'Horizon' Problem Preceded Demise of MCP, " USDA Rural Development Publication, July 2004, http://www.rurdev.usda.gov/rbs/pub/jul04/lost.htm.

Dasgupta, Partha and Ismail Serageldin, eds. Social Capital: A Multifaceted Perspective, Washington, D.C.: World Bank, 2000.

Deeds, D., P. Mang , and M. Frandsen. "The Influence of Firms' and Industries' Legitimacy on the Flow of Capital into High-Technology Ventures," Strategic Organization, 2.1, 9-34, 2004.

Denzin, N.K. The Research Act in Sociology, Chicago: Aldine, 1970.

Egerstrom, L. Make No Small Plans: A Cooperative Revival for Rural America. Lone Oak Press, Ltd: Rochester MN, 1994.

Eisenhardt, Kathleen M. "Building Theories from Case Study Research," Academy of Management Review, 14.4, 532-550, 1989.

Emigh, Rebecca Jean. "The Power of Negative Thinking: The Use of Negative Case Methodology in the Development of Sociological Theory," Theory and Society, 26.5, 649-684, Oct 1997.

Environ Biocomposites. "Environ Company Background." http://www.environbiocomposites.com/background.php .

Folsom, J. Measuring the Economic Impact of Cooperatives in Minnesota. USDA/Rural Business—Cooperative Service. RBS Research Report 200. December 2003.

Foss, N. and I. Ishikawa. "Towards a Dynamic Resource-Based View: Insights from Austrian Capital and Entrepreneurship Theory," Druid Working Paper No. 06-16, 2006.

Foss, N. and P. Klein. "Entrepreneurship and the Economic Theory of the Firm: Any Gains from Trade?" Druid Working Paper No. 04-12, 2004.

Fairlie, R. "Drug Dealing and Legitimate Self-Employment," Journal of Labor Economics, 20(3): 538-566, 2002.

Folsom, J. Measuring the Economic Impact of Cooperatives in Minnesota. USDA/Rural Business—Cooperative Service. RBS Research Report 200. December 2003.

Gerber, A. "Reviving Renville: A Cooperative Approach to Development," St. Paul, MN: Minnesota Association of Cooperatives, Video, 1996.

Gerber, Allan. Ed. The Practical Approach to New Generation Cooperatives: An Exchange of Cooperative Experience from Renville, Minnesota. St. Paul, MN:

Minnesota Association of Cooperatives, 1996. Reproduced by the University of Saskatchewan as "New Generation Co-operative Profiles" http://www.coop_studies.usask.ca/NGC/NGCProfiles.html.

Golden Oval Eggs. "Company Information." http://www.goldenovaleggs.com/sections/company/company.htm .

Gompers, P.; J. Lerner; and D. Scharfstein. "Entrepreneurial Spawning: Public Corporations and the Genesis of New Ventures, 1986 to 1999." The Journal of Finance 60(2) April, 2005.

Granovetter, Mark. "The Strength of Weak Ties," American Journal of Sociology, 78.6, 1360-1380, May 1973.

Hansmann, Henry. The Ownership of Enterprise, Cambridge, MA: Harvard University Press, 1996.

Harris, A., B. Stefanson, and M. Fulton. "New Generation Cooperatives and Cooperative Theory," Journal of Cooperatives 11:15–29, 1996.

Hirschman, Albert O. Exit, Voice, and Loyalty: Responses to Decline in Firms, Organizations, and States, Cambridge, MA: Harvard University Press, 1970.

Jensen, Michael C. and William H. Meckling. "The Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure," Journal of Financial Economics, 3(4): 305-360,1976.

Johannisson, B. "Entrepreneurship as a Collective Phenomenon." Paper presented at RENT XII Conference, Lyon, France. November 26-27, 1998. http://www.ehv.vxu.se/forskn/entreprofil/collective_phenomen.pdf.

Katz, Jerome and William B. Gartner. "Properties of Emerging Organizations." Academy of Management Review, 13(3), 429-441, 1988.

Kibbe, Theron F. "Value-Added Contract Cooperatives: Investor and Noninvestor Differences." American Cooperation, National Council of Farmer Cooperatives, 193-97, 1998. http://www.uwcc.wisc.edu/info/thesis.pdf#search=%22kibbe%20theron%22

Kirzner, I. "Entrepreneurial Discovery and The Competitive Market Process: An Austrian Approach," Journal of Economic Literature, 35:60-85, 1997.

Knight, F. Risk, Uncertainty and Profit, New York: Augustus Kelley, 1964.

Kotov, Igor. New Generation Cooperatives: A Short History of the Idea and the Enterprise. Illinois Institute for Rural Affairs, Macomb, IL, no date.

Kram, J. "I Intend to Keep Trying: Leader of Failed Spring Wheat Cooperative Still a Value-Added Proponent." Prairie Grains. Issue 51, March 2003. http://www.smallgrains.org/springwh/Mar03/warner/warner.htm .

Krugman, P., "How the Economy Organizes Itself in Space: A Survey of the New Economic Geography." The Economy as an Evolving Complex System II, p. Edited by W. Brian Arthur, Steven Durlauf and David Lane, Addison-Wesley, Reading, MA, 1997.

Krumpelman-Farmer, Elaine. The Investment Horizon Issue in User-Owned Organizations, Unpublished Ph.D. Dissertation, University of Missouri-Columbia, 2005.

Lewin, P. and S.E. Phelan. "Firms, Strategies, and Resources: Contributions from Austrian Economics," The Quarterly Journal of Austrian Economics 2.2 (Summer 1999): 3-18.

Lipset, S.M. "A Biography of a Research Project: Union Democracy," in P.E. Hammond (ed.), Sociologists at Work, NY: Double Day, 1967.

Looker, D. "Unite for success: Value-added co-ops help families capture greater margin in the food chain," Successful Farming Online, 1999 http://www.agriculture.com/sfonline/sf/1999/special/hope/coop.html .

Losure, M. "Renville County's Lagoon Blues." Minnesota Public Radio. December 15, 1999.

Low, M. "The Adolescence of Entrepreneurship Research: Specification of Purpose." Entrepreneurship Theory and Practice 25, 17-25, 2001.

Mahoney, James. "Qualitative Methodology and Comparative Politics," Paper prepared for the 2005 Annual Meeting of the American Political Science Association, Washington, DC, September 1-4.

McKelvey, B., "Complexity Theory in Organization Science: Seizing the Promise or Becoming a Fad?" Emergence, 1.1, 5-32, 1999.

McKelvey, B. "Toward a complexity science of entrepreneurship." Journal of Business Venturing 19, 313-341, 2004.

Ménard, C. and M. Shirley. Handbook of New Institutional Economics. Dordrecht: Springer, 2005.

Merrett, C., M. Holmes, J. Eggert, and B. Garrett. Directory of Closed-Membership Producer Cooperatives: New Generation Cooperatives and Limited Liability Companies in the United States and Canada. Illinois Institute for Rural Affairs,

Macomb, IL, April 2003.
http://www.iira.org/pubsnew/publications/IVARDC_Reports_578.pdf .

Merrett et al. (Revised)Directory of Closed-Membership Producer Cooperatives: New Generation Cooperatives and Limited Liability Companies in the United States and Canada. Illinois Institute for Rural Affairs, Macomb, IL, Forthcoming, 2007.

Milgrom, Paul and John Roberts. Economics, Organizations and Management, Upper Saddle River, NJ: Prentice Hall, 1992.

Miller, Gary. Managerial Dilemmas: The Political Economy of Hierarchy, Cambridge: Cambridge University Press, 1992.

Minnesota Historical Society. American Crystal Sugar Company: An Inventory of Its Records at the Minnesota Historical Society. Inventory available at http://www.mnhs.org/library/findaids/00341.html .

Minniti, M. and W. Bygrave, Global Entrepreneurship Monitor National Entrepreneurship Assessment, United States of America, 2003 Executive Report, Babson College, Wellesley, MA, 2004.

Mises, L. V. Human Action: A Treatise on Economics, New Haven, CT: Yale University Press, 1949.

National Agricultural Statistics Service. "2002 Census of Agriculture: County Profile; Renville, Minnesota." United States Department of Agriculture, Washington, D.C. http://www.nass.usda.gov/census/census02/profiles/mn/cp27129.PDF .

Next Step, Minnesota Sustainable Communities Network. "Renville Uses Excess Hot Water Heat to Spur Economic Development", Sep 2004, http://www.nextstep.state.mn.us/res_detail.cfm?id=487&xx=renville.

Olson, Mancur, The Logic of Collective Action: Public Goods and the Theory of Groups, Cambridge, MA: Harvard University Press, 1965.

Ostrom, Elinor. "Collective Action and the Evolution of Social Norms," The Journal of Economic Perspectives, 14.3, 137-158, Summer 2000.

Patrie, W. "Cloverdale Growers Alliance Cooperative: Creating a Bright Future by Connecting With the Past," Journal of Cooperative Development, Summer, 1(4), 1999.

Pettigrew, Andrew M. "Longitudinal Field Research of Change: Theory and Practice," Organization Science, 1.3, 267-292, 1990.

Phan, P. "Entrepreneurship Theory: Possibilities and Future Directions." Journal of Business Venturing,19, 617-620, 2004.

Powell, J. "Fields of Controversy." Star Tribune. January 26, 2003. Marshall, MN.

Putnam, Robert D. Bowling Alone: The Collapse and Revival of American Community. New York: Simon & Schuster, 2000.

Renewable Fuels Association. "Ethanol Biorefinery Locations: U.S. Fuel Ethanol Industry Biorefineries and Production Capacity," http://www.ethanolrfa.org/industry/locations/ .

Renville County Webpage. http://www.co.renville.mn.us/index.asp?Type=B_BASIC&SEC={19D19153-9853-4F0E-AD69-F7179CDB1241}

Rouse, John G. and J.D. Von Pischke. Mobilizing Capital in Agricultural Service Cooperatives, Food and Agriculture Organization of the United Nations, Rome, 1997, http://www.fao.org/docrep/003/w5069e/w5069e00.HTM.

Ruef, M., Aldrich, H., and Carter, N. The Structure Of Founding Teams: Homophily, Strong Ties And Isolation Among US Entrepreneurs. American Sociological Review, 68(2): 195-222, 2003.

Sarasvathy, S. "The Questions We Ask and The Questions We Care About: Reformulating Some Problems In Entrepreneurship Research," Journal of Business Venturing 19, 707-717, 2004.

Sayler, T. "CEOs Give Insight on Farmer-owned Co-ops." Prairie Grains, March 1996. http://www.smallgrains.org/Springwh/march96/Sayler.html.

Schramm, C. "Building Entrepreneurial Economies," Foreign Affairs July/August 2004, 104-115.

Schumpeter, J. The Theory of Economic Development, Oxford: Oxford University Press, 1934.

Schumpeter, J. Capitalism, Socialism and Democracy, New York: Harper and Row, 1942.

Sexton, R. and J. Iskow. "Factors Critical to the Success or Failure of Emerging Agricultural Cooperatives," Gianini Foundation Information Series No. 88-3, California Division of Agriculture and Natural Resources, 1988.

Shane, S. "Prior Knowledge, and the Discovery Of Entrepreneurial Opportunities," Organization Science, 11(4): 448-469, 2000.

Shane, S., and Cable, D. "Network Ties, Reputation, and the Financing Of New Ventures." Management Science, 48 (3): 364-381, 2002.

Shane, S., and Venkataraman, S. The Promise of Entrepreneurship As A Field Of Research. Academy of Management Review, 25(1): 217-226, 2000.

Sorenson, O., and Stuart, T. "Syndication Networks and The Spatial Distribution Of Venture Capital Investments," American Journal of Sociology, 106(6): 1546-1588, 2001

Southern Minnesota Sugar Cooperative. "Facts about…Sugarbeets and Beet Sugar." http://www.sbreb.org/brochures/SugarCoop/index.htm .

State of Minnesota. Minnesota Statute 322B.03, Office of Revisor of Statutes, 2006 http://www.revisor.leg.state.mn.us/bin/getpub.php?pubtype=STAT_CHAP_SEC&year=2006&section=322B.03.

Stefanson, B., M. Fulton, and A. Harris. New Generation Co-operatives: Rebuilding Rural Economies, Centre for the Study of Co-operatives, University of Saskatchewan: Saskatoon, Canada, September 1995.

Tong, Leland. The Property Rights Fundamentals of a New Form of Agricultural Collective Action: The New Generation Cooperative, Master's Thesis, University of Missouri-Columbia, May 1997.

Torraco, Richard J. "Research Methods for Theory Building in Applied Disciplines: A Comparative Analysis Advances," Developing Human Resources, 4. 3, 355-376, 2002.

Trucano, Michael. Southern Minnesota Beet Sugar Cooperative: A History of The Early Years, Southern Minnesota Beet Sugar Cooperative, Renville, MN, 1997.

United States Census of Agriculture, United States Department of Agriculture, 2002 http://www.nass.usda.gov/census/ .

University Archives, Northwest Minnesota Historical Center. Minnesota State University, Moorhead, MN. "A Guide to the Collections of the Red River Valley Sugarbeet Growers Association." Revised December 2002. http://www.mnstate.edu/archives/Guides/SugarbeetGuide.html .

Volkin, D. and H. Bradford. American Crystal Sugar: Its Rebirth as a Cooperative. Farmer Cooperative Service, USDA, FCS Information 98, June 1975.

Williamson, Oliver E. "Comparative Economic Organization: The Analysis of Discrete Structural Alternatives," Administrative Science Quarterly, 36, 269-296, 1991.

Williamson, Oliver E. The Mechanisms of Governance, New York: Oxford University Press, 1996.

Woolcock, Michael. "The Place of Social Capital in Understanding Social and Economic Outcomes." Isuma 2.1, 11-17, 2001.

Woolcock, M and D. Narayan. "Social Capital: Implications for Development Theory, Research and Policy" The World Bank Research Observer, 15.2, August 2000.

Weick, Karl E. The Social Psychology of Organizing, Reading MA: Addison-Wesley Publishing Company, 1969.

Zeuli, K. and J. Foltz. "Ownership and Loyalty in Agricultural Cooperatives," Draft, January, 2006.

Zusman, P., "Constitutional Selection of Collective-Choice Rules in a Cooperative Enterprise," Journal of Economic Behavior and Organization, 17, 353-362, 1992.

VITA

Molly Chambers is an accidental economist. She began college as a Bassoon Performance Major. After a stint in Paraguay performing with the Symphony Orchestra in Asunción, Molly realized that she was blessed with a level of education and resources unattainable for most of the world's population. She recognized that this was not attributable to any of her achievements, but rather to the successes and sacrifices of others. A compelling sense of responsibility urged her to dedicate her work to development and education.

A serendipitous series of events found Molly in a remote African village where she learned the critical importance of agricultural markets in world political and economic arenas. Upon returning from Africa, Molly worked for a time in the USDA Office of International Cooperation and Development. She found her work at USDA rewarding because she was able to design training programs for producers from developing countries and witness their progress and ingenuity in implementing new technologies and market strategies. However, incompatible government programs hindered the successes of many of those cooperation and development initiatives.

Molly decided to pursue her PhD in preparation for such a time when God can use her. In the mean time, she volunteers as President of Friends of Burkina Faso. Molly remains utterly optimistic about the possibility of collective entrepreneurship as a development strategy. And, she is heavily indebted to Michael L. Cook for his service as a patient advisor and an inspiring human being.