CITRUS WORLD, INC. 1980 - 2015

AN EXAMINATION OF ADAPTATION IN A LONG-ENDURING U.S. AGRICULTURAL MARKETING COOPERATIVE

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by

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

CITRUS WORLD, INC. 1980 - 2015

An Examination of Adaptation in a Long-enduring U.S. Agricultural Marketing Cooperative

Presented by Susan Webb
A candidate for the degree of
Master of Science, Agricultural and Applied Economics
And hereby certify that, in their opinion, it is worthy of acceptance.

Dr Michael Cook

Dr Fabio Chaddad

Dr David O'Brien

For cooperative members, everywhere.

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CHAPTER 1
INTRODUCTION

The long list of theorized suboptimalities of cooperative enterprise would suggest that the role of cooperatives in the modern economy should have declined markedly in favor of more efficient forms of organization. Indeed, in the 20 years from 1992-2012 the total number of agricultural cooperatives in the USA halved; importantly, their net revenues tripled and aggregate market shares increased. It is apparent that some cooperatives have adopted methods to overcome the hypothesized inefficiencies inherent in the cooperative ownership model, but that scholars know very little about how this is achieved. How is it that some cooperatives survive, indeed thrive, while others fail? What practices and processes do they adopt and are these transferable? How, as economists, might we better approach the study of agricultural cooperatives?

The extensive body of literature on the degree to which agricultural cooperatives represent an efficient form of economic organization has, to date, largely been theoretical. Attempts at conceptualizing a model of the cooperative have focused on static, short run models, and embody assumptions that are at odds with the long horizon and dynamic environment of agricultural cooperative enterprise.

This is not to say that scholars are unaware of the deficiencies of current approaches; rather it is indicative of the many challenges cooperative research presents the economist.

Unlike investor owned firms ("IOF") whose economic objective is to maximize shareholder returns, cooperatives seek to optimize long term returns on their membership's productive units. As such the requirements of cooperative success necessarily extend beyond short term economic equilibrium. In the presence of diffuse objective functions, long horizon investment, property rights constraints and a dynamic operating environment successful cooperatives must simultaneously sustain the economic and political equilibrium of multiple variables, many of which are rarely open to objective measurement.

Amidst the heterogeneity and multiple equilibriums of cooperative enterprise, a common characteristic of enduring entities is their adaptive capability. Yet the nature and process of adaptation differs in a cooperative structure, where capital structure constraints, membership restrictions, diffuse objectives, plurality of interests and democratic processes present unique circumstances not typically experienced in an IOF.

This research explores the extent to which selected organizational theories might be applied to the study of cooperative adaptation with the purpose of assisting in the navigation of future cooperative research. The selected theories are drawn from a variety of disciplines in the social and management sciences including new institutional economics, political economy and strategic management.

I present a case study of Citrus World, Inc. ("CWI") from 1980 – 2015. CWI is a federated, single commodity agricultural marketing cooperative headquartered in Lake Wales, Florida, USA. Since its formation in 1933 by six local citrus packing houses, CWI has grown to be a

leader in the U.S. citrus juice market, competing with Coca-Cola and Pepsi in this $1.4 billion market.

Adapting an Analytic Narrative approach, I present a detailed narrative of the practice of adaptation to endogenous and exogenous forces by the leaders of CWI between 1980 and 2015. Applying the eight selected theories as a lens through which to view the cooperative's evolution over that period, I consider the explanatory power of each theory and potential for informing the future development of frameworks for the study of cooperative organizations.

The purpose of this exercise is to stimulate advancement toward a more comprehensive framework for study of agricultural cooperatives that may, in turn, serve to inform the practice of adaptation by cooperative agents and principles alike.

Following a review of literature and an outline of methodology I present contextual information relevant to the understanding of CWI and its operating environment. Following the presentation of this background information, I present an Analytic Narrative of CWI from 1980-2015. The Narrative section is organized into four distinct sub-periods:

- 1980 – 1989: Disruption and Development
- 1990 – 1999: New Game, New Rules
- 2000 – 2009: Feast, Famine and Focus
- 2010 – 2015: Uncertainty and Introspection

Next, eight separate Analytics of CWI's evolution across the study period are presented using selected theories/frameworks:

- Core Design Principles for Common Pool Resources (Political Science)
- Logic of Collective Action (Economics)
- Cooperative Balancing Strategies (Agricultural Economics)
- Property Rights Problems (Agricultural Economics)
- Ownership Costs (Organizational Law)
- Cooperative Lifecycle Framework (Cooperative Economics)
- Dynamic Capabilities (Management Science)
- Political Economy of Hierarchy (Strategy)

Findings and Conclusions are then summarized.

CHAPTER 2
RESEARCH OBJECTIVE AND METHODOLOGY

This section sets out the research objective and the methodology applied in this study. I also describe how the research process transpired.

2.1 RESEARCH OBJECTIVE

The purpose of this research is threefold. Firstly, to document the evolution of CWI from 1980 – 2015. Secondly, to consider the extent to which a selection of theories and frameworks from across the social sciences have potential to inform the development of a more comprehensive framework for the analysis of long-enduring cooperative enterprise. Thirdly, to introduce the Analytic Narrative approach and consider its potential to enhance methodologies for scholarly examination of cooperative enterprise.

2.2 METHODOLOGY

Modified Analytical Narrative

This research applies a modified Analytic Narrative to a case study of CWI from 1980 - 2015. Many examples of Analytic Narrative employ rational choice analysis; in this study, I use eight theories and frameworks to analyze the narratives.

CWI

A number of factors make CWI a desirable subject for this study. Established in 1933, this cooperative has survived for 85 years in a sector that has been subject to significant change; it has a demonstrated propensity for adaptation. Furthermore through the Graduate Institute of Cooperative Leadership ("GICL"), the University of Missouri has a longstanding relationship with CWI. Since the early 1990s ongoing engagement between the cooperative and GICL has cultivated an awareness of mutual goals

The Study Period

The 35-year time period for this study was selected following a review of secondary data relating to the history of the Florida citrus industry, the U.S. citrus juice market and CWI. Factors which influenced the choice of study period included an observed degree of fruit supply volatility, access to high quality information, direct access to individuals who were engaged throughout the study period and major developments undertaken by the cooperative.

Data Collection

Primary data was extracted from interviews with 21 members, directors and executive personnel undertaken in Central Florida during August 2015.

The information from these interviews is supplemented by published and unpublished cooperative information comprising past and present Articles and Bylaws, contractual agreements, Annual Reports to members, internal memos and policy papers, board papers, strategic plans, budgets, videos and speeches.

Secondary data relating to the Florida citrus industry and the U.S. juice and consumer beverage sector including USDA reports, newspaper articles and industry journals etc., was also accessed.

Data Assimilation

Upon completion of primary and secondary data collection, major events in the cooperative's development over the total study period were assessed and four separate time periods were identified:

- 1980 – 1989: Disruption and Development
- 1990 – 1999: New Game, New Rules
- 2000 – 2009: Feast, Famine and Focus
- 2010 – 2015: Uncertainty and Introspection

Analytic Narrative

Narratives

A comprehensive narrative was prepared for each of these time periods. For each year, exogenous and endogenous developments are recorded. These include, but are not limited to Florida citrus production, exogenous supply events, market developments, competitor developments, member and non-member supply, investments and divestments, leadership changes, modifications to organization structure, practices, processes and culture, amendments to member supply contracts, and amendments to cooperative Articles and Bylaws.

Analytics

Following a review of the Narratives, eight different theories were selected for use as a lens for analysis. The theories were selected for their dynamic nature and relevance to collective organization, governance, leadership and adaptation. Six of the theories relate directly to factors which promote or impede enduring collective enterprise, one to business adaptation and one to organizational leadership.

- Core Design Principles for Common Pool Resources
- Incentivizing Group Behavior
- Cooperative Balancing Strategies
- Property Rights Problems
- Ownership Costs
- Cooperative Lifecycle Framework
- Dynamic Capabilities
- Political Economy of Hierarchy

The results of this analysis are then considered for the strength of their explanatory power. Alternative and complementary frameworks are also suggested as part of areas for further research.

2.3 THE RESEARCH PROCESS

In this section I set out the process I followed in conducting this research, including how the research question and methodology was determined.

Upon being granted the opportunity to research CWI and ascertaining the extent to which CWI was prepared to afford access to their personnel and material, an extensive range of research topics were identified. In order to make best use of both CWI and the University of Missouri's resources, extensive secondary research into the CWI and the Florida citrus industry was undertaken. Discussions with CWI participants at GICL programs provided further insights. A timeline of the development of the Florida citrus industry and CWI from 1909 to 2015 was prepared.

Initial research topics included the extent to which the cooperative had engaged in "tinkering" (Cook 1995) and an application of the CLCF to assess the number of lifecycles the cooperative had experienced, had appeal. However, in considering the potential to interview past and present board members and executive staff together with all members it was decided to focus on the time period from 1980 – 2015 and for primary data collection to focus on two areas to inform the cooperative lifecycle framework:

a. How do participants assess cooperative health? And to what extent does the assessment of cooperative health vary between stakeholder groups?
b. Did the purpose of the cooperative change between 1980 and 2015?

With these research questions established, questionnaires for each stakeholder group – executive, Board, members - were developed.

CWI assigned a senior member of its leadership team to coordinate the schedule for one on one interviews, which took place over three weeks in Central Florida. Upon the recommendation of CWI, primary data collection was scheduled for August. This coincides with the end of the season and is quieter time in the industry. It was thought that this would encourage greater member participation.

All interviews were recorded and notes taken. Those with CWI executive were conducted at the cooperative's headquarters in Lake Wales, Polk County, Florida. Half the interviews with members and member directors were conducted at CWI headquarters, while the remainder were conducted on the members' premises. This afforded the opportunity to view those members' facilities.

During the course of the interviews, respondents often deviated off topic to tell related stories or to fill in historical background. Rather than a structured interview, many of these sessions became conversations. This meant that the breadth of material obtained was much greater than expected but due to time constraints, not all proposed questions were answered. However, the questions relating to cooperative health and cooperative purpose were asked of all respondents.

While it had been hoped that the research visit to Lake Wales would make it possible to interview all 14 members of the cooperative, not all were not available for in depth interviews.[1]

In addition to conducting one on one interviews with board, executive and members the writer

- Toured the CWI plant
- Undertook two tours in groves of contrasting geography, technology, age and scale
- Attended a Meeting of the Cooperative's Marketing Committee
- Attended the open session of the Cooperative's Board Meeting
- Accessed on site documents and reviewed company archives
- Met with other various other CWI employees
- Engaged in correspondence with the Chairman, CEO and Vice President

For the duration of my visit I was accommodated in an office in the Fruit Supply department and able to interact daily with Fruit Supply personnel.

Selected interviews were transcribed[2], including those with the Chairman, Outgoing CEO, CEO-appoint, and Vice President Agricultural Services. Other interviews were replayed

[1] Structured interviews were conducted with 10 people representing 6 members, 9 of who were past or present Directors of CWI. I had previously had extensive engagement with one present director who declined an interview at GICL. I was able to engage with the entire Board at the Marketing Committee Meeting of the Board and the luncheon beforehand.

[2] Transcribing interviews took a long time – some were up to 11,000 words. In the interests of making progress with my writing, I elected not to transcribe all of the interviews.

with notes taken. Interviews lasted on average one hour, although some extended to 90 minutes, and one to three hours.

Following a review of the interviews and other primary data, a diverse range of themes emerged. Considering the richness of the material gathered, it was decided to broaden the focus of the research beyond cooperative health and cooperative purpose in the context of the Cooperative Lifecycle Framework. One option was to identify practices at CWI that promote cooperative efficiency and consider the extent to which they have been instrumental in the cooperative's perpetuation. Because this also did not make full use of the richness of the material collected, it was decided to explore how the case study of CWI could inform frameworks for the study of agricultural cooperatives.

Following counsel from my advisor I elected to investigate and apply an Analytic Narrative approach to the study. Eight separate theories or frameworks were selected. Six of these were selected because of their relevance to cooperative enterprise and cooperative ownership rights.[3] However these were largely silent on two of important areas that were apparent during my research visit – business adaptation and leadership. Two theories[4] were added to explore these aspects. In order to make the assignment manageable, the primary data was used to inform the division of the study period into four separate phases. Following my experience in composing the first narrative, these time periods were then reviewed and revised.

[3] Core Design Principles, Incentivizing Group Behavior, Cooperative Balancing Strategies, Property Rights Problems, Ownership Costs, Cooperative Lifecycle Framework
[4] Dynamic Capabilities, Political Economy of Hierarchy

In integrating the primary and secondary data to complete the narratives, it became apparent that interviewees recall was not always consistent. This was particularly so in relation to dates of significant events; subjects would relay the significant events in great detail, but the stories did not align with the cooperative's timeframe. Wherever possible, dates were verified by cross-referencing with secondary data. CWI's Annual Reports to members proved an invaluable resource in this regard, and were also for very useful for verifying financial and production information.[5]

Theoretical frames were identified for each of the narrative periods and a chronology of events compiled for each timeframe.

The results of this analysis were then considered for the strength of their explanatory power.[6] Alternative and complimentary frameworks were also suggested as part of areas for further research.

[5] CWI were very generous in affording access to all available Annual Reports to Members across the study period. These were obtained during my research visit. In hindsight it would have been very helpful to the interview process to have had access to this information prior to my visit so that collated Annual Report data was available for reference during the interviews.

[6] In the process of compiling the findings, I used subjective measurement techniques to assess various aspects of cooperative health, including member heterogeneity etc. More than once, this required I rewind through interviews and listen for particular comments.

CHAPTER 3
LITERATURE REVIEW

Knutson (1966) succinctly characterized the difference between cooperatives and corporations thus: *"while the cooperative strives to maximize the return to its member patrons, the corporation, in the process or maximizing its profit, strives to minimize returns to its patrons."* This fundamental difference in objective function presents challenges not only for those seeking to compare the relative performance of the two organizational forms, but also for those seeking to gauge cooperative performance.

The efficiency of agricultural cooperatives relative to investor owned agricultural firms ("IOF") is the subject of extensive theoretical economic literature. 20th century scholars adopted various perspectives in their attempt to definitively determine the economic nature of cooperative enterprise. The goal was a generalizable model of cooperative performance. Robotka (1947) and Phillips (1953) conceived the cooperative as an extension of the farm, which exists to maximize members' returns whereas Helmberger and Hoos (1962) approached the cooperative as a firm where members are price takers. Others including, Trifon (1961), Zusman (1982) and Sexton and Iskow (1993) consider the cooperative as a coalition or a nexus of contracts i.e. horizontal coordination undertaken to support vertical integration. This body of work together with more recent work by the likes of Fulton and Hueth (2009) using case study methodologies, suggest factors arising from the allocation of residual claim and control rights contribute to cooperative suboptimality. Collectively the literature identifies capital structure, membership restrictions, agency costs, democratic

processes, diffuse objectives, plurality of interests, and the impact of member heterogeneity on cost allocation rules as potential inhibitors to short term and long run cooperative efficiency.

The behavior of individual members in their interaction with a cooperative can impact significantly on short and long term cooperative performance. The sub-optimizing impact of cooperative residual claims and control rights on decision making is intensified where member patronage and preferences are diverse (Vitaliano 1983). Furthermore, the cumulative impact of differential patronage and property rights is likely to result in the emergence of special interest groups within the cooperative (Staatz 1987). Cook (1995) considers the impact of cooperative property rights problems on cooperative health and longevity positing that free riding, horizon problems, portfolio problems, influence costs and control costs are exacerbated by emerging membership heterogeneity. In addition to increasing ownership costs (Hansmann 1996) the resulting frictions, if not addressed, may lead to the demise of the cooperative.

How then can we explain enduring cooperative entities? The persistence of the cooperative form of ownership as a choice for agricultural enterprise suggests not that cooperatives are inherently inefficient, rather that we do not properly understand how it is that they survive and endure. Many disciplines have considered how to maximize outcomes in a group made up of self-interested parties. Some of these approaches are now outlined.

In her landmark study of common pool resources, Ostrom (1990) identified eight core design principles ("CDP") which incentivize appropriators to forgo short term self-interest

and instead utilize the resource in a sustainable and enduring manner. (Refer Appendix I) Subsequent work by Wilson, Ostrom and Cox (2013) looked at the use of the CDP in improving the efficacy of a wide range of other types of groups. They found the CDP to be generalizable across these groups.

In contemplating how groups further the common interests of their members, Olson (1965) hypothesized that the optimal provision of a collective good will only be obtained if the marginal cost of any additional units of the collective good are shared in exactly the same proportion as the additional benefits. This concept is resonant of Ostrom's principle of proportional equivalence (Ostrom, 1990 p90). Olson also hypothesized that coercion, small number organization and selective incentives may be used to elicit cooperative behavior from rational, otherwise self-interested group members.

Axelrod (1984) theorized how to optimize outcomes for all participants in a prisoner's dilemma game, finding reciprocity (a "tit for tat" strategy) to be a sound basis for building cooperation. Staatz (1987) used the concept of a "supergame" to explore how the principles of game theory might inform group choice in the enduring operations of a cooperative, hypothesizing that cooperative loyalty will increase as the penalties for disloyalty are increased and noting the role of member relations programs in influencing producers' expectations.

Extending this approach, Lopez and Spreen (1985) model the efficiency reducing impact of individual maximizing member behavior on cooperative equilibrium. Considering the temptation for otherwise committed cooperative members to free ride, they propose

strategies to incentivize members to forgo self-interested practices in favor of cooperative behavior. Positing the importance of supply - demand balance on cooperative returns, Lopez and Spreen (1985) identify three strategies to increase cooperative equilibrium in closed member processing cooperatives with homogenous membership. Application of appropriate supply strategies, member education and pricing strategies can increase cooperative equilibrium and returns to members by promoting a greater balance between supply and demand and reducing efficiencies arising from self-interested member behavior. The implication is that supply and price strategies may be applied discretely but the place of education and its interrelationship with other strategies is unclear. Lopez and Spreen also examined the role of non-member business in promoting an enhanced cooperative equilibrium. Greater certainty over member fruit supply allows a cooperative to further exploit operating capacity and market opportunities by selective purchase of non-member fruit.

Among the limitations of Lopez and Spreen's work are its focus on a static equilibrium and assumption of member homogeneity; the ongoing business of agricultural cooperatives takes place in a dynamic environment and membership is typically characterized by diverse production units and preferences.

The multiple motivations and many challenges, frustrations and rewards of cooperative formation are succinctly summarized by Le Vay (1983) who touches on the initial momentum during the formative phases of cooperative enterprise. Furthering Le Vay's concept of a life-cycle, Cook and Burress (2009) contemplate the dynamic nature of cooperative business where over time increasing heterogeneity of member preferences

exacerbates property rights problems and increases ownership costs. The resultant decline in cooperative health may be addressed by a range of regenerative strategies in the fifth phase of the lifecycle. Tinkering involves the implementation of selective incentives and may include changes to the change of bylaws, operating policies or procedure but no significant change in cooperative ownership rights. Reinvention is defined as a change in residual control and/or residual claim rights, either exclusively to members or to a combination of members and investors. Exit, a non-regenerative solution may involve conversion or liquidation. Exit requires curtailment of patronage-linked ownership, but can be a rent-offensive strategy when patrons exit profitably through the sale of their interests in the cooperative. In Cook and Burress' endogenously conceived CLCF, events of tinkering or reinvention trigger the commencement of a new lifecycle. However the distinction between tinkering and reinventing is not always clear. Phases of the CLCF are conceptualized in terms of homogeneity and heterogeneity of Member purpose as it relates to business growth and profitability over time, but the Phases of the CLC are of indeterminate duration.

Iliopoulos, Cook and Chaddad (2004) summarize developments in cooperative theory since 1990 noting the increasing prevalence of the view of the cooperative as a nexus of contracts. They observe the emerging focus on the impact of heterogeneous interests on efficiency, ownership models, governance structres, the role of management in cooperative decision making and principal – agent theory. Numerous writers have contemplated solutions to property rights problems which inform regenerative strategies. Iliopoulos (2009) finds that a combination of incentives is required to efficiently address the free rider problem amongst a heterogeneous cooperative membership and that a well-designed formal and informal institutional framework is important. Properly aligned, clearly defined residual claim and

control rights play a role in perpetuating efficient cooperative enterprise (Iliopoulos and Cook, 2013). Interdependent incentives arising from ownership rights, governance structure and a constantly evolving membership (Chaddad and Iliopoulos 2013) are likely to require ongoing assessment.

Building on the work of organizational economists, Miller (1990) maintains that the self-interest of individuals cannot be overcome by mechanistic incentive systems alone. He maintains that overcoming the inefficiencies arising from information asymmetries in repeated social dilemma games also requires political leadership. The enforcement of social norms, the personal characteristics of leaders, the ability to project trustworthiness are important factors contributing to unifying individual effort. Organizations where cooperative behavior surpasses the short term interests of individuals will have a significant competitive advantage.

In addition to endogenous change resulting from evolving membership and growth, there is considerable uncertainty endemic in the agricultural cooperative's operating environment. This is particularly so in single commodity cooperatives (Staatz 1987, 3). Understanding the circumstances giving rise to a regeneration strategy is likely to inform the extent which exogenous factors also play a role in determining the shape and duration of a cooperative's life cycle.

Organizational economics and the strategic management school are both informative in contemplating the multiplicity of dynamics that bear upon cooperative formation, evolution and decision making. Using transaction cost theory Williamson (1991) found the hybrid

form of organization to arise from an explicit set of rationale and that organizations form a conduit for environmental adaptation. Chaddad (2014) finds cooperatives to be a distinct organizational form which combines attributes of both market and hierarchy.

Williamson (1991) considers adaptation as the economic problem of organizations. The primary purpose of strategic management is to better fit the firm to the conditions of its changing environment (Chakravathy, 1982); fit between each element of an organization and its environment will positively impact performance (Andrews 1997, Milgrom and Roberts 1995). However, organizational change is expensive and surviving structures at any point to time are likely to be optimal in a relative rather than an absolute sense (Brickley, Smith and Zimmerman (2001). Mintzberg (1976) conceives strategy as a dynamic process, being a pattern or coalignment in an ongoing series of an organization's decisions.

A primary purpose of organization is the absorption of uncertainty, which is in turn associated with less internal consensus (March and Simon 1958), extensive participation in organizational decision making and rapid innovation (Hage and Aiken, 1967). Internal politics may flourish amidst uncertainty and a "dominant coalition" of top decision makers may play a disproportionate role in aligning the organization and the environment (Thompson 1967, Child 1997). This has implications for cooperatives where federal regulation requires democratic control[7] and there is heterogeneity amongst members.

[7] Capper-Vosltead Act 1923 requires that no member of a cooperative be allowed more than one vote because of the amount of stock or membership capital owned. (USDA Rural Development CIR35). However cooperative statutes in certain states allow proportional voting. USDA RBS Research Report 156). Under a proportional voting system each member has at least one vote, but may also be entitled to additional votes based on their level of patronage, patronage-generated equity holding or invested shareholding in the cooperative.

Processes which enable a firm to respond to the challenges and opportunities of a rapidly changing environment by exploiting existing internal and external competencies provide competitive advantage in a dynamic environment. (Teece, Pisano and Shuen 1997). This does not necessarily involve disruptive change, rather a deliberate practice of perpetually renewing and refreshing competencies by adapting, integrating and reconfiguring its skills, resources and competences on order to maintain environmental alignment. This body of work is of interest to students of cooperative resilience because it suggests that the combination of capitals that come together in a cooperative need to be utilized in a different manner and will hold different weight at various phases of the cooperative life cycle.

Considering the limitations of financial performance measurement in the face of diffuse objective functions (Cook 1997), Burress, Livingston and Cook (2011) hypothesize a composite measure of "cooperative health" comprising competitive position, overall profitability, member satisfaction, ability to achieve vision, and overall performance. The construct of cooperative health extends beyond short term economic efficiency and asserts human and social capital to be important contributors to successful, enduring cooperative enterprise. Their work suggests that any concept of equilibrium in a cooperative should extend beyond purely economic equilibrium to embrace wider concepts of social and political equilibrium. The concept of vision, with its implication of a long horizon, also adds the dimension of longevity and the implication that equilibrium in a cooperative is a dynamic concept.

The identified complexities of cooperative objective function, organization and equilibrium challenge traditional econometric analysis. The decisions taken within a single commodity agricultural marketing cooperative are done with the objective of sustaining members' agricultural enterprise and maximizing the returns therefrom over the long term. Where the cooperative's existence contributes to removal of market imperfections, sustaining cooperative enterprise is an essential part of sustaining member enterprise.

Analytic Narrative came to prominence in the late 20th century as a method of accounting for particular events or outcomes in political and economic history. The method is intended as a tool to explore cases so that rational choice theories may be applied (Bates et al, 1999) and is of appeal where events cannot be quantified, especially where there are complex and unsystematic interrelationships between variables (Bates et al, 2000). Although criticized by proponents of mathematical and rational choice methodologies, Analytic Narrative does seek to apply rational choice theories by linking theory and narrative data. An Analytic Narrative has two components – a narrative and an analytic. A narrative describes the events being studied, paying close attention to stories, accounts and context. The objective of the narrative is to facilitate the exposition of events. The analytic applies theory and formal arguments to create and evaluate explanation of outcome observed in the narrative. Whilst rational choice theory has been the dominant theory applied in such analytics, the Analytical Narrative format lends itself to the application of other theories to examine of qualitative factors and multifaceted environments.

The author is not aware of the Analytic Narrative being applied to cooperative studies and believes its ability to embrace the complexity of cooperative organization may render it suitable for application to cooperative case studies.

CHAPTER 4 BACKGROUND

This background section contains descriptive contextual information for this study. Section 4.1 considers the role of the corporation in modern economies and some of the features which distinguish cooperatives from the more common form of investor owned firm.

Section 4.2 provides general information about the Florida citrus industry, Section 4.3 a summary of CWI's history and development, followed by an explanation of emerging member heterogeneity at CWI in Section 4.4. Section 4.5 details CWI's current cooperative structure and Section 4.6 describes the role of CWI's Member Marketing Agreement.

4.1 DIFFERENTIATING FEATURES OF COOPERATIVE ENTERPRISE

Corporations

Corporations are the primary drivers of economic growth in modern economies. As integrators of diverse capitals, corporations in all their forms are the most common conduit for entrepreneurial endeavors and are paramount in private resource allocation decisions. Within any given institutional environment, firm strategy, resources, the nature, scale and timing of investment decisions, business processes, operating efficiency, culture, stakeholder relationships, governance and learning/adaptive capabilities form part of a complex latticework of rent seeking activities driving performance.

Where, as in the case of publicly traded stock, financial performance data is available, we are able to quantify how well the company has performed ex-post, and perhaps make informed forecasts regarding future investment returns. Where an IOF is not subject to compliance disclosures, performance data can be very difficult to obtain. Even when it is available, historical performance information tells us very little about how the results were achieved. Without primary research, the complexities and rationale determining the timing and nature of critical policies and decisions made by principals and their agents often remain hidden to researchers and difficult to quantify in a manner that supports quantitative analysis.

Cooperatively Owned Corporations

Cooperatively owned corporations are a prominent organizational form within U.S. agriculture. With total assets of $87 billion and gross revenues in excess of $246 billion[8], their scale alone warrants attention. As with IOFs, by studying how and why successful and unsuccessful cooperatives are organized, governed, make decisions, interact with their operating environment, develop, adapt and evolve, we can inform cooperative theory and decision making practices of cooperative principles and agents.

The economic analysis of cooperatives presents all the research challenges of studying private corporations and more.[9] The principle purpose of a cooperative is to add value to each member's production entity; members' dual roles as investors and patrons require cooperatives to balance multiple, sometimes diffuse objectives over a long time horizon. A

[8] USDA Cooperative Statistics 2014
[9] CHS, Inc. has Redeemable Preference Stock traded on the NASDAQ and as such is subject to disclosure rules.

prevailing ethos of service of cost means that traditional performance metrics such as pre-tax earnings, may be misleading and/or difficult to determine, confounding attempts at cross-cooperative comparisons.

Table 1 contrasts aspects of CWI's capital structure and organizational purpose with that of an IOF. The purpose is to demonstrate some of the challenges of cooperative performance measurement and why common listed IOF performance methodologies may not be directly translatable to a cooperative setting.

Table 1 Comparing CWI's Design Features with a Listed IOF

	CWI[10]	Listed IOF[11]
Purpose	Maximize the price members receive for their produce[12]	Extract rents to increase the value of the corporation
Performance Ethos	Service at cost[13]	Maximize corporate earnings
Performance Measure	Member Return – patronage payments	Total Shareholder Value – stock price plus dividends
Stock Ownership	Members only	Unrestricted
Stock Redemption	At Board's discretion	Liquid - At investor's discretion
Stock Value	Non-appreciable	Appreciable and depreciable
Dividend Policy	Capped[14]	At discretion of the Board
Control Rights	Regulated – one Member one Vote	Proportionate to Stockholding
Stockholder Role	Patron and Owner	Owner

[10] Capital structure is unique to each cooperative. CWI's capital structure will not necessarily be mirrored in other cooperatives, be they centralized, federated or combined, multipurpose or single commodity, service, marketing or supply cooperatives.
[11] These features are generalized for illustrative purposes.
[12] And thereby add value to members' production entities.
[13] Under the service at cost ethos, the cooperative entity does not seek to maximize its earnings, but to maximize the price member patrons receive for their produce. The Board may decide to retain funds for investment from the total patronage payment declared.
[14] Capper Volstead Act 1922 requires that a cooperative dividends on stock or member capital not exceed 8% per annum. There are 110 state regulations regarding cooperative entities, a number of these cap dividends at 6% per annum.

The interlocked relationship between a cooperative and its members impacts the cooperative business in many ways. Federal and State regulations require at that least fifty percent of transacted business value be derived from Member supplied or purchased goods or services. This may constrain the size and scope of cooperative enterprise. In agricultural marketing cooperatives climatic, geographic, seasonal, technological and market factors may require investment in highly specified long horizon assets. A focus on a single commodity increases risk and may impede access to debt and equity finance. On the other hand, well performing cooperatives are assured of loyal Member patronage which can assist operational and market planning.

Cooperative Balancing Strategies

The agricultural cooperative's raison d'etre – to provide service to its Members, means cooperatives have fewer options available to them in managing supply and demand. In times of industry oversupply, cooperatives have less discretion when it comes to optimizing processing capacity. In contrast, IOFs have full discretion over their procurement, which is effected by contract. Table 2 summarizes the different mechanisms for balancing supply and demand under different ownership models:

Table 2 Generalized Balancing Strategies in Marketing Cooperatives and IOFs

	Traditional Open Marketing Cooperative	New Generation Marketing Cooperative	Investor Owned Firm
Supply	Nil - cooperative accepts all member deliveries, no maximum but in some cases a minimum is required for membership	Delivery rights issued for all Member supply and establish precise volume.	The firm buys only what it requires.
Education	Sharing of financial results. Member consultation. Governance development programs. Member meetings. Member written communications. Member governance and representation organizations. Cooperative study tours. Conferences. Public Policy Information.	Sharing of financial results. Member consultation. Governance development programs. Member meetings. Member written communications. Member governance and representation organizations. Cooperative study tours. Conferences. Public Policy Information.	Nil
Pricing	May have separate product pools and quality grades. Beyond this all members receive the same price. Determined ex-post.	Related to specific delivery rights. Determined ex-post.	Agreed with each individual supplier ex ante.
Non-Member Supply	At the cooperative's discretion.	At the cooperative's discretion.	Not applicable.

Political Equilibrium

As an entity comprised of diverse producer members, cooperatives must ensure that the business remains relevant to its members. In the absence of homogeneous membership

each cooperative decision will impact Members' productive units differently; cooperative decision making inevitably requires trade-offs. Examples of these include:

- the varieties of produce to accept;
- pooling decisions;[15]
- the timing and frequency of delivery routes;
- plant location;
- short term versus long term returns;
- retention policies;
- revolvement policies;
- eligibility for Membership;
- eligibility for Board representation; and
- eligibility to vote.

As Member preferences for their cooperative interests become divergent, political equilibrium is likely to be more difficult to sustain without adaptation.

4.2 THE FLORIDA CITRUS INDUSTRY

Cultivation and processing of citrus fruit is a major contributor to the Florida economy, with an estimated impact of $10.68B in 2012-2013.[16] Florida is the largest producer of citrus fruits in the USA, accounting for around 60% of national production. In contrast with the California citrus industry which has a mix of fresh and processed fruit, 95% of Florida's annual citrus is processed. Items produced include Not From Concentrate citrus juice

[15] Product pools are established for different grades and quality of fruit.
[16] A.W. Hodges & T.H. Spreen, "Economic Impacts of the Florida Citrus Industry in 2012-13," UF-IFAS-FRED, Gainesville, FL, December 2014

("NFC"), frozen concentrated citrus juice ("FCJ"), canned and chilled single strength juices and fruit juice beverages and bases. By-products include dried citrus pulp and pellets, citrus molasses and citrus oils and essences.

NFC orange juice commands a price premium in the vicinity of 50% over reconstituted chilled and FCJ products. In 2013-14 NFC orange juice accounted for 59% of national retail orange juice sales by volume and 69% by value. As dietary habits and lifestyles change, U.S. consumption of citrus juice is declining. 2013 U.S. per capita consumption was 4.3 gallons, 30% less than its peak of 6.4 gallons in 1998.

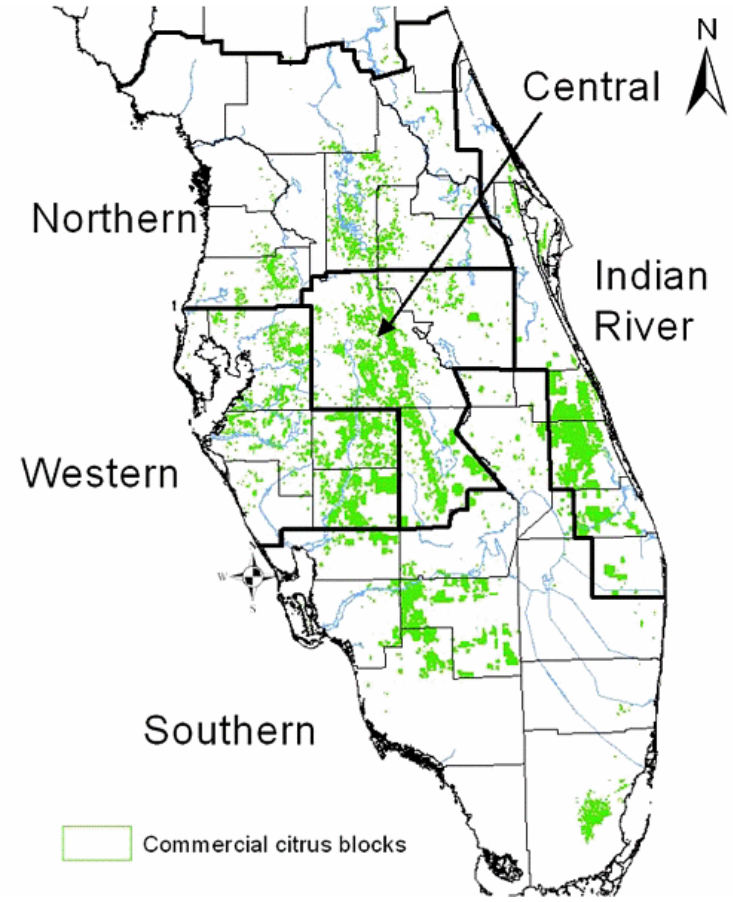
Large multinational participants in the Florida processing industry include USA's PepsiCo, the Coca-Cola Company, Brazil's Cutrale and Citrusuco and Europe's Louis Dreyfus. Numerous privately held large and medium sized entities, family firms and cooperatives are also active. The largest producer owned cooperative is CWI.

The Florida citrus season runs from October to September each year. Early-mid varieties are harvested in December and January. Valencia, a premium variety favored for juice, is harvested from April to June. In 2013-14 approximately 87% of Florida's citrus production was orange and 9% grapefruit; U.S. retail orange juice sales were $3.3B and grapefruit juice $0.11B. U.S. citrus juice exports in 2013-14 were $0.55B.

For most of the 20th century, the Florida citrus industry was centered around the Central Florida area. Since 1980, there has been a notable migration of groves to more southerly portions of the state. The primary motivations for this migration have been to reduce the

risk of frosts risk and to employ contiguous disease management practices afforded by intensively planted large scale groves; population growth and the resultant changes in land use have also been factors.[17] Figure 1 shows the location of commercial citrus groves in Florida in 2006.[18]

Fig. 1 Florida Commercial Citrus Groves 2006



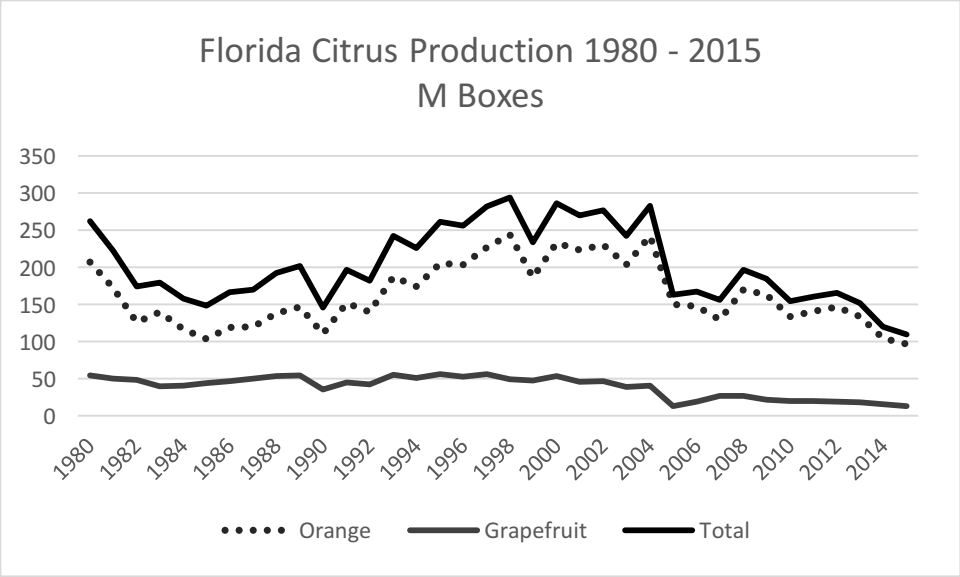
[17] In 2012-13, 46% of total Florida citrus acreage was in the Central Florida region, 38% in the South and 15% in the Indian Rivers area, located in the south east part of the state.
[18] Sourced from Plant Management Network Plant Health Progress doi:10.1094/PHP-2006-0822-01-RS.

Supply Shocks

Since the first commercial plantings in the mid 19th century, environmental events have wrought change on the Florida citrus industry. It was following a deep freeze in 1895 that production first moved from Northern Florida to the sandy ridges of Central Florida. During the 20th and 21st century freezes, hurricanes and disease have acted as a catalyst for industry change and adaptation. The study period of 1980-2015 was no exception.

Figure 1 shows changes in the level of Florida citrus production over the study period. Over the study period total Florida citrus production declined 58% from 261.1M boxes in 1980 to 109.4 million boxes in 2015. Across the study period Orange production fell 53% (110 million boxes) and grapefruit by 76% (42 million boxes). The coefficient of variation for Florida citrus production from 1980-2015 was 0.25. (For oranges, the coefficient of variation was 0.26 and grapefruit 0.36).

Fig. 2 Florida Citrus Production (M boxes) 1980-2015



Freezes

During the 1980s a surging consumer juice market heightened competition for fruit supply amongst processors. The shortage of fruit was intensified when Florida's groves were hit by four deep freezes in quick succession. The first serious freeze came in January1981, and its impact was quickly compounded by a second, more severe freeze in December 1983. While groves were still recovering, a third freeze hit in January 1985 causing severe damage to groves across the state. The fourth freeze in December 1989 was the most devastating, destroying around 70% of CWI's member groves.

For growers not forced to exit citrus cultivation, the 1980s freezes provided further impetus to the migration of citrus groves to warmer regions further south in the state. While there have been freezes since 1989, none have been quite so devastating.

Hurricanes

In 2004-05 Florida's groves were hit by four hurricanes in the space of six weeks. Over 100,000 acres of Florida citrus groves were destroyed. Florida orange production plummeted 38% from 242M boxes in 2003-04 to 150M boxes in the 2004-05 season. This was the largest single year reduction in crop size in history.

Disease

Citrus canker causes tree defoliation, die back and fruit drop resulting in a substantive loss in the quantity and quality of citrus fruit. Having been officially eradicated in 1933 and again in 1994, it was discovered again near Miami in 1995. A subsequent USDA eradication program compelling the removal of trees within a 125ft and later 1,900ft radius of an infected tree resulted in substantial loss of production. Following the 2004-05 hurricanes which spread Canker from 10 to 25 counties in the state, the USDA declared that eradication was not feasible and curtailed the controversial eradication program in January 2006.

Huanglongbing ("HLB")[19] is a bacterial disease spread by the Asian citrus psyllid. HLB severely reduces the quality and quantity of fruit produced causing trees to produce small, hard fruit which drop early. Trees generally die within 3-5 years of becoming infected and require removal and replanting. Although new grove management practices have resulted in some extension of the productive life of infected trees, there is currently no cure for HLB.

[19] HLB is also known as citrus greening

Since August 2005 when HLB was first found in Florida, groves have been devastated and production has plummeted. From 291M boxes[20] in 2003-04, Florida citrus production fell by more than 60% to 112M boxes in 2014-15. Singerman and Useche (2016) estimate that on average, 80% of the trees in a Florida citrus operation are infected with HLB. Compared to pre-HLB levels, average yields have decreased 41%[21]. The intensive grove management necessitated by HLB has seen per acre production costs escalate against declining per acre output.[22] Burani-Arouca et al (2016) found a 57% increase in the total supplemental maintenance costs related to citrus reset-replacement programs; the increase in costs was primarily associated with fertilizer and labor costs.

Commercial Citrus Acres

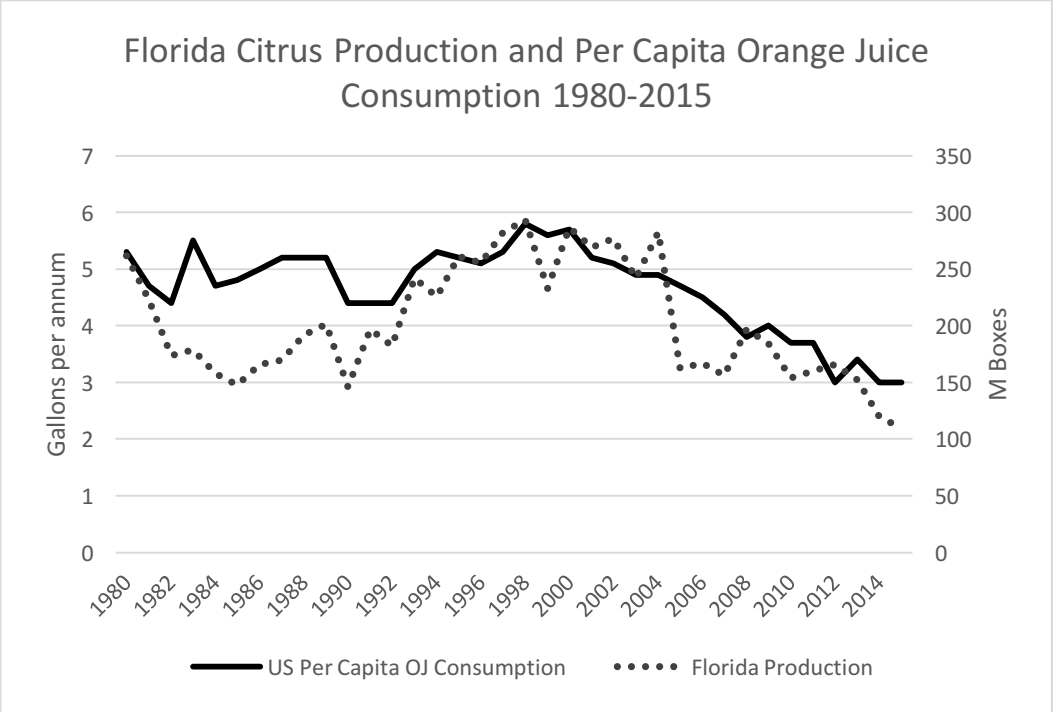
Between 1980 and 2015, Total Florida Commercial Citrus Acres declined by 39%. Commercial orange acreage fell by 175,000 (28%) and commercial grapefruit acreage by 94,000 (67%).[23]

Orange Juice Consumption

Annual U.S. consumption of orange juice peaked in 1998 at 5.8 gallons per capita; in 2015 it was 3.0 gallons per capita.

[20] Orange production is measured in 90lb boxes and grapefruit production in 85lb boxes.
[21] Singerman and Useche (2016) also found Central Florida groves have experienced a 12% higher loss of yield than groves in South-West Florida.
[22] Interview subjects estimated that management of HLB has seen grove management costs triple.
[23] The decline in commercial grapefruit acreage and production reflects changing consumer tastes and a move toward orange juice consumption.

Fig. 3 Florida Citrus Production & Per Capita Orange Juice Consumption 1980-2015



4.3 CITRUS WORLD, INC. ("CWI") EARLY DEVELOPMENT

In this section I set out a background information about CWI – the business as it is today and its history of development between 1933 and 1991.

CWI in 2015

CWI[24] is a federated agricultural marketing cooperative based in Lake Wales, Central Florida. In 2015 the cooperative had 14 members comprising 11 Citrus Growers Associations and three IOFs. Collectively these 14 members represent the production from 60,000 acres of

[24] Since 1998 CWI has traded as "Florida's Natural Growers Inc."

groves owned by over 1,000 citrus growers (Appendix III). Net Revenues of $459 million were generated primarily from sales of its premium Florida's Natural brand NFC, other citrus juice and fruit beverage products. Florida's Natural NFC ranks a close third to Coca-Cola's Simply and PepsiCo's Tropicana in the competitive NFC segment.

The Early Years 1933-1979

CWI was formed as a federated cooperative in 1933 by six Citrus Growers Associations (CGA) to improve their returns by providing a salvage value for surplus citrus fruit.[25] Earlier efforts to establish a cooperative had failed. The passing of the Farm Credit Act 1933 provided the growers access to finance.[26] Growers were seeking a market for fruit that was either surplus to the volume requirements of the fresh market or unsuitable for that market for reasons of quality such as size or appearance.

The passing of the Farm Credit Act 1933 provided access to finance which had previously been unattainable and was thus instrumental in the cooperative's formation. Initially known as Florida Citrus Canners Cooperative, the business began by producing and marketing canned grapefruit segments from premises at Lake Wales, Central Florida.

Canned concentrated juice was added to the product range in the late 1930s, frozen concentrated juice "(FCJ") in the 1940s and chilled, ready to serve juice ("RTS") with glass

[25] Grapefruit was the dominant citrus fruit in Florida at the time and canning provided the opportunity to extract returns for fruit with damaged or discoloured skin which would otherwise have sold at a significant discount.
[26] The Farm Credit Act 1933 established the Farm Credit System to provide finance to the agricultural sector.

packaging in the 1960s. As each new product line and process was added, the cooperative's Central Florida processing plant was modified and expanded to meet the production requirements.

From the outset CWI was conscious of the role branding plays in consumer marketing. In 1942 the business acquired the exclusive license for Donald Duck brand juice. Over the coming decades Donald Duck labeled product proved to be CWI's best-selling line, commanding a price premium in the marketplace and providing a point of differentiation against aggressively priced private labels. While the agreement with Disney was highly beneficial to the cooperative, the cornerstone of CWI's operations remained processing and packing for other labels.

By 1979, consumer preferences were shifting in favor of convenient juice products. Sales of FCJ were in decline; RTS[27] citrus juice had grown to account for over one third of U.S. retail sales. In a further development market leader Tropicana had pioneered and was enjoying early success with cold pasteurized NFC citrus juice. Positioned in the marketplace as a superior quality product, NFC was regarded by many as the future of the juice market.

[27] Ready to serve juice was reconstituted from concentrate.

4.4 CWI's MEMBERSHIP AND EMERGENT HETEROGENEITY

A Federation of Pack Houses

CWI's inaugural members were all local Citrus Growers Associations ("CGA') whose focus at the time was to market fresh citrus fruit on behalf of their members, complicating their relationship with CWI. Members' priority was to supply the higher returning fresh fruit market; CWI was considered as a convenient outlet for any residual product.

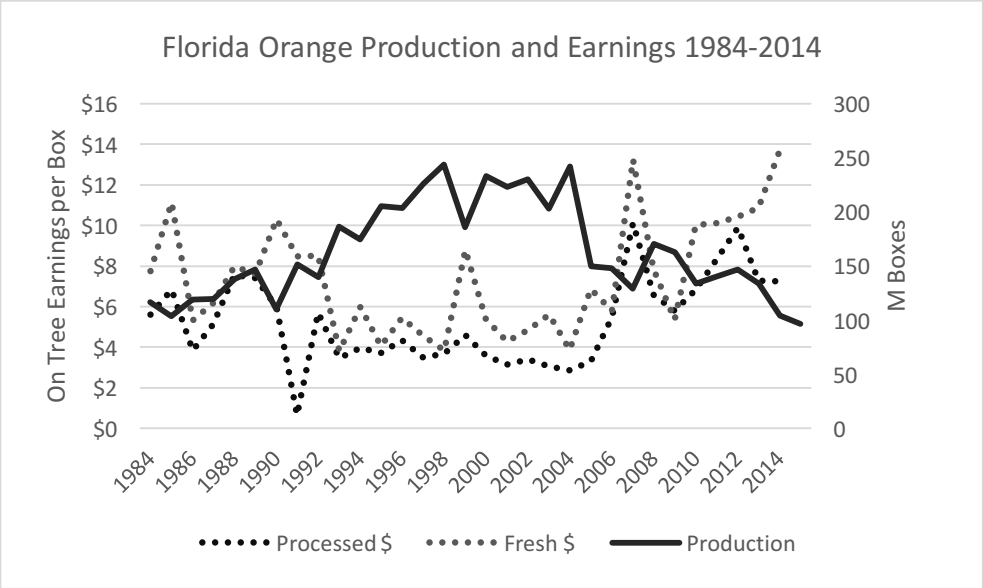
CGAs have traditionally represented smaller, longstanding groves. Within each CGA there is a solid core of consistent membership, but equally there are members who enter and exit depending on the prevailing crop and market conditions.[28] Within a small community, it was also accepted but not necessarily a widespread practice for members to pass through fruit the CGA on behalf of non-member neighbors.

With the advent of value added processing that provide credible alternatives to the fresh fruit market, the objective of today's packhouses is to maximize grower returns by allocating fruit for sale in the most price advantageous market. Packhouses provide marketing economies of scale and allow producers to reduce their selling costs.

Prices for fresh citrus are typically higher than those for processed, but the fresh market is highly elastic. For this reason, the processing market plays an important role in packing houses' optimizing functions.

[28] From interviews with Davis Crumbly and Dennis Broadaway.

Fig. 4 Florida Orange Production & On-Tree Earnings Per Box 1984-2014



In line with its owners' objectives, during the first 50 years of operation CWI's business model was supply oriented – its focus was on processing what was supplied and selling what was produced. The cooperative's membership obligations allowed for ease of entry and exit on a voluntary basis. Members were from the Central Florida area and of a relatively comparable size; the business was stable and its capital requirements modest.

Changing Incentives

The 1980s brought major change for CWI's members. A series of successive deep freeze events forced many growers out of business, particularly those whose groves were located in the north of Florida's main citrus growing area. The drop in available fruit saw pack-houses consolidate and forced several citrus processors out of business. Reduced Florida production provided an opening for Brazilian product which, following the maturing of plantings in earlier decades, was now plentiful.

A new member, Ben Hill Griffin Inc. joined the cooperative during this time. A large, established, locally owned family owned business, Ben Hill Griffin Inc. was familiar with CWI and confident in the cooperative's growth opportunities.

In 1990, CWI purchased land and initiated development and planting for a large scale grove project to the south of Central Florida. First option on purchase for the groves was given to CWI members. The groves were managed and operated by a subsidiary of CWI; production was contracted exclusively to CWI.

CWI's growing success in the NFC sector was placing major pressure on the cooperative's business model. To maximize long term returns to growers, CWI needed a commitment to a stable supply of fruit. This would enable it to make scale investments in plant, equipment and market development. Although members were committing additional capital to the business through increased retains, most remained focused on short term maximization of pay price for their own operations.[29]

Following a major member consultation initiative, CWI implemented a new marketing agreement. This controversial change substantially altered the nature of the relationship between the cooperative and its members. By requiring members to commit supply for two years and implementing penalties for non-delivery, the agreement heralded a new era for the cooperative. Members were now required to make a long term commitment to CWI. In

[29] From various interviews regarding the feedback from the MMA consultation process

return for taking on additional risk, members' expectations of the returns to be generated by the cooperative also increased.

In Pursuit of Supply

Florida's Natural NFC achieved national distribution in 1994, and during that decade CWI's fruit supply requirements increased beyond the capacity of the cooperative's traditional members. Florida's Natural's high profile success was engendering interest from growers interested in becoming members.

In 1997, seeking in increase supply from larger producers, CWI formed a cooperatively owned entity called Orange Growers Marketing Association ("OGMA")[30]. In its first year OGMA supplied around one million boxes to CWI. In 2015 OGMA supplied around 25% of CWI's fruit. Because its focus is exclusively on fruit for processing, OGMA has contributed significantly to creating a stable source of supply for CWI.

The effects of hurricanes in 2004-05 together with the subsequent advent of citrus greening put further pressure on CWI supply. In order to meet customer demand for its premium, branded products in the immediate aftermath of the hurricanes, the cooperative was forced to purchase large volumes of non-member fruit at high prices on the spot market. It was clear this strategy would not be sustainable in the long term, not least of all because to maintain its status as a cooperative under cooperative regulations, CWI requires 50% member business.

[30] OGMA was formed as a basis for procuring supply from large growers. The centralized cooperative is governed by its member growers and administered by CWI employees.

Increased production costs as a result of greening have seen citrus growing become uneconomic for many small producers, resulting in a steady decline in production of all CWI's members. The spread of HLB has been particularly fraught in areas where groves are smaller and neighboring properties have employed differential levels of control mechanisms.

In 2009 Lykes Bros. Citrus, an IOF and the third largest grower of citrus in Florida, became a member of CWI. Operating four separate groves totaling 30,000 acres and headquartered 50 miles south of Lake Wakes at Lake Placid, Lykes would quickly become one of CWI's highest patronage members.

Lykes Bros.' were followed in 2012 by Southern Gardens Citrus, a division of large Florida based agriculture firm U.S. Sugar Corporation. Southern Gardens' 16,500 acres of groves are located 100 miles south of Lake Wales in Southern Hendry County. This location in the southern part of the state has the advantage of milder winter weather relative to the central citrus regions, making it less prone to damaging winter freezes.

Lykes and Southern Gardens were the first new members to join the cooperative for more than a decade. The scale of their operations brought much needed member volume to the cooperative, but would also result in a sudden and sharp misalignment of the cooperative's capital structure because member equity was no longer proportional to member utilization of the business. In 2013, the largest patronage member supplied 17 times more fruit than the member with the smallest. Yet that smallest patronage member held one third more

allocated equity than the largest. The largest holder of equity was only the 6th largest patronage supplier.

With groves located farther South in the state, Lykes and Southern Gardens also represented the first significant geographic diversification of CWI's supply base.

By 2015 half of CWI's members had belonged to the cooperative for over 65 years – three were founding members; three were IOFs and 11 were CGAs; 2 had groves located primarily in southern Florida citrus growing area.

4.5 CWI's PROPERTY RIGHTS AND GOVERNANCE

Regulation and Foundation Documents

CWI is incorporated under The Agricultural Cooperative Act of Florida, 1923. This statute reflects the many of the provisions of the Capper-Volstead Act, 1923 which governs the establishment and operation of cooperatives enterprise in the USA and sets out the various requirements for cooperative businesses. These include that a cooperative be operated for the mutual benefit of its members, that control be exercised on a one member one vote basis[31] and that member product account for at least 50% of the value of business transacted.

The property rights of CWI's members are contained in the cooperative's Articles of Incorporation and Bylaws. These reflect the requirements of these state and federal

[31] Cooperative statutes in certain states allow proportional voting.

cooperative laws. Amendments to the Articles must first be approved by two-thirds of the directors and then subsequently approved by two thirds of the members. Amendments to the Bylaws require the approval of 75% of members. Voting is on a one member one vote basis. The following section sets out the primary features of the ownership and control mechanisms contained in the Articles and Bylaws.

Membership and Control

CWI does not require members to supply all their fruit to the cooperative, but in order to maintain eligibility for membership, members must execute a Uniform Marketing Agreement and supply a specified minimum volume each year[32]. Each member is entitled to one vote, irrespective of their patronage or the amount of equity held. Each member who meets a designated level of patronage are also entitled to one seat on the Board of Directors.[33]

Governance

The Board must comprise a minimum of seven directors, and is elected by members at each Annual Meeting. No maximum size of the Board is prescribed. Directors are not required to be members of the cooperative or representatives of members, but must be no more than 75 years of age. Director nominations are put forward by the Board. Board nominees who are members or member representatives require the support of a majority of Board

[32] The minimum annual volume of supply for membership eligibility is 100,000 boxes. On the basis of CWI's 2015 volumes, this represents 0.7%.
[33] The minimum annual volume of supply to have a representative on the Board is 250,000 boxes although this may be waived by the Board if a reduction in volume is due to factors beyond the member's control such as freeze disease or storm.

members, but nominations of directors who have no membership affiliation require the support of 75% of the board.

The Board is responsible for appointment (and removal of) of a Chairperson. No Chair may serve for more than six consecutive terms and term of each Board Member is from Annual Meeting to Annual Meeting (approximately one year); shareholders vote annually to appoint every director at each Annual Meeting.

Equity

Voting Stock

Control in CWI is exercised on a one member, one vote basis. Upon joining CWI a member is issued with Class A common stock which entitles them to vote as member-stockholders. The value of this stock is nominal and every member holds the same amount of these shares.[34] Class A stock is non-redeemable, non-appreciable and non-transferrable. Members are paid dividends on this stock at the rate of 8% per annum.[35]

[34] Class A Common Stock is issued at the nominal value of $100 and each member holds 130 shares.
[35] 8% per annum is the maximum dividend payment permitted under federal regulations. State regulations vary, with many states capping dividends at 6% per annum.

Patron's Equity - Retained Member Earnings

Retentions are the principal mechanism by which members' provide capital to CWI. Retains are an amount of patronage earnings held back for investment in the company, linking members' investment in the cooperative to their patronage. Over the long term, this mechanism is designed to ensure that members' contribution of capital is proportionate to their utilization of the cooperative's assets. However changes in patronage patterns within the membership can distort this equilibrium; this is evidenced by the decline in members supply due to sudden exogenous weather and disease events, and by new members immediately accounting for large proportions of the CWI's patronage.

- *Between 2006 and 2013, retained non-member earnings increased by 60%. By 2013 allocated equity was 13 times greater than member stock, which had more than halved between 2006 and 2013.*
- *2013 member patronage and equity holdings in the cooperative showed the holding of residual claim rights and residual control rights was no longer in alignment.*

The level of retains is set by the Board each season along with the amount to stock be redeemed (returned to members). Members are issued Class B Common Stock in recognition of their retains,[36] which along with Class A Common Stock, forms part of Patrons' Equity. Class B Common Stock bears no interest and is not appreciable but may, with the approval of 75% of the Board be transferred to other current members of the cooperative.

[36] For each box of Member fruit a member supplies to CWI, they are issued with a qualified revolving fund certificate for per unit retains. The qualified status refers to the tax status of the retention. Revolving fund certificates are included as a patronage dividend and are taxable to members.

Allocated Equity – Non-Member Retained Earnings

Any profits (or losses) CWI makes from trading in Non-Member products become Allocated Equities. Allocated Equities are distributed amongst members each season using a methodology approved by the Board. The current basis for allocation of this equity is each members' year end stockholding. Allocated Equity is non-appreciable, non-transferrable and non-redeemable. It does not bear interest. Because allocated equity may only be accessed by members in the event of dissolution of CWI, non-member retained earnings effectively become permanent capital for the cooperative.

Table 3 CWI – Classes and Characteristics of CWI Equity 2015

	Voting	Qualified[37]	Sourced From	Interest Bearing	Transferable	Appreciable	Redeemable
Class A Common Stock	Yes	No	Member Investment	8%	No	No	No
Class B Common Stock	No	Yes	Patronage Retains	No	To current members	No	Yes
Allocated Equity	No	No	Non-Member Earnings	No	No	No	No

[37] Qualified describes the Federal income tax status of cooperative patronage payments. Qualified payments are subject only to one Federal tax payment. Where marketing cooperatives issue capital certificates from qualified patronage payments, the tax obligation passes through to the member. (Frederick, D. 2005)

4.6 CWI's MEMBER MARKETING AGREEMENT ("MMA")

In this section I set out the role of the Member Marketing Agreement ("MMA") at CWI and contrast the MMA in place at the beginning of the study period, and that introduced in for the 1994 season.[38]

Member supply of fruit to CWI is governed by a MMA. This agreement was frequently used by the cooperative to implement balancing strategies over the study period.[39] The MMA sets out the terms and conditions for supply of member fruit to the cooperative.[40] It is reviewed annually and is subject to Board approval.

There were multiple changes to the MMA over the study period. During the 1980s, when the cooperative's primary purpose was to market members' residual fruit, the MMA was of a general nature specifying minimum but no maximum volumes of supply, seen by some members as a formality. In contrast, the agreement that has governed contractual relations between the cooperative and its members since 1994 is closely monitored. Across successive seasons, amendments have seen the MMA become a sophisticated supply management tool. The MMA has been a primary vehicle for the cooperative to implement supply incentives as part of their balancing strategies.

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[38] CWI's fiscal year runs from September 1 to August 31each year. The 1994 season represents the supply period from September 1, 1993 to August 31, 1994.

[39] Balancing strategies include incentives and programs intended to align the quality quantity of timing of member supply with demand and plant capacity. Lopez and Spreen (1985) construe three categories of balancing strategies – supply strategies, pricing strategies and education – which they maintain can increase cooperative equilibrium and ergo higher member returns.

[40] CWI contracts with its principle members. Where these principle members are CGAs, the MMA terms and conditions are mirrored in each CGA's marketing agreement with its member growers.

The Member Marketing Agreement Prior to 1994

Prior to 1992 CWI's MMA was an annual contract for a minimum volume. This contract could be terminated at the end of each season by giving 60 days' notice. Non-delivery of contracted volumes was subject to a penalty of $1 per box.[41] No maximum volume was specified and the cooperative was obliged to accept, process and market all member fruit.

From year to year and within any one season, volumes could vary greatly because members' supply patterns would alter according to the fresh market prices and offers from other processors. Volatility of supply also arose from the accepted practice of members (or members of members) "helping out" fellow growers by delivering non-member fruit on their behalf.

Inefficiencies arising from supply volatility served to erode cooperative margins and member returns, providing an unsuitable basis for a FMCG[42] business of scale.

The 1994 Member Marketing Agreement

In 1992, amidst forecasts of a 60% increase in member production[43], CWI began formulating substantive changes to the basis upon which members contracted to supply fruit to the cooperative. The business had invested heavily in the development of NFC, and a surplus of fruit supply threatened to dilute the higher returns from this premium product.

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[41] It was speculated that these penalities may not have been rigorously enforced (Interview, VP Agricultural Services).
[42] Retailers in the competitive FMCG (fast moving consumer goods) sector demanded full delivery of contracted volumes.
[43] The Florida citrus industry was forecasting a 30% production increase.

Following extensive and substantive member consultation, the CWI Board approved a new MMA which would come into effect in the 1993/94 season. The objective of the new agreement was to reduce supply volatility and obtain a secure supply of quality fruit to support the cooperative's growing NFC business. CWI sought to align member fruit supply with demand for the cooperative's premium NFC juice. This would avoid member fruit returns being diluted by lower returning products. Greater certainty over fruit supply would provide continuity for customers, and allow production planning to increase plant operating efficiency. Features of the new agreement included:

- Two year notice of exit
- Meaningful penalties for non-delivery of contracted fruit
- Two basis for contracting – Limited Box and Specified Acreage[44]
- Independent audit of Specified Acreage fruit deliveries

The impact of these changes was to effectively introduce delivery rights to the cooperative. These rights, referred to as fruit allocations, represented both an entitlement and an obligation to supply an agreed volume of fruit to the cooperative each season. The two-year notice period had the intended effect of closing the cooperative to casual members seeking to use the cooperative to dispose of surplus fruit in times of over-supply.

[44] Specified Acreage contracting allows members who pack fresh fruit to designate the acres that will be used to fulfill their contract with CWI, delivering all fruit from those groves to CWI with the exception of that which is packed fresh.

However, the cooperative was still exposed to volume risk arising from Specified Acreage contracts. If fresh fruit prices were high, members with a Specified Acreage agreement could (and would) pack fresh instead of supplying CWI. When fresh fruit prices were low, CWI could expect to receive more fruit from each Specified Acre.

There was no volume tolerance for fruit contracted on a Limited Box basis.[45] Penalties for non-delivery provided an incentive for box contracts members to commit less fruit to the cooperative than they otherwise might.

> "*CWI implemented a Marketing Agreement that restricted supply to meet CWI marketing requirements. Through the 1980's our industry experienced a series of freezes, causing much more volatility and creating seasons that fluctuated between extreme oversupply and shortages. These market conditions helped to drive the logic of a Marketing Agreement. The Marketing Agreement limited the fruit supply to sales requirements, which we would describe as being limited premium product sales. We could always sell bulk concentrate, but the more we sold, the more dilutive it would be to member fruit returns. Over the years, what we describe as being premium has become even more premium (e.g., more not-from-concentrate business), which enables us to deliver even stronger relative fruit returns on average. The Marketing Agreement has led to more stability in our fruit returns, and trending towards relatively higher fruit returns as the focus as become even more premium-product oriented.*'
>
> *Bob Behr, CWI CEO 2015*

The 1994 MMA was a response to a material increase in the scope of CWI's business. It represented a significant change in the way members transacted with the cooperative. A dynamic operating environment, advances in the cooperative's knowledge and emerging member heterogeneity have seen CWI repeatedly amend the terms and conditions of the MMA since 1993. These changes have been primarily but not exclusively focused on balancing short and medium term member fruit supply with customer demand.

[45] Limited Box or Designated Box contracts specify the volume of boxes to be supplied under the MMA.

CHAPTER 5
NARRATIVES

This section contains four narratives. These narratives outline events taking place at CWI and its operating period over the study period. Each narrative covers a discrete time period:

5.1 1980 – 1989: Disruption and Development

5.2 1990 – 1999: New Game, New Rules

5.3 2000 – 2009: Feast, Famine and Focus

5.4 2010 – 2015: Uncertainty and Introspection

5.1 1980 – 1989 DISRUPTION & DEVELOPMENT

Preamble

The 1970s had been a strong decade for CWI. From sales of $43 million at the start of the decade, CWI's annual sales were $126 million by 1979. The move in consumer preferences from grapefruit toward orange products had continued. CWI produced all major processed citrus products at its headquarters in Lake Wales, FL. and was the State's third largest processor of chilled juice. In the interests of securing future supply, the cooperative began accumulating land for future grove properties farther south in the state. In 1975, seeking shipping efficiencies the cooperative had set up a regional packing plant in Winston-Salem, NC. Two years later, CWI formed Wales Trucking, Inc. to supply warehousing and distribution services to other food marketing businesses. In 1978 a large American food company, Beatrice Foods Co., had acquired industry leader Tropicana Products Inc.,

marking the commencement of aggressive competition between Tropicana and Minute Maid.

Joe Marshburn, who had joined CWI in 1961, was appointed to the role of CWI's General Manager in 1978.[46] Marshburn excelled at external relationships – he was well networked and active in many industry organizations. He had a strong marketing focus and wanted to expand the scope and scale of CWI's consumer marketing business. It had been a CWI's long time goal to have its own brand.

CWI's purpose at the outset of the 1980s was to add value to Member's production units by processing and marketing Member citrus fruit for the juice market. Since the cooperative had been formed in 1933, the citrus processing industry had flourished. Florida citrus production had increased almost tenfold to 261 million boxes. Most of that growth had been in oranges for the juice market. By 1980 only 12% of total Florida citrus production was sold on the fresh market, compared with 91% in 1933. Oranges accounted for 85% of all Florida processed citrus; in 1933 the processing industry had been almost exclusively dedicated to grapefruit.

Notwithstanding the growth in the processing sector, returns from the fresh market consistently delivered a premium over processed fruit. Whenever possible growers preferred to supply the fresh market. Instances of undersupply in the citrus market would also give

[46] Marshburn joined CWI in 1961 as Sales Manager Chilled Product. In 1965 he was promoted to the position of Assistant General Manager where he would be groomed for the General Manager role.

rise to special pricing offers to growers as processors competed for fruit to fulfill committed sales.

CWI's business model was to process what was supplied and to sell what was processed. Growth in scale could be achieved by attracting more fruit from existing Members, by seeking new members , by processing non-member fruit and by conducting allied and non-member business.[47] This supply-taker approach permeated the organizations' culture and operations; CWI had limited control over the timing and volume of its supply or its sales and consequently operational efficiency was constrained. The volume and timing of fruit delivered was determined by each Member, who would liaise with the Fruit Department on logistical and quality matters. The Sales Department would obtain orders from customers, and the Operations Department would then seek to align production with those orders. Where a season's supply was in excess of demand, concentrate would be produced and stored based upon estimates of expected future customer orders. If additional supply was required to meet a customer order, fruit could be sought from Members or purchased on the spot market.

Member supply to the cooperative was governed by a 12 month MMA. This contract was not exclusive – Members were able to supply other processors. The MMA specified a minimum volume of fruit to be supplied but the penalties for non-delivery were low and not

[47] Allied business involves utilizing CWI resources for non-citrus activities such as co-packing of non-citrus juices. Non-member business refers to the processing of citrus fruit procured from a supplier who is not a CWI member. These activities are each subject to constraint by cooperative statues require Member activity to account for 50% of business by value.

regularly or consistently enforced.[48] These features of the MMA together provided Members significant latitude to vary from their contracted minimum level of supply and to participate in the cash market for fruit when it was profitable for them to do so. Thus the primary determinant of Member supply to the cooperative was the prevailing price for fresh fruit; that in turn was influenced by exogenous supply factors including weather, disease, grove management costs together with longer term changes in production patterns and land use.[49] Supply variability was further heightened by a spirit of goodwill amongst growers - Members would gladly help out their neighbors by putting their fruit through the cooperative on their behalf.

Under the cooperative's pooling arrangements Members received progress payments for their fruit during the season. Because the final price would not be known until end of season inventories were valued and financial statements completed, final payments and retains would not be effected until after financial year end.[50] The level of Retains to be taken from the patronage pools were determined each season by the Board and subject to a 20 year revolvement.[51]

CWI's plant and headquarters, located on a sprawling site in Lake Wales, was in close proximity to Florida's primary citrus growing area. Over the years, capacity had been added

[48] Interview VP Agricultural Services
[49] Demand for fresh fruit was influenced by general economic activity, population growth, household income and employment, dietary habits, and the availability of substitute products. These same factors drive demand for citrus juice, although citrus juice has a longer shelf life than fresh citrus.
[50] Analysis of the Financial Statements of 31 August 1980 suggests that around 50% of Patronage Pool Proceeds had been paid to members by the end of the fiscal year.
[51] Under the 20 year revolvement, capital which had been retained from patronage earnings and invested with CWI for 20 years would be repaid. This process took place annually.

incrementally, resulting in a somewhat haphazard layout. The technology employed was standard (condensers, freezers, bottling and canning lines) and in line with that used by other processors at the time. The business and internal communication was organized hierarchically. Four executives located in the Head Office building on the site made most of the decisions. Business administration and accounting systems were manual. Budgeting was done at an organizational level, and financial and operational performance against budget was not closely monitored.[52] In keeping with the seasonal nature of the business, the production and operations labor force was comprised largely of seasonal labor.

CWI had 11 members, all located in the Central Florida area. Most (if not all) were Citrus Growers Associations (CGAs) with packing house operations. Each member was represented on the Board which, since 1973, had been chaired by Frank Hunt.[53] The nature of the role played by the Board and the frequency and duration of the Board Meetings at the time are unknown.

In the 50 years since CWI was first formed, a citrus processing industry had flourished in Florida.[54] Members had access to alternative markets and therefore CWI needed to provide a return comparable to or better than competitors. Constrained by its supply model, CWI

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[52] Interview with John Clarke, Senior Director Planning Services

[53] Frank Hunt had been a director of CWI since 1953 when succeeded his father Deely A. Hunt as the representative for Hunt Brothers Cooperative. Hunt Brothers was a founding Member of CWI. Deely A. Hunt was elected President and General Manager of CWI in 1946. He was responsible for the appointment of Marvin Walker who joined the CWI's as the first non-Member General Manager in 1949.

[54] Florida Citrus Hall of Fame sourced from http://floridacitrushalloffame.com/index.php/inductees/inductee-name/?ref_cID=89&bID=0&dd_asId=650

had focused upon extracting rents through brand licensing agreements and distribution. The cooperative had developed an established network of brokers and customers, relationships and service were a prime source of differentiation for CWI. The strategy was to grow by expanding distribution and the goal was to acquire its own brand.

1980 – 1989

By 1980 Florida was producing 261 million boxes of citrus a year, 79% of which was Orange and which was either marketed as fresh or processed. Florida was the leading citrus producer in the U.S., accounting for 81% of U.S. production and 13.8% of world production.[55]

CWI's Net Revenues in 1980 were $145 million. Inventories of $43 million accounted for more than half of the cooperative's Total Assets of $85 million. Patrons were an important source of funding; CWI was funded by a combination of Patron's Equity ($26 million), Unsecured Loans from Members ($8 million), Patron's Pool Proceeds ($26 million) and Secured Long Term Debt ($15 million). Two-thirds of the 14.6 million boxes of fruit processed by CWI that season was supplied by Members.

CWI's first move in 1980 was to extend U.S. distribution of its juice products through the acquisition of a West Coast packaging plant. This Fullerton, California entity operated as

[55] In the 1970s Florida accounted for around 22.1% of world citrus production. This decline in share of global production across the following decade is attributed to the combined effects of a 14.9% decrease in average Florida production and rapid growth in Brazilian production as newly planted groves came to maturity.

World Citrus West, Inc. and handled 1.5 million cases in its first year of operation. California provided CWI with a base in a region where Tropicana's penetration was low.

A hard freeze in Florida on January 12-14, 1981 caused significant damage to trees. While most of the early varieties of citrus had been picked, the sweeter mid and late season varieties were hard hit.

Nearly two years later, on December 24-25, 1983, another severe freeze occurred. The impact of the 1983 freeze was greater than that of 1981. The Frost Warning Service had missed this event in its forecast and consequently pre-emptive action was not taken. Much of the damage had occurred before growers learned of the freeze.

By 1984 total Florida citrus production was only 60% of 1980 levels[56], resulting in tight supply and high prices in the fresh fruit market. CWI's members took advantage of the high market conditions, favoring the fresh market with their supply. In 1984, CWI processed only 6.6 million boxes of member fruit, and 9.9 million boxes in total. Some of this fruit was of poorer quality, having been damaged in the frosts. Wherever possible a returns was sought for frost damaged fruit. CWI's Net Revenues did not suffer – in fact they increased to $196 million in 1984.[57]

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[56] Fruit processed by CWI fell by 32% across the period 1980 -1984.

[57] Higher sales are likely to be attributable to higher selling prices for finished goods. No explanation of the increase in sales is provided in the financial accounts; inventories were stable across the period.

Anticipating a recovery in supply and with strong ambitions for future sales growth CWI embarked on a $6M expansion of its Lake Wales processing plant, installing state of the art carton filling equipment and a designated juice filling room. Packaging innovations were made, and CWI introduced a juice block product. In 1985 the cooperative renewed its license with Disney for the Donald Duck brand for a further 40 years.

On January 20-22 1985 Central Florida was struck by yet another hard freeze. With groves yet to recover from the freezes of 1981 and 1983, the 1985 freeze had a devastating impact on the industry. For many producers, it proved fatal with a large number exiting the industry. Of those who chose to replant, many decided to move farther south to reduce frost risk. 1985 Florida citrus production was 148 million boxes, 56.6% of what it had been in 1980. CWI processed only 5.3 million boxes of Member fruit in 1985; this represented only 56% of the Total Fruit processed of 9.6 million boxes. Once again, Net Revenues increased to a record $217 million.

The drastic reduction in supply arising from the successive freezes brought about rationalization in the processing sector. Numerous processors reorganized whilst others were forced out of business.[58]

[58] From interview with Steve Caruso, CEO

Industry rationalization saw the closure of several processors. Against a 12% increase in Florida production, CWI'S Total Fruit volumes increased by one third in 1986 to 12.5 million boxes. Sales revenue decline by 12% however to $189 million.[59]

The Grove Developments – Upstream Vertical Integration

Most of CWI's Members were located in the mid - north of the central Florida citrus region. Having replanted after the first frosts using equity and after the second frosts using debt, many members lacked the financial resources to rebuild supply. This was especially the case for members whose groves were located to the North in Orange and Lake Counties. With the objective of securing future member supply CWI began to buy undeveloped land in South West Florida; by 1987 CWI owned about 80,000 acres of land designated for grove developments.[60] Two groves were developed during the mid-late 1980s - Cooperative Producers Inc. and Ranch One Cooperative Inc. and interests sold as investments. Investors could purchase as little as 20 acres or as much as 5,000 acres. CWI members were given preferential purchase rights. A management company was formed to supply harvesters, caretaking equipment etc. and take care of all aspects of grove management including harvesting. All fruit from the grove projects was signed up for supply to CWI. Costs were allocated proportionate to utilization and investors received a return net of costs. A third grove, Cooperative Three, Inc. was planted in the early 1990s. Each of the three cooperative grove companies appoints its own Board of Directors.

Ben Hill Griffin, Inc. became a member of CWI in 1986. The sizeable family was Chaired by Ben Hill Griffin III. Griffin was active in leadership of a number of public and private businesses in citrus and beyond and had many connections. In addition to serving on many industry bodies he would bring a fresh perspective and a keen eye for performance to the Boardroom.

[59] The reason for the decline in sales was not disclosed. Inventories increased by 66% ($29M) over the period, but accounts to not disclose how much of this was attributable to the acquisition of SFD.
[60] From interview with Chip Hendry, CFO

Acquisition and Integration of Southern Fruit Distributors ("SFD")

For CWI industry distress provided opportunity. In the early summer of 1986 CWI approached Southern Fruit Distributors Inc. ("SFD") to ascertain their interest in divesting. SFD was a sizeable[61] family owned citrus processing and marketing business. Established by the Caruso family in 1926 which had been located in Orlando since 1945. With a majority of its processing in grapefruit, SFD grew about one third of its supply, purchased another third and the remaining third was participation fruit[62]. A sizable operation, SFD operated five canning lines, one glass line and two concentrate lines; it was Florida's largest 6oz juice canner[63]. SFD offered citrus and non-citrus options such as pineapple, and tomato juices.[64] At the peak of the season SFD had a labor force of up to 250 workers.

SFD was an attractive acquisition target for several reasons; SFD was strong in food service and would provide entry into this growth sectors. CWI would acquire its own brand, through the purchase of SFD's successful Bluebird brand and also reduce costs through better capacity utilization and operating, distribution and marketing scale efficiencies. Negotiations progressed quickly and in May 1986 agreement was reached.

The purchase of SFD was completed on August 1, 1986. Part of the agreement reached with SFD included the services of two senior executives, Steve Caruso and Jim Caruso, to provide support during the business transition. Three SFD sales staff and two operations staff (including Fred Fulks who would later become V.P. Operations) were employed by CWI.

Passionate about business, Steve Caruso took responsibility for integrating transitioning the Bluebird processing lines and other operations into CWI's Lake Wales facility. To accommodate SFD's volume of product, CWI leased extensive frozen and dry storage space in premises recently vacated by a citrus cooperative which had recently closed[65]. Caruso brought a new focus on costs to CWI's operations and identified untapped earnings potential of allied activities[66]. Including non-citrus items in CWI's portfolio helped to increase plant utilization and mitigate citrus specific risk. For the first time, CWI produced a comprehensive, bottom up budget.[67]

During the 1980s CWI employed a small but well connected sales force that worked closely with a network of full service brokers. It was a broker who, in 1987 fed back to the sales

[61] SFD sales were approximately $95 million by 1986 and that the business was ranked fifth place in the "Golden 50 of Central Florida" listing of top firms in Central Florida (Conway news Inc 2012)
[62] Under participation agreements, growers are paid on a yield basis and the final price is determined after grading and processing.
[63] From interview with Steve Caruso. No further information available.
[64] The selection of products offered was intended to position SFD as a provider of total customer juice beverage solutions.
[65] Plymouth Citrus Products Cooperative in North West Orange County, FL.
[66] Allied business includes non-citrus products such as apple, tomato and pineapple juices and co-packing activities.
[67] Interview with John Clarke, Senior Director Planning

team that a buyer for the Winn-Dixie[68] grocery store seeking a NFC juice product. Tropicana, the recognized innovators and leaders in fruit juice products, had been offering NFC for some years. Winn-Dixie confirmed it was an area of growth within the chilled juice sector.

In response to the customer's inquiry CWI very quickly assembled a multidisciplinary team to investigate production options. NFC required a totally different technology and production technique than any of CWI's other products. Pioneered in 1954 by Tropicana, NFC juice is cold pasteurized and requires extensive chilled storage.[69] The multi-million-dollar stainless steel tanks required for an aseptic tank farm were well beyond the cooperative's financial reach at the time. The asset specificity of large stainless steel tanks magnified the risk, especially for an unknown product. Looking for a scalable option the cooperative turned to 300-gallon bag in the box technology used in the tomato industry in California. The team also determined that surplus freezer capacity from frozen concentrated juice production, could be cost effectively converted into chilled storage.

The project proved energizing and provided a unique opportunity for a cross – divisional team to work together on a new, important, time bound project. NFC was championed on the sales side by Walt Lincer, a talented and personable Sales & Marketing Executive who had joined CWI in 1981 from Lever Bros.

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[68] Winn-Dixie is a regional grocery chain headquartered in Jacksonville Florida.
[69] Concentrated juice is a shelf stable low volume product.

In June 1987 CWI began its first trial of NFC juice, named "Fresh n' Natural"[70] within a single Winn-Dixie store. The response was so positive that by August 1987 supplies of product had been exhausted. CWI was greatly encouraged by the success. Lincer (2004) observed "we felt confident that if we made a good product and sold it at a good price in outlets we trusted, we'd have all the business we wanted."

A 7% decline in member fruit supply in 1987 - to 7.5 million boxes - was made up with the purchase of additional non-member fruit.[71] Total Fruit processed, which increased 5.8% to 13.3 million boxes, of which member fruit represented only 57%. of Total Florida production over the same period increased 2%. Buoyed by the SFD acquisition CWI's Net Revenues revenue increased $77 million (40%) in 1987 to $266 million.

CWI was encouraged by the success of its NFC trial and believed that, if well executed, replacing CWI's private label business with the premium priced Fresh n' Natural NFC would provide a sustainable shift in grower returns. But this growth needed to be financed. With the devastating impact of the 1985 freeze fresh in members' minds, CWI was cautious to incur debt; equally banks were reluctant to lend on an as yet unproven future revenue stream. While Board and management explored options for future funding that would allow scale operations, CWI continued to respond to a growing market demand using the bag in box (bin) technology. This involved steady expansion of bin capacity. Although more

[70] Initial batches used the Donald Duck logo alongside the Fresh n' Natural branding. The Disney character was soon withdrawn from the label, being deemed superfluous given the product's popularity. Initial batches used the Donald Duck logo alongside the Fresh n' Natural branding. The Disney character was soon withdrawn from the label, being deemed superfluous given the product's popularity.

[71] Some of the non-member fruit may have come from former SFD suppliers.

expensive on a per-gallon basis, bin technology avoided the need for large scale capital investment.

In the first year of NFC production, CWI packed around 4-5,000 bins.[72] The second year CWI packed as much NFC as it was able, but ran out of product one third into the season. As Steve Caruso recalls "We felt we were really onto something here but really we needed to have the product before we could get the customer." Meanwhile, production and sale of the full range of other products made by CWI and SFD continued.

Constrained by production capacity and marketing resources but excited by the potential for improved grower margins, CWI opted for a staged, regional roll out of Fresh n' Natural. Since Tropicana's sales were focused primarily in the populous New York market, CWI decided to begin the product in the West and work "backwards" toward the North East. Fresh n' Natural was positioned with a generic message of fresh taste and high quality.

In the marketplace, Minute Maid, the Coca-Cola Corporation's juice brand, was yet to enter the NFC segment. Competition for Fresh n' Natural was provided by Tropicana, which had taken a step back from its concentrate business and was aggressively developing the NFC market. Tropicana did not take kindly to CWI's entry into the market and as early as 1987 began legal action. Tropicana claimed that CWI should not be allowed to use the word "Fresh" on its NFC label. The case was decided in favor of CWI and upheld on appeal.[73]

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[72] Today CWI has approximately 120,000, 300-gallon bins in its inventory, which account for around two-thirds of its total 48 million gallons of aseptic storage capacity.

[73] David Latham, former Corporate Counsel, CWI Video (2015)

In a highly leveraged buyout aimed at capturing the domestic and export potential of the citrus juice segment, Tropicana Products Inc. was acquired in 1988 by Canadian based distiller the Seagram Company Ltd for $1.2 billion. The U.S. juice market was about $1.4 million in annual sales revenue. Tropicana had chosen to specialize in the ready to serve sector.[74] It was (and remains) the nation's largest seller of RTS juice with over 30% market share. In 1988 Tropicana was also the market leader in NFC, which comprised 20% of the industry's total retail sales.[75]

In 1988 CWI's net revenues revenue reached $274 million; the cooperative processed Total Fruit volumes of 13.4 million boxes, 7.9 million (59%) of which was member fruit. Statewide production recovered a further 13% against 1987 levels to 192 million boxes, but the growth in supply was insufficient to suppress elevated fruit prices.

Considering the growth in the NFC segment of the juice market, together with the cooperative's direct experience in producing and marketing NFC, CWI was increasingly confident that NFC represented the future for the citrus juice industry. Major capital investment would be required, and in anticipation of a change in strategy, CWI set about realigning its assets and capital structure.

A plan to reduce the revolvement period for members' revolving fund certificates ("Retains") from 20 years to 7 years. The reduction in the revolvement period would more closely align the member's equity in the business with prevailing member deliveries; those

[74] In 1988 Tropicana were the third largest seller of FCOJ, with 8% of the market.
[75] New York Times March 11, 1988

members who were benefiting from the cooperative's strategy would also be funding it. Retentions were currently levied on member fruit at the rate of $0.05 per box,[76] but had been as high as $0.10 per box across the recent decade. Retains were $17.3 million in 1988 and accounted for 24% of total equity. It would also provide a degree of relief to members who were grappling with the financial consequences of the recent frosts on their groves.

By 1989 CWI owned around 80,000 acres of grove properties. These had been accumulated and developed during the 1970s and 1980s as part of a strategy to assure supply. After careful consideration of production forecasts, CWI was reasonably confident that members' supply was recovering sufficiently from the freeze events earlier in the decade that it would not be dependent on the production of all of its groves. CWI decided to sell one of the grove properties. An agreement for the sale of this grove which had been developed to the south of the cooperative's traditional growing area in order to reduce frost risk, was concluded in September 1989. The sale yielded a gain of $35 million for the cooperative,[77] and this capital was earmarked to fund the nationwide rollout of Fresh n' Natural NFC.

In 1989, Steve Caruso accepted a permanent position at CWI as Chief Operating Officer. CWI's Member fruit volumes had continued to steadily recover since the freezes; in 1989 65% of the fruit processed (8.4 million boxes) was member fruit. Total Fruit processed of 12.9 million boxes was down 4% on the 1988 season while Florida production increased 5% for the same period. Net revenue was also down fractionally to $270 million in 1989.

[76] Page 9 1996 Annual Report
[77] Interview with Chip Hendry, CFO.

5.2 1990 - 1999 NEW GAME, NEW RULES

By 1990, CWI was fully committed to the development and growth of Fresh n' Natural NFC. Minute Maid had belatedly entered the NFC sector with its "Pure Premium" product line, upping the stakes in the "orange wars" with Tropicana. Proctor and Gamble ("P&G") was also chasing market share with their Citrus Hill brand, but were a poor third to the two market leaders. In contrast to these consumer marketing giants, CWI was a small participant with limited resources. Fresh n' Natural was a great product – the challenge was for CWI to punch above its weight.

The 1990 season again challenged the cooperative. On December 22-26, 1989 Florida was hit by the fifth impact freeze[78] in its history, and the second that decade. This freeze hit farther south; the Central Florida ridge protected members from the worst of the damage. Worse hit was the grove property sold several months earlier, which suffered catastrophic damage.

The 1989 freeze made a substantive dent in fruit production and volumes processed by the cooperative reached the lowest of the study period. Member fruit fell by 39.7% to 5.1 million boxes, and total fruit volumes fell by 28.7% to 9.2 million boxes. CWI was forced to buy fruit at elevated prices on the cash market in order to meet its commitments to NFC customers. Maintaining plant operations and meeting customer commitments was taxing. In the absence of enterprise wide information systems, a tightly coordinated response across

[78] An impact freeze is one so severe that it eliminates entire groves, killing both young and mature trees. (Florida Citrus Mutual)

the business' operations was necessitated. CWI needed to buy enough fruit in the cash market to meet the requirements of its fledgling NFC business and core concentrate customers[79]. But to purchase too much fruit in the cash market would be detrimental to member returns; prices on the wholesale cash market were more elastic than those in the retail orange juice sector and distributors did not wish to reduce their margins.

Profitable Divestment – Citrus Central Inc.
In 1990, in anticipation of the Gulf War, the U.S. Department of Defense approached CWI to ascertain how much juice could be provided at short notice. CWI quickly responded, advising it could supply one million cases within three months. A price was agreed and the transaction was quickly concluded. Unbeknownst to CWI at the time, it was also to later have significant consequences for CWI.

In 1965, CWI had joined together with two other packers to manufacture cans and ends. Citrus Central Inc. was organized on a cooperative basis, with profits and any proceeds from sale or dissolution being allocated amongst the owners on the basis of utilization. In 1991, Citrus Central received an unsolicited takeover offer from Crown Cork and Seal, Inc. a Philadelphia based manufacturer of cans, bottle caps and bottles. A selling price of $70 million was agreed. As part of the sale and purchase agreement Citrus Central's owners also singed a 10 year supply contract with Crown Cork and Seal, Inc. CWI's Department of Defense contract had boosted the canning cooperative's 1990 sales to around $100 million meaning CWI received a disproportionate share of the sale proceeds. The money was earmarked to fund CWI's NFC strategy.

It was a costly season for the cooperative. Despite the fall in fruit supply, net revenues for the 1990 season increased 3.7%. However, the gross margin on net revenues (before patronage payments) fell by 45.6% over the previous season to 20%. With dramatically reduced member patronage from which to fund working capital, CWI increased its debt; interest costs increased by two thirds to $4.5 million. For the 1989-90 season CWI posted a net loss after tax of $3.62 million. CWI needed to increase its equity in order to reduce funding costs and access capital to fund its NFC strategy. It did this by increasing member retentions were increased from $0.05 per box to $0.20 per box.

[79] The need for non-member supply was compounded by an agreement the cooperative had entered into to provide 1 million cans of concentrate to the United States Department of Defense – refer to sidebar

The following year was another difficult season. Florida production volumes recovered by 34.8%, but after the poor performance the previous season CWI struggled to obtain any increase in member fruit volumes. CWI processed 11.2 million boxes of fruit for the 1991 season, but with member fruit deliveries increasing only 3%, the cooperative was forced to source 54% of its Total Fruit supply from non-members. Prima facie this put CWI in breach of State and Federal cooperative regulations requiring at least 50% of the value of business transacted be derived from member supply.[80] Needing to bolster its fruit procurement capacity, CWI recruited Davis Crumbly who was Coca Cola's talented and personable Grove Manager to understudy Donald Serdynski the director of the Fruit Department. Crumbly's interpersonal skills and resolute character were to prove an excellent fit for the cooperative.

CWI's Net Revenues fell 6% to $263 million in 1991. Gross margins on net revenues remained at 20%, reflecting the cost of buying non-nember fruit. The cooperative posted an after tax net loss of $6.7 million in the 1991 season. It was clear to all that the status quo was no longer sustainable. A period of intensive self-examination followed.

[80] Details of debt financing covenants are not known, but breaching the 50% requirement for member business may also have been in breach of loan agreements.

Balancing Demand, Supply, Capacity…. and Member Expectations

By 1991 CWI was committed to a future as a processor and marketer of premium NFC juice. But to fully extract rents from this market, both plant capacity and the cooperative's supply problems would need to be addressed.

The cooperative was still using bin technology for the production of NFC. As the scale of CWI's NFC business increased, this production platform was becoming increasingly cumbersome. With the proceeds from the sale of Citrus Central Inc., CWI now had the balance sheet strength to develop a stainless steel tank farm. This major undertaking would require total reengineering of the plant yet had to be accomplished in a manner that ensured current product supply continuity. The first tranche of this development took place in 1991 when CWI cooperative committed $10 million and continued throughout the mid-1990s. During the next five years CWI installed around $50 million of bulk storage. Today CWI has 16 one million gallon stainless steel aseptic tanks at its Lake Wales facility.[81]

Resolving the supply situation was going to be less straightforward. Growth of the Florida's Natural brand and exogenous supply shocks had revealed vulnerabilities in the security of fruit supply; there were significant challenges in maintaining a balance between supply and demand for fruit. The move into NFC had taken place amidst a highly unstable fruit supply situation. Many groves had been devastated during the 1980s freezes and replacement plantings were as yet insufficiently mature to yield. Options for securing domestic supply were limited. Several processors used product imported from Brazil to fill the supply gap but with its

[81] In 2015 CWI also had a further 12 one million gallon tanks at Umatilla.

"Florida" branding[82] this was not an option available to CWI.[83] Acquiring fruit on the spot market was available as an interim measure, but as recent financial results had revealed, the economics of this strategy carried high risk. Additionally, CWI was conscious of needing to comply at all times with cooperative legislation which requires at least 50% of fruit to be sourced from members; securing a stable supply of member fruit was vital.

Cherry picking and free riding behavior was evident amongst members and non-members alike. Supply interrupting events that resulted in high fresh fruit prices would see that market become the first choice for growers. Competition between processors for the remaining fruit served to drive up prices for processing fruit. When CWI received insufficient member fruit and had to purchase on the cash market in order to fulfil commitments to customers, its margins were reduced, negatively impacting member returns. In times of oversupply, members would inundate CWI with fruit. Because patronage pool payments were made on the basis of average rather than marginal price, all member returns were diluted when the cooperative's fruit supply exceeded demand. Volatility of supply also arose from the accepted practice of members (or members of members) "helping out" fellow growers by delivering non-member fruit on their behalf.

There was nothing in the members' agreement with the cooperative that precluded this behavior. In fact the very purpose of CWI when it was formed in 1933 had been to process members' residual fruit; members were behaving as they had always done. While these actions might have been economically rational for each

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[82] Florida's Natural was promoted as being made exclusively from Florida grown citrus. This was a key aspect of the brand's marketplace differentiation.

[83] Commercial citrus groves were first developed in Brazil during the 1960s by U.S. citrus entrepreneurs seeking to secure supply following a devastating freeze in Florida in 1962. By the 1980s Brazil had become the leading world producer of oranges and would come to represent a significant competitive force.

member, the presented operational challenges for the cooperative business and was detrimental to cooperative returns. Price uncertainty arising from by large volumes of imported product entering the market together with strategic pricing by competing processors compounded supply problems. The sub-optimally efficient plant operations and capacity utilization arising from supply-side volatility threatened to erode the gains made by the downstream integration and made planning capital investment a fraught process.

Increasingly, CWI found its procurement model to be in fundamental conflict with its revenue model. Its largest NFC customers - national and regional grocery chains - sought certainty in their contracts with the cooperative, including product price, quality, quantity, level of service and length of commitment. In contrast, elements among CWI's member patrons were continuing to determine their cooperative delivery volumes only after having considered the prevailing market prices for fresh fruit and offers from other processors.

No-one understood this better than Steve Caruso. The contrast between the cooperative's procurement model and that he had overseen at Southern Fruit was stark. Caruso recalls his conversation with Frank Hunt of Hunt Bros Inc., one of CWI's inaugural members and CWI Chairman:

I said (to Hunt) "We can't live like this, we have to do something. Besides it's not me that's paying for it - it's coming out of your pocket." And he (Hunt) says "How do you figure that?" And I said "If we are going to go on this branded line like we are, selling NFC, we're making a contract with the buyer and must have juice ready when they want it. Because if we don't have the juice we are going to have to go to the market. The market's always higher in short crops, and you're going to lose money on that because your returns will be down."

Caruso's point was that the business model was changing from production-led cooperative which existed to process and sell what members produced, to a marketing-led cooperative that sourced its production to meet customer demand. This would require members to commit to a volume of fruit supply prior to each season's commencement.

Hunt understood the problem perfectly but was very concerned how his fellow Board members might react to such a significant change. However volatile supply was taking its toll on growers too. In 1992, buoyed by intensive planting over the previous decade, Florida citrus production was forecast to increase 32%. CWI member participation fruit was expected to increase by 61%. Florida was not the only region experiencing growth; Brazilian production had also burgeoned. The Coca-Cola company responded to the change in the supply situation by selling all 16,000 acres of its Minute Maid groves which were located primarily in South Florida. By 1993 citrus prices would be at a 16-year low. While the cooperative would be able to handle the additional volumes, the dramatic increase in deliveries would cause congestion at the plant and was likely to erode return. It was felt that acceptance of all fruit would be unfair to the cooperative's longstanding members who had faithfully delivered fruit during previous low yield seasons.[84] *It was with this in mind together with the high visibility of CWI's growing success with Florida's Natural NFC that the Board evaluated management's case. There was skepticism and concern from some members. It was agreed that the Marketing Committee of the Board would to oversee an extensive consultation with members.*

Member supply of fruit to CWI is governed by a Member Marketing Agreement ("MMA"). In 1992, this was an annual contract for a minimum volume which could be terminated by a member at the end of each season by giving 60 days' notice. The MMA contained modest penalties for non-delivery of contracted

[84] Thereby forgoing high alternative return options.

volumes ($1 per box) although there is no evidence of these penalties being enforced.[85] *No maximum volume was specified and, consistent with the purpose of the cooperative, CWI was obliged to accept, process and market all fruit delivered by members. The provisions of CWI's MMA was mirrored in the agreements between CWI's packhouse members and their members.*

Under the stewardship of the Marketing Committee, CWI began formulating substantive changes to the basis upon which members contracted to supply fruit to the cooperative. Across the period of a year the cooperative undertook an extensive and substantive member consultation. Members of the executive team and Board travelled to present with each member organization and their members. While some members were open minded about the change, others had strong reservations. In particular packhouse members who were suppliers of substantial volumes to the fresh fruit market expressed concern about how the requirement to commit to volumes of processed fruit might adversely impact their potential for high returns in seasons of scarce supply. Other members did not wish to forgo the flexibility that the current loose supply arrangements afforded them.

Finally in mid 1993, having considered the needs of the business and the needs of the members and members' members, a proposal for a new MMA was presented to the Board for approval. The objective of the new form agreement was to reduce supply volatility. CWI and its Members controlled approximately 58,000 acres of citrus groves and 7.5 million trees. CWI sought a stable commitment of member fruit to support anticipated growth, and also to avoid an oversupply situation that would negatively impact grower returns. Features of the new agreement included:

- *Two year notice of exit*

[85] In the early 1990s the penalty for diversion (i.e. failure to deliver fruit) was $1 per box.

- *The introduction of a two bases for contracting – Limited Box and Specified Acreage*[86]
- *Members Fruit Allocations limited to the of number acres in membership as of 1 October 1992*
- *Independent audit of Specified Acreage fruit deliveries*
- *Meaningful penalties for non-delivery of contracted fruit ($2 per box or $750 per acre for specified acre contracts)*

There was not universal support for the proposal. Discussion was intense. Some members were reluctant to forgo the flexibility the historic arrangements had provided them. Others felt firmly that NFC juice was the way of the future and that a change in the cooperative's business model was going to be necessary to access the potential higher returns that Florida's Natural offered. Finally, while not every member supported the proposal, the Board approved the new MMA.

The new MMA was first implemented for the 1993-1994 season. It represented a significant change in the way members transacted with the cooperative, effectively introducing delivery rights to the cooperative. These rights, referred to as Fruit Allocations, represented both an entitlement and an obligation to supply an agreed volume of fruit to the cooperative each season. The two-year notice period had the effect of closing the cooperative to casual members seeking to use the cooperative to dispose of surplus fruit in times of over-supply.

However, the new MMA did not impact all members identically and its incentives were not perfectly aligned with the cooperative's objectives. CWI was still exposed to volume risk arising from Specified Acreage contracts. If fresh fruit prices were high, members with a Specified Acreage agreement could (and would) pack

[86] Specified Acreage contracting allows members who pack fresh fruit to designate the acres that will be used to fulfill their contract with CWI, and provide all fruit from those groves with the exception of that which is packed fresh.

fresh instead of supplying the cooperative. When fresh fruit prices were low, CWI could expect to receive more fruit from each Specified Acre. In contrast there was no volume tolerance for fruit contracted on a box basis. Penalties for non-delivery provided an incentive for box contracts members to commit less fruit to the cooperative than they otherwise might.

CWI's development of options to address the cooperative's supply situation and the subsequent Member consultation and collective decision making process took place against the backdrop of Member's ongoing reluctance to commit fruit to the cooperative.

Florida production decreased by 7.4% but member fruit delivered to the cooperative fell 8.8% to 4.8 million boxes. Again, CWI was forced to source substantive quantities of non-member fruit; by the end of the season, non-member fruit represented 49% of the 11.7 million boxes processed by CWI. The cooperative managed to post improved financial results. Net revenues increased by 7% to $282.2 million and the gross margin on these recovered to 31.3%. Branded sales accounted for 69% of total sales. CWI was once again "back in the black," recording an after tax net profit of $24.0 million.

On the back of a 32.7% increase in Florida production, Member fruit supply and Total Fruit processed by the cooperative rebounded sharply in the 1992/93 season. Member fruit delivered to CWI increased 126% to 10.8 million boxes, representing 67% of the record Total Fruit processed of 16.2 million boxes. The increase in supply took CWI by surprise. Commenting in the 1992/93 Annual Report to Members, Marshburn and Chairman Frank Hunt said:

"It wasn't until December that the enormity of the job ahead really began to sink in…it was apparent that our members' early season production forecast had been grossly understated. Pick-outs exceed estimates by 30-60%."

CWI acted immediately to extend the processing capacity of its plant. Additional labor was recruited enabling production to be sustained on a 7 day a week, 24-hour schedule for 22 weeks. The Sales Team worked hard to move product quickly so as to avoid excess inventory. Pricing at retail averaged 16% less than the previous season and this translated into greater consumer demand with overall consumption up by 11%. Per capita annual consumption of orange juice rose to 4.9 gallons – it's highest level in 4 years. CWI's Net Revenues increased 5.0% to $296 million, and the proportion of branded sales increased by 10% to 76%. Aided by low citrus prices arising from a soft fresh fruit market, Gross Margins on those sales increased to 42.8%.

1990 – 1993 A New Brand Name - Florida's Natural

In 1991 CWI launched a bold $13 million advertising campaign for Fresh n' Natural taking Tropicana head on. The idea was to position Fresh n' Natural as a "more pure" product, superior to Tropicana in taste and quality. The script for the voice-over went thus:

"Fresh n' Natural brand is 100% pure Florida orange juice that's not made from concentrate. And you know Tropicana pure premium is too. But what you may not know is that they sometimes freeze some of their juice and then blend it back in with fresh juice. We never do. And the cold fact is, in a one-on-one taste test more New Yorkers thought Fresh n' Natural tasted closer to Fresh Squeezed than Tropicana Pure Premium. Fresh n Natural. Never Frozen. You can taste the difference."[87]

Tropicana had an annual advertising budget of around $40 million at the time. They also had extensive legal resources and immediately moved to sue. CWI's Corporate Counsel at the time, David Latham recalls:

"This time Tropicana didn't like our advertising. We claimed our juice tasted more like fresh squeezed that theirs. We said that sometimes they freeze their juice and to show that we used a frozen ball of orange juice. They didn't like that. And they sued us. They asked for a temporary injunction. The judge denied it."

[87] CWI Corporate Video 2015

There were also regulatory challenges to overcome. In 1990 Citrus Hill changed the same of its product to "Citrus Hill Fresh Select." The product was in fact made from concentrate, and a subscript on the packaging read "fresh from concentrate". The newly appointed and somewhat controversial commissioner of the FDA declared that the use of the word "fresh" violated 1963 federal marketing orders for processed orange juice and in effect constituted false advertising. Despite P&G's exhaustive legal efforts, in April 1991 the FDA ruled Citrus Hill must not use the word "fresh" and seized all product from its Minneapolis warehouse.[88] P&G belatedly agreed to desist from using "fresh" but consumer confidence in the brand had been eroded.[89]

The following year, in September 1992 P&G announced its decision to close its Citrus Hill orange juice division. The company had been unable to find a competitive advantage in the sector and it was not suited to running profitable operations from a number three market position. Part of these operations was a brand of juice called "Texsun." Sensing opportunity the CWI team travelled to Cincinnati to meet with P&G and came away having acquired this brand with $40 million annual sales on highly favorable terms.

Having ruled on the Citrus Hill case, the FDA then turned his attention to CWI and "Fresh n' Natural." One Friday in the spring of 1991, the FDA served notice on CWI giving the cooperative two weeks to remove the word "Fresh" from its product label. The FDA's maintained that because the product was pasteurized, it could not be considered fresh. The Board was informed, and managment were given very clear instructions to "fix it."[90] Immediately a crisis team was convened to address the issue and go about ensuring compliance. Chip Hendry, CWI CFO recalls

"They gave us two weeks. Two weeks to come up with a new name, two weeks to come up with a package design. And two weeks to submit a plan on how we were going to get the old product off the market and a new product on the market. The name change was not our idea - we were forced by the FDA to change the name. I can recall this vividly. We did it over the course of a weekend. There were about eight of us including Steve (Caruso), Walt Lincer, a couple of key sales people, David Latham and someone from our advertising agency. We came in and we literally got a dictionary, started with "F" and went through looking for any word we could use. And we came up with "Florida's Natural." "

The name decided, the team then turned to the new design.

"What we tried to do was … keep the package very similar so that if the products were on the shelf side by side - and they were for a period of time, as the inventory liquidated - the consumer wouldn't really know much different."[91]

The new packaging and brand was directly approved by the Board. Against all odds, leveraging goodwill from staff, suppliers and customers alike, CWI met the FDA's deadline and their program for renaming the product was accepted.

Embracing the new name, CWI set about exploiting the unique aspects of the name and the positive sentiment "Florida" evoked amongst consumers. The cooperative resolved to claim P&G's 18% market share left wanting as a result of Citrus Hill's loss of consumers trust.

With nothing like the resources of Tropicana and Minute Maid, CWI's set about "leveraging its littleness."[92] CWI considered its size gave it two exploitable advantages over its colossal competitors – an agility and responsiveness in execution, and an "underdog" appeal. There was an absence of bureaucracy, and the cooperative's marketing department consisted of only three people. Advertising for Florida's Natural NFC played on the cooperative's rural roots and homespun appeal as it worked toward national distribution.

[88] The seizure of Citrus Hill product was headline news. Reporting by national news stations caused sales to plummet.
[89] Interview with Chip Hendry, CFO.
[90] Interview with Chip Hendry, CFO.
[91] Interview with Chip Hendry, CFO
[92] Walt Lincer quote in Advertising Age 1996

The lower fruit prices in the cash market impacted all growers, but hardest hit were those with groves which had been rehabilitated following the freezes. Growers with young trees with lower production would find it difficult to cover caretaking and finance costs. The cooperative used the low cash prices to reinforce the merit in CWI's participation or pooling arrangements.

In 1993, Steve Caruso replaced Joe Marshburn as CEO. Marshburn was to remain as a consultant and Senior VP for a further 8 years. As part of streamlining the operations at the plant, in his role as COO Caruso had brought an intense focus on operational costs. As CEO he was to renew this, studying all the comparative cost statements that the industry. This benchmarking highlighted several areas where CWI was out of line with its competitors. In a business-wide initiative involving all staff, Caruso challenged the cooperative to meet or beat competitors costs. While scale meant that CWI would not have the advantages of its larger competitors in areas like packaging, there were significant gains to be made in processing. For the first time cost information was compiled and it was shared – with the executive leaders and with the Board. In Caruso's words

" I took the view that we should be able to compete with anybody and challenged our people with that. We had to put juice up efficiently as we can, and we did."

Caruso's leadership style represented a major change. In earlier years the CWI had operated along strict divisional lines. In keeping with the times, the management structure had been hierarchical, from the CEO's office to the floor. The hierarchical structure did not support enterprise wide problem solving; there were few team meetings and little team decision

making. Caruso wanted to break down the barriers that existed between departments and create a united team to mirror the streamlined and integrated production process that would be required if CWI was to be a customer focused cost leader.

Believing that many heads were better than one, Caruso created an eight-member senior executive leadership team. He explained his approach thus:

"We are all striving for the same results, Besides, sound business practices generally lead us to the same conclusion, and if not we'll have talked out any disagreements. This final decision, however, rests with me, but we've rarely had a split decision."

Employees found Caruso approachable:

"His approach to people was open and inviting. People seem to gravitate toward him and staff became more open with ideas. He's a great listener, he listens to what people have to say and takes it on board."

Caruso also promoted the implementation of teams within each department. While not universally popular at the outset, with Caruso's encouragement the team discipline became embedded in the business, fostering a culture of involvement. A Team Implementation Group, or TIS, worked diligently in transforming select operational areas from a vertical hierarchy to a team – based form of organization. Teams were often structured as interdepartmental work units comprising members from quality control, production and maintenance. One longstanding senior executive described the team structure and discipline as the single biggest noticeable change to business on a day to day basis.

Using Total Quality Management and Continual Improvement techniques ("TQM") CWI adopted a companywide philosophy of "Working Smarter". Reengineering of business processes and judicious application of technology were employed to yield efficiencies in production and sales efficiency.

CWI's policy was to hire the best people available regardless of race, color, gender or disability. Believing that investing in employee development would ultimately benefit the cooperate and its members, employees were encouraged to explore their potential through in house training and educational assistance programs. "Citrus World Community College" was established to provide CWI employees with fundamental and advanced development of management, production and quality skills. Annual surveys of employee job satisfaction were introduced as part of a commitment to making CWI a place where people wanted to work. These initiatives represented tangible evidence of a cultural change that helped to build mutual trust and respect and saw a slow but steady improvement in labor relations.

Caruso's passion for education extended throughout the cooperative and its stakeholders. Caruso was conscious of the need for members, producers, customers and funders to understand the change that was being brought about in the industry and the business. One of his first appointments was to recruit Dr. Bob Behr. With his doctorate in Agricultural Economics and extensive knowledge of the Florida citrus industry, Behr would bring a analytical skills to the cooperative's planning, performance monitoring and decision making.

In 1993, CWI began publishing long form annual reports. Previously, the cooperative had produced compliance oriented reports which contained only the financial statements. The 1993 report was a full color report with ten pages of photos and commentary including a joint letter from the Chairman and CEO, financial highlights, an overview of the season, an outline of the Board structure and photographs of the management team.

"Never a day goes by that I'm not sending some article or publication to our Directors or Staff."
Steve Caruso in a response to M.U. Agribusiness student question, date unknown

The introduction of the new MMA enabled the cooperative to integrate its production planning; this had previously been done in a fragmented and arbitrary manner. The fruit supply model and the sales forecast model were enmeshed into an enterprise wide production plan, informing efficiency enhancing decisions across the business. CWI invested heavily in its processing technology with computerized fruit tracking, quality monitoring and packaging innovations.

The 1993/94 season was the first in which the new MMA was active. Florida production fell 6.7% and Member fruit supplied to CWI fell 13.6% to 9.3 million boxes. Non-Member fruit supply increased by 22.4% to 6.6 million boxes meaning Total Fruit processed by CWI fell by only 1.6% to 15.9 million boxes.

For much of the season high orange production in Florida and Brazil put downward pressure on fruit and FCOJ prices. Propelled principally by growth in the variety and volume of branded products CWI's Net Revenues grew by 4.8% to $308 million. Gross Margins remained at a healthy 37.7%, reflecting the fact that 92% of the cooperative's retails

By 1994 CWI was producing six flavors of Florida's Natural NFC in a variety of refrigerated packages including Orange, Home Squeezed Style Orange, Ruby Red Grapefruit, Lemonade, Apple and Orange Pineapple. Ruby Red Grapefruit was the number one selling carton grapefruit juice in the USA. A national television advertising campaign with the line "it's a difference you can taste" promoted the brand's producers link with the message "grower ownership and attitude produce a superior juice".

Other brands in the portfolio continued to provide value and differentiation for the cooperative. The Donald Duck brand was positioned as an affordable, delicious 100% pure fruit juice and was available in a range of canned, glass, chilled and frozen packages. The Bluebird brand of juice and drinks was marketed primarily for away from home consumption. Bluebird was marketed in single serve cans or glass for the vending and food service market, and regionally at retail.

These national retail brands were supplemented by regional retail brands Texsun (Southwest USA) and Adams (Midwest USA) and leveraged off the cooperative's national distribution base. In the foodservice market, CWI acquired the Vintage brand to expand its dispenser business.

sales were of branded product. Retentions were increased by 25% from $0.20 per box to $0.28 per box.

In September 1994, the Marketing Committee convened to review the season's performance of the new MMA and to consider improvements suggested by management. Considering the significance of changes that the new MMA had introduced, the modifications were relatively minor. The introduction of the new contract had coincided with a 6.7% decline in total Florida production off the high of spike of supply in the 1992-93 season. A definitions section was introduced to add clarity to terms which had proven open to interpretation. These included Growers, Grower-Members, Non-Member Patrons, Committed Fruit and Grower Marketing Agreements. A "Limited Box" contracting category was defined for members whose commitments were not signed up on a "Specified Acreage" basis.

In anticipation of needing more fruit in the future a clause relating to an "Increase in Grove Property Acreage or Amount of Fruit" was added. This provided for an equity based formula to be applied when allocating new fruit allocations amongst Members.

Seeking to leverage off Florida's Natural brand and distribution network, CWI introduced "Grower's Pride" a from concentrate juice.

The 1994-95 season was one of bountiful supply. Florida production increased 15.8% to 261 million boxes. Members supplied 10.8 million boxes to CWI, a 16.8% increase on the previous season. This represented 61% of the Total 17.9 million boxes processed by CWI.

Net revenues increased by 2.6% to $316 million. Market demand was strong. U.S. annual per capita juice consumption reached 5.3 gallons. Sales of Florida's Natural NFC grew 18%[93] to $162 million.[94] CWI's own brands now accounted for nearly 85% of the cooperative's sales.

Five years after its introduction, in the 1995 Florida's Natural NFC achieved national distribution.[95] It was a moment of great pride for all involved in the cooperative. The brand was growing quickly. Florida Natural's growth rate was four times faster than the category and was the only major brand to increase its market share. In percentage terms Florida's Natural NFC was the fastest growing orange juice brand – sales increased 18% ($24.7 million) to $162 million.

In June 1995 Tropicana's parent, Seagrams, acquired Dole Food Company's juice business, and set about integrating these to create its new Tropicana Dole Beverages division. This

[93] 1995 Annual Report says 25%; 18% is from Information Resources Inc quoted in Advertising Age
[94] Information Resources Inc reported sales of Tropicana grew 5% ($39.2%) to $824 million.
[95] 1995 CWI Annual Report

new entity would be the world's largest branded juice business with annual sales of around $1.8 billion.[96] CWI moved quickly to execute a juice brand licensing agreement with Chiquita.[97]

Increasingly the industry faced problems of oversupply. Both Florida and Brazilian production were at record levels; industry average prices paid to growers were below the cost of production.[98] Brazilian producers had forecast to produce 345 million boxes for the 1994-95 season but processors were expected to use only 70% (245 million boxes) of this production resulting in surplus fruit on the fresh market and further depressing fruit prices.

Some supply side adjustment[99] was expected, but this would be in the medium term. There was no immediate salvation on the demand side either. U.S. per capita juice consumption was higher than ever before and but growth had slowed; citrus juice was now competing with an increasing array of consumer beverages such as iced tea, and changing lifestyles were changing breakfast consumption patterns.

Despite continued growth of premium branded product, CWI's Members returns were dampened by the supply situation. Having approved the new MMA, elements of the Membership were disappointed not to be receiving the returns expected.

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[96] The transaction excluded Dole's pineapple juice products and Dole's Japanese juice business.
[97] No information on who had this license previously, but it is likely that this was held by Tropicana and that the Dole acquisition created a conflict of interest between Tropicana and Chiquita.
[98] 1995 CWI Annual Report
[99] A deliberate reduction in production achieved by not harvesting fruit or converting groves to alternate uses.

Management prepared a detailed benchmarking analysis, reviewing the returns of up to 17 processors. The results showed there was some justification for Members' reservations. The 1995 analysis of returns for early mids and Valencias showed CWI's orange juice returns to be in the 20th percentile for the previous four years. CWI's average return for early/mids over a four year period exceeded a Canner's average by $0.06 per lb. and for Valencias, CWI's return was in line with the Canner's average.[100]

These results were shared with members in CWI's 1995 Annual Report. In that communication the Board also reiterated the rationale for the new basis for contracting explaining that the revised MMA:

"…places some controls on the amount of fruit that Citrus World is obliged to take from members. Members were limited to the acres of fruit they had in membership as of October 1 1992. This was adjusted twice to allow for some balancing by members to historical levels. The reason for the agreement was not to limit what our members needs for their own packinghouse operations, but to limit the amount of fruit that Citrus World was required to take. Fruit returns for growers who have been members and supplied fruit over the years are adversely affected when Citrus World either has more fruit than its processing capacity, or has more fruit solids delivered than we can sell in the higher returning items. Either of these situations will force returns down, which is not in the best interests of our members. Consequently, the Board of Directors has supported the marketing agreement as being in the best interests of all the Citrus World members."

[100] The Canner's average includes all fruit that goes into FCOJ.

By 1996 CWI's investment in NFC and the Florida's Natural brand was approaching $100 million; the cooperative had commenced construction on a 4-million-gallon aseptic tank farm. Sales growth had averaged 6.6% per annum for the past 5 years. Stable orange juice consumption rates masked major change within the sector – 27% of orange juice consumed was now NFC (compared with 20% in 1992), about the same as FCOC, which had represented 38% of the category in 1992. The cooperative had completed its program to reduced revolvement period from 20 years and was now on a seven-year redemption cycle. Despite this, Member concerns about the value they were getting from the cooperative's investment in NFC continued.

In an effort to better align fruit supply with processing requirements, CWI reviewed its pooling agreement for the 1995/96 season. Pools were reviewed so that returns for Members who had provided higher quality fruits were not diluted by the inclusion of lesser returning varieties. In addition to the Round Orange Pool, (which includes early/mids, Valencia and Navel Varieties), and the Grapefruit Pool (for both red and white grapefruit), CWI created a Reticulate Pool.[101]

Member fruit delivered to CWI in 1995/96 increased by a modest 1.9% to 11 million boxes. Total Florida production decreased by 2.1%. CWI reduced its procurement of Non-Member fruit by 25.8%, and the Total Fruit processed by the cooperative was reduced by 9% to 16.2 million boxes. Net Revenues increased by 5.7% to $334 million and Gross Margins edged up slightly to 38.8%.

[101] Reticulata fruit – mandarins, tangelos etc. possess fewer desirable juice qualities.

At the start of the 1995/96 season NFC inventories were low. Both Florida's Natural NFC and the dispenser pack used in the food service industry required a higher percentage of Valencia juice for flavor and color. Yet due to significant production of Valencia in Brazil and the additional risk associated with a product harvested later in the season[102], Florida's Valencia production was falling.[103] Consequently processors had bid up the price of Valencia and CWI's payment for Valencias fell short of the cash market average during the season. CWI's price for early and mid-season fruit was expected to exceed the cash market return.

Following successive years of disappointing fruit prices a survey of members had revealed some concern amongst the membership about equitable pooling arrangements, increasing costs, reliable processing schedules and grower returns. Aware that the future success of the cooperative required broad support, CWI committed to addressing these concerns, noting that a unified effort by the cooperative and its members was essential.

An analysis was undertaken by management to inform these issues. CWI reported to it members that over the previous four seasons from 1992-1995 CWI's:

- Early and mid-season pools averaged 8.8 cents higher than the industry average[104]

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[102] While Valencias have higher solids per box, they do not mature until April-June and therefore are at higher risk of frost damage than the earlier maturing varieties. In comparison, early/mids average over 20% more solids per acre.

[103] During the mid 1970s, Valencias had accounted for around 47% of the round orange crop. By the mid 1990s, FDOC was forecasting Valencias would make up closer to 40% of the round orange crop, one of the lowest percentages ever recorded.

[104] CWI's comparison was against an industry average comprised of pool returns from processor-participation plans. CWI estimated that around 60% of fruit is sold by this basis, and maintains that this metric more accurately reflected the value of fruit transacted. In its 1996 Annual Report CWI stated that the cash market is not an ideal benchmark for comparing CWI rerurns because it tends to

- Valencia pools averaged 9.3 cents higher than the industry average
- Compared to the average competing processor CWI had paid its members an additional $24.7 million across the period, equating to a 63.8% return on member invested equity[105]
- Compared to the cash market[106] for the same period CWI paid growers an additional $31.7 million across the period, equating to a 77.2% return on member-invested equity[107]

In September 1996 the Marketing Committee once again met to consider changes to the MMA. Definitions were clarified to draw a clearer distinction between acreage fruit and box fruit. In recognition of the natural crop fluctuations, members contracting on a "Limited Box" basis were given the flexibility of a 5% shortfall.

With post-1989 planting coming into supply[108], the cooperative was keen to prevent oversupply. The provisions of the "Diversions of Fruit" section were widened to forgo the requirement for two-year notice when two members wish to move committed fruit

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be a residual market and "subject to overreaction to surplus and shortage". CWI did not report the benchmarking results in percentage terms.

[105] CWI promoted to members that the additional returns are the true measure of economic benefit and could be viewed as the "dividend" paid to growers.

[106] The cash market did not represent an ideal benchmark for CWI's returns - about 60% of citrus was sold under processor-participation plans. The cash market tended to be a residual market and represented only a small proportion of all processed fruit. As such, prices on the cash market were more sensitive to shifts in supply and demand.

[107] Ibid.

[108] Citrus trees typically begin fruit bearing at around 5 years. This is subject to many factors including temperature, irrigation, nutrition, variety, rootstock etc.

allocations between themselves. The Board of Directors was given explicit permission to authorize specified delivery of member fruit to a third party.

Provisions were added to clarify that when a producer sold their interest in one of the cooperative's three grove projects, the fruit allocation remained with the grove. These delivery rights were not replaceable by the reducing member because they were already committed to CWI. Additionally the rules stipulating how an increase or decrease in grove property acreage or amount of fruit should be handled were clarified.

Further changes to the pools were made for the 1997 season to reflect tight supply of Valencia oranges. Hoping to avoid the problems of the previous season CWI made refinements to the Round Orange pool, allowing for more accurate pricing for suppliers of Valencia fruit in the coming season.

Member fruit delivered to the cooperative increased 13.5% in the 1997 season to 12.5 million boxes. This represented two thirds of the record 18.8 million boxes processed by CWI. Demand for Florida's Natural NFC continued to be strong. Net Revenues Revenue increased by 6.9% to $357 million and Gross Margins of 43.6% were achieved.

With the focus of the business now on NFC, CWI closed and sold its distribution facility in North Carolina.

In January 1997 there had been a surprise freeze event in the south of the state. Although CWI's Central Florida growers suffered no damage, the freeze resulted in a tightening of

supply and large swings on the cash market. The event reinforced to CWI the vulnerability of member supply to exogenous events and began to explore ways it could reduce the risk of shortfalls in member fruit supply. Relying on non-member fruit added further uncertainty to the business and increased costs. Transaction costs associated with dealing on the spot market were high and the cooperative needed to ensure that at least 50% of all fruit processed was supplied by members.

Balancing Supply with a New Cooperative - OGMA
Management submitted to the Board a proposal to form a cooperative to exclusively supply the Florida's Natural brand. From this proposal, the Orange Growers Marketing Association ("OGMA") was formed. OGMA would improve supply stability by giving CWI access to the fruit of large scale producers, while avoiding the costs of transacting with each grower individually. OGMA contracts did not allow for packing for the fresh market - all fruit would be supplied on a Limited Box basis. CWI provided management services to OGMA and the terms of CWI's MMA were mirrored in the agreement between OGMA and each of its member. OGMA members were required to provide a minimum of 50,000 boxes. In its first year, OGMA supplied CWI with over one million boxes (of a total 18.7 million boxes processed by CWI in 1996-7.) The creation of OGMA and its admission into cooperative membership broadened CWI's supply base and provided a greater stability to supply. For OGMA members, the arrangement provided them with access to CWI's brand and distribution network and direct communication with lead plant personnel, avoiding a packing house middleman.

Further changes to the MMA intended to increase the certainty of supply to the cooperative came into effect in the 1998 season. To reduce the lead time between making a new fruit allocation and actual delivery the MMA was amended to require filling of an allocation "by the next September 1st" rather than "within two years".

In 1998 Florida citrus production peaked at 293.6 million boxes. Member fruit supplied to CWI increased by nearly one third to 16.6 million boxes. With Member fruit supply bolstered by OGMA, CWI was able to reduce its procurement of Non-Member supply by 40% to 3.7 million boxes. 82% of the 20.4 million boxes of Total Fruit processed by CWI that season was supplied by Members.

Discounting at retail saw U.S. annual per capita. consumption of orange juice increase to a record 5.8 gallons. CWI's Net Revenues were stable at $358 million, but earnings were bolstered by record Gross Margins of 49.6%.

CWI's ongoing brand development, plant efficiencies and a focus on matching Member's Fruit to the production of premium returning products were beginning to pay off. Management's benchmarking against the USDA average showed that CWI paid its members:

- 6.5 cents per pound solids more for early and mid-season varieties for the 1997-98 season;
- 6.1 cents per pound solids more for Valencias for the 1997-98 season;
- More than the USDA average for early and mid-season varieties in all but one year from 1993 to 1998; [109] and
- More than the USDA average for Valencias in every year from 1993 – 1998.

1998 was CWI's 65th anniversary. The cooperative employed 900 people at its 540-acre site in Lake Wales and a further 60 were employed at its packaging and distribution facility in California. A $12 million national advertising campaign launched in 1997 had further cemented the Florida's Natural brand name. The cooperative moved to capture the energy of the brand's momentum and the pride in its success by renaming the business. Citrus World, Inc. became Florida's Natural Growers, reflecting that Florida's Natural NFC juice

[109] In 1996 CWI's return for early and mid season varieties was 1 cent per pound under the USDA benchmark composite average

now represented half of the cooperative's sales and would continue to grow. In announcing the new name, CWI sought to link the past and the future:

"We are rich in history. Proud in tradition. Prepared for the future. Excited by the prospects."

Caruso used the name change to formalize and disseminate CWI's core values, which having been developed and used internally were formally ratified and published in the 1998 Annual Report. The values represented a cultural foundation for the cooperative and were actively promoted for use as a tool and a reference point in all discussions. These values soon became embedded in the cooperative's identity and together with the success of the Florida's Natural brand, provided a unifying force and a great source of pride for members and employees.

CWI Core Values 1998

Integrity
We will always be honest, truthful and incorruptible in all matters and relationships, holding ourselves to the highest ethical standards with an unquestionable reputation

Trust
We will have confidence and reliability in ourselves and others, and treat everyone with dignity and respect

Quality
We will strive for excellence in everything we do through continual improvement and innovation in order to exceed all expectations

Caring and Respect
We all will be sensitive to the special needs of those with who we relate, and hold each other, the environment, the community and all concerned in high regard.

Learning
We will encourage continuous learning and personal development, and support the taking of intelligent risks in that pursuit.

Communication
We will foster open communication and feedback by creating a positive work environment free of intimidation and reprisal. We will listen to and value each other's views.

Vision of Greatness
Florida's Natural Growers is a loyal, empowered, accountable, proud and spirited team with a winning attitude, driven by our own initiative, creativity and desire to be our best. We are committed to use our company core values as a foundation to maintain an environment where all experience fulfilment, security and success.

July 1998 saw a further intensification of brand competition when Pepsi announced it would acquire Tropicana Products Ltd from Seagram Co. Ltd for $3.3 billion cash. The transaction united the world's second largest beverage company with the largest producer of branded juices. Research commissioned by Pepsi showed that NFC now accounted for 50% of all chilled, ready to serve grocery orange juice sales revenue.

CWI expanded its distribution by entering into a joint marketing venture with Texas Citrus Exchange, a Texas based citrus processing cooperative whose products included Texas Rio Red Grapefruit Juice.

A wet winter followed by a dry summer had seen the forecast Florida orange harvest for the 1999 season drop by 22%. Tropicana announced a 10% increase in delivery price, placing pressure on all processors. In September 1998, to protect supply and discourage members from diverting fruit from the cooperative to obtain high spot market prices, CWI increased the penalty for non-delivery of committed fruit by 50% to $3 a box or $1,125 per acre.[110]

Notwithstanding the increased penalties for non-delivery, Member fruit supplied to the cooperative fell by 25.7% to 12.4 million boxes. Total Florida production fell 20.6%, Non-Member fruit by 13% and CWI's Total Fruit processed decreased by 23.5% to 15.6 million boxes. Despite the decline in Total Fruit, Net Revenues grew by 6.3% to $380.7 million and Gross Margins were a healthy 44.6%.

Management's benchmarking showed that across the past six seasons, CWI's orange returns exceeded the USDA industry average by 7 cents per pound, grapefruit by 14 cents per pound and reticulata by 4 cents per pound.

CWI adopted a proactive position with respect to environmental impact laws. Its efforts in regard to the environment CWI earned it recognition at Earth Day ceremonies in

[110] Industry average on- tree earnings per box for fresh Florida oranges increased from $3.85 in 1998 to $8.78 in the 1999 season.

Washington D.C. where in 1999 it was commended for efforts to reduce water and energy use and the creation of a wildlife habitat areas at each of its production facilities and within its groves.

1990 – 1999 Summary

By the end of the decade, CWI's Net Revenues had increased 41% to $381 million[111]. The business was highly vertically integrated. The cooperative represented more than 1,000 growers and more than 60,000 acres of groves. CWI operated its own nursery in Lake Placid to produce trees from seedlings for planting in member groves. It provided management services to manage supply cooperatives and groves. Fewer than 8 years after its introduction, Florida's Natural NFC had become a national brand and had captured the number two position in the NFC category. The cooperative had implemented major changes to its member agreement and its business strategy had evolved from "selling what is produced to producing what it sells."[112]

CWI had reorganized internally. There had been a change in executive leadership. Accompanied by a values based cultural shift, a team-based approach to the production process encouraged a higher degree of ownership and accountability for its workforce of nearly 1,000 employees[113]. CWI was embracing the power of emergent enterprise wide information technologies. Computerization provided visibility of inventory not just on CWI's premises, but also customers' stocking. Continual Replenishment Programs (CRP)

[111] 1989 Net Revenues were $270 million
[112] 1999 CWI Annual Report
[113] Includes seasonal workers

provided for a seamless order, delivery and invoicing system. CWI's sales force was now organized around its customers and a business partnership approach adopted to serving consumers.

CWI was deeply conscious of its corporate citizenship in the small Lake Wales community where it was a major employer, tax payer and land owner. Staff were encouraged to participate in civic and humanitarian initiatives and an awareness of the environmental impact of the business fostered.

5.3 2000 – 2009 FEAST, FAMINE AND FOCUS

Preamble

Intent on growth CWI launched a new promotional campaign aimed at improving brand awareness, loyalty and household penetration. This campaign continued to leverage the cooperative's grower heritage and connection to the land. Advertisements differentiated the Florida's Natural brand with the slogan "We Own the Land, We Own the Trees and We Own The Company".

CWI Mission Statement as at 2000

Florida's Natural Growers' mission is to continually reach for higher standards of quality and performance. Throughout dedicated efforts we will strive to:

- Provide our patrons with fruit returns that are consistently among the highest in the industry while increasing the value of members' investments through profitable operations.
- Insure that our customers and consumers will continue to rely upon us to provide them and their families the highest quality juice and beverage products
- Maintain a safe workplace which provides for: equal opportunities for all employees;
  a climate that encourages continual improvement through innovation, action and a commitment to treat others with openness, integrity and respect

CWI sold a record amount of Florida's Natural branded products in the 1999-2000 fiscal year and the brand's market share increased 0.7% to a record 15.7%.

Dispenser shipments (to the food service industry) also reached a record high market share of 9.6%. However, the business faced challenges on several fronts. Labor continued to be a challenge and CWI's turnover rate was 20%. With 42 full time vacancies the plant was faced with having to increase temporary hours.

A 7% increase in Total Sales Volumes masked the ongoing, significant decline in the canned juice segment. The trend toward low-carbohydrate diets which had come to renewed prominence in the mid-late 1990s was also gaining momentum. The most popular of these

was the Atkins Diet. These low-carbohydrate diets discouraged consumption of juices due to their sugar content and was believed to be impacting juice consumption nationally.

CWI's customer landscape was changing quickly – consolidations were continuing to reshape the brokerage and food retail sectors. Whereas in 1990 the top ten food retailers had accounted for 22% of all U.S. grocery sales, they now accounted for 43%. With a race for retail scale and size underway, stocking decisions would be made based on consumer demand. Without the promotional budgets of the leading brands, building and leveraging customer relationships would be key. It was an approach well suited to the grower owned entity. CWI would focus on providing customers a national distribution system with well branded, value added product lines and strong marketing support.

Consolidation in the processing sector was continuing. In 1980 there had been 40 processing facilities in Florida; these were owned by 38 different entities. By 2000 there were 22 processing plants owned by only 16 entities. Brazil was continuing to have a major impact on fruit supply and prices; processors with Brazilian links now controlled about 40% of Florida's processed oranges. Florida and Brazil both experienced significant crop[114] and Brazil was holding record levels of FCOJ inventory.[115]

[114] Brazil's crop increased 18% to 388 million boxes in 1999-2000, from 330 million boxes in 1998/99.

[115] Brazil had 329,000 metric tonnes of FCOJ inventory on hand at 30 June 2000, 45% more than 30 June 1999 when it held 227,000 metric tonnes.

In September 1999 the MMA was again reviewed and further modifications made. Seeking more fruit to meet unprecedented demand for Florida's Natural NFC, a third basis for contracting was introduced for the 1999-2000 season. Building upon the cooperative's experience with OGMA, CWI introduced "Field Run Specified Acreage" contracts. These allowed growers who were members of packhouses to contract all of the fruit from specified acres to CWI but did not permit packing for the fresh market. Those growers were charged a management fee by the packhouse, but the fruit was delivered straight to CWI. This basis of contracting reduced the costs to growers as processing at the packhouse was eliminated. It also provided CWI with a more stable supply of fruit – while CWI still bore the production risk associated with acreage yield, it was relieved of volume risk arising from price fluctuations on the fresh fruit market.

Other alterations made as part of the September 1999 review were also targeted at retention and growth of a stable and certain fruit supply. To maintain quality and prevent cherry picking by members CWI required any reductions to fruit commitments signed into membership after 31 August 1995 to be made on a pro-rata basis across all varieties. The cooperative set limitations on the withdrawal of fruit as a result of grove sale. CWI required grove sales in excess of 500 acres to be declared by October 1 and completed by December 1 of any one season. Failure to do so would see the fruit committed for that season. This provision was intended to reduce short term supply risk of large growers. Immediate withdrawal was permitted for sales of lesser acreages.

Total Florida production for 1999/2000 increased by 23%. Total fruit processed by CWI in 1999/2000 increased 47% over the 1998/99 season, and 12.7% over the 1997/98 season. In

total, 23.0 million boxes were processed, stretching capacity and organizational resources. CWI purchased a second processing facility and an accompanying 175 acres of land in nearby Bartow[116] to handle the increased fruit volumes. CWI was familiar with the plant having previously run fruit through the facility in times of high demand.

Large swings in the volume and quality of supply were costly to manage and mismatched to the consistent and growing demand for Florida's Natural NFC. Planning processes and production efficiency gains arising from running at capacity helped CWI mitigate the downward pressure on member fruit returns. Notwithstanding prices were depressed and Members were dissatisfied. Reflecting the Board's approach to monitoring the business, CWI Chairman Frank Hunt, took the opportunity to remind members of the need to assess CWI's performance over the medium-long term, and not cherry pick selective data for comparisons purposes. Analysis showed that during the past six years CWI's orange returns had exceeded the USDA industry average by 7 cents per pound, grapefruit by 14 cents per pound and reticulata by 4 cents per pound.

Thus even in the face of abundant supply, CWI's strategy remained to increase its volumes of member fruit.[117] This did not mean that the cooperative was seeking more fruit – rather a greater proportion of member fruit. A stable supply of quality member fruit was vital to the ongoing development of supporting a national brand reliant on Florida grown fruit.

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[116] Bartow is 17 miles from Lake Wales. The facility was purchased from beverage company Sun Pac Foods who had processed around 5.5 million boxes of specialty fruit there and employed up to 80 people.

[117] In 1999/2000, member fruit comprised 74% of CWI's Total Fruit processed.

Transaction costs were also lower for member fruit and the opportunity for production efficiencies greater.

Oversupply meant growers who were selling on the cash market were at a competitive disadvantage. All the same, if CWI wanted more member fruit they would need to provide a superior return. In the short term there was little CWI could do to improve member fruit prices – these were dictated by supply and demand patterns outside the business. However, the cooperative was in a strong position financially, and member fruit would be subject to retentions of $0.28 per box. CWI leveraged the strength of its balance sheet[118] to implement an accelerated pool payment program. Designed to improve member cash flows, the program provided additional accelerated payments during the year. These payments supplemented the weekly scheduled delivery payments and had the effect of advancing cash flows of $10 million to members during the year. By July 31, 2000, 50% of the expected pool payments had been made, compared with 37% at the same time the previous year.

The USDA was forecasting 2000/01's crop of 240 million boxes to be the second largest orange crop in Florida's history[119]. Grapefruit would also be in abundant supply with 50 million boxes forecast. This was not good news for CWI's members: FCOJ Futures were bearish and CWI was expecting prices to remain soft until accumulated inventories were rectified.

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[118] By 2000, boosted by record amounts of member fruit and non-member earnings CWI had the highest level of member equity ever ($119 million), and one of its lowest Debt:Equity ratios in some years (30%).

[119] 1997/98

In addition to supply driving fruit prices lower, CWI's food retailing customers were also gaining increased market power, reducing CWI's ability to negotiate higher prices. Widespread concentration in the grocery sector was evident and chains were in a position to command higher and higher slotting fees. The largest 20 food retailers in the USA now accounted for 52% of national grocery store sales, up from 39% in 1987. For CWI this trend reinforced the value of a recognized brand name.

Consumer brand competition also increased in 2001 when Coca-Cola's Minute Maid established The Simply Orange Juice Company. Based in Orange County, Florida, Simply focused primarily on supplying NFC orange juice to the North East USA. A successful roll out followed and within 2 years the brand had achieved national distribution.

"The members of Florida's Natural Growers have long understood the tenuous relationship between growers and processors, and how the forces of supply and demand can alter the balance of power. Our cooperative provides a means for our members to pool their fruit and to exert greater control over the marketing of its products."
2001 CWI Annual Report

A poor growing season meant that the large increase in volumes forecast by the USDA did transpire.[120] 2001 was nonetheless a difficult season for the cooperative. CWI's total volumes were stable, but member volumes increased by 11%, accounting for 83% of total processed. CWI's net revenues fell by 9.6% and inventories climbed 11% to $105 million. Prices were depressed. That year, the cooperative's communications with members stressed the "Cooperative Bond" and the value of the connection a cooperative provides between growers and customers in a world of change.

[120] Total Florida Production for 2001 declined 6% on the previous season.

In September 2001 Golden Gem Growers filed for protection under Chapter 11 of the Federal Bankruptcy Code. During the late 1990s this 400 member Umatilla based cooperative had sought to counter depressed citrus returns by constructing a state of the art NFC juice facility. However the cooperative had no market in place for its production and losses grew quickly. Efforts to remain viable in a difficult market were unsuccessful and the business was put up for sale in December 2001. This created an opportunity for CWI who were looking to expand their processing capacity. Although situated 80 miles north of CWI's Lake Wales facility, modelling showed that leasing the plant and shipping product north would be more economic than building more capacity at Lake Wales. CWI entered into discussions and quickly secured a lease on the Golden Gem facility on highly favorable terms. The lease was for three years, with rights of renewal. CWI also purchased Golden Gem's concentrate tank farms, which were paid for with the revenue from third party storage arrangements.

"The past 10 years have not been the best of time for the Florida citrus grower. Profitability has been low or non-existent. Grower returns have been at historic-low levels on an inflation-adjusted basis. Record crops in Florida and Brazil have created an excess supply of citrus, forcing prices to uneconomic levels and forcing many growers out of business." 2002 CWI Annual Report

2002 marked a further season of oversupply and depressed prices. Florida production increased by a further 2.7% and CWI processed a record 23.6 million boxes of fruit. Of this 92% was member fruit – member fruit volumes had increased by 2.3 million boxes (13.7%) during the season. Net revenues were stable but insufficient to keep up with supply – inventories grew again, this time by 7% to approach $112 million. Furthermore CWI was forced to offer deep discounts in order to move product; net revenues represented two thirds of gross sales.

Grower cashflow was pressured and many were questioning the future viability of citrus production.

2003 Change to the Articles and Bylaws
In April 2003 a number of changes were made to the cooperative's Bylaws and Articles of Incorporation ("Articles").

By-law changes related to residual control rights, specifically the entitlement to Board representation and the process for the appointment of directors. The level of a Member's patronage required in order to be eligible for Board representation was increased from 100,000 boxes per annum to 250,000. A proviso was added to allow the Board to waive the minimum patronage requirement for a period of up to two years where ineligibility due to insufficient patronage had been caused by factors outside the Members' reasonable control including freeze, wind, disease etc. The increase in the required patronage level reflected the increase in CWI's fruit since 2000.

Members meeting the required level of annual patronage are entitled to nominate a representative to the Board of Directors. The Board then votes on the nominees. The further change in April 2003 saw the requirement for a unanimous vote by all Board members in support of a nominee removed, and replaced with a requirement for a three-quarter majority of the Board.

The Term Limitations which set out how long a Director may serve as Chairman were also amended to make it clear that the limitation related to six consecutive terms, not six terms in total.

A further change to residual control rights was effected by an amendment to the Articles. A change to Article XIII increased the level of support required for a change to the Bylaws from two-thirds of Class A Stockholders, to three- quarters of Class A Stockholders.

2003 was the cooperative's 70th anniversary. Deep seated changes in patterns of consumer demand were becoming evident. Total U.S. retail gallons for orange juice declined 2.5% and grapefruit by 3.5%. CWI's sales by volume were relatively steady but the consumer market for orange juice had been impacted significantly by the low-carbohydrate Atkins Diet[121]. From a peak of 5.8 gallons in 1998, per capita orange juice consumption had fallen to 4.9 gallons.

"The need to maximize grower returns shifts our sales bias away from growth and towards improved returns."
CWI 2003 Annual Report to Members

[121] CWI 2003 Annual Report

An unexpected 12.5% reduction in the Florida crop had transpired during the 2003 season.

"The demand for NFC juice continues to grow each year regardless of crop size."
CWI 2003 Annual Report to Members

CWI experienced a 14% reduction in member fruit supply. The cooperative processed the lowest volume of fruit since the 1999 season. It ceased operations at its recently acquired Bartow facility. This unexpected decline in member supply challenged the cooperative in meeting increased demand for NFC juice. Sales of Florida's Natural NFC increased 6.5% during the year, against 4.5% overall growth in the category. This increase was masked by a 0.7% decline in net revenues, but supported by a 5% reduction in inventory values as higher value product was moved. CWI was also making sound progress in the "Away from Home" category and new placements and new products were on stream to contribute sound levels of growth in coming years.

CWI's lease on the Umatilla facility had reduced the cooperative's capital expenditure requirements and this provided the cooperative with an opportunity to improve member cashflows in a low-price environment. With membership stable, the cooperative's equity retain program, considered punitive in a low priced environment[122], was restructured. This was accomplished by reducing the revolvement period to 5 years, thereby accelerating return of retained member capital[123] and improved member cash flows.

[122] In 1994, to fund investment in Florida's Natural NFC plant capacity, CWI increased per box retentions on member fruit from $0.20 per box to $0.28 per box. When levied low fruit prices against as an absolute value, the percentage of overall patronage that was retained was higher.
[123] The 2003 annual report does not provide details.

Notwithstanding its additional processing and storage capacity, in September 2003 CWI was forced to take action to limit member fruit. The USDA was forecasting another record high orange crop and CWI expected member volumes to return to the 2001/02 levels. To avoid the dilution of returns from oversupply CWI used the MMA to place a 12 month moratorium on delivery of unfilled fruit allocations[124]. The moratorium had the effect of protecting the core supply interests of members' existing supply from being diluted by more recently allocated delivery rights. This was the first time the cooperative had taken such action and it represented a dramatic change for members, many of whom had been relying on the cooperative to process their fruit. Some saw it as a broken commitment and there was widespread discontent. While the Board was not happy about having to implement such measures, limiting supply would help to protect and on balance believed the moratorium to be in the best interests of the total membership and their processing and marketing cooperative.

Acknowledging the moratorium's impact on members, by way of compensation the Board extended the period during which lost acreage or boxes could be filled from two years to three.

The MMA was also amended requiring management approval for concurrent delivery of any fruit noticed for delivery and its replacement.[125] This change would reduce the risk of the

[124] Members are given a stated period to fill a new fruit allocation. A fruit allocation can be thought of as a delivery right. The moratorium did not apply to replacement of lost fruit i.e. fruit which had been previously delivered but that had been subject to interrupted supply due to e.g. disease or weather.

[125] Changes in 1999 had required only Board approval for concurrent deliveries in excess of 250,000 boxes.

Board did not make any agreements relating to fruit supply without management signing off on the operational implications of the fruit supply.

Total Florida production in 2004 was a record 283 million boxes, a 17% volume increase in an already saturated market. The moratorium on unfilled fruit allocations expired in September 2004. Member fruit supply to CWI increased by 13%; reflecting an all-time high of 92% of total fruit processed by the cooperative. Earlier incentives to increase the proportion of Valencia fruit supplied by members were beginning to have an effect and for the first time Valencia deliveries exceeded supply of the less desirable Early/Mid varieties. Low priced Brazilian supply was confounding a market already facing extreme oversupply.

CWI joined together in 2004 with other Florida citrus industry participants to petition the Federal Government to impose anti-dumping duties on Brazilian orange juice imports. In an action that was tabled in December that year, it was claimed that Brazil's citrus industry had been selling concentrated juice as much as 37% below cost of production and pasteurized juice up to 78% below cost of production.

CWI also looked to realign its assets to assist in managing supply, planning to offset the impact of the moratorium through the sale of grove assets and discontinuation of a non-member supply agreement.[126]

[126] CWI planned to sell the Cooperative III grove assets and discontinue a supply relationship with Sunkist. No further details are available.

In the retail market deep discounts were required to move product. 2003/04 net revenues revenue declined by 2.5% to $368 million; sales of Florida's Natural NFC were stable. The record year-end inventories of $121 million arising from this mismatch of supply and demand might have been problematic had the 2004 hurricanes not impacted supply so dramatically. One upside to the industry-wide high inventories was that capacity at CWI's Umatilla Concentrate Farm was leased to other processors, generating $1.5 million in storage revenues.

A Focus on Member Returns – Guiding Light Objectives

Seeking to develop a clear path for the cooperative in a complex and volatile operating environment, and under pressure from Members to generate better returns, the Board and Senior Management headed away in February 2004 for a Strategic Planning Retreat. At that session, the Cooperative adopted the following Vision of Greatness:

"Florida's Natural is to be the premier marketer of citrus and other products. We build on our Florida grower heritage to meet the needs of our customers with high quality products and services thereby producing superior returns and increasing value for our members."

The Board also set a Guiding Light Objective:

"We will produce superior returns and increase value for our members"

The strategy developed as part of this plan involved growing the company both internally and externally. The strategy was more specific in regard to internal growth, and CWI's

success of implementing the new Guiding Light Objective was to be assessed against the following goal:

"To exceed benchmark average returns by at least 7% on a three year rolling average."

This measure would, in effect, represent the "dividend" that Members received by way of a premium return for their investment in CWI. The three-year horizon for this measure was to remove the impact of short term market volatility on measuring the performance of a long-horizon business.[127] The Strategies accompanying the Guiding Light Objectives are set out in Appendix II.

The rolling three year average in 2003 showed that CWI had generated an average 6.7% premium against the benchmark, close to the 7% premium specified in the Guiding Light Objectives, but not close enough for growers .

Despite the concerted efforts of the management team, growers were not happy. Member loyalty was being tested by successive years of low fruit prices and low returns. Facing a ground swell of dissatisfaction among their own membership, two members of CWI submitted their two year notice to exit.

By August 2004 FCOJ futures had been at a 27-year low suggesting a continuation of industry oversupply. Then, within the space of six weeks Florida's groves were hit by four

[127] The industry average three year returns that the Guiding Light would benchmark was calculated by Management. It included a weighted average of cash sales, participation returns and floor prices.

hurricanes in the space of six weeks. Hurricanes Charley, Frances and Jean hit Central Florida and CWI's facilities at Lake Wales, Bartow and Umatilla all sustained damage. Hurricane Wilma hit Southern Florida. Altogether over 100,000 acres of citrus groves were destroyed; Lake Wales suffered a direct hit and the groves of CWI's members were disproportionately impacted. CWI would rally to restore its plants in time to process the season's crop, the groves would take much longer to rebuild.

By the start of the 2005 season the business was under considerable pressure from members regarding its performance. CWI's forecasting showed that member fruit volumes had not recovered and at best would be around the same level as last year. National customers expected a continuous supply of Florida's Natural NFC, but following the hurricanes CWI lacked sufficient quality fruit to meet demand.

The 2005 Pooling Procedures were amended to incentivize members to delay orange deliveries until seasonal quality improved. CWI also announced it would release excess reticulata, navel and ambersweet[128] fruit from any commitment upon member request.

Florida orange production plummeted 47% to 150M boxes in the 2004-05 season, the largest single year reduction in crop size in history. Member fruit deliveries fell to 12.6 million boxes from 21 million boxes the season before, a decline of 40%. Total fruit processed by CWI fell by 43% to 16.5 million boxes. In dire need of quality fruit for NFC production, CWI was forced into the cash market; non-member fruit supply more than doubled to 3.9

[128] Reticulata, navel and ambersweet are citrus varieties.

million boxes. With supply so low all deliveries were processed in 176 days – a record short season for the cooperative.

With the industry still plagued by an overhang of inventories, the retail market remained difficult; net revenues for 2004/05 increased only 1.6%. A small (3%) reduction in Inventories was achieved.

While other processors were able to import fruit from Brazil, CWI's exclusively Florida branding on its premium NFC juice precluded this option.[129] Amidst growing member concern a tense Board tasked management to speedily improve grower returns and profits, reduce member capital requirements and expedite fruit payments. A sweeping business rationalization followed involving cost reductions and efficiencies, right-sizing the business and freeing up cash.

The Bartow Facility and West Coast packaging and distribution plant were sold, but the lease on Umatilla was renewed for a further three years. CWI streamlined its product range, discontinuing a large number of high cost, lower return items. Net revenues revenue recovered 2% in 2004/05 to $373.9 million but returns still fell short of members' expectations.

[129] Florida's Natural NFC juice was marketed as being made exclusively from Florida fruit.

The 2004 hurricanes not only had the immediate effect of destroying trees, but also spread disease. CWI was forced to destroy the citrus tree inventory of its plant nursery subsidiary due to the discovery of citrus canker. Citrus canker causes tree defoliation, die back and fruit drop making it unfit for sale or consumption. State eradication procedures in place at the time required the destruction of all trees within a specified radius of infected trees and the removal of the affected areas from production for five years. As a result CWI made the decision to discontinue its operations at the affected business, Hickory Branch Corporation, a citrus nursery.

Citrus Canker

Citrus canker causes tree defoliation, die back and fruit drop resulting in a substantive loss in the quantity and quality of citrus fruit. Having been officially eradicated in 1933 and again in 1994, Citrus Canker was discovered again near Miami in 1995. A subsequent USDA eradication program compelling the removal of trees within a 125ft and later 1,900ft radius of an infected tree resulted in substantial loss of production. Following the 2004-05 hurricanes which spread Canker from 10 to 25 counties in the state, the USDA declared that eradication was not feasible and curtailed the controversial eradication program in January 2006.

The Florida citrus crop for 2005/06 barely increased,[130] creating high prices on the cash market. Member fruit fell by 3.3% to 12.2 million boxes, and as a consequence of high cash market prices purchase of non-member deliveries nearly halved. Total fruit processed by CWI in 2005/06 was only 14.2 million boxes, the lowest in 14 years.

The cooperative desperately needed high quality Valencia fruit to produce its premium NFC juice but the volumes of some members had dropped so low as to threaten their ongoing membership of the cooperative. Urgent changes were made to the by-laws in June 2006. The annual patronage required for membership was reduced from 250,000 to 100,000 boxes

[130] The total Florida crop for 2005/06 was 167 million boxes, a 2.7% increase on the 2004/05 crop.

per annum. The Board was also given the power to waive the notice period required in the MMA should a member's annual volume drop below 100,000 boxes due to unavoidable circumstances beyond the member control.

In July 2006 CWI increased the selling price for Florida's Natural NFC. Notably, this was the first price increase CWI had ever led; up until this time CWI had been a price follower. The move reflected a confidence in the brand and an intimate understanding of the industry dynamics. Immediately Tropicana and other industry participants followed.

CWI's 2006 net revenues fell 4% against the previous year to $360 million. Despite the reduced supply, inventories built 7.5% to $126 million. By September 2006, FCOJ futures were at an historic high. With USDA forecasting the smallest Florida Citrus crop in 17 years, CWI made further amendments to the MMA. Needing to increase the certainty of short term supply, the period members had to replace lost fruit was reduced from three years to one year. This move was more likely to disadvantage smaller operations who provided most of their fruit to CWI and did not have the flexibility to divert fruit from other markets. The new arrangements allowed CWI the ability to source new member fruit without risking future oversupply.

The Board also in response to the actions of some members who had sought to maintain their options for marketing and who had submitted and then rescinded a notice of withdrawal for fruit. This behavior removed the certainty from member supply and was seen as taking advantage of loyal members. The requirements for rescinding a notice of withdrawal within the two year notice period was increased to require both Board and

management approval. This change removed the opportunity for members to use the provisions of the MMA to avoid committing their fruit long term. It permitted CWI to begin replacing fruit which had been noticed for withdrawal without the risk that the fruit subject to that notice might remain with the cooperative and contribute to a situation of oversupply.

CWI's number one priority for the 2007 season was to attract new member fruit and retain existing members. The business worked hard to supplement its higher return and faster payment value proposition with improved communication. One on one meetings were held with most members, and a quarterly newsletter to growers was implemented. A strategic planning session held in April 2007 confirmed that the cooperative's principle business was to market members oranges and grapefruit in beverage form.

With state citrus production recovering from the effects of the hurricane, another threat loomed. Having been detected in Brazil in 2004, Citrus Greening Disease ("HLB") was found in South Florida in 2005, causing considerable disquiet. The devastating toll that HLB would have on the industry was not known at the time; HLB would become a major disruptive factor reshaping the industry.

Florida's citrus crop fell 6.5% in the 2006/07 season due to the combined effects of canker, citrus greening and the residual impact of the 2004 hurricanes. Member fruit supplied to CWI fell by a further 18% to 11 million boxes. Total fruit processed by CWI fell 9% to 12.9 million boxes.

Lack of fruit placed extreme stress on operations, especially the matching of Member fruit supplied to meet demand for NFC. However the downsized business was operating much more efficiently and achieved productivity gains of 17.8%. Ingredient yields improved and packaging material losses were reduced. Priority was placed on supporting the cooperative's premium brand with the result that 75% of all orange solids were allocated to Florida's Natural products

Citrus Greening Disease (HLB)

Huanglongbing ("HLB") is a bacterial disease spread by the Asian citrus psyllid. HLB severely reduces the quality and quantity of fruit produced causing trees to produce small, hard fruit which drop early. Trees generally die within 3-5 years of becoming infected and require removal and replanting. Although new grove management practices have resulted in some extension of the productive life of infected trees, there is currently no cure for HLB.

Since August 2005 when HLB was first found in Florida, groves have been devastated and production has plummeted. From 291M boxes in 2003-04, Florida citrus production fell by more than 60% to 112M boxes in 2014-15. The intensive grove management necessitated by HLB has seen per acre production costs escalate against declining per acre output.

Despite the adversities and lack of supply in 2006/07 CWI members received their highest ever orange returns; CWI's grapefruit returns exceeded the industry average by nearly 70%.[131] It marked a turning point for the cooperative.

The reduced Florida crops were placing significant pressure on meeting the demand for Florida's Natural NFC. CWI's members had first suffered the devastation of the hurricanes, but now the spread of citrus greening was starting to take its toll. With limited supply flexibility amongst existing members and conscious of the need to maintain the value of the Florida's Natural brand, the Board began to explore fruit supply options. Sourcing non-member supply had two

[131] 2007 Annual Report. No information of orange performance vs the industry was disclosed.

attractions – there was little lead time, and the earning from that fruit would help to strengthen the balance sheet. On the other hand, non-member fruit supply provided little certainty and was subject to market price fluctuations. Federal and state regulation[132] also imposed constraints on the extent to which non-member fruit could be relied on by CWI as a source of growth. The federal Capper-Volstead Act (1922) requires a cooperative be subject to democratic control, operate on a cooperative patronage basis and "not deal in the products of nonmembers to an amount greater in value than such as are handled by it for members". Chapter 618, Florida Statutes, went further requiring that "during any fiscal year thereof the value of business done with nonmembers shall not exceed the business done with members during the same period."

If CWI wished to remain a cooperatively owned entity and also support and grow the Florida's Natural brand, a two pronged attack would be necessary – non-member business was required to stabilize supply in the short term and new members were required to provide long term supply stability.

An issue for current members and one that was seen as an impediment to attracting new members to the cooperative was CWI's retentions. While the revolvement period had been set at five years in 2003, the retention rate for member fruit had remained at $0.28 per box. Patrons retains accounted for 20% of total patrons' equity of $131 million. Taking into consideration the cooperative's strong equity position, the Board slashed the retentions to $0.05 per member box, effective from the 2008 season.

[132] The federal act authorizing cooperatives is the Capper Volstead Act 1922. Each state has its own regulations regarding cooperatives.

The 2008 season began with the USDA expecting a solid rebound in the Florida's citrus crop; a 30% increase in orange production was forecast. Off their highs of earlier seasons, FCOJ retreated, but held at a decent level throughout the first quarter and declined throughout the year as the state's FCOJ inventories reached an all-time record high.

U.S. economic activity was beginning to feel the effects of the global financial crisis. CWI's sales held firm at $407 million but year-end inventories climbed 26% to a record $165.6 million. Accounts receivable also increased by 22% to $35.6 million.

Growers were under pressure as they grappled with the increasing costs associated with managing citrus greening, together with rapidly increasing fertilizer and energy costs. The increase in energy costs was felt throughout CWI's operations – the cost of processing, distribution and packaging material all rose; productivity gains and efficiencies helped to limit the impact.

On the back of a 26% increase in the Florida crop, CWI reported a second season of stronger performance. Member fruit increased 23% to 13.5 million boxes. A 277% increase in non-member fruit saw total fruit processed rose by 45% to 18.7 million boxes. Non-member fruit was 28% of total supply. Membership enquiries increased and the cooperative added 2 million boxes on new member fruit. Although lower than the 2007 season, member returns were favorable to the industry benchmark.

During the year, which was the cooperative's 75th Anniversary CWI's Mission Statement was simplified to "To Grow Returns and Stakeholder Value". Commenting on the change in the 2008 Annual Report the Chairman and CEO wrote:

"Our new Mission Statement provides a very clear direction as to what is expected. To be successful, all stakeholders must be pulling in the same direction and the new mission gives us a straightforward task, and that is to grow returns and increase equity."

The pared back Mission Statement brought further clarity of purpose to the business. The primary elements of CWI's strategy would be to focus on premium returning products, develop markets for new value added items, control costs and improving quality and pursuing efficiencies.

In September 2008, CWI changed the notice of withdrawal conditions for new fruit coming into the cooperative, requiring that new fruit be unable to initiate a withdrawal notice until after the first September 1 required notice date. The effect was to require all new commitments of fruit to be for an initial three years after which time they would be subject to the standard two-year notice provisions. The objective of this change was discourage growers who were not committed to the cooperative from free riding on the cooperative according to prevailing market conditions. The notice period would in effect revert to two years after the first year.

A third year of stronger performance for CWI in 2008/09 masked underlying problems in the general economy and the industry. Falling consumer juice consumption saw net revenues revenue fall 1.5% yet inventories remained high at $162.3 million. Accounts receivable fell to a more reasonable $25.2 million. Efficiency programs eliminated a further $4 million from manufacturing costs.

"Properly aligning fruit supply with NFC needs is the key to delivering consistently superior returns."

CWI 2009 Annual Report to Members

Amid the spread of canker and citrus greening member fruit supply grew 7% but with a reduction in non-member supply, total fruit processed fell 13%. The Florida crop fell by 6%. Although CWI's member returns exceeded industry benchmarks, the benchmark was low. Growers were under pressure, as in addition to the low returns they faced increased grove management costs as they fought against disease.

Seeking value added revenue and recognizing a gap in the global high-pulp juice market, CWI invested in pulp recovery and finishing technology, bolstering the earnings potential of its by-product activities.

With sales soft, CWI's advertising strategy turned to increasing share rather than growing the segment. In October 2009 the cooperative adopted a bold advertising campaign targeting Tropicana and Pepsi's use of Brazilan fruit with a "Read the Label" campaign. Emphasing the brand's authenticity, the Florida's Natural campaign referenced label small print with the tag line "If we imported orange juice, we'd make the type as small as possible too."

Packages of Florida's Natural were also stamped with a new graphic reading "Product of USA".

Based on experience with other such campaigns there was skepticism amongst advertising experts about whether the campaign would have a material effect, but it was conceded that this approach would provide the Florida's Natural brand with further differentiation in a competitive market.

2000-2009 Summary

The first decade of the new millennium had provided some of the most challenging business conditions in the cooperative's history. Amidst a volatile supply environment CWI had executed a wide range of strategies in response to these. Industry oversupply presented CWI with the opportunity to secure the rights to a major state of the art NFC processing and storage facility in Umatilla. The 2004 hurricanes saw it downside its total capacity, divesting non-core operations and facilities.

The cooperative also implemented significant and frequent changes to its relationship with members under its MMA, implementing incentives to limit supply and encourage supply, in accordance with the prevailing industry supply situation. It also attracted a sizable new member.

By 2009 the cooperative's leading product, Florida's Natural NFC juice, was in a mature market category; changing dietary habits and an increasing range of substitute products was

causing per capita consumption of orange juice to decline. The looming challenge would be to find a compelling new source of exploitable growth that fit with the business' asset portfolio and capabilities.

5.4 2010 – 2015 UNCERTAINTY AND INTROSPECTION

CWI commenced the 2010 season with a new member. Lykes Bros Inc. ("Lykes") is one of the largest citrus growers in Florida. A family owned company, Lykes has more than 30,000 acres in four groves located primarily in the south of the state. Lykes markets its fruit through a subsidiary company, New Harvest Inc. While most of its fruit had been sold to major processors such as Tropicana, Lykes had also supplied CWI on a non-member basis. CWI had been seeking new member fruit and Lykes provided the prospect of scale supply. With a history of mutually satisfactory business, an agreement was reached for Lykes to become a paid up, voting member of the cooperative in time for the 2010 season. Lykes would supply more than 900,000 boxes in their first year of membership.

Following the recovery in production in 2008, by August 2009 FCOJ futures trading below $1 per pound solid. When in October 2009 the USDA released a forecast for the 2010 Florida crop that reflected new information about the worsening impact of greening, those futures rebounded sharply, eventually settling at an average around $1.40 for the season.

Florida output fell by 17% in the 2010 season. CWI's member fruit fell 5.1% and total fruit processed by 7.7%. The effects of greening were now widespread. A concerted sales drive helped CWI's net revenues increase 4.5% to $419 million, but overall consumer demand for premium orange juice was not increasing. In the space of 10 years, US per capita consumption of orange juice had fallen by a third. High unemployment and low consumer confidence contributed to the second successive contraction in the U.S. juice market.

While work continued to improve the hard metrics in the business, CWI was also continuing to develop and evolve its values based culture. Discussion at the 2010 Strategic Planning session saw the Vision of Greatness amended to reflect the cooperative's role in increasing value for stakeholders, not just members,[133] and the following supplementary statement added:

"We are a loyal, accountable and empowered team committed to our Company Core Values as a foundation to maintain an environment where all experience fulfillment, security and success."

The cooperative's Core Values were again reviewed and updated. CWI's efforts in building social capital were beginning to gain recognition. It was with a source of great pride to the Board and leadership when CWI was named "The Best Place to Work" amongst large employers in Polk County. This Polk Works Award was determined by employee votes. CWI's community support continued. Various fundraising activities had enabled cooperative to contribute $150,000 to various charities across 2009-2010.

In September 2010 CWI tightened the timeframe for members to make fruit commitments. These changes were effected through the MMA. Members contracting on a Specified Acreage basis were required to advise the volume of fruit they would pack fresh within three days of the annual USDA crop forecast[134]. A plus or minus 10% variance was permitted.

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[133] Prior to the amendment the Vision of Statement had read *"Florida's Natural is to be the premier marketer of citrus and other products. We build on our Florida grower heritage to meet the needs of our customers with high quality products and services thereby producing superior returns and increasing value for our members." In 2010 the final word - "members" - was replaced with "stakeholders".*

[134] The initial USDA citrus crop forecast is issued in October each year, and revised each month through to the end of the citrus season in July.

Deliveries below 90% of the committed volume require a member to make up the shortfall with fruit from the spot market or pay a penalty of $3 per box. Fruit in excess of 110% of the committed volume would go into a lower returning payment pool. All members with "Specified Acreage" allocations were required to notify CWI of the volume of fruit they intended to pack fresh within three days of the release of the USDA crop forecast. The purpose of this amendment was to insulate the cooperative against a significant loss of fruit to the fresh market should there be a supply altering event during the season.

This change did not impact all members equally.[135] The Specified Acreage basis for contracting was one used primarily by CWI's packing house members. It was packing houses who had formed CWI in 1933 to obtain a return for fruit which could not be sold on the fresh market. Because of the premium offered by the fresh fruit market, packing houses enjoyed the flexibility of being able to weigh their marketing options before deciding how much fruit to commit to CWI each season. This change significantly narrowed the window for them to assess the market and conduct negotiations with fresh fruit customers.

CWI's 2011 performance was strong. A crop shortage in Brazil had driven up fruit prices. Feeling more confident about demand and sensing opportunities to increase market share, the Board authorized 2 million boxes of new fruit allocations in order to assure sufficient supply of member fruit. Growing and processing costs were being impacted by higher

[135] The flexibility that Specified Acreage contracting offered was not available in Limited Box contracts. In this way, Specified Acreage contracts could be seen as a (sanctioned) form of free riding. This change leveled the playing field between the two contracting categories, whilst still making allowance for the natural variations of agricultural production.

commodity prices in many markets, including energy and a weaker U.S. dollar. One third into the season, CWI, together with other brands, increased its selling prices.

Net revenues grew 7% during the 2011 season to $448 million; 14.1 million boxes of member fruit accounted for 92% of the total 15.4 million boxes processed. The total Florida crop increased 4% to 160 million boxes. The focus on yield improvements and efficiency continued. Further investments were made in technology to support by-product revenue expansion.

The 2011 joint Board-management strategic planning session identified building brand loyalty together with increased distribution as key contributors to providing superior returns.

A cure was yet to be found for citrus greening and this presented many uncertainties about future member supply, cooperative efficiency and the industry's future. Short term solutions involving resource intensive grove management practices had temporarily slowed the loss in production. however long term solutions such as identifying resistant trees and interrupting the life cycle of the citrus pysllid were required. CWI contributed $250,000 to greening research at the University of Florida.

CWI and its employees were active in a wide range of community activities. Members and employees served on many local board and committees; the cooperative was a key sponsor of a number of annual fund raisers. To provide further momentum to this activity CWI established a charitable foundation. The Florida's Natural Growers Foundation would seek

support from the cooperative's large vendors and suppliers and make financial contributions to charitable organizations in and around Polk County.

CWI received recognition from the Florida Development Council, being presented with an award for its community engagement and citizenship. For the second year running CWI was again named Polk County's Best Place to Work in its category.

The 2012 season marked a number of milestones for CWI. Net revenues were a record $459 million; sales volumes were also the highest ever. CWI had first produced and marketed NFC juice and the Florida's Natural brand achieved its highest ever share in the NFC segment. CWI's per unit orange return was the highest ever achieved and grapefruit the second highest. The 14.1 million boxes of fruit supplied by members accounted for 94% of total fruit processed. Operationally CWI focused on supporting sales growth, pursuit of additional co-pack volume and operational efficiency.

With no major capital expenditure anticipated and allied and non-member business continuing to contribute to equity, the Board voted during the year to maintain capital retentions at 5 cents per box. Retained equity accounted for only 10% of Total Patrons' Equity at year end.

For the third consecutive year CWI was recognized as one of Polk County's "Best Places to Work." CWI'S philanthropic work continued - the CWI Foundation made donations of $150,000.

The Florida citrus crop increased by 3% during the previous 2012 season, CWI wished to secure more high quality fruit. Having considered a number of alternatives, it was agreed that new member fruit was the best option. On September 1, 2012 Southern Gardens became the 14th stockholding member of CWI. A subsidiary of privately held U.S. Sugar Corporation, Southern Gardens is one of the largest citrus operations in Florida with 1.8 million citrus trees on 12,500 acres of groves in Southern Florida. Southern Gardens operates its own processing facility. This facility is of a size to rival CWI's, with capacity to handle 15 million boxes for fruit annually.[136] An operational challenge associated with Southern Gardens' membership of CWI was the distance between their groves and the Lake Wales facility. As part of the membership discussions, it was agreed that Southern Gardens would also provide storage and processing services for CWI.

Not all members welcomed the prospect of such a large member joining their ranks. Formed in 1994, Southern Gardens was a relative newcomer to the citrus industry. Unlike the Citrus Growers Associations that had built CWI, Southern Gardens was a professionally managed investor owned entity with vast resources at its disposal. Some of the smaller members, fearing a future loss of control, were apprehensive. While the cooperative remained organized democratically with one vote per member, Southern Gardens was entering the cooperative with large volumes of fruit and only token equity contribution. Older members who had large amounts of equity built up in the business but whose patronage was shrinking, were torn. It irked to see a large corporation use the cooperative's

[136] US Sugar website http://www.ussugar.com/citrus/

facility for very little cost, but the future value of their member equity required a volume of fruit that they could no longer deliver.

In an effort to appease the discomfort amongst certain sections of membership, in September 2012, the MMA agreement was amended to provide any member with a one year exit in the event that the person they nominate to represent them on the Board of Directors is not elected to the Board. While this addressed the control issue, it did little to satisfy members who felt that their claim to the cooperative's equity was slipping away.

In January 2013, as part of a planned succession Chris Groom succeeded Walt Lincer as VP Sales and Marketing. Groom had joined CWI in 2011 and brought extensive consumer brand marketing experience to the business. His appointment allowed Lincer to focus on developing CWI's export business.

Florida's Natural NFC was CWI's primary source of premium returns; this was a mature product category and strong sales growth eluded the cooperative. CWI's challenge became not only to deliver members a fruit return superior to the market, but to also deliver a viable return in the face of spiraling grove management costs. An increasingly concerned Board and executive group needed to find the next generation of viable returns for the cooperative. With no immediate solution, the cooperative focused on leveraging its plant capacity and leveraging its brand to diversify its revenue stream.

A new range of Citrus Smoothies were introduced. Targeting consumer demand for nutritious alternative to juice, the Florida's Natural Citrus Smoothies would utilize CWI's

already established chilled distribution channels and customer base. The product had tested very well, but Groom was concerned about reach; CWI's promotional resources fell well short of its competitors in a cluttered consumer marketplace. A staged roll out was planned.

The 2013 season marked CWI's 80th year of business. Citrus greening continued to present a very serious threat, and Florida groves experienced an excessive fruit drop as the effects of the disease worsened. Against an 8% decline in the Florida crop, member fruit supply increased by 15% to 16.2 million boxes, 93% of total supply. Increased competition from alternative beverages and consumer concern over total sugar consumption dampened juice consumption. CWI's Net Revenues were flat, although CWI's efforts at building allied businesses saw non-member earnings[137] were a record high. Inventories also hit a record high of $183 million. Despite CWI's Member returns once again outperforming the industry, growers were uneasy.

Citrus production costs increased significantly since the advent of greening. By 2013 some groves were incurring costs of $2,000 per acre, compared with $700 per acre a few years prior[138]. Furthermore, the worsening fruit drop of the previous season had sent shockwaves through an already concerned grower industry.

[137] CWI's non-member business include other juice products (e.g. apple, cranberry) packed on behalf of other labels. Co-packing, tolling and storage operations allowed CWI to increase the efficiency of production and processing lines and also contributed to overhead costs. The earnings from non-member business reduced reliance on member retentions.

[138] CWI Strategic Planning Presentation 2014

In a response to the pressure members faced from volatile and unpredictable cropping, CWI made further changes to the MMA in September 2013. These provided a method for Members who were on a fixed box commitment to immediately transition to a production based (acreage) commitment, provided that change is made prior to September 1st of the forthcoming citrus season. The change provided members with some measure of relief from uncertain crops, and would pass some of the volume risk onto the cooperative. The September 1 deadline provided CWI with volume information early enough in the season for it to source alternative fruit if needed and minimize disruption to production.

A second change saw the language of the MMA clarified to specify that any fruit purchased by a Member to satisfy a shortfall in delivery and thereby avoid liquidated damages would be handled on a non-member participation basis. This change was aimed at discouraging members from filling their allocations with fruit they had not grown, a form of free-riding which had the effect of reducing quality and potentially jeopardizing the long term member fruit supply to the cooperative.

As they had in 2006, declining levels of production were taking their toll on CWI's membership. Annual patronage volumes of some of CWI's smaller members, including founding members, threatened to fall below the 250,000 boxes required for membership in the cooperative's bylaws. An analysis of member patronage patterns showed a widening of the gap between the size of members' deliveries. In 2010 the seven smallest members by patronage, all of them CGAs, had supplied 23% of the cooperative's member fruit; by 2014 this had fallen to 16%. Of the 15.2 million boxes of member fruit the cooperative was

expecting in 2014, 46% was contracted on a Limited Box Basis, and 99% of the Limited Box commitment was from the seven largest producing members.

The seven smallest members by patronage were amongst CWI's most longstanding members, having belonged to the cooperative for an average of 68 years. These Members had accumulated significant capital in the business; together their holdings accounted for over half of all allocated equities. The widening differences between member patronage and equity patterns was a symptom of deepening fissures in the Memberships' preferences. Allocated equity had grown significantly in recent years as the cooperative had pursued allied business and non-member supply to compensate for declines in member fruit supply. By 2014 total patrons' equity was approaching $181 million, but the only way these members would gain access to this equity would be upon liquidation.[139]

CWI Equity Liquidation Order as at 2014

1. *All liabilities and debts of the cooperative*
2. *Class B and Class C Stock*
3. *Class A Stock*
4. *Allocated Retained Earnings*

Any excess would be distributed to current members in proportion to the amount of all classes of stock held immediately prior to liquidation

Members with a long term commitment to the industry wished to maintain cooperative ownership and leverage the value of the Florida's Natural brand into the future. Although

[139] Horizon problems were a source of friction. Presuming that the assets of the business could be sold at a favorable price, Members whose grove businesses were sunsetting would have their interests maximized if this equity could be realized. They were increasingly aggrieved that newer, large members had been able to make full use of the cooperative's resources while paying only a token membership fee and being levied what were nominal patronage retains.

the volumes of smaller members were diminishing, they were important contributions at a time when greening was having such a negative impact on production.

Following a review, the Board proposed a change to the Bylaws which would allow mergers between members where that merger was approved by a three-quarter majority of all directors. Voting shares would be redeemed at the time of any merger. This proposal was approved by at the 2014 meeting of Stockholders.

Beyond the By-laws, the Board also agreed that members that failed to meet the supply threshold for Board representation could serve alternative terms. Thus, the representative from one member would be an active, voting Director of the Board for one year, and the following year the Board representative would be the nominee of the other member. To promote continuity in decision making, both the sitting Director and their alternative would be entitled to attend Board meetings.

The Florida citrus crop fell 21% during the 2014 season to 120 million boxes, leading many to speculate about the demise of the Florida citrus industry. The Florida Department of Citrus' latest 10 year forecasts for Florida citrus production had been revised downward by more than 30% since 2012.

Analysis showed that the fall in total production arose from declines in both bearing acres and yield. Factors impacting the fall in yield included a decline in the number of fruit per tree, an increased rate of fruit loss and smaller fruit size leading to an increase in the number of fruit per box. Florida's bearing tree population was declining, but tree loss rates were

stable. The analysis suggested that the main cause of the declining tree population was lack of replanting due to uncertainty. [140]

CWI's 2014 member fruit supply fell by 15%. With the short crop driving up prices, members were rewarded with record orange pool per unit returns that again compared favorably to the industry benchmark. Net revenues however were lower, and the cooperative continued efforts to evolve its product mix.

In the face of a sustained decline in volume, cost control and capacity management were a top priority. Packaging lines at CWI's sites at Umatilla and Lake Wales were consolidated and leased equipment reduced.

Maintaining an adequate fruit supply was CWI's most pressing challenge. In September 2014, having considered a number of options, and with stockholder equity at an all-time high CWI announced a $10 million tree planting incentive program ("PIP"). Intended to overcome the cost and risk hurdles involved with replanting, the cooperative would reimburse growers $10 for each tree planted, representing one quarter or more of total replanting costs including the price of the tree, irrigation equipment and labor. Drawing on recent greening research, PIP encouraged denser planting of 270-350 trees per acre[141]. Prior

[140] All processors had been impacted by this decline. In May 2014 a concerned Coca Cola announced it was investing $2 billion to support the planting of 25,000 acres of new orange groves in Florida. Some 5 million new trees will be planted in the new groves, which would see two existing growers each plant 12,500 acres.

[141] Denser planting was believed to benefit growers by keeping harvest levels high, even when new trees succumb to greening. A grove with 270 trees per acre can produce enough harvestable oranges, even if it loses 70 of those trees to greening, whereas with only 140 trees per acre, a grove harvest would not be economically viable.

to greening, groves had been planted at between 120 and 200 trees per acre. Participants in PIP were required to commit to selling all oranges from the new trees to CWI and adhere to certain standards for caretaking, including feeding and pest control. Open only to members, PIP was expected to yield the cooperative 2 million boxes of fruit by the time trees matured in 5-6 years' time. For the cooperative, this incentive program represented a cost effective way to secure future supply. It was welcomed by growers also; very quickly PIP was fully subscribed.

The USDA also announced a tree replacement program in September 2014. This would entitle growers to be reimbursed for 65% of their replanting costs and 50% of the costs of tree removal and site preparation, to a maximum of $125,000 per annum. Together with PIP, this initiative offered a considerable boost to Members wishing to remain in the industry.

In line with USDA forecasts, the Florida crop diminished again in 2015, to 109.4 million boxes. Assisted by another 1.3 million boxes of new fruit which was brought into membership, CWI's member fruit volumes held stable. Once again, orange returns achieved a record high. However, the challenges remained. A lackluster economy, record high retail pricing and ongoing concerns about sugar consumption had seen juice consumption plateau. A permanent solution to greening remained to be found. However, the Florida's Natural brand remained strong and CWI was continuing to develop distribution in the USA and expand overseas markets.

In September 2015, after 30 years with CWI, 22 of those as CEO, Steve Caruso retired. His successor, Dr Bob Behr took the reigns as part of an orderly, planned succession. The CWI he would lead was a vastly different business in a dramatically changed industry from that which Caruso had joined in the 1980s.

CHAPTER 6 ANALYTICS

In this section eight Analytics of CWI's evolution across the study period are presented using selected theories/frameworks.

6.1. Design Principles for Enduring Common Pool Resources

6.2. Incentivizing Group Behavior - Logic of Collective Action

6.3. Cooperative Balancing Strategies

6.4. Property Rights Problems

6.5. Ownership Costs

6.6. Cooperative Lifecycle Framework

6.7. Dynamic Capabilities

6.8. Political Economy of Hierarchy

Each Analytic comprises a commentary and a summary table.

6.1 CORE DESIGN PRINCIPLES FOR COMMON POOL RESOURCES

In this section I consider the extent to which Ostrom's design principles for Common Pool Resources inform our analysis of adaptation at CWI over the study period.

Core Design Principles ("CDP") for Enduring Common Pool Resources ("CPR")

Hardin (1968) hypothesized that self-interested behavior of appropriators of a common resources is likely to result in depletion of the common resource. The premise of the CDP is that groups can overcome Hardin's hypothesized erosion of common resources by adhering to basic principles (Appendix I). Collectively these principles act to check self-interested behavior by appropriators and contribute to long enduring common pool resources. Ostrom's CDP is based on observations of groups successfully managing common pool resources in widely diverse cultural and economic settings.[142] The failure of groups that did not employ the CDP was evidence of their efficacy.

Wilson, Ostrom and Cox (2012) demonstrated the application of the CDP to other types of groups, applying them to education and urban neighborhoods and hypothesized that the principles may be applied to improve the efficacy of any group which requires members to cooperative to achieve shared goals.

Applying the CDP to CWI is an extent to which they have relevance within a commercial cooperative enterprise where members participate for pecuniary gain.

[142] Ostrom's CDP were based on case studies of groups managing common pool resources such as forests, rivers, fisheries and irrigation systems.

Clearly Defined Boundaries

This principle requires that individuals or households who have rights to withdraw resource units from a CPR must be clearly defined, as must the boundaries of the CPR itself. In the context of the CPRs studied by Ostrom, boundaries are most likely to be physical. Useful interpretation of the boundary principle in the context of CWI must embrace entitlement to use the cooperative's access. CWI's Boundaries determine the extent to which a producer may access the cooperative's processing and marketing capacity – who may have their fruit processed at the cooperative, when it will be processed and how much fruit will be processed.

Formal Boundaries are established in the Articles and Bylaws of the cooperative in terms to minimum volumes of annual patronage required for membership and board representation. It is likely that the general nature of the residual claim and residual control rights boundaries prescribed in these constitutional documents is due in part to the constraints on amendments.[143]

It is possible that the absence of a maximum volume specification in the cooperative boundaries prior to 1993 led to Members undervaluing their access to the cooperative and determining subjective, informal boundaries. This is suggested by the tacit accepted practice

[143] CWI's Articles of Incorporation may be altered by a vote representing two-thirds of all capital stock outstanding at a meeting of Class A stockholders, after having first been approved by two-thirds of the Board of Directors. Amendments to the Bylaws require a three-fourths vote of a quorum of member-stockholders attending a meeting.

of members passing the fruit of non-member neighbors through the cooperative as their own, and in that way exposing CWI to external free riding.

The definition of Boundaries is more precise in the MMA. This agreement can be more easily modified: the provisions of the MMA are reviewed prior to the commencement of each season and approved by the Board.

Over the study period CWI became more sophisticated in its use of the MMA to refine the Boundaries of the cooperative as the needs of the cooperative, and the circumstance of members and the industry changed. Refinements included stipulating maximum volume boundaries and allocating temporal boundaries to delivery allocations. As the Membership of the cooperative evolved CWI developed three different Boundary definitions for contracting purposes; each of these are employed contemporaneously.[144]

Congruence - Benefits, Obligations and Local Conditions

This CDP requires that members negotiate a system that rewards members for their contributions, and that the rewards are in line with contributions (Wilson, Ostrom Cox 2012).

[144] CWI's Members are able to contract on a Specified Acreage Basis (from which fruit may be packed), a Field Run Specified Acreage basis (from which no fruit may be packed) and a Limited Box basis.

Over the course of the study period CWI constantly adapted its residual claim and residual control rights to achieve a greater alignment between costs and benefits and to adapt to changes in the cooperative operating environment.

Until 1988 patronage retains were revolved on a 20 year basis. The resultant misalignment between funding and utilization may have been less apparent in period prior to 1980, but became more marked when the freezes forced many growers to exit the industry. As a result inactive growers were funding the cooperative but had no control rights[145]. The move in 1988[146] to reduce the revolvement period to seven years reflected CWI's desire to establish greater alignment between funding and utilization. The extent to which the decision to reduce the revolvement period was impacted by the development of NFC or granting of Membership to a large family owned producer is not known. An increase of retentions per box to $0.20 in 1990 and $0.28 in 1994 saw the level of current Member investment become oriented toward generating future returns.

Prior to the introduction of the revised MMA in 1993, the absence of maximum volume boundaries and failure to conscientiously enforce minimum contracted volumes[147] resulted in Members being able to divert contracted volumes from the cooperative with little consequence. Equally Members were able to supply as much fruit as they wished. This was consistent with the cooperative's purpose – to add value to member's productive units by accepting any given volume of fruit. Not all members took advantage of the latitude

[145] No Members exited CWI during the 1980s, but many of those Members had growers who did.
[146] The reduction of the revolvement period took place progressively and was completed in 1996
[147] There is no evidence of the minimum volumes for minimum membership needing to be monitored or enforced during the 1980s.

regarding volumes to the same extent and as a consequence members who loyally supplied the cooperative bore a greater proportion of return risk and, through retentions, the costs of collective enterprise.

By the early 1990s it was apparent that the liberal approach to contracted volumes was increasingly at odds with the cooperative's operating efficiency and its incipient NFC revenue model which demanded a stable supply of quality fruit. The 1993 MMA included penalties for non-delivery of minimum volume which, combined with increased retains per box had the effect of deterring internal and external free riding and achieving greater alignment of costs and benefits. The level of these penalties were altered across the study period to reflect changes in the value of supply and the cost to the cooperative of non-supply.

The ongoing refinement of payment pools across the study period had the impact of rewarding members in accordance with the quality of their fruit. Despite using the payment pools to differentiate member returns by variety and quality of fruit supplied, retains were uniform across all varieties and in this regard costs and benefits are not aligned.

The majority of amendments to the MMA in the period from 2000 to 2015 were in response to changes in the operating environment, particularly the level of state fruit production. However these adjustments were insufficient to check a growing misalignment between member patterns of patronage and equity investment in the cooperative.

Ostrom's concept of congruence with local conditions could be usefully adapted in the context of a framework for analyzing U.S. marketing cooperatives to embrace specific aspects of the cooperative's business objectives and operating environment. This might include business strategy, financial capacity, human resources, the competitive environment, international trade environment etc.

The issue of proportional equivalence as it applies to Residual Control rights is addressed in the following section on Collective Choice Arrangements.

Collective Choice Arrangements

The third CDP requires that most individuals affected by the operational rules can participate in modifying the operational rules.

Cooperative regulations[148] require CWI be controlled on a one-member, one vote basis. Residual control rights are set out in the Articles of Incorporation and Bylaws; meetings of Members are required when there is to be voting on any amendments to these constitutional documents. The control provisions of the Articles are less onerous than those in the Bylaws, and tend to focus on minimum requirements e.g. the minimum size of the Board of Directors is set at three in CWI's Articles of Incorporation and seven in CWI's Bylaws. Amendments to the Articles of Incorporation may be passed by a two-third majority of

[148] Under statutes in several US states this requirement of the Capper-Volstead Act 1922 may be set aside in favor of proportional voting.

voting stock; amendments to the Bylaws require the support of three-fourths of voting stock.[149]

Each Member who meets a minimum volume threshold to nominate a representative for the Board of Directors. Across the study period CWI maintained universal Board representation. This has ensured that each Member can participate in modifying the operational rules of the cooperative, and assisted in managing collective decision making costs.

Evolving patterns of patronage and equity holding in CWI demonstrate how the one member, one vote principle can run counter to Ostrom's concept of principle of proportional equivalence where Members' production patterns are no longer homogeneous. In 2013, seven members accounted for 16% of CWI's Member fruit Supply and 52% of Allocated Equity.

In 2014, in response to a pronounced decline in the volume of fruit supplied by some members, CWI passed an amendment to its Bylaws allowing Members to merge their stockholdings. This allowed merging Members to collectively retain Board representation. In arrangements made outside the Bylaws, it was agreed that representatives of merging Members would rotate their Board seat annually. The Member who did not have a seat on the Board would be allowed to attend the Board meeting as an observer. In this way CWI

[149] Each member is issued with the same number of Class A stock, which confers voting rights.

adapted its residual claim and residual control rights to accommodate Member heterogeneity arising from portfolio and horizon problems.

When major changes to the MMA were proposed in 1993 both Board and Management engaged in extensive consultation with Member growers. Elevated levels of consultation were also evident in periods where the cooperative's returns to members were not meeting expectations.

Monitoring

One of the principle objectives of monitoring in a CPR is to check free riding behavior. This principle requires that those who monitor CPR conditions and appropriator behavior be are accountable to the appropriators or are the appropriators. In a cooperative enterprise monitoring must necessarily extend to the financial and operational performance of the business and monitoring the activities of appointed agents.

Member representation on the Board means that monitoring is ultimately performed by members for members. In the early years of the study period there is no information to suggest that monitoring was robust – business systems and data collection was manual, and the nature and the duration of Board meetings at that time is unknown. In the absence of formal monitoring systems, it may be hypothesized that informal systems including shared social expectations played an important part in moderating recalcitrant member activity. High levels of Board – management information asymmetry arising from lack of data suggests that agency costs were likely to be correspondingly high.

Improvements in data capture and analysis across the study period enabled ongoing growth in the Board's ability to monitor each Member, the cooperative's business and its employees. The reporting requirements of lenders are likely to have been a factor in the first enterprise wide budget produced in 1986. The establishment of a budgetary discipline together with the determination of clear commitments and sanctions in the 1993 MMA provided a basis for monitoring that was not only a driver of cooperative value, but also highly relevant to Member wealth. One might hypothesize that members' incentive to monitor became greater as their investment in the cooperative increased and limitations were placed on their access to cooperative resources.

Graduated Sanctions

This principle requires that sanctions exist, but they be implemented in accordance with the severity and seriousness of the offence. Judgment is required, and should be administered by representatives of the appropriators (or in the cooperative case, members).

CWI's Bylaws give a majority of the Board power to expel a member from the cooperative due to a breach of the cooperative rules, regulations or bylaws or MMA. At no time did this occur over the course of the study period.[150] Interviewees suggested that sanctions in the MMA were rarely if ever implemented prior to the cooperative's entry into NFC. Board meetings provided a forum for setting and reinforcing expectations for member behavior and checking repeated lapses.

[150] In the history of CWI no evidence was found of any member being expelled for breach.

This is not to say that members were at all times in compliance with the MMA. Rather there is evidence that the cooperative acted pre-emptively to avoid breaches and exercised judgement in handling breaches. The Bylaws allow the Board to waive minimum volume thresholds for notice of termination, Membership eligibility and Board representation where they consider non-compliance has arisen due to unavoidable circumstances, or is due to freeze, windstorm or disease or other events outside the Member's reasonable control.

This was particularly the case after the implementation of the MMA which established clear obligations for each Member. Fruit Department staff were able to discuss any issues with Members who were potentially in breach of the contract. Failing satisfactory resolution, issues could be elevated to the CEO or Board if necessary.

Over the study period CWI became increasingly sophisticated in its design of incentives and sanctions, and these were tailored to each of the three contracting mechanisms in place.

Conflict Resolution Mechanisms

This principle requires that mechanisms exist for speedy and cost effective resolution of conflicts within the group.

CWI's governance structure provides multiple mechanisms for the resolution of conflict. Where conflicts cannot be resolved by Management, they can be elevated to the Board of Directors. No change to the conflict resolution mechanisms were observed during the study period. A culture of inclusive discussion and debate that would be facilitative to constructive resolution of conflicts was observed within CWI Board meetings.

Right to Organize

Federal and State regulation confers the right for CWI to organize as a cooperative. In two consecutive seasons during the study period CWI's Member fruit supply fell to levels that potentially put them into breach of those regulations. This is likely to have had significant bearing on the cooperative's decision to implement radical changes to its MMA in 1993.[151]

[151] This may have impacted CWI's banking covenants. Data was not collected on finance arrangements.

Table 4 Applying Ostrom's Core Design Principles to CWI 1985 – 2015

Core Design Principle	**1980-1989**	**1990-1999**	**2000-2009**	**2010-2015**
Clearly defined boundaries	Boundaries for Membership were defined in the Articles and Bylaws but monitoring was weak. Boundaries for supply included a minimum but no maximum. The prevailing supply contract required patronage commitments to be made for one season.	Boundaries for Membership as defined in the Articles and Bylaws are now complemented by a comprehensive MMA. The 1993-94 MMA set minimum volumes of fruit each Member was required to deliver and the maximum volumes of fruit CWI was obliged to process. Initial Member fruit Allocations clearly defined (October 1 1992). MMA Notice period increased so supply commitments made for two years. Ex-post 1994 loopholes and ambiguities in MMA are been progressively removed.	MMA used to make short term changes to boundaries by imposing and removing moratoriums on unfilled deliveries. Extensive altering of temporal boundaries relating to new supply and withdrawal of supply.	Boundaries modified to reflect diminishing production of the cooperative's lowest patronage Members.
Proportional equivalence between benefits and costs Congruence with local conditions	Costs and benefits to members were not aligned. Action initiated to reduce 20 year revolvement period to 7 years. Modest retains. Patronage was levied on a utilization basis, but in the absence of enforced minimum and maximum volumes, Members who loyally supplied the cooperative took a greater proportion of return risk and costs of collective enterprise. Loosely defined MMA consistent with Member objectives and cooperative	MMA recognized packing house requirements by contracting on a Specified Acreage basis. Introduction of meaningful penalties for Non-Delivery of contracted fruit went some way to recognizing cost of Non-Delivery. Members had the right to negotiate delivery of additional volumes with the cooperative during the season. CWI's fruit Member fruit supply was now more stable and better	Extensive use of the MMA to respond to swings in state production levels by modifying rules attaching to different types of fruit allocation. Changes in threshold for membership and Board representation reflects growth in state production levels. MMA now allows for 3 modes of contracting, but has tightened requirements for	MMA terms liberalized to reduce Member contracting risk arising from greening. New large member has amplified misalignment of equity investment and patronage patterns.

Core Design Principle	1980-1989	1990-1999	2000-2009	2010-2015
	purpose but at odds with incipient NFC revenue model and customer base.	aligned to the needs of national NFC customers. Retains per box increased first to 20 cents then 28 cents per box. By 1996 revolvement period is 7 years. Payment pools refined to align with demand for each variety.	each mode to ensure equity between contracting type.	
Collective choice arrangements.	One member one vote basis. All members represented on the Board.	Extensive Member consultation took place prior to the introduction of the new MMA. Marketing Committee of the Board oversaw proposed changes in the MMA and Pooling. 12 members all represented on the Board.	Elevated intensity of member engagement in the first half of the decade attributable to unmet return expectations.	14 Members represented on the Board. Concern amongst smaller, older Members over the influence of largest members. Changes made to bylaws to allow smaller members to merge and share Board representation roles.
Monitoring	No evidence of robust monitoring systems. Information collected for each Member's supply but the extent to which this was circulated to and reviewed by Board is unknown.	MMA allowed for independent audit of each Members' supply. Supply information reviewed by Management and Board. Investment in IT has yielded quality information. Monitoring embedded operationally and at Board level.	Intense scrutiny of business and management performance by the Board. Guiding light principles emphasis Member returns.	High levels of monitoring.
Graduated Sanctions	Board meetings provided a mechanism for correcting aberrant Member behavior. Formal sanctions rarely imposed.	Clear MMA allows many contract issues to be managed preemptively by operational staff. Any issues which could not be resolved were elevated to CEO or, if necessary, Board.	Increased discretion being applied in sanctioning due to exogenous supply altering events.	Consideration given to factors beyond Members' control.

Core Design Principle	1980-1989	1990-1999	2000-2009	2010-2015
		No information on the extent to which formal sanctions are imposed.		
Conflict Resolution Mechanisms	The degree to which these were proscribed in the prevailing MMA is not known. Conflicts could be elevated to Board level if necessary.	MMA sets out dispute resolution mechanisms. Formal and informal systems exist.	Notice of Exit used as a mechanism for prompting resolution of unresolved performance matters.	Formal and informal systems exist.
Right to Organize	Federal and State cooperative regulation.	CWI came close to technical breech of Federal and State cooperative regulations requiring a minimum of half of business transacted be derived from Member supply.	Federal and State cooperative regulation. State regulations regarding disease management are implemented to limit spread of canker and HLB.	Federal and State cooperative regulation.

6.2 INCENTIVIZING GROUP BEHAVIOR

In this section I consider the extent to which Olson's principles for incentivizing group behavior inform our analysis of adaptation at CWI over the study period. I consider the type of group and the cooperative's incentive system.

Incentivizing Group Behavior

Working from a premise of self-interested (rational) individual behavior Olson considered the problem of how to elicit cooperation in groups. Olson categorized groups according to the likelihood that a collective good would be provided. Where each or at least some of the members of a group has an incentive to provide a collective good, the group may be seen as privileged. An intermediate group is one in which no single member is sufficiently incentivized to provide a collective good, but where each members contribution is visible. In a latent group, the behaviors of each member are not sufficiently significant to impact the provision of the collective good.

Olson observed that as group size increases, provision of the common good becomes less optimal.[152] Therefore selective incentives will be necessary to elicit group cooperation.[153]

Olson hypothesized that the optimal provision of a collective good will only be obtained if the marginal cost of any additional units of the collective good are shared in exactly the same

[152] This is because the larger the group, the smaller the fraction that each member receives of the group benefit. This acts as a disincentive to a member to contribute because the costs of contributing may outweigh the benefit received.
[153] In some circumstances social norms and expectations may provide an effective selective incentive.

proportion as the additional benefits. Olson also demonstrates that in small groups there is a tendency for the "exploitation" of the great by the small.

Exclusive and inclusive goods are considered. Exclusive groups are those where the results of action by group members is available only members of the group. In an inclusive group the results of group action are available to members and non-members of the group.

Group Type

CWI at the outset of the study period can be characterized as a privileged group because each member has an incentive to see that a facility exists to process fruit; the returns from each Member's productive unit are increased by having access to processing and distribution capacity. External free riding and weak cooperative boundaries enables members to enter and exit the cooperative with relative ease, and the cooperative's assets are available to non-members. CWI can be characterized as an inclusive group at this stage of its development.

The introduction of the revised MMA in 1993 introduced mechanisms that limited producers' ability to enter and exit the cooperative. The establishment of minimum and maximum volumes of Member supply, meaningful penalties for non-delivery and a two-year contractual term, saw CWI take on attributes of a privileged exclusive group. The returns from marketing the cooperative's Florida's Natural NFC were available only to members.

Iterations of the MMA and the cooperative's capital structure involving the increase of retentions and the reduction in revolvement period were intended to achieve a closer

alignment of current patronage and current equity. The exception is Residual Control Rights. Maintaining a one Member, one vote control system meant each time a new Member was admitted to the cooperative the Control rights of existing Members were diluted.

Incentives

Prior to 1993 incentives for group behavior were low. No maximum volume for supply was set, monitoring was poorly developed and there is little evidence of sanctions being enforced. The 1993 MMA strengthened incentives by limiting access to the cooperative's processing and marketing assets, improving monitoring and introducing harsh new sanctions.

The ability to assess the effectiveness of the incentives and sanctions program is constrained by the absence of verifiable data showing the level of supply that CWI wished to secure for each season. Source data, including Annual Report commentary from 2000 – 2006 suggests these incentives were of limited effect when Members perceived CWI's Member returns to be inadequate to compensate for the cost of participating. During the period 2000-2008 Member commitment to the cooperative was tested by low Member fruit returns and concerns about the return on CWI's investment in NFC.

It is possible that agent incentives associated with the introduction of the Guiding Light Objectives contributed to an improvement in Member Returns, although this was not an area of enquiry and no data was collected in this regard.

Across the study period the proportion of the Total Fruit processed by CWI that was sourced as Member Supply increased from 65% in 1980s to 92% in the period from 2010-2015. The proportion of Members' total processing fruit production supplied to CWI is unknown.

Table 5: Applying Olson's Incentivizes for Group Behaviour to CWI 1980-2015

Olson	**1980-1989**	**1990-1999**	**2000-2009**	**2010-2015**
Group Type	Privileged Inclusive	By specifying maximum volumes in the MMA CWI moved toward attributes of exclusive group behavior as it sought to limit access to a fixed plant capacity.	Privileged Exclusive Group	Privileged Exclusive Group
Incentives	Weak. Maximum volumes are not specified and there is no evidence that are enforced. Members act rationally in regard to their transactions with the cooperative. Average 65% of all fruit processed across the decade is Member fruit.	Stronger incentives and sanctions established with the introduction of the MMA in 1993/94 but implementation of sanctions in the first two seasons of the new MMA was more lenient as Members became used to the process and definitional ambiguities were clarified. Average 64% of all fruit processed across the decade is Member fruit.	Very strong incentive mechanisms for full commitment of supply are in place but are undermined by poor Member Returns arising from oversupply in the early part of the decade followed by exogenous supply shocks 2005-2009. Across decade 84% of Total fruit processed is Member fruit.	Very strong incentive mechanisms are in place. Sanctions regarding undersupply and oversupply against contracted volumes are applied judiciously as supply is scarce and Members face factors beyond their control. Average 92% of fruit processed across the period is Member fruit.

6.3 SUPPLY BALANCING STRATEGIES

In this section I consider the extent to which Lopez and Spreen's strategies for achieving cooperative equilibrium inform our understanding of adaptation at CWI over the study period. I consider CWI's use of short and long horizon supply balancing strategies, education strategies, pricing strategies and the use of Non-Member supply.

Lopez and Spreen Balancing Strategies

Lopez and Spreen consider how selective incentives might be applied to address free riding behavior in an agricultural marketing cooperative. Modelling under static equilibrium conditions they demonstrate the potential of collective member behavior to achieve a balance between supply and demand. The result is an increase cooperative equilibrium and ergo higher returns to members.

Lopez and Spreen identify three strategies for implementing select incentives – supply strategies, member education and pricing strategies. Applying these strategies aims to reduce the incentive for free riding thereby facilitating a balance between supply and demand. They also model the improved returns available to a cooperative through the utilization of non-member fruit.

Supply Balancing

Lopez and Spreen's construct of supply balancing involves the implementation of select incentives to achieve delivery of the precise volume and quality of member produce at

preferred times, to best meet demand. These are conceived as strategies for static equilibrium. In extending their application to CWI they are observed as having application in both short and longer term balancing strategies.

Short Horizon Supply Balancing Strategies

Supply balancing strategies were not evident at the commencement of the study period. The cooperative's Bylaws and MMA set minimum commitments but there was no upper limit for each Member's annual supply. Monitoring was weak and enforcement of sanctions rare.

The 1993 MMA introduced short horizon supply balancing strategies intended to align fruit supply with plant capacity and customer demand. The 1993 MMA established minimum and maximum supply volumes for each Member, a longer contract term and meaningful penalties for non-delivery. Over the duration of the study period the MMA was refined frequently in response to new knowledge and the dynamic operating environment.

Amendments made in to the MMA in the 1990s primarily focused on increasing cooperative equilibrium by reducing internal free riding behavior. These included changes which

- clarified the definition of specific contractual terms that impacted residual claim rights;
- required any grove properties which were sold to be replaced with similar quality fruit;

- clarified that ownership of fruit allocations on CWI's grove property projects was attached to the land;
- Increased liquidated damages; and
- Required that fruit signed into Membership after the 1995 season could only be reduced on a pro-rata basis across all varieties.

During the same period CWI introduced two new categories for contracting – Limited Box contracting and Field Run Specified Acreage contracting. Both of these categories were suitable for Members who did not wish to reserve the right to pack, and therefore provided the cooperative with greater certainty of supply. Under the Field Run Specified Acreage category of contracting CWI bore volume risk arising from total production. In contrast Members bore all the risk for the Limited Box category but did not receive any more return. In 1996 a volume tolerance was incorporated into Limited Box contracts to reflect the natural uncertainty of agricultural production. This placed Limited Box contracts on a more comparable footing with acreage based contracts.

Other amendments focused on providing greater stability of Member supply and clarified aspects of cooperative Property Rights:

- Restrictions were placed around notifying the withdrawal of fruit allocations in excess of 500 acres;
- Tighter fruit ownership requirements were put in place to ensure compliance with cooperative regulations;

- Members were allowed to fulfill delivery on fruit allocations that were noticed for withdrawal during the notice period as well as delivering on replacement fruit;
- Rules on Member entitlement new fruit volume allocations were developed; and
- Restrictions on the transfer of fruit allocations between consenting Members, were lifted.[154]

Amendments to the MMA implemented during the early 2000s focused on balancing amidst intense industry oversupply:

- A 12 month moratorium was placed on delivery of fruit against unfilled allocations[155]
- Increased levels of authority were required for the concurrent delivery of unfilled fruit allocations and rescinding a Notice of Withdrawal
- The period Members were afforded to replace lost fruit was reduced

Following the 2004 hurricanes and the onset of greening, MMA amendments focused on stabilizing supply amidst a sudden and ongoing decline in state production:

- Limitations on the period during which new Member fruit allocations could be made were reduced
- Tighter notice were placed on of withdrawal requirements for new Member fruit allocations, meaning all new commitments had to be made for an initial three year period

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[154] The intra-cooperative transfer of fruit allocations was neutral to CWI's total Fruit volumes. Removing barriers to these transactions reduced ownership costs.
[155] To avoid unfairly disadvantaging Members who were unable to deliver on unfilled lost fruit allocations during the Moratorium, the time period for replacing lost fruit was temporarily extended.

- Members with acreage contracts that allow them to pack were required to confirm the volume of fruit they intended to pack fresh within 3 days of the annual USA forecast.

CWI also acted to mitigate the increased risk Members faced as a consequence of greening:

- Limited Box contracts were permitted to immediately transition to an acreage basis for contracting;
- Members whose representative was not elected to the Board were allowed to exit within one year (rather than two years).

Longer Horizon Supply Balancing Strategies

Production

A long horizon form of supply balancing strategies occurred in the 1980s when, in response to the reduced production base arising from the freezes, CWI purchased land for the development of groves.[156] The grove developments were a defensive strategy in which CWI integrated backward to protect its core business of processing and marketing Member fruit by entering fruit production for supply. This was a long horizon strategy to balance supply, but did not address the issue of optimizing processing and marketing efficiency within any one season.

[156] The grove development projects represented upstream integration that could be seen as placing CWI in direct competition with its Members. Yet as a response to the ruinous freezes, CWI's purchase of land was welcomed, providing a mechanism for Members to collectively overcome their shortage of capital and secure groves at less risk of frost.

Membership

The admission of new Members to the cooperative also represents supply balancing strategies. Two new Members joined the cooperative prior to the 1993 MMA. CWI took offensive action to secure Member supply to support growth by establishing and admitting a cooperative of large growers as a Member in 1997. The admission of two Members in 2009 and 2012 was initially construed as a defensive strategy to secure continuity of supply.

2006 amendments to the Bylaws reduced the volume threshold for Membership, allowing those whose production was eroded by the 2004 hurricanes to continue as Members.

Education Strategies

Lopez and Spreen specify member education in their balancing strategies. In this analysis I have extended this concept to include initiatives to educate employees and other stakeholders.

Across the study period CWI adopted multiple education strategies intended to improve its capacity to balance supply both in the short and long term.

Activities which have served to facilitate two-way knowledge exchange between Management and the Board include:

- The introduction of a formal, bottom up budgeting process and performance;

- The NFC trial initiated in 1987 which saw management and Board immersed in new technology, engineering, finance and marketing decisions;
- Annual Board-Management strategic planning retreats;
- Board Meetings where Management and Board members are in attendance

Initiatives which have developed knowledge amongst management and operational personnel include:

- The implementation of cross-disciplinary project teams and horizontal lines of communication
- Formation of CWI Community College
- Implementation of a flatter leadership structure and a Senior Leadership Team
- The implementation of Enterprise wide information systems and formal budgeting, planning and performance monitoring processes
- Promulgation of CWI's Core Values

Initiatives intended to increase Member awareness and understanding of the cooperative and its strategy include:

- The publication of a long form Annual Report, distributed to all grower Members to provide a comprehensive overview of the business, its goals, strategy, the benefits of Membership and each season's performance;
- Publication of regular newsletters for Members updating them on cooperative affairs;
- Advise and support on management of greening

Initiatives promoting a two-way exchange of information between Members and Board and Management include:

- Consultation regarding the proposed to introduce the new MMA was being considered provided an opportunity for CWI to explain the strategy to its Members, and for Management and the Board to develop a better understanding of Members' circumstances, business goals and concerns;
- CWI Annual Meetings;
- Periodic Member consultation initiatives

Additionally, members of the Board and executive are active in industry bodies and hold a number of outside directorships, all of which inform the cooperative's decision making.

Pricing Strategies

Lopez and Spreen's construct of pricing strategies is to introduce a two-tier pricing strategy for deliveries outside contract. This has the effect of a tax which reduces the return to members in breech for over or under delivery of contracted volumes.

The use of pricing strategies to balance supply is most evident in CWI's use of pooling procedures. These were constantly refined to incentivize the delivery of fruit that best matched the demand patterns for CWI's range of citrus products.

Additionally CWI implemented pricing strategies in the MMA. From 2009 over delivery on Specified Acreage contracted volumes would see fruit placed in a lower paying pool. And from 2013, fruit purchased by members to satisfy a shortfall in their contracted volumes was to be handled on the same basis as non-member fruit.

Non-Member Supply Strategies

Lopez and Spreen maintain that marketing cooperatives that process non-member fruit will be more efficient because they will make better use of fixed asset capacity.

CWI made extensive use of non-member supply across the study period including non-Citrus fruits. The importance of non-member fruit and its contribution to member returns varied across the study period.

Non-Member Citrus Supplies

Prior to the introduction of the MMA in 1993, an average of 39% of total fruit processed by CWI was non-member fruit, but ranged from a low of 24% in 1983 to a high of 59% in 1992. The extent to which there were strategic reasons for purchase of non-member fruit prior to 1988 is unknown. The introduction of NFC brought longer horizon customer delivery commitments, and any shortfall in member fruit delivery had potential adverse consequences for business growth. In these circumstances the purchase of non-member fruit was often detrimental to short term returns, but accretive to longer term value.

As CWI's planning capabilities built, the cooperative moved between strategies of minimizing and optimizing non-member citrus supply according to forecast member supply, plant capacity and demand for finished products. Ex-ante member forecast information was particularly important in times of industry undersupply, as it enabled the cooperative to take a planned approach to procurement when prices were high. In periods of industry oversupply, CWI's procurement strategies focused on reducing volumes, and/or procuring only those varieties of fruit necessary.

Non-Citrus Business

Following the acquisition of SFD CWI engaged actively in non-citrus products, using apple, cranberry and other juices to provide a comprehensive customer solution in the food service and other sectors. In response to the reduced plant throughput as a result of greening, CWI increasingly sought co-packing opportunities in assist in optimizing plant capacity.

Table 6 Applying Lopez & Spreen's Balancing Strategies to CWI 1980-2015

	1980 – 1989	**1990 - 1999**	**2000-2009**	**2010-2015**
Supply Balancing	Limited supply balancing strategies evident – Bylaws set uniform minimum annual patronage requirement for membership qualification. Annual MMA sets agreed volume of fruit each member will supply but monitoring is weak. New member enlarges supply base.	MMA has introduces mechanisms for partial balancing of supply with specified volumes and enforced penalties for non-delivery. Strategic use of non-member fruit to balance supply.	MMA has been used as primary tool for balancing supply. It is relied on as an ex-ante planning mechanism for Member fruit volume forecasting so that purchase of non-Member fruit may be planned. New member admitted.	Balancing needs are beyond the scope of the MMA and existing membership. New member added.
Education	No evidence of Member educational strategies for balancing supply. Budgeting process & NFC trial a mechanism for reducing Board-Management information asymmetries.	Boardroom key forum for education of Members. Formal budgeting process together with the NFC trial facilitated increased Board knowledge of the business. Extensive communication and consultation between management, Board and Members arising from the new MMA and NFC. Long form annual report to Members introduced 1993 used to reinforce core strategy. Education also taking place within business – CWI Community College.	Intense communication and consultation between management and Board and Members and Board arising from financial performance, the new MMA and NFC.	Member education focused on disease management and business rationale for new Membership.

	1980 – 1989	1990 - 1999	2000-2009	2010-2015
Pricing Strategies	No use of pricing strategies to balance supply evident	Pooling is primary price mechanism for balancing supply	Price discount mechanisms in MMA for over and under delivery on contracted volumes.	Pooling is primary price mechanism for balancing supply. MMA specifies brought in fruit used to satisfy member fruit allocations paid on a non-member basis.
Non-member Supply	Non-strategic acceptance of Non-Member citrus supply. Some Allied Business as a consequence of SFD acquisition. Strategic development of non-citrus activities. Average 35% of all fruit processed across the decade is Non-Member fruit.	Strategic use of Non-Member citrus supply to meet NFC commitments. Diminished focus on non-citrus activities as member supply and NFC business have grown. Average 36% of all fruit processed across the decade is Non-Member fruit.	Growing reliance on co-packing and allied activity to fill underutilized plant capacity. Across decade average of 16% of Total fruit processed is Non-Member fruit.	Non-Member supply represents less than 10% of Total Fruit processed. Actively seeking co packing and allied activity to fill capacity.

6.4 PROPERTY RIGHTS PROBLEMS

In this section I consider the extent to which Property Rights Problems are relevant to our analysis of adaptation at CWI over the study period. I consider external and internal free riding, horizon problems, portfolio problems and influence costs. Control costs are considered in the section 6.5, as part of ownership costs.

Property Rights Problems

Cook (1995) specifies five property rights problems arising from members' dual roles as cooperative patrons and investors in cooperative equity instruments that are not alienable and for which there is not a secondary market. Cook hypothesizes that increased complexity of cooperative enterprise and heterogeneity of membership creates and environment where conducive to the emergence of residual claim and residual control conflicts. The five property rights problems are the free rider problem, horizon problem, portfolio problem, control problem and influence costs problem.

There is considerable interlinkage between Cook's taxonomy of property rights problems and Hansmann's (1990) classification of ownership costs. Control costs are therefore addressed in the Analytic for Ownership Costs (Section 6.5).

External Free Rider Problem

External free riding occurs when non-members benefit from utilization of cooperative assets without contributing to the cost of that asset. The result of this behavior is to erode the value of membership.

Prior to the revised MMA in 1993, the cooperative experienced external free riding. Some of this was done with the members' consent – mostly when members' growers agreed to pass non-Member fruit through as their own. This free riding was most prevalent in times of oversupply. The 1993 MMA put in place incentives to discourage external free riding; principally the provisions of the MMA removed CWI's obligation to process any member fruit in excess of contracted volumes. Interviewees suggest that this was largely successful.

Internal Free Rider Problem

Internal free riding occurs when the degree to which members derive benefit from the cooperative's assets is not in accordance with the costs that they incur.

Volume

Prior to the revised MMA, members would readily divert fruit committed to the cooperative to more lucrative markets where the return was higher or cash flow improved. This practice was most evident in times of industry undersupply, when prices in the fresh fruit market were elevated. The implications of this practice for the cooperative's business were frustrating, but not catastrophic; prior to the introduction of NFC CWI largely took a "sell

what we produce" basis and the production and sales mix would be adjusted to suit supply. However, the arising inefficiencies likely resulted in lower returns for those members who fulfilled their commitment to the cooperative; the patronage system meant these loyal Members also contributed a greater share of CWI's equity capital.

Following the introduction of the new MMA in 1993, Members sought to exploit any incompleteness in the contract to their own advantage. Many of the early amendments to the MMA served to clarify definitions and close contractual loopholes to prevent free riding. Amidst an environment of declining production in 2008, CWI required all new fruit allocations to make an initial commitment of three years, reducing potential for free riding.[157]

The different contracting bases employed by CWI served to provide those Members who contracted on a Specified Acreage basis (from which they were entitled to pack for the fresh market) with greater latitude over contracted volumes than Members with Field Run or Limited Box contracts. The 2009 requirement that all Members confirm their contract volumes at the same time removed this opportunity for free-riding.

Quality

Internal free riding was also observed with Members providing lower quality fruit to CWI. This was addressed by increasing the number of pools so that pricing more accurately reflected quality and variety.

[157] This amendment was implemented at the time the CWI was seeking new Members.

Equity

In 1997, a new member was admitted to the cooperative and that season supplied over 8% of CWI's member fruit. Yet, the new member was required only to contribute the nominal sum $13.5k in share capital. This was also the case when two large growers became members of CWI in 2009 and 2012. In 2013 these two Members supplied 20% of member fruit, but their capital contribution was minimal.

By 2014 members collectively accounting for 51% of Allocated Equities provided only 16% of member fruit supply, and the value of their investment in the cooperative was dependent on the supply of larger, more recent members.

Horizon Problem

Horizon problems occur when the time period over which a member expects to hold a residual claim over a cooperative asset is less than the expected life of that asset. Horizon problems are prevalent when members are retiring or exiting from a cooperative which is operating on a going concern basis.

The freezes of the 1980s saw a number of members' growers exit the industry; CWI's decision to reduce the revolvement period accelerated the redemption of capital for these members and saw equity ownership aligned to contemporary patronage.

The 2004 hurricanes and the subsequent spread of HLB led to the re-emergence of horizon problems. Reduced crop production and high grove management costs resulting from HLB

hit smaller growers particularly hard. These growers were the backbone of CWI's CGA members; CGA member deliveries to CWI fell sharply.

Some of CWI's longstanding CGA Members considered their eventual exit from the industry as an inevitability. All had contributed equity to the cooperative for decades; the only way these Members could access the value locked up in the cooperative was for CWI to be sold. In contrast, larger growers all favored ongoing development of the CWI business.

Portfolio Problem

Portfolio problems arise from requirement for cooperative members to provide equity investment for the cooperative. Members who are required to make a contribution to equity in accordance with their level of patronage, are unable to optimize their portfolio by adjusting their level of cooperative investment. Portfolio problems are compounded by the illiquidity and frequently non-appreciable nature of cooperative equity.

Portfolio problems were first observed in this study when CWI required significant capital to invest in the development of NFC. Many of CWI's Members who were financially distressed following successive freezes considered a major, sunk investment in an attractive but untested product sector to be beyond their and the CWI's capacity at the time. By the late 1990s, the level of retains being levied on Members was perceived to be at odds with the return they were receiving. This eventually led to two Members serving a Notice of Exit on the cooperative, and this was withdrawn only after a comprehensive plan to increase Member returns was put in place. An 82% reduction in retains was also implemented.

Portfolio problems were not the exclusive domain of CWI's older Members. Southern Gardens, who became a Member of CWI in 2012, were located 100 miles from CWI's Lake Wales processing plant. With its own processing and storage capabilities, Southern Gardens sought to minimize delivery costs by processing at its own plant.

Influence Costs Problem

Influence costs occur when individual members or groups of members seek to influence decisions which have bearing on distribution of benefits and costs among members. An example would be members seeking to influence the location of a new cooperative facility, so that their costs of transacting are reduced.

There is little evidence of Influence Costs in the first half of the study period. However, it might be hypothesized that these may have manifested with the increasing bi-modal distribution of patronage and equity ownership patterns that emerged after 2012. With the cooperative's viability dependent on the patronage of a small group of large members, it is contemplatable that these members might wield greater influence in decision making than members whose patronage is in decline.

Table 7 Applying Property Rights Problems Theory to CWI 1980-2015

Problem/Cost	1980 - 1989	1990 - 1999	2000-2009	2010-2015
Free Rider Problem	External free riding prevalent in times of oversupply. Internal free riding prevalent in times of industry undersupply because members do not deliver contracted volumes when high prices offered by the fresh fruit market or other processors. Loyal members who continue to provide the cooperative find their returns diluted.	The implementation of the MMA reduced external free riding by removing CWI's formal obligation to process fruit in excess of the member fruit allocation. Meaningful penalties for non-Delivery of contracted volumes has reduced the incentive to internal free-riding by not delivering contracted volume. Free-riding by supplying lower quality fruit as part of contract volume has been reduced but not eliminated by refining payment pools. The addition of a sizeable new member in 1997 distorted equity- patronage patterns. OGMA immediately became CWI's largest supplier, but was not required to make a material ex-ante equity investment.	Opportunities for external and internal free riding have been reduced through enforcement of cooperative boundaries, comprehensive MMA and ongoing refinement of pooling arrangements. Amendments to the MMA focus on discouraging the withdrawal of fruit and requiring specified acreage fruit supply to confirm volumes in the same timeframe as non-packing members.	Emerging disparities in equity ownership and patronage between long term CGA members and more recent members. Free riding on ownership structure with large new Member able to use cooperative facilities with only nominal capital contribution.
Horizon Problem	Freezes see a number of growers exit the industry. By 1989, remaining growers are committed to the industry subject to financial viability of their groves.	Each core member has growers whose future in the industry has been imperiled by the freezes. Core members remain committed for the long term.	Hurricanes, disease and increased cost of production result in elevated horizon problems especially amongst smaller packing house members.	Horizon problems crystallized with smaller Members no longer able to meet threshold for Board representation
Portfolio Problem	No identified portfolio problems at beginning of study period. Retains are modest and the cooperative business objective is intended to enhance performance of member productive units.	Emerging portfolio problems as prospect of investment in NFC loomed for indebted members. Those impacted most severely by the freezes have limited financial capacity or tolerance for further scale investment.	Low returns and high retentions in the early part of the decade compound concerns about value of membership. By 2009 improved Member Returns and reduced retains have	Portfolio problems very high. Packing house members struggle to retain membership, southern based groves resist shipping costs.

Problem/Cost	1980 - 1989	1990 - 1999	2000-2009	2010-2015
		These Members were most likely to have reservations about the increase in retains[158] CWI made extensive capital investments in long run specified assets with the objective delivering superior member returns. Sizeable retains now being levied on members' patronage but skepticism regarding the level of returns being received.	alleviated some portfolio problems. Strict contracting commitments required of specified acreage growers do not serve packing houses' business objective.	
Influence Costs Problem	None identified – presumption is of relative homogeneity of supply volume between Members.	Largest member is OGMA, which is administered by management, opening potential for management influence of cooperative policy. There is no evidence of this.	Requirement for management to approve concurrent deliveries suggest concerns of influence on these decisions in Boardroom. No evidence of this.	Members with larger more secure supply seek to have greater influence in decision making.

[158] To $0.20 per box in 1990 and $0.28 per box in 1993.

6.5 OWNERSHIP COSTS

In this section I consider the extent to which Ownership Costs changed as a consequence of adaptation at CWI over the study period.

Ownership Costs

In seeking to explain the choice of ownership model for enterprise investors, Hansmann (1990) identifies three major categories of ownership costs –the costs of controlling managers,[159] collective decision making costs and the costs of bearing risk. Hansmann hypotheses that enterprise investors will select the form of ownership that delivers the lowest total ownership costs.

The costs of controlling managers[160] has its roots in agency theory and embraces both the cost of monitoring managers and the cost of managerial opportunism. Monitoring costs are incurred to ensure that the agent acts in accordance with the principal's objective. Managerial opportunism arises when monitoring has been insufficient to deter agents from acting in a way that is not fully consistent with principal's objectives. Monitoring costs are higher where information asymmetry exists between principals and agents and can be compounded by organizational complexity.

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[160] Hansmann's construct of costs of controlling managers is parallel to Cook's (1995) control problem.

Collective decision making costs arise from differing opinions about cooperative decisions and policies, whether due to different judgements, different personal circumstances or differences in the way a member transacts with the cooperative. Collective decision making costs are likely to be higher when members will be impacted differentially by a decision. Collective decision making costs may manifest in many ways including the time it takes to make a decision or resolve a conflict, the cost of democratic processes and the cost of making sub-optimal decisions.

Risk bearing costs are associated with the cost of residual claim rights. In a cooperative where investment is a requirement of patronage, members have less opportunity to reduce their risk bearing costs through diversification.

Control Costs and Agency Costs

Agency costs are assessed as being moderate prior to the acquisition of SFD in 1986. The relatively simple nature of the business helped to offset high information asymmetry[161]. The entry into NFC production and marketing resulted in an increase in agency costs. The upstream vertical integration saw the Board of growers increasingly dependent on the decisions of specialized management personnel regarding product placement positioning and price.

[161] The Board's ability to monitor the business was compromised due to lack of comprehensive performance data. Almost all interaction between the Board and Management was through the CEO.

Over the course of the study period the increase in agency costs from the greater size and complexity of the business was complemented by greater control costs. Improved reporting, improved monitoring capabilities, the appointment of non-grower Directors, increased interaction between the Board and Senior Management team and joint Board-Management retreats are amongst strategies that served to reduce agency costs.

The move into NFC also saw an intense focus by management on brand development and growth in sales, distribution and market share. During the period of the 1990s, CWI excelled in these areas but this success was not matched by corresponding growth in Member returns. The establishment of the "Guiding Light" targets in 2008 which benchmarked CWI Member returns against the industry and incorporated a return on investment perspective saw monitoring place a renewed focus on cooperative value drivers.

Collective Decision Making Costs (CDMC)

High member homogeneity and universal Member representation on the Board contributed to low collective decision making costs at the outset of the study period. The differential impact of the 1980s freezes on Members' productive units served to elevate CDMC. Proposed amendments to the MMA in 1992 saw CDMC increase markedly, with Members divided on the proposal. These proposed changes represented a new purpose for CWI and required a fundamental change to the manner in which Members interacted with the cooperative. The controversial proposal took over two years from conception to

implementation; final Board approval required extensive member consultation and engagement.[162]

CDMC were rising during the final five years of the study period as distinct bi-modal patterns of Member patronage and equity investment began to emerge. The democratically based one-member, one vote Control Rights served to compound CDMC as Member's conflicting objective functions fomented divergence over CWI's future strategy.

Risk Bearing Costs

Risk Bearing Costs increased markedly over the study period. At the outset of the study period, two-thirds of the Total Equity in the cooperative was in the form of common stock, ninety percent of which comprised qualified and non-qualified revolving fund certificates. A modest level of retentions ($0.04 per box) helped to offset risk arising from the then 20 year revolvement period. Risk bearing costs associated with cooperative investment were therefore low enough to offset the expected benefits from having a guaranteed market for Member fruits.

CWI's investment in NFC and increasing dependence on the Florida's Natural brand resulted in a significant increase in risk bearing costs. During the development period retains were increased five-fold in order to fund construction of specified assets. The elevated retains were at odds with the returns Members were receiving for their fruit, and the investment at times seemed at odds with Members' portfolios.

[162] In the case of CWI's CGA members, this included consultation with members's members.

By 2015, risk bearing costs were high. Common stock accounted for only 3% of Total Patron's Equity and the revolvement period was seven years. The remainder of Total Patron's Equity comprised Allocated Equities, which were income from non-pool operations, and which though tagged to each Member, would only be realizable on liquidation of the cooperative i.e. sale or closure. Longstanding Members who had funded the development of the NFC business saw their prospects of realizing the value of accumulated capital diminish with their production and their prospects for ongoing Membership of the cooperative.

Table 8 Applying Hannsman's Ownership Costs Framework to CWI 1980-2015

Problem/Cost	1980 - 1989	1990 - 1999	2000-2009	2010-2015
Control Costs	Moderate agency costs. Low business complexity tolerates low levels of reporting information. Discipline of budgeting and NFC trial help to reduce information asymmetries and improve Board's monitoring.	Control costs increasing as size and scope of cooperative expands at a faster rate than monitoring capability. Upstream vertical integration has increased potential for information asymmetry and managerial opportunism due to increased business complexity. Administration of CWI has become more complex. With investment in information systems and improved reporting processes more information is available to inform decisions, helping to reduce information asymmetry. Professional executive team including planning, finance and marketing personnel. Cost of monitoring managers has increased.	Increased control costs in early part of the decade as spotlight placed on measurement of member returns. Joint principal-agent strategic planning is helping to reinforce common goals.	Agency costs are low. Excellent information for monitoring. Board and management united in pursuit of higher performance as business viability threatened from exogenous factors (disease).
Collective Decision Making Costs	CDMC are low. High member homogeneity	CDMC very high ex-ante the MMA being agreed and remain elevated due to the questionable payback on increased member investment. By the late 1990s, confidence in the capability and integrity of management, together with	CDMC were possibly elevated in the middle of the decade arising from member dissatisfaction with returns.	Very high CDMC arising from member heterogeneity.

Problem/Cost	1980 - 1989	1990 - 1999	2000-2009	2010-2015
		increased information flows are mitigating CDMC.		
Risk Bearing Costs	Risk Bearing costs initially borne proportionally but increase with cooperative borrowings to finance growth. Offset by planned reduction in revolvement period.	Risk bearing costs have increased with the elevated level of Member investment in specified physical assets and brand - a high degree of lock in.	Very high risk bearing costs arising from diminishing juice consumption, uncertain impact of disease, marginal economics of citrus production, highly specified assets, scarce venture capital	Very high, especially for Members with diminishing production and short horizons.

6.6 COOPERATIVE LIFECYCLE FRAMEWORK

In this section I consider the extent to which the Cooperative Lifecycle Framework is useful in our understanding of adaptation at CWI over the study period. I consider cooperative purpose, homogeneity of Member purpose, Member heterogeneity of circumstance and Cooperative Lifecycles.

Cooperative Lifecycle Framework

The CLCF as conceived by Cook and Burress (2009) seeks to explain the evolution of cooperatives over time, and suggests that cooperatives can overcome organizational degeneration through adaptation. The CLCF embraces the dynamic nature of cooperative enterprise hypothesizing that over time increasing heterogeneity of member preferences exacerbates property rights problems and increases ownership costs, leading to a decline in cooperative health.

Five phases are embedded in the CLCF. Phases of the CLCF are conceptualized in terms of homogeneity of member purpose as it relates to business growth and profitability over time During phase one the economic justification for cooperative enterprise, often attributable to market failure, becomes apparent. Phase two, potential members participate in organizational design agreeing the cooperative's purpose, determining the attributes of[163] and basis for allocation of residual control and residual claim rights, and the design of

[163] Including the extent to which equity capital is appreciable, transferable, alienable, redeemable, the basis for member control of the cooperative etc.

governance and representation systems and processes.[164] During phase three, cooperative health initially increases, but costs arising from increasing heterogeneity of member preferences compromise organizational performance. The frictions between members crystalize and the magnitude of these differences are explicitly acknowledged in phase four. The cooperative begins to consider future options. Phase five sees the cooperative make a decision to adapt. Adaptation is effected through tinkering or reinvention, or exit.

Tinkering involves the implementation of selective incentives and may include changes to the change of bylaws, operating policies or procedure but no significant change in cooperative ownership rights. Cook and Burress (2009) imply tinkering results in the end of one lifecyle and the start of another. Reinvention involves change in residual control and/or residual claim rights[165] and represents the commencement of a new lifecycle. Exit, a non-regenerative solution may involve conversion or liquidation and represents the curtailment of the cooperative ownership model.

Cooperative health is a fundamental construct of the CLCF, but is idiosyncratic and self-determined.

[164] Ostrom's CDP are of relevance in phase two.
[165] Reinvention may involve the distribution of residual claim and control rights either exclusively to members or to a combination of members and investors.

Cooperative Purpose

The purpose of a cooperative business is determined by its membership, taking into consideration the external operating environment and their objectives for their own production enterprises.

Although CWI entered into the production of NFC in 1987, it was five years before a change in cooperative purpose was crystallized.[166] During this time, NFC came to account for a greater share of the cooperative's business; the commitment to NFC was irreversible. The cooperative had rendered changes to manufacturing and marketing processes now not in alignment with the procurement model. Optimizing NFC production, distribution and return was now the factor around which the business needed to be oriented, rather than Member supply. Management contended that by being consumer focused and matching plant capacity and Member fruit supply to customer demand patterns, Members would earn a superior return.

The implementation of the new MMA in 1994 sought to balance Members' access to the cooperative's production and marketing capabilities, and concluded the era of the cooperative providing a guaranteed home for Member's fruit. The extent to which NFC became the cooperative's raison d'etre was reinforced in 1998, when CWI changed its name to Florida's Natural Growers, Inc.

[166] With the advent of the new MMA in 1994, CWI's purpose moved from selling what members produce to producing what the cooperative sells.

Member Homogeneity of Purpose

Cooperative health is likely to be higher when members share a common purpose and are agreed in the approach to be taken to pursuing shared objectives. Homogeneity of circumstance is helpful, but not necessary, in perpetuating member homogeneity of cooperative purpose and is likely to result in lower collective decision making costs. (Hansmann, 1990 p.39)

Member homogeneity of purpose at CWI is assessed as being high at the outset of the study period. Most were longstanding members, and placed a value on the role of the cooperative in processing and marketing their fruit in a way that maximized their return in the given market environment.

Following the freezes of the 1980s all remaining members were committed long term to citrus production but were divided over changing the cooperative's procurement model to support the cooperative's increasing dependence on its NFC business. Some valued the flexibility CWI provided in managing any volume of fruit and did not want to relinquish this; others considered the change in the MMA necessary to make a success of what was appeared to be an irreversible NFC strategy. The high level of retains being levied was also a concern for Members, and for varying reasons not all wished to commit so heavily to long horizon investment.

The market success of Florida's Natural NFC and judicious application of the terms and conditions of the new MMA in the first two seasons helped to once again unify members

around the NFC strategy. For some, however, doubts about the level of return members were receiving for their investment persisted even after the decision to implement the new MMA. Concerns again emerged around the turn of the century when the market was flooded by Brazilian imports and Florida production was at record levels.

Adverse exogenous events – the decline in per capita juice consumption, hurricanes of 2004 and the subsequent spread of greening initially served to increase commitment to cooperative purpose. However, when it became apparent that greening would have a sustained adverse impact on grove viability and this impact would be experienced differentially amongst the cooperative's membership, diverse horizons and portfolios saw an emerging divergence of member preferences.

By 2013 the cooperative's members were divided over the future of the cooperative. Sunsetting members felt aggrieved that new members were able to join the cooperative for only a nominal investment. With their own production diminishing liquidation was the only the prospect for them to realize the value of the equity they had built through decades of investment in the cooperative's assets. However, there was a recognition that that branded business was highly specialized, being inextricably linked to Florida sourced citrus fruit, and therefore had little value without supply.

Member Heterogeneity of Circumstance

Member heterogeneity characterized by diverse production businesses can increase property rights problems. Differences in the size of members' business, location, financial capacity,

production horizons, investment diversification, production methods and leadership values may contribute to frictions and increased collective decision making costs.

Membership numbers varied little over the study period, but the heterogeneity of Members' productive units changed markedly. At the outset of the study period, all Members were local CGAs with comparable levels of patronage. The admission of Ben Hill Griffin, Inc. to the membership in 1986 saw the first IOF join the cooperative, but importantly the new member's groves were in close proximity to the plant and known to the membership.

CWI's creation of OGMA, a cooperative affording exclusive access to CWI for large growers was a transaction-cost efficient procurement mechanism. Residual control rights were not significantly diluted, and the fact that management provided administrative support to the cooperative meant that its objectives were closely aligned to CWI's. The primary significance of OGMA is it brought a sudden and sustained increase in fruit supply to the cooperative, opening members to future competition for new fruit allocations.

Exogenous factors were considerable contributors to member heterogeneity. As the more northerly located CGAs saw their production fall markedly due to weather and disease, opening up the cooperative to more distantly located new members with large groves became a matter of business survival. This act of self-preservation for CWI amplified the differences between members, especially the admission of a remotely located corporately owned member with its own NFC processing and storage capacity.

Considering the evolution of CWI's membership and the changing degrees of commonality of purpose, it would appear that members' ownership structure only becomes an impediment to cooperative unity when the size of members' productive units and their membership horizons are divergent.

Cooperative Lifecycles

The CLCF (Cook and Burress, 2009) hypothesizes a change in lifecycle as taking place when a cooperative tinkers or reinvents.

CWI went through at least one lifecycle transition over the study period. This took place around 1993 when the cooperative introduced its new MMA. This period coincides with a change of cooperative purpose and is consistent with a reinvention under the Cooperative Lifecycle Framework. Amendments to the MMA effected a material change in residual claim rights, placing limits on members' previously unconstrained access to CWI's processing and marketing capacity. Residual control rights did not change; notably there is no evidence that the reinvention necessitated any changes to the Articles of Incorporation or Bylaws. The change was made by a resolution of the Board of Directors and required no vote at a member meeting unnecessary. Notwithstanding, the consultation process and effort to build member consensus was extensive, because the purpose of the cooperative had changed and ongoing member supply was critical to the cooperative's viability.

CWI tinkered during the next 25 years, but none of those events are associated with a new lifecycle. Boundaries were altered, residual claim and residual control rights modified, but the cooperative's purpose remained unchanged.[167]

[167] It will be of interest in future research to contemplate the extent to which the admission of a new member to a federated cooperative constitutes a tinkering or a reinvention. Under a one member one vote constitution, the admission of a new member dilutes each existing members' voting power. This may be significant in a small group, especially if there are rights of veto available. While in each isolated case the admission of a new member may not seem material, the cumulative effect of admitting several new members to a cooperative may render significant changes in the composition of the membership and the nature of the membership's productive entities.
Other factors which may be pertinent to considering whether an adaptation is a tinkering or a reinvention include, whether the change increases or decreases the residual claim and/or residual control rights of existing Members; the materiality of the change for Members; whether the cooperative boundaries change; the extent to which Members' risk bearing costs change; and if the change is associated with a change in cooperative purpose.

Table 9 Applying the Cooperative Lifecycle Framework to CWI 1980-2015

	1980-1989	1990-1999	2000-2009	2010-2015
Cooperative Purpose	Add value to Members' citrus production by providing processing and marketing capacity for any given volume of citrus fruit.	Add value to Members' citrus production by extracting superior returns for selected volumes of fruit through upstream vertical integration.	Add value to Members' citrus production by extracting superior returns for selected volumes of fruit through upstream vertical integration	Add value to Members' citrus production by extracting superior returns for selected volumes of fruit through upstream vertical integration
Number of Members	11 - 13 CMS join in 1981 and Ben Hill Griffin, Inc. joins in 1986.	12 Lake Garfield CGA exit in 1991, Consolidated Tomoka exit in1998, OGMA join in1997.	13 Lykes Bros. join in 2009	14 Southern Gardens join in 2012
Member Homogeneity of Purpose	High	High decreasing to Moderately High – MMA consultation crystalizes heterogeneity of Members objective functions. Post 1993 unity of purpose needs to be rebuilt across the decade	High at the outset of the period – Members share a commitment to NFC as a response to industry oversupply and Brazilian imports. Declining to moderate by 2009 with emerging uncertainty arising from greening.	Moderately Low – Longstanding local CGA Members who are now sunsetting seek to extract value from past cooperative investments while more recent Members want access to cooperative capacity.
Member Heterogeneity	Low – all Members are local, all but one Member is a CGA.	Moderately Low – largest patronage Member is a cooperative managed by CWI	Moderate– disease and hurricanes have wrought change in Members' patronage. New Member is an IOF and not local.	High – disease has seen dramatic change in Members' patronage profiles. Two thirds of all patronage supplied by Members who did not belong to the cooperative in 1980. Members contemplate consequences of exit
Membership Frictions	Minimal	High in 1993 between those Members who supported new MMA and those who did not. Dropping to Moderate as brand	Moderately low – disappointing cooperative returns, common adversities and emerging uncertainties serve to unify patrons;	Moderately High – heterogeneous horizons and portfolios impede consensus decision making

	1980-1989	1990-1999	2000-2009	2010-2015
		success achieved and incentives reduce free riding behaviors		
Cooperative Health	From moderate and stable due to mature business to moderate and increasing due to development of new revenue stream	Volatile. Moderate then Low then Moderate and Stable	Volatile. Moderate in face of industry oversupply, then very low following performance concerns, rising to moderate post 2008 as returns improve	Moderately low –main supply base increasingly remote from processing and storage facilities Bi-modal equity and patronage patterns indicate member heterogeneity Limited funds to support new product launches
Evidence of Tinkering, Reinvention or Exit?	Tinkering	Reinvention, Tinkering	Tinkering	Tinkering
Cooperative Lifecycle	Phase 3	New Lifecycle Phase 3-4-5-1-2-3	Phase 3 to 4	Phase 4

Table 10 MMA Agreement Adaptations 1993 - 2015

In this table the introduction of the new MMA in 1993 and each of the subsequent identified amendments are evaluated regarding their suitability for a game-theoretic analysis, assess applicability of cooperative theories applied in this thesis, identify the property rights and consider the change in the context Cooperative Lifecycle Framework.

Change	Objective	Game "Winners"	Game "Losers"	Theory	Residual Control or Claims?	Tinker or Reinvent?
1993 Introduction of MMA	Balance Supply	Cooperative	Individual maximizing Members	Dynamic Capabilities, , CLCF[168] AN[169]		Reinvent
1993 Two year notice of exit	Supply balancing - Stable supply	Members who have consistently and loyally supplied CWI over the long term	Members who seek a home for their fruit on a short term basis only	Lopez and Spreen, CDP[170], AN	Residual claims	Reinvent
1993 Introduction of Specified Acreage Contracting	Supply balancing	Cooperative gains certainty over supply base	Members loose flexibility of supply base	CDP, CLCF AN	Residual claims	Reinvent
1993 Designated fruit allocations	Supply balancing - Establish base volume of supply	Members who have large allocations as at 1 October 1992	Members with smaller allocations as at 1 October 1992	CDP, Lopez & Spreen, CLCF AN	Residual claims	Reinvent
1993 Penalties for non-delivery of fruit	Supply balancing - stable supply, reduce free riding	Cooperative members who deliver fully on their contracted volume	Members who do not deliver fully on their contracted volume	CDP, Olson, Lopez & Spreen Property Rights AN	Residual claims	Reinvent
1994 Tightening Definitions	Supply balancing, Reduce free riding	Cooperative	Members who seek liberal interpretations of MMA to suit their own objectives	CDP, Lopez & Spreen, Property Rights AN	Residual claims	Tinker

[168] CLCF – Cooperative Lifecycle Framework
[169] AN - Analytic Narrative incorporating Rational Choice theory
[170] CDP – Core Design Principles

Change	Objective	Game "Winners"	Game "Losers"	Theory	Residual Control or Claims?	Tinker or Reinvent?
1994 Limited Box Category of Fruit Added	Grow non-packhouse member fruit			CDP, Lopez & Spreen	Residual Claims	Tinker
1994 Replacement of Grove property with same quality fruit	Supply balancing – quality, reduce free riding	Members whose volume and mix of fruit is stable	Members who seek to free ride by replacing contracted groves with lower quality fruit mix	CDP, Lopez & Spreen AN	Residual claims	Tinker
1994 Provisions added specifying how Increase in Fruit Allocation to be distributed amongst members	Establish basis for allocation of delivery rights for growth in supply			CDP, AN	Residual claims	Tinker
1996 Limited Box Volume threshold added	Reduce risk for Limited Box fruit	Members who contract on a Limited box basis	Members who do not contract on a limited box basis	CDP, Property Rights AN	Residual claims	Tinker
1996 Allow intra-cooperative Diversion of Fruit by Mutual Consenting Members	Stable supply, reduce transaction costs			CDP, Lopez & Spreen, AN	Residual claims	Tinker
1996 Fruit allocations on CWI Groves not replaceable by reducing Member	Supply balancing – avoid oversupply	Cooperative	Members with grove properties	CDP, Lopez & Spreen, AN	Residual claims	Tinker
1998 Liquidated Damages increased	Supply balancing - stable supply	Cooperative	Members wishing to divert fruit	CDP, Lopez & Spreen, Property Rights, AN	Residual claims	Tinker
1999 Field Run Specified	Grow supply from non-			CDP	Residual Claims	Tinker

Change	Objective	Game "Winners"	Game "Losers"	Theory	Residual Control or Claims?	Tinker or Reinvent?
Acreage category of contracting added	packhouse members					
1999 Fruit signed into membership post 1994/95 can only reduce commitment pro-rata across all varieties	Supply balancing - quality, Reduce free riding	Pre 1994/95 membership fruit	Post 1994/95 Membership fruit	Lopez & Spreen, Property Rights AN	Residual claims	Tinker
1999 Tighter fruit ownership requirements for Capper Volstead Requirements	Compliance			CDP	Residual claims	Tinker
1999 Tighter dates for sales of groves in excess of 500 acres	Stable supply	Cooperative	Members selling large groves	Lopez & Spreen, Property Rights AN	Residual claims	Tinker
1999 Concurrent delivery for fruit noticed for withdrawal	Supply balancing – increase supply	Members who have noticed fruit for withdrawal	Members who have no fruit noticed for withdrawl	CDP, Lopez & Spreen AN	Residual claims	Tinker
2002 Moratorium on Unfilled Allocations	Supply balancing- avoid oversupply	Cooperative	Members with unfilled allocations	CDP, Lopez & Spreen, AN	Residual claims	Tinker
2003 Extended period for replacement of lost fruit	Retain membership	Members with unfilled lost fruit allocations		CDP, Lopez & Spreen, AN	Residual claims	Tinker
2003 Increased approval requirements for concurrent delivery	Supply balancing- avoid oversupply	Cooperative	Members seeking approval for concurrent delivery	Lopez & Spreen, Property Rights, Ownership Costs AN	Residual claims	Tinker
2006	Supply balancing-	Cooperative	Members with unfilled lost	CDP, Lopez & Spreen	Residual claims	Tinker

Change	Objective	Game "Winners"	Game "Losers"	Theory	Residual Control or Claims?	Tinker or Reinvent?
Reduce replacement period for lost fruit	avoid oversupply		fruit allocations	AN		
2006 Additional approvals required for rescinding a notice of withdrawal	Supply balancing- avoid oversupply	Cooperative	Members seeking to have a notice of withdrawal rescinded	CDP, Lopez & Spreen, Property rights AN	Residual claims	Tinker
2007 Reduce timing restrictions on making new Member fruit allocations	Stable/increase supply	Members seeking to commit additional fruit		CDP, Lopez & Spreen AN	Residual claims	Tinker
2008 Tighten notice of withdrawal requirements for new fruit allocations	Stable reduce free riding	Cooperative	Members with new fruit allocations	CDP, Lopez & Spreen, Property rights problems AN	Residual claims	Tinker
2009 Reduce time for Specified Acreage members to advise volumes	Stable supply	Non-packing members	Packing members on a specified acreage contract	CDP, Lopez & Spreen, Property Rights, AN	Residual claims	Tinker
2012 Reduce notice requirement for Members whose nominee is not elected to the Board	Align control and supply	Any members whose nominee is not elected to the Board	Cooperative	CDP, AN	Residual control	Tinker
2013 Allow immediate transition to acreage contract from fixed box	Stable supply, reduce risk for limited box members	Limited box members	Cooperative	CDP, Lopez & Spreen, AN	Residual claims	Tinker
2013 Fruit bought by Members to satisfy a short fall to be	Stable quality, avoid free riding	Cooperative	Members unable to meet contracted volumes	CDP, Lopez & Spreen, Property Rights, AN	Residual claims	Tinker

Change	Objective	Game "Winners"	Game "Losers"	Theory	Residual Control or Claims?	Tinker or Reinvent?
handled on a non-Member participation basis						

Table 11 Changes to CWI's Property Rights Outside MMA 1980 - 2015

This table summarizes identified changes to Member Property Rights not effected through the MMA. The objective of the change, how it was achieved, its impact relevant theories its impact is summarized. The table also considers how the change might be considered in terms of the Cooperative Lifecycle Framework.

Change	Objective	Achieved through	Impact/Effect	Theory	Residual Control or Claims?	Tinker, Reinvent or Change Purpose?
1981 CMS joins CWI	Balance supply	Board resolution	New source of supply, dilution of Residual control rights	Lopez & Spreen, CLCF	Residual Control Rights	Tinker (9% dilution of control rights)
1986 New Member - Ben Hill Griffin Inc	Balance Supply	Board resolution	New source of supply, dilution of Residual control rights, 1st IOF member	Dynamic Capabilities, Lopez & Spreen, CLCF	Residual Control Rights	Tinker (8% dilution of control rights)
1988 Commence plan to reduce revolvement from 20 years to 7 years	Reduce free riding	Board resolution	Align costs and benefits of membership	CDP, Property Rights Problems Ownership Costs	Residual Claim Rights	Tinker (long horizon, low historical retains)
1991 Articles of Incorporation Amended	Unknown	Change to Articles	Unknown	Unknown	Unknown	Unknown
1991 Retains increased to 20 cents per box (from around 5 cents)	Fund NFC Investment	Board Resolution	Reduce short term Member cash flow, in favor of future Member Returns	Dynamic Capabilities, CDP, Property Rights Problems	Residual Claim Rights	Reinvention (400% increase)
1994 Retains increased to 28 cents per box	Fund NFC Investment	Board Resolution	Reduce short term Member cash flow, in favor of future Member Returns	Dynamic Capabilities, CDP, Property Rights Problems	Residual Claim Rights	Reinvention (linked to change in purpose)
1997 Class D Stock Eliminated	Simplify Capital Structure	Change to Articles	Eliminated the only class of stock that	CDP	Residual Claims	Tinker

Change	Objective	Achieved through	Impact/Effect	Theory	Residual Control or Claims?	Tinker, Reinvent or Change Purpose?
			was transferrable between Members[171]			(no Class D stock on issue)
1997 Double the amount of Authorized Class B & Class C Stock that may be issued	Allow Capacity for Growth	Change to Articles	Provided for future growth	Dynamic Capabilities, Property Rights Problems CLCF	Residual Claims	Reinvention (associated with change in boundary)
1997 Increase support required to change the Bylaws to two thirds (from a simple majority)	Tighten Member Control	Change to Articles	Reduce constitutional threat to cooperative from Member Heterogeneity	CDP, Property Rights Problems CLCF	Residual Control	Reinvention (change in boundary)
1997 OGMA joins CWI	Balance Supply	Board Resolution	New source of supply, dilution of Residual control rights	Dynamic Capabilities, Lopez & Spreen, CLCF	Residual control rights	Reinvention (Change of Boundary)
2002 Revolvement period reduced to 5 years	Boost Member Returns	Board Resolution	Improve Member cashflow, align investment with current patronage	Dynamic Capabilities, CDP	Residual Claim Rights	Tinker (no change in purpose)
2003 Threshold for appointment of directors who are not members reduced to 75% (from unanimous)	Remove right of veto for non-Member board appointments	Bylaw Change	Diminish residual control rights, reduce collective decision making costs	CDP, Property Rights Problems CLCF	Residual Control Rights	Reinvent (remove control rights of dissenting Members)
2003 Increase threshold for Board representation	Limit Board participation to members with meaningful	Bylaw Change	Board representation threshold reflects contemporary	CDP, Property Rights Problems	Residual Control Rights	Reinvent (reduce Member control rights)

[171] 1996 Annual Accounts show no Class D stock on issue.

Change	Objective	Achieved through	Impact/Effect	Theory	Residual Control or Claims?	Tinker, Reinvent or Change Purpose?
to 250,000 boxes pa (from 100,000), waivable by board for period of up to 2 years if due to freeze, other unavoidable circumstances	levels of patronage		industry production levels			
2006 Level of supply required for membership reduced to 100,000 boxes, waivable if due to unavoidable failure	Retain membership	Bylaw Change	Allow Members with decreasing production to retain their Membership	CDP, Olson, Lopez & Spreen Dynamic Capabilities Property Rights Problems	Residual Claim and Residual Control Rights	Tinker (No change in purpose, in favor of current Members)
2007 Retains reduced to 5 cents per box	Boost Member Returns	Board Resolution	Improve Member cashflow, reduce cooperative capital	CDP, Dynamic Capabilities, Property Rights Problems	Residual Claim Rights	Tinker (change in timing not level of retains, not associated with change in purpose)
2009 Lykes Bros joins CWI	Supply Balancing	Board resolution	New source of supply, dilution of Residual control rights	CDP, Lopez & Spreen, Property Rights	Residual Control Rights	Tinker (8% dilution in control rights)
2012 Southern Gardens joins CWI	Supply Balancing	Board Resolution	New source of supply, dilution of Residual control rights	CDP, Lopez & Spreen	Residual Control Rights	Reinvention (Change boundary to include remote Member with own processing facilities)

Change	Objective	Achieved through	Impact/Effect	Theory	Residual Control or Claims?	Tinker, Reinvent or Change Purpose?
2014 Allow merger of existing members	Supply Balancing, Retain Membership	Bylaw Change	Extend membership horizon for sunsetting Members	CDP, Lopez & Spreen, Property rights Political Economy	Residual control rights, residual claims	Tinker (pertains to existing Members only)

6.7 DYNAMIC CAPABILITIES

In this section I consider the adaptation that took place at CWI across the study period through the lens of Dynamic Capabilities Theory.

Dynamic Capabilities

Dynamic capabilities is an organizational theory which looks at a firm's capacity to respond in an effective and timely way to rapid changes in the operating environment. The theory considers how an organization's core competencies and source of competitive positions[172] can be harnessed to create long term competitive advantage. It is significant to the study of cooperatives because it embraces the dynamic nature of the firm and in the case of CWI the rapid and significant changes in operating environment brought about by exogenous weather and disease events.

Dynamic capabilities emphasizes a firm's capabilities in "integrating and reconfiguring internal and external organizational skills, resources and functional competences." In doing so it embraces not only a firm's asset positions and paths, but its unique (and sometimes difficult to replicate) internal processes and routines.

Processes

In the dynamic capabilities model processes include managerial and organizational processes. They are the way things are done – its routines or patterns of current practice and learning, and are the way things are. (Teece Pisano and Shuen, 1997). Applying dynamic capabilities

[172] Dynamic capabilities

theory to a cooperative requires that the relationship between the cooperative and the membership be encompassed.

Membership

The 1993 MMA had the effect of placing restrictions on membership by limiting the amount of fruit that could be provided in any one season and requiring members to make a two-year supply commitment. Previously there had been no upper limits on the volume of fruit members could supply in any one season and the MMA required only a 12 month supply commitment.

These changes, and the increased vigilance applied to contract monitoring saw the formerly relationship-based member service shift toward a more formal basis, rooted in contract. Notwithstanding, member relations remained vital to the cooperative's success and striking an appropriate balance between the two was an ongoing priority for management and operational staff.

The implementation of a comprehensive annual report to members in the early 1990s saw the cooperative endeavor to keep members informed of progress in the business. Extensive member consultation in the period leading up to the introduction of the new MMA in 1993 provided a forum for frank debate and increased the cooperative's visibility to members.

The focus on serving members was particularly evident at the time of sudden exogenous shocks, when cooperative operations were extended in any way in order to mitigate the

impact of the disaster for members' businesses. It is also evident in the merger accommodations made after 2013 enabled sunsetting members to maintain a degree of Board representation.

Internal Processes

The hierarchical organization of CWI did not change markedly across the study period – the business continued to be organized along departmental lines. What did change was the prevalence of horizontal communication, team based activities and enterprise wide activity and performance monitoring.

Caruso's appointment as CEO saw a more consultative style adopted and the embedding of a leadership team comprised of senior departmental leaders. The rules based culture was supplemented with a core values framework which was championed as the basis for organizational decision making.

Technological developments in information technology facilitated increased data capture and more rigorous examination of performance.

Data collection revealed little about the relationship between the Board and Management in the 1980s. In the 1990s the executive leadership team began attending all open sessions of Board meetings, prompting an increased flow of information and helping to manage agency costs. By the early 2000's principles and agents were participating in an annual joint strategic

planning retreat, providing an opportunity to build deeper, stronger relationships between directors and management.

The growth in principal's knowledge arising from these processes was a central to the development of the "Guiding Light" objectives that established a discipline of Member-focussed performance targets and reporting.

Marketing Processes

CWI's Marketing process was transformed over the study period. In the 1980s the cooperative was focused on selling what was produced through a network of brokers; products were shelf stable, the Donald Duck brand was declining and few long term sales commitments were made. By 2015, marketing its flagship Florida's Natural NFC juice involved demand led business planning, multi-million dollar national advertising campaigns, a nationwide chilled distribution network and making long term commitments to an increasingly concentrated network of national retail chains who commanded stocking fees and just in time inventory management.

From a three person, order focused sales team, the sales and marketing function had necessarily transformed into a sizeable department and moving product was a precision exercise.

Positions and Paths

Teece Pisano and Shuen (1997) describe positions as the firms "current specific endowments of technology, intellectual property, complementary assets, customer base and its external relations with supplies and complementors."(p 518). Paths are the strategic alternatives available to the firm, including any increasing returns or path dependencies.

1980s

At the outset of the study period members' businesses were homogeneous and in agreement on the cooperative's purpose. CWI was a trusted processor and had a strong producer perspective, evidenced in the decision to establish and manage groves in order to secure supply following the 1980s freezes. This may be a factor contributing to the cooperative's tendency to invest in real assets – land around the plant was acquired whenever possible and expansion into the West Coast market involved investing in land and buildings.

CWI's primary expertise rested in the processing and distribution of concentrated orange juice; the cooperative's plant at Lake Wales was centrally located to supply, although its somewhat convoluted production flow reflected a history of incremental growth and development.

Equity constraints consequent on CWI' capital structure were an impediment to growth investment, but also served to foster a culture of innovation enabling the cooperative to commence NFC production in a manner that minimized up-front investment.

The executive in the early 1980s were well networked within the local community and Florida citrus industry. Together with the entrepreneurial focus of the CEO, this resulted in CWI executing a number of lucrative, if sometimes opportunistic, investments.

2015

By 2015, CWI's capabilities had changed considerably. The cooperative was highly invested in citrus specific assets. Plant and equipment was primarily for the specific purpose of producing and storing NFC juice. With supply under threat from disease, CWI had been forced to take defensive action to protect its brand investments, admitting a large IOF who offered competing services, as a member to the cooperative.

Increasingly, the center of supply was shifting southward in the state, away from Lake Wales and this was reflected amongst the source of CWI's supply. CWI's satellite facilities 100 miles north of Lake Wales reinforced the increasing distance between the cooperative's physical infrastructure and future supply.

U.S. juice consumption was declining in the face of changing dietary habits and new, alternative products. Sales in the now mature NFC category were stable, but had declined markedly amongst younger demographics. Retail concentration and increased competition were driving slotting fees higher, while reduced supply was driving costs, culminating in squeezed margins and member returns.

The "only Florida fruit" positioning of the Florida's Natural brand was both a source of non-imitatable competitive advantage and a supply constraint. The Florida's Natural brand was well recognized, but leveraging the brand for application in new consumer products would require considerable investment in marketing and promotion.

CWI now possessed an excellent chilled distribution network which also had potential to be leveraged and knowledge and expertise in the FMCG sector.

Citrus supply remained at risk. HLB had seen Members' production fall dramatically and per acre production costs more than treble. In the process of securing sufficient supply to maintain levels of Florida's Natural NFC, the cooperative's Membership had become heterogeneous in terms of location, size, financial resources, ownership structure and preferences. For any members seeking a lucrative exit by way of sale, the value of the cooperative's assets was substantially diminished without secure future supply.

As a result of HLB the Florida citrus industry was undergoing transformational change; this too presented an opportunity for CWI. The combined knowledge and expertise of Members, Board and a depth of executive experience meant CWI was well positioned to take advantage of declining asset prices. As a respected and trusted processor with a strong commitment to Florida fruit, CWI was well positioned to lead industry consolidation.

Table 12 Applying Dynamic Capabilities Framework to CWI 1980 - 2015

	1980-1989	1990 - 1999	2000 - 2009	2010 - 2015
Processes	Open Membership. Relationship based Member service. Hierarchical structure. Authoritarian CEO. Vertical lines of communication. Manual administrative systems. Labor intensive processing with selected automation. Short term sales commitments. Sell what is produced.	Closed Membership. Contract based Member relationships. Member consultation. Full annual reports to Members. Supply forecasting. Supply balancing. Team structure. Consultative visible CEO. Horizontal communication. Values based leadership. Budgeting. Increased management reporting. Computerized administration. Increasing automation but still high seasonal labor. Long horizon sales commitments. Focus on realigning CWI and member assets to produce products to fit market demand.	Closed Membership. Contract based Member relationships. Sophisticated supply balancing. Full annual reports to Members. Team structure Consultative, visible CEO. Horizontal communication. Values based leadership. Meaningful performance measurement. Rigorous monitoring. Principal-Agent strategic planning. Detailed business plans and budgeting. Enterprise wide production planning. Long horizon sales commitments. Produce to market demand. Industry body participation. Community outreach.	Closed Membership. Contract based Member relationships are responsive to changing supply environment. Team structure. CEO and other senior executive succession planning. Values based leadership. Principal-Agent strategic planning. Detailed business plans and budgeting. Rigorous performance monitoring. Enterprise wide production planning. Long horizon sales commitments. Produce what is sold. Industry body participation. Community outreach.

	1980-1989	1990 - 1999	2000 - 2009	2010 - 2015
Positions	Citrus production expertise Homogeneous Membership Strong Member relations. Trusted processor. Supply base diminished by freezes. Upstream vertical integration into groves. Joint ventures in non-core areas Allied (non-citrus) products introduced. Centralized production facilities. Suboptimal plant layout derived from incremental growth. Established concentrate processing expertise. Low cost staged entry into NFC production. California distribution base. Acquisition of SFD expands channels to include food service. Wholesale distribution. Limited number of professional executive. Entrepreneurial, opportunistic, external focus. Small sales team. Strong broker network. Initially limited branding - Donald Duck license and later Bluebird brand. Limited capital for investment Growing investment in Fresh n' Natural NFC branding	Citrus production expertise. Homogeneous Membership Member relations tested with new contracting terms. Supply base recovering and heading to oversupply. Heavy investment in specialized, state of the art processing capacity. Intensively focused on NFC production; limited concentrate. Opportunistic investment in marketing joint ventures. Florida's Natural brand good recognition, trusted. National distribution achieved. "Florida" key differentiator. Professional depth in executive team. Highly customer focused. Entrepreneurial, opportunistic. Member funded capital investment. Long term debt financing.	Citrus production expertise. Changing Membership base. Oversupply in early part of decade reversed due to hurricanes and greening. Member confidence tested by poor returns in early part of decade. Non-core assets divested and business "right sized" Satellite processing facilities remote from Grower base. Competencies and revenue streams centered on diminishing NFC category. Trusted, well recognized brand.	Citrus production expertise. Heterogeneous Membership base. Shrinking supply base in traditional area. Member uncertainty. Plant and satellite located at distance from future supply growth. Mature product. Well recognized brand. Well developed chilled distribution network. Skills in new product development. New product launches resource constrained. Skilled and experienced in joint ventures. Strong community relationships. Industry respect.

	1980-1989	1990 - 1999	2000 - 2009	2010 - 2015
Paths	Capital constrained in entering FMCG sector. Per capita juice consumption increasing. Tropicana major competitor.	Large sunk costs in NFC. Finite NFC production capacity. Per capita juice consumption peaks. Tropicana and Coca-Cola are main competitors.	Large sunk costs in NFC. "Florida" branding a constraint to diversified supply Florida citrus supply declining. Per capita juice consumption declining. Increasing concentration in retail sector. Leveraging off brand will require heavy investment in product launch. Leveraging chilled distribution expertise will not address sunk plant costs. Plant capacity for non-citrus products. Food service sector growing.	Large sunk costs in NFC. "Florida" branding a constraint to diversified supply Florida citrus supply declining sharply. Per capita juice consumption declining. Substitute products growing rapidly. Increasing concentration in retail sector. New product opportunities. Co-packing opportunities. Leveraging off brand will require heavy investment in product launch. Leveraging chilled distribution expertise will not address sunk plant costs. Plant capacity for non-citrus products. Industry consolidation a prospect. Food service sector prospects.

6.8 POLITICAL ECONOMY OF HIERACHY

In this section I consider changes that took place at CWI across the study period through the lens of Miller's Political Economy of Hierarchy as it applies to leadership.

Political Economy

Miller's Managerial Dilemmas (1992) considers how the principles of political economy[173] might be applied within an organization. Miller considers the relevance of political economy in a wide range of organizational dilemmas including the decision to form a firm (hierarchy) as opposed to contracting in the market, labor contracts, organizational control, organizational structure, information asymmetries and leadership. He considers the incentive systems of organizational economics and concludes that these alone are insufficient to optimize performance. Miller hypothesizes that the supplementation of these incentives with leadership behaviors that inspire organizational participants to forgo short term self-interest in favor of cooperation will lead to firm advantage.

It is not possible to address all aspects of Miller's approach in this research. Accordingly this analytic focusses primarily on leadership aspects of CWI and the role of communication and organizational structure in promoting cooperation. Both of these emerged as powerful themes during primary data collection.

[173] An amalgam of economics, sociology and political science, political economy considers the relationship between market and the state, and that between individuals and society.

Hierarchy

In 1980 CWI was organized along strict hierarchical lines with limited delegations of authority. Internally, the culture was formal, with all communications vertical, and any contact between the Board managed by the CEO. The acquisition of the SFD introduced new human capital, cultures and processes into the cooperative and under the influence of Steve Caruso horizontal lines of communication were established.

Under Caruso interaction and information sharing between the executive leadership team and directors became commonplace; forums for debate between principals and agents could take place was established.

Member communications were also strengthened. The Annual Report to Members became a vehicle for reiteration and reinforcement of the cooperative's procurement, NFC and branding strategy. Member consultation became a priority for the cooperative in the face of change and controversy. The proposed changes to the MMA in 1993 saw Management and Board address large consultation meetings with Members; the CEO and leadership team met with growers at Members' premises to discuss the proposal. A more intense, less public engagement between principals and agents took place in the mid – 2000s when business performance was failing to meet Members' expectations.

The Florida's Natural brand became a great source of pride for CWI. Together with the cooperative's core values, the brand became an important symbol of unification and achievement. The brand had internal value to the cooperative in times of adversity, when it served to galvanize cooperative behavior. It also served to build identity and recognition in the local community and the wider citrus industry. CWI's culture became a source of local repute and its employee practices gained formal recognition.

Florida's Natural Growers
Core Values 2015

Communication
We will foster open communications to create a positive, learning based, work environment.

Integrity
We will always be honest and truthful, while maintaining high ethical standards.

Trust
We will have confidence in ourselves and others.

Respect
We will treat everyone with dignity and respect. This includes their thoughts and ideas.

Urgency
We will work with a sense of urgency to achieve excellence in everything we do.

Sustainable
We will sustain our business by protecting our environment, our consumers, and our communities.

Management persistently celebrated the ascent and success of the Florida's Natural brand and the NFC in all Member communications; when it became apparent that member returns were not increasing at a rate commensurate with sales growth, the Board became active in performance monitoring, putting in place targets that would see the cooperative's efforts directed to maximizing member returns. Member focus on the Board's control of management increased during this period.

The institution of joint Board-Strategic planning sessions provided a forum for reinforcing the principal's objectives for the business. These sessions were also an excellent supplement

to the Boardroom environment for addressing the emerging factions associated with Member heterogeneity.

Leadership and Governance

In keeping with the cooperative's purpose and the prevailing business operating environment and culture, management's leadership of CWI in the early 1980s was highly authoritarian. Rules and procedures were in place and all operational decision making rested with the CEO. This style was complemented by the Board tending toward a managerial hegemony style of governance.[174] While agency costs arising from this style of governance were high, the business itself was of low complexity; opportunities for managerial opportunism were limited.

The appointment of Caruso to the role of CEO in 1993 saw management adopt a more consultative style internally and an information sharing role with Members. In response to increased business complexity and exogenous supply shocks, the emphasis in the Board role shifted more toward one of stewardship and resource dependency. [175]

By the mid 2000s, the Board shifted from a role of stewardship toward one of Agency[176] as it sought to exercise greater influence over business results and management performance. By

[174] Hung (1998) describes managerial hegemony as the situation where strategic decisions are dominated and preempted by management. The Board's role in this situation is to consider management recommendations.
[175] A stewardship role in a Board is characterized by the presumed alignment of interests between the board and management. Resource dependency governance sees the Board bringing important relationships into the realm of the organization.
[176] Agency theories of governance focus on reducing agents' (management) opportunism by monitoring and through aligning the interests and risks of management with that of the Board.

2009, with satisfactory business performance the Board was able to revert to a stewardship role coupled by a heavy emphasis on Resource Dependency in the wake of dramatic falls in industry production due to disease.

Table 13 Applying Miller's Political Economy of Hierachy to CWI 1980-2015

	1980-1989	1990-1999	2000-2009	2010-2015
Organization	Traditional hierarchical structure with vertical communication. Limited delegations of authority. All communication through CEO. Little communication to staff from the CEO. Most communication with Board through CEO. Unknown levels of engagement between CEO and Members. Integration of SFD business brought injection of new people, cultures and processes which resulted in mid-level organizational change.	Vertical structure with strong focus on departmental teams. Project work builds cross business relationships. Core values established. Popular and accessible CEO. Interaction between Senior Executive Board and Members fostered. Direct Management – Member communications leveraged with introduction of MMA. By 1999 high level of social capital associated with Florida's Natural brand.	Focus on Member communications as performance faltered. Brand is motivating focus for performance improvements. By 2009 deep connections between cooperative and supply base. Member dependency on cooperative high. Board active in strategy setting. Values based, results focused environment. Prominent and accessible CEO	Increased direct communication between Members and management team, prima facie supply and operations related. Results oriented environment with strong values basis for decision making. Latent factions amongst Members. CEO and Senior Executive Succession planning underway.
Leadership	Authoritarian	Consultative	Board became more directive in setting targets in middle of the decade. Consultative CEO - open discussion and free exchange of ideas but CEO takes final decision	Consultative leadership
Board Governance	Managerial Hegemony	Stewardship, Resource Dependence	Agency, Resource Dependence	Resource Dependence, Stewardship

CHAPTER 7 FINDINGS

All theories and frameworks applied in this analytic are helpful in explaining CWI's growth, development and adaptation from 1980 – 2015. In this finding section, I describe findings in relation to each theory applied.

The Core Design Principles for Common Pool Resources

All Core Design Principles ("CDP") are relevant in explaining adaptive practices at CWI; it is the interplay of each of the CDP that makes this a useful framework. Because the CDP were conceived for physical resources some aspects of the CDP need to be extended in order to have direct application to cooperative business. These include extending the concept of boundary from purely a geographical principle and expanding the concept of monitoring to extend beyond free riding to embrace organizational and financial performance and the costs of controlling managers (Hansmann, 1990, Cook, 1995).

There are degrees of interlinkage with other analytic approaches considered:

- All CDP inform phase two of the CLCF, organizational design.
- CDP 2 and 4 directly inform internal and external free riding (property rights problems, CLCF) and the costs of controlling mangers property rights problems (property rights problems, ownership costs and CLCF).
- When applied in a dynamic environment, CDP is highly informative of Lopez and Spreen's supply and pricing strategies for balancing cooperative supply and demand.

- CDP 3 directly informs collective decision making costs (ownership costs)
- CDP 4, graduated sanctions is informed by Olson's incentives for collective action and Millers political economy of hierarchy.

The core design principles appear to be silent on matters relating to member education.

Boundaries

In the context of the CPRs studied by Ostrom, boundaries are most likely to be physical. Useful interpretation of the boundary principle in the context of CWI must embrace entitlement to use the cooperative's access. CWI's Boundaries determine the extent to which a producer may access the cooperative's processing and marketing capacity – who may have their fruit processed at the cooperative, when it will be processed and how much fruit will be processed.

Over the study period CWI's boundaries became increasingly more explicit, with the establishment of volume, varietal and temporal limits for residual claim rights and refinement of eligibility criteria for certain residual control rights[177]. These boundaries were of limited effect in the absence of monitoring and sanctions. The act of creating and enforcing the boundaries saw Members ascribe a greater value to Membership of the cooperative.

The formal Membership boundaries do not constrain Membership by organizational form; this has been at the discretion of the Board. In the early part of the study period, Members

[177] Requirements for Board representation

were all local CGAs. Over the study period Membership evolved to include IOFs and growers from out of the region. In the most extreme case, one Member now has their own processing capacity.

CDP 2 Congruence between appropriation and provision rules and with local conditions

This principle requires that members' rewards from cooperative activities are in line with their contributions, and that incentive systems and rules reflect local conditions. This concept informs operating rules to counter both internal and external free-riding. CWI demonstrates that in an environment subject to sudden change and interruption, it is important that operating rules can be modified quickly. By using changes to the MMA and the pooling agreements as the primary mechanisms to modify its operational rules, CWI was able to implement changes at its monthly board meetings, without having to go to the wider membership.

Proportional equivalence between benefits and costs is highly relevant in addressing both internal and external free riding regarding volume, quality and timing of fruit supply. This principle also informs the importance of an alignment between Member equity and patronage. Imbalances between Member equity holding and patronage patterns have become marked since 2010, coinciding with elevated property rights problems and a decline in cooperative health.

Congruence with local conditions is evident at many times throughout the study period in CWI's responses to weather events, disease and changing levels of local and imported fruit supply.

Collective Choice Arrangements

This principle requires that most members have a say in cooperative decision making. CWI controls the resultant collective decision making costs by allowing qualifing members to nominate a member for the governing board. Increasing member heterogeneity of production has seen CWI's one member one vote democratic process become misaligned with member utilization of the cooperative. This may lead to higher collective decision making costs in the future.

CWI's applies a one member, one vote democratic control principles. CWI has refined the prescribed democratic procedures by developing a governance structure which provided for all Members to have a seat on the Board. This has avoided unnecessary delays in response to commercial threats and opportunities, contributed to informed Member decision making and provided a forum for extensive deliberation of contentious change.

Monitoring

One of the principle objectives of monitoring in a CPR is to check free riding behavior. This principle requires that those who monitor CPR conditions and appropriator behavior be are accountable to the appropriators or are the appropriators. At CWI monitoring is necessarily extended to embrace the financial and operational performance of the business and

monitoring the activities of appointed agents. As the business became more sophisticated and complex, monitoring techniques correspondingly developed and select members decided that outside professionals would be better equipped to act as monitors. These members nominated non-member individuals to represent their interests on the Board.

Monitoring is not prominent in the early part of the study period. As CWI's business became more complex with the entry into NFC segment, monitoring became vital. Constraints brought about by seasonal supply patterns, short term plant capacity and longer horizon contractual commitments to large customers required that every aspect of the supply chain be measured and monitored in order efficiencies be optimized.

Monitoring was an essential element of rendering the MMA effective and checking Member's behavior where it fell outside the agreed expectations. The process of monitoring contributed to CWI's learning, enabling the cooperative to build a highly sophisticated suite of incentives.

Monitoring was shown to be most efficacious when the performance targets reflected Members' economic purpose. The establishment of the Guiding Light Objectives was associated with a marked turnaround in the financial cooperative's performance.

Technological advancements and investments were important contributors to CWI's increased monitoring capabilities.

Graduated Sanctions

This principle requires that sanctions be implemented in accordance with the severity and seriousness of the offence. CWI's culture of accompanying regular formal board meetings with time for informal engagement contributed to an environment where social sanctions were quite powerful. The small size of the membership group is likely also to be a contributing factor, affording an intimacy and a transparency that may not be possible in larger groups.

Formal sanctions are set out in the cooperative's bylaws and MMA. CWI demonstrated judicious application of sanctions across the study period, taking into consideration a wide array of factors including but not limited to the cooperative's short and long term business requirements, the industry supply situation, and member circumstances.

Conflict Resolution Mechanisms

This principle requires that mechanisms exist for speedy and cost effective resolution of conflicts within the group. No evidence of the use of application of formal conflict resolution mechanisms was found.

Conflict resolution mechanisms are set out in the Articles, Bylaws and MMA. CWI supplements these formal mechanisms with communication and meetings between executive and Members, and fostering a culture of dialogue and social interchange at each formal Board and committee meeting.

Rights to Organize

Requirements of Federal and state regulation have been instrumental in shaping CWI's response to supply situations and the design of its governance structure.

Incentivizing Group Behavior

Analysis of CPI using Olson's Logic of Collective Action has focused on group type and incentives. Olson hypothesized that the optimal provision of a collective good will only be obtained if the marginal cost of any additional units of the collective good are shared in exactly the same proportion as the additional benefits. Selective incentives are required to elicit cooperation and in small groups there is a tendency for the exploitation of the large by the small.

There are very strong interlinkages between Olson's select incentives and other frameworks considered in this analytic:

- Select incentives are implemented to address internal free riding (property rights problems).
- Select incentives are implemented to address internal free riding (property rights problems).
- The need for selective incentives to elicit cooperation aligns directly with Lopez and Spreen's balancing strategies and Ostrom's CDP 2 (proportional equivalence) and CDP 5 (graduated sanctions). Selective incentives may be the subject of tinkering under the CLCF.

- The concept of inclusive or exclusive groups echoes Ostrom's CDP 1 (clearly defined boundaries) and phase two of the CLCF.

Group Type

Over the study period CWI evolved from a privileged[178] inclusive group to a privileged exclusive[179] group and the membership of the group became more heterogeneous. Increasingly diverse patterns of levels of patronage and equity holding amongst members coupled CWI's one member, one vote system of democratic control created the potential for "exploitation of the large by the small."

Incentives

At the outset of the study period, CWI had few select incentives for members. This was consistent with the cooperative's business model of selling what was supplied.

When CWI's business model changed to supplying what was sold, a more rigorous set of incentives was introduced to balance supply and demand. The implementation of the select incentives did not directly translate into improved Member returns. One factor contributing to this maybe that CWI's financial performance led Members to consider the payoff to be insufficient. Similarly an increasingly sophisticated array of incentives and sanctions were associated with an increase in the proportion of fruit supplied by Members, but the extent to which factors other than the select incentives contributed to this is not known

[178] Olson defines a privileged group as one where each or at least some members has an incentive to provide a collective good.
[179] Exclusive groups are those where the results of action by group members is available only members of the group.

Supply Balancing Strategies

Lopez and Spreen's four balancing strategies - supply strategies, member education, price strategies, and non-member business - are highly informative to adaptation at CWI. Although their theoretical piece is concerned with deriving a static equilibrium for supply and demand, all four strategies can be applied in a dynamic environment. CWI applied all of Lopez and Spreen's balancing strategies each season from 1994 when the new MMA was introduced.

Lopez and Spreen's supply, pricing and non-member balancing strategies are conceived in relation to achieving equilibrium between supply and demand, and therefore deal primarily with cooperative operating and financial performance. Member education as a balancing strategy can be used to inform other aspects of enduring cooperative enterprise including the alignment of residual control and residual claim rights, cooperative business strategy, investment options, and director development. Expanding the construct of education to include employees and external stakeholders such as customers, industry bodies and federal and local government agencies groups is also likely to inform cooperative survival.

There are interlinkages between Lopez and Spreen's balancing strategies and other analytic frameworks applied in this paper:

- Supply, education and pricing strategies are implemented to address internal free riding (property rights problems, Olson's selective incentives)
- The supply and pricing strategies directly relate to Ostrom's CDP 2 (congruence), CDP 5 (graduated sanctions) and Olson's selective incentives

- All four strategies were implemented in response to changes in the internal and external operating environment (dynamic capabilities, cooperative lifecycle)
- Member education strategies has potential to improve members' monitoring capacity (Ostrom CDP 4, monitoring) and their willingness to commit to collective action (Olson incentives, political economy, cooperative lifecycle)
- Member education strategies may reduce control costs and collective decision making costs (Hansmann, property rights costs, cooperative lifecycle)

Supply Balancing Strategies

CWI first implemented supply balancing strategies in 1993 when a new MMA was implemented. The MMA was the primary tool for incentivizing the time volume and quality of Member supply across the study period. The volatile nature of Florida citrus supply required supply balancing strategies to be reviewed at least annually. Supply strategies applied by CWI included:

- the requirement for members to commit supply for a minimum of two years
- modifications to the notice period for withdrawal of supply
- constraints on transferability of fruit allocations
- specification of contracted volumes with upper and lower tolerance thresholds
- temporary withdrawal of the right to deliver on fruit allocations
- meaningful penalties for the non-delivery of contracted volumes
- planting incentives for new fruit
- admission of new members

- modification of membership qualification
- the creation of a cooperative member
- investing in, developing and managing groves with dedicated supply commitments
- extending the geographical scope of member supply

Education

Extensive use of education strategies intended to improve cooperative equilibrium were evident at CWI. These included direct strategies including Member consultation meetings around contentious issues, and reinforcing strategies including the use of Annual Reports to set out the cooperative strategy. Board members received education from executive as performance reporting became more sophisticated; Member meetings served to educate executive on Member objectives. The cooperative also engaged in extensive employee education across all levels of the operation increasing employee satisfaction and competencies.

Pricing Strategies

Pricing strategies to balance supply and demand were primary implemented via pooling agreements which set out the payment class into which each grade of fruit would fall. The MMA also set volume thresholds which resulted in two tier pricing when members markedly over and under-delivered on their agreed contracted volumes.

Non-Member Supply[180]

Between 1987 and 1993 uncontrolled volumes of non-Member supply were detrimental to the members' returns. Controlled and strategic use of Non-Member supply became a critical factor in CWI's ability to maintain continuity of service to NFC customers at times when there was insufficient Member supply.

Allied business and non-member non-citrus business can improve cooperative equilibrium by allowing CWI to leverage its processing, storage and distribution capacity.

Property Rights Problems

External and internal free riding, horizon problems, portfolio problems, influence costs and control costs were all observed at CWI across the study period. Property rights problems inform many of the modifications CWI made to its MMA and Pooling Agreements across the study period.

Property rights problems arise primarily from member heterogeneity and can be amplified by exogenous events impacting members' productive enterprises. Thus they are useful as a diagnostic framework to inform the measures that may be taken to incentivize cooperative behavior. Two property rights problems – control costs and portfolio costs – touch on the alignment of cooperative investment portfolios with members' objectives and financial capacity. This is an area in which the property rights problems framework could be usefully developed.

[180] Federal and state regulations may constrain cooperatives' ability to use Non-Member supply.

There are interlinkages between the property rights problems and other theories and frameworks applied in this research:

- External free riding informs Ostrom's CDP 1 (boundaries), Olson's construct of exclusive and inclusive groups, and the cooperative lifecycle framework.
- Internal free riding informs Ostrom's CDP 2, 4 and 5 (congruence, monitoring and graduated sanctions), Olson's selective incentives, Lopez and Spreen's balancing strategies, Hansmann's risk bearing costs, and the cooperative lifecycle framework.
- Horizon costs inform the cooperative lifecycle framework and are informed by dynamic capabilities (positions and paths).
- Portfolio costs inform the Olson's selective incentives, Hansmann's risk bearing costs, the cooperative lifecycle framework and dynamic capabilities (processes and paths).
- Influence Costs inform Ostrom's CDP 3 and 6 (collective choice arrangements and conflict resolution mechanisms), Hansmann's collective decision making costs, the cooperative lifecycle framework and the political economy of hierarchy.
- Control costs inform Ostrom's CDP 2 (monitoring), Olson's selective incentives, Hansmann's ownership costs (costs of controlling managers), the cooperative lifecycle framework and the political economy of hierarchy.

Addressing and developing solutions to property rights problems is not a purely mechanistic function, but one that relies heavily on communication, interpersonal skills and the leadership qualities embodied in political economy of hierarchy.

CWI checked external free riding by supplementing boundary enforcement with monitoring and sanctions. Internal free riding was checked with increasingly refined contract definitions and pooling agreements and a discipline of monitoring.

Exogenous supply shocks contributed to the manifestation of horizon problems within the cooperative. CWI's responses to horizon problems included reductions in revolvement periods and amendments to residual claim and residual control right boundaries. These responses served to mitigate but not eliminate horizon problems; it may be argued that the admission of large new Members following the advent of citrus greening increased horizon problems.

Portfolio costs were minimal prior to the 1993 MMA. Portfolio problems increased as the cooperative's fruit supply requirements and assets became more specified and as a result of exogenous supply shocks. CWI's responses to portfolio problems were diverse and included changing residual control and claim rights embodied in the MMA, cooperative boundaries, retentions policies and revolvement periods, Member education and concerted business efficiency initiatives to improve Member returns.

The increasing presence of influence costs is suggested by CWI's decision to process agreed volumes of fruit at the facility of one of its Members.

Ownership Costs

Control costs, collective decision making costs and risk bearing costs were all evident at CWI across the study period. There is considerable overlap between Hansmann's ownership costs framework and property rights problems. Hansmann's construct of control costs relates primarily to the costs of controlling managers. This emphasizes an important source of risk management in a commercially sophisticated and complex cooperative enterprise, but comes at the expense of consideration of controlling costs arising from the actions of self-interested members.

Hansmann's concept of collective decision making costs and risk bearing costs are each highly informative to CWI's development over the study period – both increase with member heterogeneity and increased investment in specified assets. Ownership costs alone are insufficient to explain why CWI remained a cooperative over the study period. Transaction costs theory may be informative – members chose to perpetuate the cooperative model because of search and monitoring costs associated with transacting in the market.

Identified interrelationships between Hansmann's ownership costs and other theories applied in this research include:

- Costs of controlling managers is informed by Ostrom's CDP 2 (monitoring), Olson's selective incentives, Hansmann's property rights problems (control costs), the cooperative lifecycle, and the political economy of hierarchy.
- Collective decision making costs are informed by Ostrom's CDPs 3 and 6 (collective choice and conflict resolution mechanisms), the cooperative lifecycle framework and the political economy of hierarchy.
- Risk bearing costs are informed by Ostrom's CDP 2 (congruence), Lopez and Spreen's balancing strategies, property rights problems (free riding, horizon, portfolio and control costs) the cooperative lifecycle and dynamic capabilities (positions and paths).

Costs of controlling managers (control costs) increased with information asymmetry and increased business complexity arising from the cooperative's downstream vertical integration. A focus on member value drivers in performance reporting, joint board-executive strategic planning sessions, education initiatives, the selection by some members of non-grower representatives as their board member and board reporting helped to reduce control costs.

Collective decision making costs were low prior to downstream vertical integration which led to the cooperative contemplating substantive changes to its supply arrangements. Elevated collective decision making costs were associated with periods of increasing Member heterogeneity of circumstance and decreasing commonality of Member purpose. Confidence

in the competence and integrity of the executive team may have served to ameliorate collective decision making costs.

Risk Bearing costs were low prior to CWI's downstream vertical integration. External free riding was eliminated through enforcement of cooperative boundaries. Following the implementation of the MMA in 1994 internal free riding was managed through regular review of selective incentives for member supply. However, risk bearing costs increased from 2010 with growing misalignment between patterns of member patronage and equity investment. Specified asset investment and a concentration of revenue in a brand with defined physical boundaries resulted in high risk bearing costs across all stages of the supply chain.

Cooperative Lifecycle Framework

The cooperative lifecycle framework is highly informative to adaptation at CWI across the study period and there is a high level of interrelationship between the cooperative lifecycle and other theories applied as part of this research.

- Phase two of the cooperative lifecycle is informed by each of Ostrom's core design principles, Olson's selective incentives and group classifications and Hansmann's ownership costs.
- Phase three of the cooperative life cycle is informed by Ostrom's CDP 2 (congruence), Olson's selective incentives, Lopez and Spreen's balancing strategies, property rights problems, ownership costs, dynamic capabilities (processes, positons and paths) and the political economy of hierarchy.

- The concept of tinkering is informed by CDP 2 (congruence), Olson's selective incentives, Lopez and Spreen's balancing strategies, dynamic capabilities (processes) and the political economy of hierarchy.
- The concept of reinvention is informed by ownership costs and dynamic capabilities (processes, positions and paths).

Phase one of the cooperative lifecycle, economic justification, is informed by transaction costs economics which was not part of this research.

To date the primary focus of the cooperative lifecycle framework has been upon responses to property rights problems arising from increasing member heterogeneity.[181] This framework may be strengthened by giving deeper consideration to asset allocation decisions and addressing issues arising from sunk cost in specific assets, a common characteristic of agricultural enterprise.

A change of cooperative purpose was observed in 1993 when the Members entered into a new supply agreement that significantly altered cooperative boundaries and Members' residual claim rights. The change in purpose was associated with increased risk bearing costs and high investment in specified assets.

[181] Cook and Burress (2009 p.7-10) plist multiple factors contributing to member heterogeneity including patron drift, membership growth, disproportionate equity allocations, the substitution effect and transactional differences arising from patron diversification.

Member homogeneity of purpose was high at the outset of the study period, falling to moderately low by 2015. Low Member homogeneity of purpose was crystallized during the contentious consultation period leading up to the introduction of the 1993 MMA. Adverse exogenous supply shocks served to reinforce short term cooperative unity. Member heterogeneity of circumstances is associated with erosion of common purpose.

Member heterogeneity of circumstance was low at the outset of the study period. Exogenous factors including supply shocks, changing grove economics, alternative land use options and demographic factors were associated with an increase in Member heterogeneity over the study period. Endogenous factors included the size, scale, location, financial resources and ownership structure of cooperative Members. Elevated Membership frictions were associated with declines in Members' homogeneity of purpose.

Cooperative health is assessed as being volatile across the study period. Changes in cooperative health appear to be associated with cooperative financial performance, risk bearing costs and member confidence in the cooperative's ability to serve their needs in the medium-long term. All of these drive Member satisfaction with the cooperative.

Tinkering and reinvention were evident across the study period. Tinkering was observed to occur in both phases three and four of the cooperative lifecycle. Classification of adaptive events as tinkering or reinvention is requires consideration of factors beyond cooperative purpose and residual control and claim rights. Tinkering and reinvention were each associated with factors other than property rights problems.

A new cooperative lifecycle was associated with a change in CWI's purpose and a change in revenue streams, assets and risk bearing costs. Analysis of CWI's evolution using the CLCF suggests that the change of a lifecycle is not instantaneous; rather it is a transition. Like any business, cooperatives act with imperfect information and the full implications of a decision that eventually gives rise to a need for a new cooperative lifecycle may take some time to crystallize. The decisions that bring about a new cooperative lifecycle are significant and potentially disruptive; perpetuating cooperative enterprise and creating a new lifecycle is a conscious act on the part of the membership.

Dynamic Capabilities

Dynamic capabilities theory is highly informative of CWI's adaptation across the study period. CWI adapted its processes and positons in response to endogenous and exogenous threats and opportunities. CWI became increasingly adept at implementing incentives to correct to imbalances between fruit supply and demand. With practice, CWI was able to increasingly implement these incentives on an ex-ante basis. The size of the cooperative and its intimacy with members' production patterns are likely to have contributed to this ability.

Dynamic capabilities theory's approach considering positions and paths is also highly explanatory. Portfolio problems and horizon problems emerge as investment in specified assets increase and there is less diversification in CWI's product lines.

Although formulated as a methodology for analysis of investor owned enterprise, dynamic capabilities theory appears to be highly relevant and transferable to long-enduring cooperative enterprise by embracing the concept of adaptation to embrace the relationship between a cooperative and its members. While not within the scope of this paper, given the importance of positions and paths to long-enduring cooperative enterprise, the application of resource based theory may also be informative.

Dynamic capabilities differ from some of the other theories applied in this research because it embraces a dynamic environment. Interlinkages between dynamic capabilities and other theories applied in this research include:

- Adaptation of processes is informative of Lopez and Spreen's balancing strategies, Hansmann's control and collective decision making costs, the cooperative lifecycle framework (tinkering and reinvention) and the political economy of hierarchy.
- Positions and paths is informative of property rights problems (portfolio, horizon and control costs problems), Hansmann's ownership costs (costs of monitoring managers, collective decision making costs, risk bearing costs), the cooperative lifecycle framework

Processes

Process adaptation took place both ex-ante and ex-post changes in the cooperative's operating environment.

Adaptation of processes relating to the supply of fruit were associated with investment in specified assets, and changes in local supply and finished product markets. Supply balancing strategies at times had unintended consequences resulting in organizational learning. Unintended consequences were addressed by corrective measures and resulted in enhancements to CWI's contracting capabilities and practices.

CWI's commitment to cooperation meant that Member fruit procurement processes that placed a greater emphasis on formal contracting supplemented but did not replace relationship based supply agreements.

Adaptation of processes under the control of the CEO were primarily associated with increasing business efficiency, transparency and the quality of decision making.

The adaptation of organization structure and communications practices facilitated growth of knowledge within the business' operations and between agents and principles. The adoption of a team based management structure was conducive to succession planning.

Process adaptation and organizational learning was facilitated by investment in information technology enabling enterprise wide performance visibility. Increased principle-agent engagement drove the development of purpose-related performance metrics.

Positions and Paths

A change in the number of executive employees and their degree of specialization was associated with downstream vertical integration and increased business complexity.

Staged investment in the NFC business was associated with funding constraints and perceived risk. Downstream vertical integration and investment in specified assets led to the creation of transferable marketing and distribution capabilities.

CWI's strong sense of local identity and integrated relationship with the land, groves, growers and community fostered a culture of innovation and personable, exemplary customer service.

The depth and breadth of CWI's industry relations capabilities increased with the increased scope of its executive team and diversity of its Membership.

Insecurity of fruit supply base gave rise to defensive procurement strategies intended to protect specified assets.

A high degree of asset specificity combined with an equity constrained capital structure was associated with constraints to upstream product diversification and growth. Asset specificity was associated with constraints to exit.

Supply constraints led to innovation in resource deployment, cooperative organizational design and governance structures.

Political Economy of Hierarchy

Researching the political economy of hierarchy was not within the scope of primary data collection. However, recurrent themes observed during interviews and in unscheduled dialogue with CWI employees on the CWI site, suggested that leadership had been a key factor in CWI's success and warranted consideration.

Much of how leadership achieves a sense of organizational pride, a team spirit, the sense of belonging and of shared endeavor – is invisible to researchers. It happens in team meetings, in passing conversations in the corridors, within Board and executive meetings, in the staff cafeteria. As such, ex-post data collection is sub-optimal. Analysis of CWI's executive leadership practices using the political economy of hierarchy was therefore necessarily limited to written communications, branding, internal and organizational structure. The results of the analysis suggests that executive leadership practices may be highly informative to CWI's evolution over the study period, and that to an unknown degree the political economy of hierarchy informs long-enduring cooperative enterprise.

The political economy of hierarchy as applied in respect of executive leadership has interlinkages with Olson's selective incentives, Lopez and Spreen's balancing strategies (member education), Hansmann's ownership costs (monitoring managers, collective decision

making costs), the cooperative lifecycle (growth, choice), and dynamic capabilities (processes, positions and paths).

The focus of this limited analysis was upon executive leadership. It is hypothesized that the use of political economy of hierarchy by cooperative chairs and directors may be equally, if not more, informative to enduring cooperative enterprise. Member leadership in enduring cooperative enterprise may also be informed by the principles in Voice Exit and Loyalty (Hirschman 1970)

Other applications of political economy in cooperatives, including but not limited to choice of ownership model, information asymmetries, cooperative control and strategic decision making also warrant further exploration.

The establishment of a flatter organizational structure and horizontal communication patterns was associated with a period of growth and development for the cooperative. The creation of a team approach to problem solving fostered a culture of accountability and enterprise wide learning which helped to overcome perverse incentives arising from departmental isolation and information asymmetries.

Core values provided a source of consistency upon which the foundations of trust could be built. They also served to reinforce the high expectations of leadership. A CEO with strong interpersonal skills who had high physical visibility served to garner respect and foster cooperative commitment from employees and Members.

The success and visibility of the Florida's Natural brand name became a source of great pride within the organization and a source of cooperative unity. It also elevated CWI's status within the industry, paving the way for a higher degree of influence in relationships with external stakeholders.

Summary of Findings

All theories and frameworks applied in this analytic are helpful in explaining CWI's growth, development and adaptation from 1980 – 2015.

CPD have a high degree of relevance to many aspects of cooperative organizational design and adaptation. Their application could be increased by incorporating principles that address the congruence between cooperative asset ownership and member portfolios, including member business objectives, financial capacity, and risk tolerance.

The CPD are strong in the area of principal-collective relationships, but do not address principal-agent relationships. Agents are a dominant feature of U.S. agricultural marketing cooperatives and an important source of suboptimality.

While the principles included in Olson's Logic of Collective Action are relevant to the CWI case study, they are embodied more comprehensively in other frameworks including CDP, Lopez and Spreen's Cooperative Balancing Strategies, Rational Choice theory and Miller's Political Economy of Hierarchy.

Lopez and Spreen's balancing strategies are highly informative to CWI's adaptive strategies. While initially conceived in the context of static equilibrium issues in a marketing cooperative with homogeneous patrons, it would appear that these strategies have application in a dynamic environment with heterogeneous Membership.

Lopez and Spreen's supply, price and non-Member supply strategies for balancing supply address operating efficiency in a single commodity marketing cooperative. Education balancing strategies also inform this objective and contribute to the pursuit of political equilibrium and the reduction of cooperative ownership costs.

The property rights problems framework is helpful as a diagnostic tool in regard to political equilibrium and has application in a dynamic environment. Ownership costs add an important dimension to commonly identified cooperative property rights problems through explicit consideration of group decision making costs, which are exacerbated by Member heterogeneity. The concept of collective risk bearing costs is significant in agricultural cooperatives where long investment horizons and specified assets are common. Both frameworks speak to the importance of cooperative responses to control costs and agency costs where there is significant investment in downstream vertical integration.

The Dynamic Capabilities framework is highly informative of cooperative adaptation. This framework illustrates how decisions taken by the CEO in regard to the organization of employee activity can also enrich principle-agent relationships and reduce information

asymmetries. The processes, positions and paths approach is a useful framework for evaluating the implications of specified asset investment within a cooperative setting. Although not considered within this analysis resource based theory may also have applicability when considering the way cooperative assets can be combined and adapted to meet changing circumstances.

Although it was not a primary area of focus for the primary data collection, the CWI case study illustrated the importance of political economy in cooperative enterprise. The application of this framework was necessarily constrained by the scope of the data collected. There would appear to be grounds for extending the application of political economy to the investigation of principle-agent and principle-principle relationships within cooperatives.

The CLCF has significant potential as a diagnostic tool, already embracing, as it does, aspects of CDP and property rights problems in addressing the relationship between members and the cooperative. The decisions that bring about a new cooperative lifecycle are significant and potentially disruptive; perpetuating cooperative enterprise and creating a new lifecycle is a conscious act on the part of the membership.

Absent from the CLCF framework currently is a focus on those areas which fall under the umbrella of cooperative CEOs, and other matters such as strategy and investment decisions where there is a high degree of interdependence between principles and agent. Dynamic capabilities theory (together with resource based theory) appear to have potential to inform these dimensions as do concepts of political hierarchy. Evolving the CLCF by enriching it

with aspects of other theories would create the potential for a taxonomy of potential solutions to cooperative suboptimalities would enhance its value to practitioners of cooperative enterprise.

The process of preparing a comprehensive narrative incorporating multiple facets of a cooperative's internal and external operating environment is time consuming and expensive. In a highly volatile environment, attention must be paid to compiling an accurate timeline of events within each season. However, once compiled, a comprehensive timeline can be used to prepare narratives specific to the analytic focus and thereby inform analysis from a range of schools.

It is also useful in evaluating cooperative evolution in the context of diffuse object functions. Analytical narrative enables aspects of financial and political economy to be simultaneously considered. Many of the adaptations undertaken by CWI lend themselves to rational choice analysis.

CHAPTER 8 CONCLUSION

As in any firm, adaptation is an essential element of long enduring cooperative enterprise. Yet the process and nature of adaptation in a cooperative setting has multiple dimensions; along with economic equilibrium, a political equilibrium must also be struck. Cooperative adaptation therefore extends well beyond a mechanistic optimization of residual claim and residual claim rights; cooperative leadership must inspire and perpetuate within its membership a willingness to forgo self interest in favor of a greater, common good.

This study of CWI provides evidence that achieving and sustaining commitment to cooperative enterprise calls for an intimate understanding of the many nuanced intricacies of the cooperative organism. At CWI the disciplined practice of measurement, monitoring and self-examination enhance cooperative perceptiveness and hone cooperative responsiveness. A custom of interpersonal engagement and common values provide a foundation for bold action and the courage to confront the inevitable controversies inherent in group action. The culture of governance has enabled CWI to harness the collective the wisdom of members and management in addressing the perpetual challenges of cooperative enterprise.

Each of the theories and frameworks applied in this analytic share a common theme – that of achieving balance such that rewards are commensurate with costs. Ostrom's core design principles seek a congruence between appropriation and provision rules and an alignment with local conditions. Olson's incentives for group behavior calls for marginal costs to be

shared in exactly the same proportion as the additional benefits.[182] Lopez and Spreen's strategies pursue the balance between supply and demand. Property rights problems consider the detrimental impact of misalignments in the interests of the cooperative and its members. Hansmann considers the trade-offs required to optimize the various sources of ownership costs. The cooperative lifecycle considers adaptation to optimize heterogeneous economic interests. Dynamic capabilities theory addresses the practice of adapting the firm to a changing environment. The political economy of hierarchy considers the importance of political equilibrium in sustaining economic equilibrium.

Each theory is informative to long enduring cooperative enterprise. But no one theory alone is sufficient to explain long-enduring cooperative enterprise. Ostrom's core design principles and Hansmann's ownership costs inform organizational design. Olson and Lopez and Spreen's incentives inform short term economic performance, which are in term informed by responses to property rights problems. Dynamic capabilities theory informs the disciplined practice of cooperative resource adaptation and some of the limitations arising from irreversible investment choices. The political economy of hierarchy informs the discerning and unifying leadership practices necessary to garner support for the implementation and perpetuation of collective behavior.

The cooperative lifecycle framework embodies aspects of all of these approaches, yet remains incomplete. Agricultural marketing cooperatives are traditionally associated with high levels of investment in specified assets; resource based theory and approaches which

[182] Olson 1965 p30

address cooperative growth strategies and investment decisions would be enriching to the cooperative lifecycle. Similarly, the practice of adaptation under the cooperative lifecycle framework would be enhanced by embodying of the role of political economy in member – board, board – management and management – employee relationships. Other approaches, such as Hirchman's Voice, Exit and Loyalty (1970) may have particular relevance to informing member – cooperative relations.

This study of CWI suggests that the personal qualities of producer governors are highly informative to long-enduring cooperative enterprise. Rural civility, a learned resilience arising from environmental uncertainty and an livelihood derived from long horizon investment are conducive to considered decision making.

The costs borne by a member in undertaking cooperative enterprise are idiosyncratic and not always apparent; likewise not all of the benefits derived from cooperative enterprise are tangible or universal. Long enduring cooperative enterprise must have at its foundations an intimacy and an empathy with membership.

GLOSSARY OF TERMS AND ABBREVIATIONS

Allied business	Allied business involves utilizing CWI resources for non-citrus activities such as co-packing of non-citrus juices.
Ambersweet	A citrus variety
Canker	Canker is a bacterial disease which causes premature leaf and fruit drop in citrus.
Capper Volstead Act 1922	The Capper Volstead Act 1922 is a federal act of legislation governing the establishment and perpetuation of cooperative enterprise in the U.S.
CDP	Ostrom's Core Design Principles for Common Pool Resources
CGA	Citrus Growers Association
Citrus Growers Association	Citrus Growers Association, a collective of citrus growers who typically operate a packhouse. Usually cooperatively owned and operated
CLCF	Cooperative Lifecycle Framework
CPR	Common Pool Resources
CWI	Citrus World, Inc., which trades as Florida's Natural Growers, Inc.
Delivery rights	Delivery rights represent a member's entitlement and obligation to deliver a specific quantity of the contracted commodity. They are a feature associated with new generation cooperatives.
Designated box contract	Also known as a Limited Box Contract, where the volume to be supplied under the Member Marketing Agreement is expressed as a number of boxes.
FCJ	Frozen concentrated juice
FCOJ	Frozen concentrated orange juice is sold frozen and diluted to single strength by the consumer for consumption
Fiscal Year	CWI's fiscal year runs from September 1 to August 31. The citrus season runs from October 1 to September 30 each year.

FNG	Florida's Natural Growers, Inc., the trading name of CWI.
Fruit allocation	The amount of fruit a member is entitled to deliver in each season.
Greening	Huanglongbing
Gross margin	Net Sales less the Cost of Goods Sold. This may be expressed as a percentage.
Gross revenues	Revenues before discounts and allowances. Also known as gross sales.
Gross sales	See Gross revenues
HLB	Huanglongbing – also known as citrus greening disease
Huanglongbing	Huanglongbing – a bacterial disease that causes small hard fruit and fruit drop in citrus groves for which there is currently no cure. Also known as citrus greening disease
IOF	Investor Owned Firm
Limited box	Limited Box contracts designate a certain volume of boxes to be supplied under the Member Marketing Agreement
Liquidated Damages	The penalty levied on members under the Member Marketing Agreement for failure to fully deliver the agreed contracted volume of fruit.
Member fruit	Fruit supplied by a Member to CWI under the terms of a Member Marketing Agreement
MMA	Member Marketing Agreement
Navel	A citrus variety
Non-member business	Non-member business is business which is not the subject of a MMA. It may involve the purchase of citrus fruits from members or non-members, as well as allied (non-citrus) activities.
Non-member fruit	Non-member fruit is fruit which does not qualify as member fruit under a MMA. It may refer to fruit supplied by a CWI member or non-member.
Net sales	Net revenues i.e. Gross revenues after discounts and allowances.

NFC	Not From Concentrate juice
OGMA	Orange Growers Marketing Association, a member of CWI
Packing house or Packhouse	An entity which markets fresh citrus. Often takes the form of a CGA which will also supply fruit for processing.
PIP	Planting Incentive Program. The first PIP was for $10 million launched by CWI in 2015. The objective of the PIP is to encourage replanting of groves through financial support to members.
Pooling, Pooling Proceedures	Under pooling arrangements members receive the average price for all product of like quality. A member's share of the total pool is determined by the volume of fruit they supply during the season and may be adjusted for premiums and discounts. Payment is made incrementally throughout the season, with the final distribution to members being determined after all revenues and costs for the season have been finalized.
Residual fruit	Residual Fruit is fruit which is either not suitable for the fresh fruit market by virtue of quality, or fruit for which the fresh market does not provide an economic return
Reticulata	A citrus variety
RTS	Ready to serve orange juice. This may be not from concentrate or from concentrate.
Salvage fruit	See Residual Fruit
Seasons	CWI's fiscal year runs from September 1 to August 31. The citrus season runs from October 1 to September 30 each year. In this thesis, the period of time used for all CWI events is the fiscal year. The 1993-1994 year is expressed as 1994.
SFD	Southern Fruit Distributors, Inc.
Specified Acreage Contracts	Specified Acreage contracting allows members who pack fresh fruit to designate the acres that will be used to fulfill their contract with CWI, and provide all fruit from those groves with the exception of that which is packed fresh.
Total fruit	Total volume of citrus fruit processed by CWI in any one season, including member and non-member fruit.

Valencia	A citrus variety favored for juice production.
Years	Financial Years are used for time periods. E.g. 1994 means the period from September 1, 1993 to August 31, 1994.

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APPENDICES

APPENDIX I

Ellinor Ostrom's Design Principles Illustrated by Long-enduring Common Pool Resource Institutions[183]

1 Clearly defined boundaries

Individuals or households who have rights to withdraw resource units from the CPR must be clearly defined, as must the Boundaries of the CPR itself.

2 Congruence between appropriation and provision rules and local conditions (i.e. proportional equivalence between benefits and costs)

Appropriation rules restricting time, place, technology, and/or quanity of resrouce unit are related to local conditions and to provision rules requiring labour, material and/or money.

3 Collective-choice arrangements

Most individuals affected by the operational rules can participate in modifying the operational rules.

4 Monitoring

Monitors, who actively audit CPR conditions and appropriator behaviour are accountable to the appropriators or are the appropriators.

5 Graduated sanctions

Appropriators who violate operational rules are likely to be assessed graduated sanctions (depending on the seriousness and context of the offence) by other appropriators, by officials accountable to these appropriators, or by both.

6 Conflict-resolution mechanisms

Appropriators and their officials have rapid access to low-cost local arenas to resolve conflicts among appropriators or between appropriators and officials.

7 Minimal recognition of rights to organize

The rights of appropriators to devise their own institutions are not challenged by external government authorities.

For CPRs that are part of larger systems:

8 Nested Enterprises

Appropriation, provision, monitoring, enforcement, conflict resolution, and governance activities are organized in multiple layers of nested enterprises.

[183] Elinor, O. (1990). Governing the commons: The evolution of institutions for collective action (p90)

APPENDIX II

CWI Guiding Light Objectives

We will produce superior returns and increase value for our Members

Strategy #1 Grow the Company Internally

1.1 Exceed Benchmark average returns by at least 7% on a three-year rolling average

1.1.1 Become the lowest cost producer

1.2 Increase allocated equity by at least 3% annually

1.3 Become #2 in Packaged Citrus

1.4 Exceed premium products market by at least 4 percentage points

Strategy #2 Grow the Company Externally

2.1 Make acquisitions and/or form alliances

APPENDIX III

CWI Members August 31, 2015

Ben Hill Griffin, Inc.
Frostproof, Florida

Citrus Marketing Services, Inc.
Sebring, Florida

Dundee Citrus Growers Association
Dundee, Florida

Haines City Citrus Growers Association
Haines City, Florida

Hunt Bros. Cooperative
Lake Wales, Florida

Lake Placid Citrus Cooperative
Lake Placid, Florida

Lake Wales Citrus Growers Association
Dundee, Florida

Lykes Bros.
Tampa, Florida

Orange Growers Marketing Association
Lake Wales, Florida

Peace River Packing Company
Ft. Meade, Florida

Southern Gardens Grove Corporation
Clewitson, Florida

Umatilla Citrus Growers Association
Umatilla, Florida

Waverly Growers Cooperative
Waverly, Florida

Winter Haven Citrus Growers Association
Dundee, Florida