Social Finance for Sustainable Food Systems

by

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The following served on the Examining Committee for this thesis. The decision of the Examining Committee is by majority vote.

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AUTHOR'S DECLARATION

This thesis consists of material all of which I authored or co-authored: see Statement of Contributions included in the thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners. I understand that my thesis may be made electronically available to the public.

Statement of Contributions

I hereby declare that I am the sole author of this thesis except for Chapter 3 which is co-authored. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners. I understand that my thesis may be made electronically available to the public. I have requested the required permissions from the publishers of Chapters 3 and 4 to reprint in this dissertation.

Abstract

The scholarly literature demonstrates that dominant financial investment patterns tend to contribute to unsustainable outcomes in the food system. Mainstream lending hurts prospects for building more sustainable food systems as it tends to favour large-scale industrial food and farming businesses. Mainstream finance tends to under-resource alternative food systems by not providing them with the capital they need to grow and thrive. Further, financialization, which can be understood as the growing share of financial rather than productive activities in the economy, shapes the broad contours of the food system and also exacerbates unsustainability. Despite the powerful dynamics exerted by finance on food systems, there is room in the alternative food systems literature for an analysis of the role of finance in supporting transitions towards more sustainable food systems. Social finance is a growing investment approach that aims to reorient finance for greater sustainability outcomes and some believe that it holds promise for addressing the problems with mainstream finance in the food system.

This dissertation contributes a novel perspective to the literature on alternative food systems. It asks: (1) What explains the rise of social finance initiatives that target food systems?; (2) Which characteristics of the initiatives support or inhibit transitions towards more sustainable food systems? (3) What broader lessons arise regarding the design and implementation of these initiatives for scholars and practitioners interested in food system change? To answer these questions, this qualitative study provides analysis that draws on semi-structured interviews with 34 participants in Canada, United States and the Netherlands related to social financing funds that are geared towards food system change, as well as primary documents such as impact investment reports and fund websites and a review of the grey and scholarly literatures.

The analysis is spread across four main empirical chapters, each of which answer the above research questions in different ways, and taken together, contribute to advancing the arguments that arise from this work. First, the rise of social finance initiatives that target food systems emerged through a combination of factors including: i) the unsustainability of the dominant industrial food system; ii) the increased financialization of the food system; iii) the lack of financial capital available to alternative food systems; and iv) growing interest in

alternative financing mechanisms after the 2008 financial crisis. Second, these initiatives show varying degrees of transformative potential, depending on their investment ethos and the version of sustainability (weak or strong) to which they subscribe. The primary hurdles that are holding these initiatives back relate to their reliance on individuals to make change, small scale, inability to consistently ensure accountability of their impacts to investors and the misalignment between the time horizons of investments compared to those required to make meaningful social and environmental impact. Finally, the findings point to broader lessons about the role that social finance can play in sustainability transitions. I do not consider social finance, in its current form, a robust or radical enough approach to encourage profound sustainability transitions but it could be a helpful tool as part of a larger innovation ecosystem to support sustainable food systems.

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Table of Contents

List of Abbreviations

AFN	Alternative Food Network
CEDIF	Community Economic Development Investment Fund
FAO	Food and Agriculture Organization of the United Nations
GIIN	Global Impact Investing Network
GIIRS	Global Impact Investing Ratings Systems
IRIS	Impact Reporting and Investment Standards
MLP	Multi-Level Perspective
PRAI	Principles for Responsible Agriculture Investment
PRI	Principles for Responsible Investment in Farmland
PRIAFS	Principles for Responsible Investment in Agriculture and Food Systems
REIT	Real Estate Investment Trust
SDG	Sustainable Development Goals
SI	Sustainable Intensification
UNCTAD	United Nations Conference on Trade and Development
VGGT	Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests

List of Tables, Boxes and Diagrams

Chapter 1: Introduction

1.1 Problem Context

Scientific research demonstrates that the industrial food system, which employs synthetic chemicals, enormous single-crop farms and intensive animal farming, poses severe social and ecological threats for current and future generations (HLPE, 2017; McNeill, 2019). Dominant financial investment patterns exacerbate unsustainable outcomes in food systems around the world, as they tend to be directed towards businesses that support industrial methods of agricultural production (Clapp & Isakson, 2018; Vander Stichele, 2015). This relationship is rooted in the ways that mainstream financial actors are motivated to increase profits and shareholder value, and this narrow focus often leads to practices that externalize costs, creating negative externalities in the food system. If the food system is to shift towards a more sustainable trajectory, the role of finance must be addressed in this transition.

Social finance is a niche investment approach that aims to reorient finance for more sustainable outcomes by prioritizing environmental and social indicators as well as traditional economic returns. Impact investors, who put social finance theory into practice, believe that finance can be transformational when investment parameters are redrawn to achieve broader social and environmental goals. Despite the challenge of shifting mindsets and institutions towards more holistic investment strategies, there are a growing number of investors who are eager to change the dominant system. From grassroots co-operatives to venture capital funds, investors with strong ethical screens are targeting sectors that are overwhelmingly unsustainable such as mainstream food and agriculture to move them along a more sustainable and regenerative trajectory. This research project aims to better understand these alternative investors and analyze if and how they contribute to building more sustainable food systems.

The unsustainability of the industrial food system is well documented and widely understood. Since the 1970s, researchers have shown increased interest in improving the sustainability of the food system (Moore Lappé, 1971). Academics working on this issue focus on both documenting the problems as well as identifying the characteristics of sustainable food systems and how consumers and producers can help build an alternative to

the dominant, industrial model (Blay-Palmer, 2010; Feenstra, 1997; Kloppenburg et al., 2000; Kneen, 1993). For decades, alternative models have proliferated in regions like Canada, the US and Western Europe in response to an entrenched industrial model. Such small-scale, local, diversified agroecological food systems are designed to regenerate both communities and the environments in which food is produced and consumed. While the growth of farmers markets and consumer demand for local and organic food products signals increased interest in supporting such alternative food systems, they remain marginal and have not reached a critical mass where they present a viable alternative to the industrial model. One core reason behind the small-scale of these initiatives is the lack of financial investment in this area. Indeed, sustainable food entrepreneurs frequently cite a lack of access to capital as a primary impediment to their success (Cocciarelli et al., 2010; The Carrot Project, 2009).

Today, the lending practices of traditional banking institutions tend to be geared towards larger, industrial food and farm businesses, exacerbating unsustainability in the food system by limiting opportunities for alternative food systems to grow and thrive (Cocciarelli et al., 2010). Historically, in Canada and the United States, governments were actively involved in supporting farming communities, but this has changed in the last few decades. Farming has always been considered a risky investment since it is so vulnerable to the vagaries of nature (Martin & Clapp, 2015). So, governments helped to support farmers by implementing formal policies to provide agricultural credit and establish marketing boards to increase farmers' negotiating powers and help stabilize their incomes (Larder et al., 2018, p. 401). However, governments reduced their involvement in the agriculture sector reflecting broader neoliberal trends since the 1980s (Clapp & Isakson, 2018). Farmers now report increasing difficulty accessing credit, purchasing land, and maintaining autonomy over their operations (Larder et al., 2018, p. 401). This situation has been particularly detrimental to small-to-mid-sized farm and food enterprises who want to contribute to more regenerative alternative food systems. Indeed, many of these social entrepreneurs struggle to access capital they need to start and grow their businesses (LeZaks et al., 2020). I argue that this lack of access to capital by such innovative enterprises undermines transitioning towards more sustainable food systems. Indeed, as social innovation scholars Moore et al. (2012, p.

185) note, “the long-term viability of social innovation often depends on the ability of entrepreneurs to access and leverage financial resources.”

While mainstream lending practices by financial institutions are hurting prospects for building more sustainable food systems, financialization, also does so by shaping the broad contours of the food system. Financialization is described as “the tendency for profit making in the economy to occur increasingly through financial channels rather than through productive activities” (Krippner, 2011). Recent contributions have identified a strong relationship between general trends in financialization and further industrialization in the agrifood sector (Clapp & Isakson, 2018; Fairbairn, 2020). Financialization is associated with food price rises and volatility, which disproportionately impact poorer consumers and producers around the world. It also creates “distance” along agricultural supply chains. Describing this phenomenon, Clapp (2012, p. 156) states how “investment takes place in a virtual space, largely removed from the physical act of both agricultural production on the one hand and eating on the other hand.” Increased speculative investment in farmland as well as the presence of new financial actors in this area have driven up the price of land and also tend to encourage the adoption of industrial methods of agricultural production. Finally, financialization has furthered corporate concentration in the food system, which tends to limit consumer and producer choice as well as prioritize financial over social and environmental goals (Baud & Durand, 2012; Burch & Lawrence, 2005).

Opportunities for transitioning towards more sustainable food systems are constrained by the broader, global dynamics of financialization and the lack of local investment in small-scale social entrepreneurs that engage in alternative production methods. Social financiers have begun to focus on alternative food and farm businesses in order to improve social and ecological sustainability. The rise of social finance over the last decade occurred alongside a broader movement seeking a more “ethically and socially inclusive capitalism” and has started to gain traction amongst mainstream institutions (Dacin et al., 2011, p. 1204). For instance, in 2018 the Canadian Government announced the establishment of a $755 million social finance fund following a recommendation from a recently established Social Innovation and Social Finance Strategy Co-Creation Steering Group (McConnell Foundation,

2018). Impact investing as a whole has purportedly grown 18-fold since 1995 (CoPeace, 2020). Growth trends in impact investing are expected to continue as Millennials and Gen-Zers who align their values with their investments mature and increase their financial clout. Social finance is relatively nascent and the scholarship around it is only beginning, but the growth of the phenomenon suggests that it is important to gain a better understanding of the opportunities and barriers that it presents for sustainability transitions.

Alternative food systems scholars are driven to understand and promote more sustainable alternatives to the dominant, industrial model. However, the literature tends to treat financial dynamics implicitly and could do more to explicitly consider the ways that finance might be deployed to help support the alternative models that they advocate. Moreover, the literature on financialization in the food system could go further in exploring whether finance might be reoriented for more sustainable outcomes. Therefore, there is a need for a more in-depth study at the intersection of the literatures on alternative food systems, financialization and social finance as it stands to make theoretical and practical contributions to transitions towards more sustainable food systems.

1.2 Research questions

This dissertation explores cases of impact investment funds in sustainable food systems in industrialized nations through an interpretivist lens. I conducted 34 semi-structured interviews with fund managers, investors and investees associated with 14 initiatives across Canada, the United States and Western Europe that are designed to support greater sustainability in the food system. They range from small community-based funds, with a democratic structure that allows many individuals to purchase relatively low-cost shares, to venture capital funds that are strictly available to institutional investors and high net worth individuals. I also analyzed documentation affiliated with these initiatives. The selection of my cases represents a diversity of impact investing initiatives in the food system. Through the interviews, I aimed to understand the motivation of the funds, how they invest for impact, what they consider to be sustainable and regenerative outcomes in food systems, and whether or not they believe impact investing can create long-term change. My research asks:

(1) What explains the rise of social finance initiatives that target food systems?; (2) Which characteristics of the initiatives support or inhibit transitions towards more sustainable food systems? (3) What broader lessons arise regarding the design and implementation of these initiatives for scholars and practitioners interested in food system change?

In delineating the parameters of this study, I chose to focus on regions with predominantly industrialized food systems described in Lawrence's re-evaluation of food systems (2017). In an industrialized food system: supply chains are sophisticated; supermarkets are the primary outlets; high-processed food is abundant; and agriculture contributes to a small fraction of GDP (Lawrence, 2017). I wanted to understand how alternative food systems can develop and sustain themselves in hyper-industrialized food systems – the logic being that food systems around the world are tending towards processes of industrialization as food systems become increasingly globalized and financialized. Therefore, the insights derived from studying the role that social finance might play in supporting such alternatives in an industrialized context may end up being applicable to other regions as their food systems continue to industrialize. It is also conceivable that social finance could support innovation in emerging economies in such a way as to avoid more "advanced" yet, unsustainable, practices adopted in the Global North.

1.3 Research objectives and contributions

At its core, this project is about fostering a transition towards a more sustainable food system by understanding the dynamics of financialization and exploring the potential opportunities of social finance. The sustainability transitions literature serves as a guiding framework for understanding the role of capital in transitioning towards more sustainable food systems. The overarching goal of this research was to contribute a novel perspective to the scholarship on alternative food systems in the broader context of sustainability transitions. Moreover, inviting financialization and social finance into the same conversation represents an unexplored angle in the literature. The scholarship on financialization in the food system is ripe for a study that moves beyond describing how financialization interacts with the food system to studying emergent initiatives that seek to provide solutions to its

harmful patterns. My study therefore explores the intersections of the literatures to tease out new lessons for the literatures on alternative food systems, financialization, social finance and sustainability transitions.

The cases studied herein provide specific insights about the limitations of social finance for food systems change as well as ways that it can be strengthened to bring about more meaningful transformations. This thesis is divided into four chapters each of which answer the above research questions in distinct ways, and taken together, contribute to the overarching arguments. Through an analysis of insights gathered from the empirical data and the gray and scholarly literatures, this thesis advances the following arguments. First, the rise of social finance initiatives that target food systems emerged through a combination of factors including: i) the unsustainability of the dominant industrial food system; ii) the increased financialization of the food system; iii) the lack of financial capital available to alternative food systems; and iv) growing interest in alternative financing mechanisms after the 2008 financial crisis. Second, these initiatives show varying degrees of transformative potential depending on their investment ethos and the version of sustainability to which they subscribe. The primary hurdles that are holding these initiatives back relate to their tendency to individualize responsibility, small scale, inability to consistently ensure accountability of their impacts and misalignment between investment timescales and social and environmental change. Finally, the findings point to the broader role that social finance can play in sustainability transitions. Social finance, as the analysis in this dissertation show, is not at this point developed or radical enough of an approach to encourage profound sustainability transitions. For that, a more robust investment ecosystem and coherent value system are required to elevate niche innovations such as alternative food networks to more mainstream positions and overtake the industrial model.

1.4 Organization of dissertation

This dissertation adopts a manuscript format, rather than that of a monograph. After the next chapter (Chapter 2) on the overarching methodology and literature review, follow four chapters that are written as standalone publishable manuscripts as well as a conclusion. This format was chosen in part because of the distinct categories that were identified amongst

social finance initiatives studied herein lent themselves naturally to be positioned as standalone studies, that together, form this larger study. Because distinct arguments relate to initiatives in each category, it made sense to write the chapters in a format that facilitates publication. One of the drawbacks of this "sandwich thesis" approach, however, is that it necessarily involves some repetition, particularly in defining the research purpose and context in each article. In order to improve the flow of what can otherwise be a rather jarring structure to read, I have included an upfront overview section to each substantive chapter that outlines its novel contribution to the overall thesis, how it contributes to answering the three overarching research questions, and a full bibliographic citation and author contributions that the chapter is reprinted from. Though these chapters (3-6) can be read in their own right, the Introduction (Chapter 1), Methodology and Literature Review (Chapter 2) and Conclusion (Chapter 7) bring these middle chapters together to form part of a cohesive whole.

Each chapter contributes to answering the research questions in distinct ways as they analyze three different categories of social financing initiatives: grassroots initiatives; venture capital models and a hybrid group that invests with mid-scale food system change in mind. The sustainability transitions literature forms the basis for the observations that arise from these empirical studies on the barriers and opportunities that these initiatives present for food systems transformations and their wider lessons for sustainable food transitions. The seventh chapter concludes and summarizes this dissertation, bringing the main arguments from the four empirical chapters together to reiterate its contributions to the academic scholarship and practitioner communities. This chapter draws together overarching answers to the research questions and notes the limitations of the study. Lastly, it identifies future areas for study.

Chapter 2: Methodology and literature review

This chapter details the various qualitative methods employed for conducting this study and provides a review of the relevant concepts for this research project within the literatures on social finance, sustainable food systems, financialization and sustainability transitions.

2.1 Methodology

This section provides details on the methods employed to answer this study's guiding questions. Little research exists on social financing for sustainable food systems and I opted to utilize a qualitative approach as it is well suited to examining complex, emerging social phenomena that are ripe for interpretation and rich descriptions. This study operates from a constructivist paradigm and employs inductive reasoning. Consistent with a grounded theory approach, this study uncovers novel empirical insights through semi-structured interviews, primary document review and a literature review to identify broader themes.

Before further elaborating on the specific methods employed for this study, it is necessary to explicitly describe my philosophical assumptions, or worldview, as these profoundly influence the conscious and unconscious choices that I made in designing and conducting this study. Creswell and Creswell describe worldviews as a "general philosophical orientation about the world and the nature of research that a researcher brings to the study. Individuals develop worldviews based on their discipline orientations and research communities, advisors and mentors, and past research experiences" (2018, p. 5). My interdisciplinary background (B.A. in International Development, M.A. in Global Governance and Ph.D. in Social and Ecological Sustainability) has exposed me to a wide variety of methods and given me great respect for different ways of knowing. The research communities that I am steeped in – those of political economy, social innovation and food systems – often employ constructivist epistemologies.

Constructivism is based on the notion that "individuals develop subjective meanings of their experiences" (Creswell & Creswell, 2018, p. 7). As such, constructivism involves several assumptions identified by Crotty: The first is that meanings are constructed through individuals' interpretations and experiences of the world. Second, the way that people

interact with and interpret the world is influenced by the broader culture, the social and historical contexts that people have been immersed in. The goal of qualitative research is to gather information on the study participants' context and also understand how that context influences participants' perspectives. By the same token, researchers are influenced by their own cultural context and interpret the findings through their own unique lenses. Third, qualitative research involves inductive rather than deductive reasoning as meanings are produced through the interpretation of empirical data. Such research is driven to uncover and communicate complexity in participants' views (1998).

In this study, I employ grounded theory, a constructivist, inductive research method. Originating from sociology, grounded theory was developed in the 1960s and is considered one of the first "methodologically systematic approaches to qualitative inquiry" (Saldaña, 2009, p. 41). Wengraf considers grounded theory a "common-sense hypothetic-inductivist model" that involves collecting all the relevant facts about an issue and an examination of the facts to identify a theory that emerges from the data (Wengraf, 2001). Thus, the theory itself is "grounded" in the original data (Saldaña, 2009, p. 41). Pattern theories, which are described as representing "interconnected thoughts or parts linked to a whole", can arise from such inductive methods (Creswell & Creswell, 2018, p. 63). Because few studies exist on impact investing in the food system, grounded theory is an appropriate approach. Grounded theory allows the data to lead the analysis, which is helpful when one is seeking an understanding of under-researched phenomena. Rather than coming to the study with predetermined hypotheses, the purpose was to gain an understanding of what is going on in order to develop informed observations and thematic patterns based on the empirical data. Though I did not begin the study with a firm hypothesis in mind, I was armed with some "sensitizing concepts", such as the idea that there are different versions of sustainability and the concept of individualization of responsibility, which are ideas that pique a researcher's interests about potential avenues to pursue and questions to raise about the subject at hand (Charmaz, 2014, p. 30).

2.2 Research design

This research project involved collecting and analyzing data through semi-structured interviews, investment fund documentation, and a review of the grey (reports, websites) and scholarly literatures. Interviews were identified as the best way to uncover and gather the subjective perceptions and interpretations of social finance investors and investees. In total, 34 semi-structured interviews were conducted with investors, fund managers and investees related to 14 social financing initiatives geared towards sustainable food systems in Canada, the United States and the Netherlands. These interviews were supplemented with documents and materials affiliated with these initiatives. Conducting in-depth interviews with a small number of cases allowed for the capture of nuance and context, in order to understand the complexities involved in social financing strategies. A larger, quantitative study through a survey for example, would not have provided the depth of perspective required for the analysis that I was seeking to undertake.

The initiatives were selected based on theoretical and pragmatic considerations. Social financing or impact investing funds were identified through searching media articles and websites for phrases such as “impact investing and sustainable food”; “social financing and sustainable food”; “impact investing funds and sustainable food”; “social financing and regenerative agriculture”; “impact investing and regenerative agriculture”. This method was used because it relied on funds, initiatives and individuals self-identifying as impact investors or social financiers. Self-identification by the funds themselves was considered important as there is no widely agreed upon definition of social finance nor of impact investing, making it very difficult to identify these initiatives objectively. Another benefit of self-identification is the avoidance of tautological concerns (Roundy et al., 2017). Once the funds and initiatives were identified through Internet search, I reached out to potential contacts by email to inform them of the study and invite them to participate.

Interviews were conducted in person or over the phone and lasted between 30 to 90 minutes.[1] I emailed a consent form ahead of time to interviewees and brought a hard copy for

[1] Sample interview questions in the Appendix.

in-person interviews as well. Informed consent was sought for audio recordings of the interviews. Interviewees were also asked for permission for the use of anonymous quotations in any publications resulting from the research. I assured participants that I would share any published articles that resulted from the research. The recruitment process and interview guides were cleared by the University of Waterloo's Office of Research Ethics prior to any outreach to potential participants.

The purpose of interviewing investors and fund managers was to uncover why these investors are attracted to the food system, how they define sustainable or regenerative food systems, how they measure the impact of their investments and whether they believe their approach can create long-term transformative change in the food system. Investees were asked how they came to be involved with a particular social financing initiative, whether it fills a financing gap that they could not access elsewhere, how they define sustainable or regenerative food systems, what some of the greatest challenges are for their enterprises and whether they believe social finance can create long term change in the food system. As the interviews were semi-structured, these questions served as a guide to having an exploratory conversation with participants.

Power dynamics are present in any human interaction and interviews are no exception. It is important to be explicit about how these dynamics and other ethical concerns can impact the quality of data collected through interviews by being self-aware of one's positionality. As grounded theorist Charmaz points out, "neither observer nor observed come to a scene untouched by the world...Nevertheless, researchers, not participants, are obliged to be reflexive about what we bring to the scene, what we see, and how we see it" (2014, p. 27). I am a Canadian, Caucasian, cisgender woman who has lived in a number of urban centres in East Asia and Canada. I have no immediate connection to food and farm businesses, and I had very limited experience with impact investing. I have several years of work experience in the non-profit and private sectors where I collaborated with colleagues, clients and suppliers to produce reports and communications materials related to sustainability issues. My role at Oxfam International focused on critiquing the design of the global financial system and the resultant social and environmental inequalities. While working in

sustainability reporting, I consulted with corporate clients such as Loblaw and Scotiabank on the best ways to track and communicate their sustainability performances. When I began my PhD studies, I became interested in the concept of financialization. My interest in social finance and impact investing was piqued through these combined experiences which coloured the way that I both conducted and interpreted the interviews.

I did not have prior connections to any of the interviewees, so it was incumbent on me to build trust and rapport within a small number of interactions. Moreover, these interviews often took place with people in different geographic locations and from various cultural backgrounds. As Wengraf points out, prior to designing the interview one must be reflective of the "collective history which you share and the histories which you imagine that you might well not share, prior to designing the interview" (2001). Though, for the most part, I anticipated common ground between myself and interviewees, in some cases I was struck by the differences in terms of how participants considered their role in the food system and their understanding of sustainability. Naturally, the power dynamics shifted depending on the interviewee. In some cases, my role as a student researcher with little experience of the field of impact investing put interviewees at ease as they were positioned as the expert. In other circumstances, the power dynamic shifted when visiting with small business owners or farmers who may not have had much exposure to academia and where I was perceived as an outsider. I acknowledge that my identity undoubtedly influenced the research process and how participants experienced and engaged with me.

Though the topic of social finance in the food system is not particularly sensitive, there were still some considerations surrounding sensitive ethical issues that required attention. For instance, the questions for investors and fund managers investigated the unique investment strategies of the social financing initiatives. Sharing such information could put investors at risk with competing funds and organizations. Moreover, by revealing certain gaps in their approach, or acknowledging the limitation of their models, funds could also risk detracting future investment from their investors. Some initiatives were comfortable introducing me to investees, but none of them put me in touch with their investors. Investees, on the other hand had a different set of potential sensitivities through the interviews. As they are receiving

investments from the funds, revealing any negative or less than positive experiences with the financing process could hurt their relationship with their investors. Even though the interviewees were guaranteed anonymity[2] and I took the necessary steps to not include any identifying information regarding their particular affiliation, the chance of jeopardizing key relationships or revealing sensitive propriety information still may have influenced the openness with which the interviewees expressed themselves.

2.3 Data analysis

2.3.1 Semi-structured interviews and primary documents

I recorded the interviews and transcribed them in full on my own. The act of transcribing the interviews helped me to engage closely with the data and process the information prior to more systematic analysis. When I was transcribing, if a comment from an interviewee sparked an idea, or hunches about what I was learning, I made note of it. These memos were helpful later when I was considering connections in the data across interviewees and developing codes and themes. As Charmaz notes, memos form the core of one's grounded theory (Morse, 1994, p. 25). Certainly, these memos became very useful as I formed my arguments for the three empirical articles herein.

Once the interviews were transcribed, I read the transcripts in full. This step helped me to reflect on the overall meaning of the information provided through the interview process. I noticed three main categories buckets in terms of participants. The first, is those that represented community investment funds, which are grassroots efforts where individuals can invest in a financial intermediary to support their local food systems. The second follow a venture capital model and seek high returns for their high net worth or institutional investors. And the third group represented diverse approaches that focused more on rebuilding the regenerative capacity of food systems in a systemic way. These categories led to a natural way to organize the dissertation, with each being the focus of a standalone article.

The next step was to begin coding the data by assigning words or phrases to chunks of text. For this, I used the software program NVivo. During this initial round of coding, I followed guidance from Charmaz on first round coding and remained open to whatever theoretical possibilities existed in the data and moved through it quickly by applying short, simple

codes (Charmaz, 2014, p. 191). Attribute codes were applied to information related to specific details about the funds such as their size and when they were first developed. I identified, in vivo codes, where the direct language of interviewees is used as codes. Process codes also noted any action (both observable and conceptual) in the data (2014, p. 120). According to Saldaña, particularly in grounded theory, initial coding provides an opportunity for a researcher to "deeply reflect on the contents and nuances of [one's] data and to begin taking ownership of them" (Creswell & Creswell, 2018, p. 66).

In the second round of coding, I went through the data and grouped together similar codes, created subcodes and applied concept codes, which are used to tie together broader themes in the data. In this round, I also identified values codes that represented individuals' attitudes, values and beliefs about a particular topic. The values and concept codes were particularly helpful in developing the themes that appeared as the main findings in the three separate articles (2009, p. 81). In these papers, the themes are elaborated upon in detailed discussions that generate theory around particular social financing approaches geared toward improving the sustainability of food systems.

Ensuring the validity of qualitative data can be a challenge for several reasons. The first is that interviewees provide indirect, filtered information and as suggested earlier, the act of recording the interviews could lead to self-censorship by participants. Moreover, the process of coding interview data is necessarily subjective – meaning that the researcher's point of view and biases will influence what is seen and not seen to impose validity. It is important for qualitative researchers to communicate any inconsistencies and contradictions that arise from the data so as to not force a logic to the arguments that does not actually exist. Triangulation is another way to help ensure the validity of a study's findings. By using different sources of data, such as by reviewing documents related to the social financing initiatives in this study, as well as the broader grey and scholarly literatures on social finance and impact investing in the food system, interview data can be substantiated or questioned based on findings from the literature (Creswell & Creswell, 2018).

2.4 Literature review

2.4.1 Guiding conceptual framework

The sustainability transitions literature inspired the study and resides in the background, forming the theoretical underpinning of this thesis. This body of literature developed from the broader field of transition and innovation studies. Transition studies refers to a "specific research field that looks at societal systems as complex adaptive systems and studies these in terms of non-linear and long-term processes of change from an interdisciplinary and integrative perspective" (Avelino & Rotmans, 2009, p. 544). Initially, transitions studies focused on the drivers of technological change (Rip & Kemp, 1998) but, as awareness of global environmental issues grew, more attention was devoted to researching transitions for greater sustainability outcomes.

Thinking on how to innovate for sustainability has evolved from a narrow focus on promoting clean technologies in the 1980s to fostering the innovation of entire systems towards more sustainable ends (Smith et al., 2010). The analytical framing of innovations studies has also developed over time. Whereas initial explanations were grounded in a neoclassical economics view of price signals, scholars later explored alternative perspectives about how and why systemic change occurs (Smith et al., 2010).

The 1990s were characterized by a growing scholarly interest in researching how socio-technical systems like agrifood are influenced by particular sets of technologies and institutions (Konefal, 2015; Lawhon & Murphy, 2011). A socio-technical system consists of "networks of actors, institutions, cultural practices, knowledge, and technologies" (Konefal, 2015, p. 614). Scholars became interested in how systemic changes could be brought about naming these changes "socio-technical transitions."

The most prominent subfields of sustainability transitions are the Multi-Level Perspective (MLP), Strategic Niche Management, Transition Management, Innovation Systems, Techno-economic paradigm, and Socio-metabolic transitions (Markard et al., 2012). When it comes to tracking and assessing sustainability transitions within the food system, the MLP literature is the most relevant. This is because the MLP addresses transformation processes in "mature socio-technical configurations" like the food sector (Truffer & Coenen, 2012, p. 5). The MLP

is an outgrowth of the multilevel model of innovation advanced by transition theorists Rip and Kemp (1998). Geels, a systems innovation scholar, first introduced the concept of the multi-level framework to study sustainability transitions (Geels, 2010).

The MLP involves three analytical levels: niche, regime and landscape. Niches are the lowest, most flexible scale and are considered the "seeds for systemic regime change" (Buis et al., 2016, p. 92). Niches are still part of the societal system but because of their particular characteristics are sheltered from and able to deviate from mainstream practices (Avelino & Rotmans, 2009, p. 552). Niches are described as the inception points where learning and innovation occur to advance more sustainable alternatives to the existing regime. They may be supported by a diverse group of stakeholders such as entrepreneurs, scientists, and policymakers (2011, p. 357). Niche development is necessary, though not sufficient, to creating lasting regime change.

Socio-technical regimes are broader and more resistant to change than niches, as they encompass the conventions, rules, norms and institutions that dictate the status quo (Lawhon & Murphy, 2011, p. 356). The automobile as the dominant form of transportation in North America is an example of a firmly entrenched regime. This is now the norm for personal transportation and infrastructure like highways and roads have been developed to support this technology. The automotive industry has become an indispensable part of certain regions' economies and particular actors such as those in the oil industry benefit significantly from the status quo. Rules and norms have developed around cars as a symbol of adulthood and freedom. This example is meant to highlight the various cognitive and physical components that comprise a particular regime. For Vankerbeerberghen and Stassart, socio-technical regimes include the "cognitive routes, which direct and stabilize the trajectories of practices within a given orientation" (2016, p. 394). The landscape is the broader context within which regimes and niches reside. Lawhon and Murphy described the socio-technical landscape as "the most general or widely defined context wherein transitions occur…that broadly shape industrial and technological development trajectories" (Lawhon & Murphy, 2011, p. 357).

Socio-technical transitions are comprised of changes in new technologies, markets, user practices, policy and cultural meanings (Geels, 2010, p. 495). Transitions are triggered either

by pressure from the broader landscape or by the attractiveness of upcoming niches (Truffer & Coenen, 2012, p. 5). The stages of a transition involve interactions between each of these levels, starting from the "pre-development" to "take-off", "breakthrough" and finally, "stabilization" (Meadowcroft, 2005, p. 484). Within the MLP, scale is subjective. What matters is the interaction between the different socio-technical levels. For the purposes of this study, I see alternative food networks and social finance that supports them as occurring at the niche level, the dominant industrial food system as the regime and the landscape pressures that are encouraging the development of such niches to include such global trends such as financialization, climate change, volatile food prices, high levels of hunger, malnutrition and overnutrition as well as the rise of social finance. Klerkx and Begeman point out that transformative change in agriculture often occurs through the coalescing of several "innovation niches" (2020). They argue that "transformation is then the outcome of many 'small wins' instead of a sudden radical change" (Klerkx & Begeman, 2020). The social finance initiatives focused on for this research project are participating in a process of small wins in order to contribute to a more profound transformation.

The MLP is adopted as a guiding conceptual framework for this research project as this "strand of the transition literature has been the most explicit in its treatment of intermediaries" (Kivimaa et al., 2019). I see social financing initiatives as playing an intermediation role to bring about sustainability transitions. The sustainability transitions literature also includes a focus on innovation intermediaries and the ways that they contribute to long term change in complex socio-technical systems. Howells defines an innovation intermediary as,

> "an organisation or body that acts an agent or broker in any aspect of the innovation process between two or more parties. Such intermediary activities include: helping to provide information about potential collaborators; brokering a transaction between two or more parties; acting as a mediator, or go-between, bodies or organisations that are already collaborating; and helping find advice, funding and support for the innovation outcomes of such collaborations" (2006)

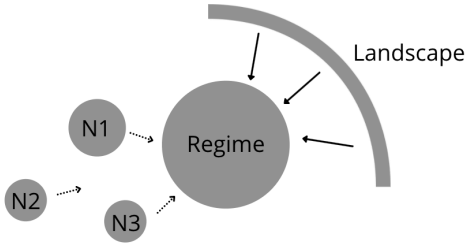
Kivimaa et al. provide a typology of intermediaries in sustainability transitions and use the MLP to structure the various types of intermediaries (2019). The transition intermediary classification that they developed identifies regime-based, systemic, process, niche and user intermediaries. Regime-based intermediaries can emerge when incumbents become involved in the intermediary activity but may also be established by regime actors and often result in incremental rather than more radical change. Systemic intermediaries, in contrast, aim for more fundamental change of the system. Process intermediaries are designed to facilitate "projects and processes without having a specific interest in the niche or transitions" (Manders et al., 2020). For instance, they could play a knowledge sharing function between various projects. Niche intermediaries are, as the name suggests, only focused on the success of specific niches and often emerge from within the niche itself. Finally, user intermediaries emerge, from "the end-users as spokespersons to serve their interests in the transition developments" (Manders et al., 2020). This study focuses on food system innovation intermediaries that are related to finance as the mobilization of finance is considered a key determinant in which innovations are developed and deployed (Polzin et al., 2016).

Avelino and Wittmayer (2016) point out that transitions are socio-political, not just socio-technical and therefore the way that power is exercised in a transition context must be understood. Though there is a rich literature on power in sustainability transitions, work on power analyses and intermediaries is limited. Although a significant amount of literature has developed around the notion of politics in transitions, there are still calls for more analyses. Avelino and Rottman's (2009) influential article offers a framework to study power in the context of transition studies and is helpful in unpacking the way that power is exercised through financial intermediaries such as social financing funds for sustainability transitions in the food system. They outline various types of power that help to describe phenomena in a specific context. The types of power that are relevant to financial intermediaries studied herein are innovative power – "the capacity of actors to create or discover new resources", transformative power – "the ability to transform the distribution of resources, either by redistributing resources and/or by replacing old resources with new resources." These authors emphasize that the transformative exercise of power does not necessarily mean that the entire society is transformed, but that if a new institution or structure is established in a local

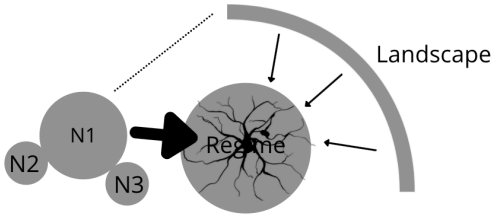
context, then transformative power can still be considered as being exercised (Avelino and Rottmans, 2009, p. 552). According to these authors, the MLP is the most "power-laden conceptualization in transition studies" (Avelino and Rottmans, 2009, p. 545). Indeed, one of the ways that transformation occurs in this framework is when a cluster of successful niches forms outside of the dominant regime and eventually overtakes the incumbent regime as it succumbs to landscape pressures and the rising power of the niche-cluster (also known as niche-regimes) (Avelino and Rottmans, 2009, p. 545). I argue that although there are landscape pressures weakening the existing industrial food regime, niches that have developed to support an alternative regime (that are funded by social financiers) have not yet clustered together to create a niche-regime and challenge the power of the incumbent regime.

Diagram 1. Niche-clusters overtake regimes in the MLP

Phase 1



Phase 2



The above diagram depicts the way that I understand how niches (N1, N2, N3) cluster together to overtake a regime from the perspective of the MLP. In this case, the regime represents the dominant industrial food system and the niches comprise elements of alternative food systems. For instance, N1 represents local, regional distribution channels, N2 represents social financing initiatives that support small scale food and farm enterprises, and N3 represents small and mid-scale processing plants and farms. In phase 1, these niches are disjointed. While the landscape pressures (e.g. climate change, financialization, demand for sustainable agriculture, growth in social finance) in Phase 1 are exerting themselves on the regime, the lack of a viable alternative niche, keeps the regime intact. However, this changes in Phase 2, once the niches are able to cluster together as a result of greater knowledge sharing, increased resources and traction with the broader public. The niche-cluster is viewed as an appropriate response to the landscape pressures, which brings these scales into alignment (as demonstrated through the dotted line). There is now enough pressure to destabilize the existing regime and replace it with a more sustainable option through the niche-cluster.

2.5 Relevant aspects of the literature on alternatives food systems, financialization and social finance

Three further academic bodies of literature informed this research in a more direct way: (1) financialization, (2) social finance and (3) sustainable and regenerative food systems. These three bodies of literature provide the contextual foundation for the study at hand and inform key insights gained through my empirical research. Though there is substantial and growing scholarship in each of these domains, my work helps to connect these bodies of literature that until now have had little cross pollination in order to shed light on how best to understand the emergent social finance initiatives that support sustainable food systems.

2.5.1 Financialization

Financialization is a body of literature that gained momentum after the 2007-2008 financial crisis and has grown rapidly in the last decade (Bjorkhaug et al., 2018). Indeed, the number of scholarly articles on the topic has increased by more than ten-fold in the last decade (Mader et al., 2019). It is a broad area of scholarship that originates predominantly from political economy and geography but is also informed by other disciplines including

sociology, anthropology, and development studies. Mainly, scholars of financialization seek answers to and explore the implications of the increasing role of finance in the economy. At its core, the literature on financialization contributes to the study of contemporary capitalism and it is often set in the context of neoliberalism, globalization and Marxist analysis (van der Zwan, 2014). This literature's primary contribution is to challenge the belief in the neutrality of money, that is – the literature on financialization presents the financial system as more than a "mere intermediary and allocation mechanism" (Fuchs et al., 2013, p. 221). According to Rosin et al., "the dynamic of "financialization" – where previously more tangible economic assets are converted into financial instruments and traded accordingly – is one of the signal characteristics of the world economy in the 21st century" (2012, p. 5).

There are two frequently cited definitions of financialization. The first is by economist Epstein, who describes financialization as "the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of domestic and international economies" (2005, p. 3). The second, by historical sociologist Krippner, emphasizes the abstraction from the real economy: "financialization is the tendency for profit making in the economy to occur increasingly through financial channels rather than through productive activities" (2011). There are other definitions too that emphasize macro-, meso-, or micro- level interpretations of financialization. Macro-level interpretations consider the broad processes that inform capital accumulation; the meso-level takes into account firm-level analyses, such as how the rise of shareholder value form of corporate governance has encouraged non-financial corporations into financial activities; and finally, the micro-level focuses on the financialization of daily life.

Scholars identify different and sometimes overlapping causes for the increased financialization of the economy. One interpretation relates to the crisis of capital accumulation. This macro-level viewpoint is supported by a wide range of scholars including post-Keynesian economists, international political economists and economic sociologists (van der Zwan, 2014, p. 103). Arrighi describes how periods of material expansion are often followed by periods when finance occupies a greater share of the

economy (1994). Since the 1980s, the global economy has experienced an era of increased financialization as the productivity of the manufacturing sector in advanced economies declined, causing a crisis of capital accumulation. This led to a focus on accumulation through financial, rather than productive means (Arrighi, 1994). The thrust of the argument is that declining productivity in the manufacturing sectors of industrialized countries encouraged financial deregulation, which was meant to stimulate the stagnant economies of the 1980s. In other words, the breakdown of the Fordist-regime led to the development of a finance-led growth regime (Clapp, 2015).

Another perspective relates to the shareholder revolution that arose in the 1980s. At this time non-financial companies began acting more like financial firms in the sense that they re-oriented their strategies to maximize shareholder return (Krippner, 2011). The revolution of shareholder activism tied firm performance to the compensation of executives through stock options, which tends to result in more short-term value creation rather than long term investments in innovation (Schmidt, 2016). By the late 1990s, the shareholder value model of corporate governance became conventional wisdom and spread around the world gaining prominence not only in North America, but also Europe, Japan and emerging economies (Blair, 2003, p. 56). The belief that "shareholder value should be the single, guiding principle of corporate governance, and that, to support this goal, enhanced investor control and oversight should be encouraged" was largely unquestioned (Blair, 2003, p. 56). However, this confidence in shareholder value is beginning to change as people increasingly consider the role of the economy is producing societal benefits (Purpose, 2019). Problematically, the shareholder value model of governance dictates that, "a company is only as good as the returns it producers for investors" rather than the positive impact it makes on the world (Kish & Fairbairn, 2017, p. 574).

A final aspect is the concept of the financialization of daily life. This refers to the situation, "whereby individual subjectivity, aspiration, and forms of conduct at the level of individuals and households are increasingly tied to financial structures and logics" (Lai, 2018). There are several themes that fall under the financialization of daily life, including the way that people must resort to financial products to meet their basic needs such as retirement

plans and life insurance (van der Zwan, 2014, p. 109); discourses around risk-taking and self-management; and the way that state policies influence everyday habits of savings and borrowing. Financialization of daily life has its roots in life assurance products as far back as the 1800s but gained increased prominence in the last few decades as neoliberal deregulatory policies took hold. The 2008 financial crisis helped to expose the interconnection between households and global financial markets. Individuals are increasingly turning to financial products to manage life stages and life goals and these actions are being facilitated by narratives around individual responsibility and the "normalization of risk" in financial management (Lai, 2018).

The breadth of conceptualizations of financialization rightfully reflects the "very empirical complexities they aim to analytically make sense of" (Mader et al., 2019, p. 10). And, predictably, the mushrooming of the financialization literature has come under scrutiny. For instance, Christophers views financialization as the "buzzword of the 2010's", arguing that it is both conceptually and empirically limited (2015). His critique largely stems from the lack of analytical clarity of the concept of financialization and he cautions scholars researching the topic to be conscious of its theoretical limits (Christophers, 2015). Lawrence wrote a response to Christophers' arguments defending financialization as "concept-in-the-making" (2014, p. 201). Lawrence's main point is that rather than viewing financialization as intellectually flabby, more rigorous studies of financialization are needed to better understand the phenomenon. As financialization has gained traction amongst a variety of scholars, there has been more research into the ways that financialization interacts with "non-financial" actors. Financialization in the food system is one such example and is an important body of literature for contextualizing how large-scale financial investment patterns and the rise of shareholder value influence social and environmental outcomes of food systems around the world and their ability to transition to more sustainable pathways.

2.5.2 Financialization in the food system

The activities of the financial sector have become increasingly enmeshed in food and agriculture and has myriad implications for the social and ecological performance of food systems as well as options available for transitioning towards more sustainable food systems.

This section details some of the myriad ways that financialization manifests in the food system and the consequent impacts on sustainability.

Food regime theory is important for understanding financialization in the food system. With roots in world systems theory and French historiography, first identified two distinct historical periods in terms of how food and agriculture were arranged to facilitate the spread of capitalism globally. A food regime consists of particular patterns of specialization and trade in the world economy; systems of power; and farming systems that influence the dominant modes of consumption. The first food regime (1870-1914) was based on mercantile trade policies while the Second Food Regime (1940- roughly1970) was characterized by the spread of industrialized agriculture and manufactured food (Friedmann & McMichael, 1989). Scholars have been debating the contours of a third food regime, that is dominated by neoliberal ideology and largely controlled by a handful of multi-national corporations (Burch & Lawrence, 2009; Friedmann, 2005; McMichael, 2012). Burch and Lawrence argue that the "movement to a putative Third Food Regime are changes to the financial system" through financialization (2009, p. 267). This study also supports the view that financialization is a core feature of the current global food regime.

Though the relationship between food and finance is centuries old, the rise of new investment tools like commodity index funds and new actors in the food system as a result of deregulatory policies captured scholarly interest in the last decade (Clapp & Isakson, 2018). This hyper financialization was initially evident in the area of agricultural commodities. From 2002-2008, the FAO Food Price index rose by 125 percent, spiking dramatically between 2007-2008 at the height of the food crisis (Anderson et al., 2013; Clapp & Helleiner, 2012; Ghosh, 2010). Though a confluence of factors (e.g. falling house and stock prices, and biofuel mandates) created this situation, many pointed to the financialization of futures markets as a core driver (Huchet & Fam, 2016; Irwin & Sanders, 2011).

Deregulatory neoliberal policies of agricultural commodity markets served to attract more speculative investment, which exacerbated the fluctuations in global food prices. Whereas the futures market was originally set up to hedge against price risks for consumers and

producers, deregulation introduced volatility into the agro-futures market with the oncoming participation of non-commercial traders, that is - those who do not have a business interest in the futures positions being traded (Chen, 2020). Indeed, the Commodity Exchange Act of 1936 established position limits on non-commercial traders, meaning that there was a set of number of agricultural futures contracts that could be held by non-commercial traders (Clapp & Helleiner, 2012, p. 186). The explicit reason for this regulation was to prevent market distortion by speculators in such an important sector (Clapp & Helleiner, 2012). These position limits were loosened in the 1980s and from then on, the involvement of financial investors in the food commodities trade increased substantially. Speculation in futures markets had the effect of converting what was once a "market in food to a self-driven market in food contracts" (McMichael, 2012, p. 689). By 2011 non- commercial traders, comprised 61% of the trade in wheat futures (Bjorkhaug et al., 2018, p. 3). Indeed, financialization in the food system is demonstrated in part by the involvement of a new group of actors such as pension funds, private equity firms, hedge funds and sovereign wealth funds (Lawrence & Smith, 2018, p. 31).

Around the same time as the food crisis, new financial actors in the food system moved swiftly into farmland investments. For years, agriculture was not considered a desirable investment. However, investors turned their focus to farmland, and agriculture more broadly, during the financial crisis as higher commodity prices and the prospect of stable, risk-adjusted returns typical of the sector provided a promising alternative to traditional investments that were floundering at the time (Fairbairn, 2014; Knuth, 2015; McMichael, 2012). Land also became appealing because of broader factors. As Ouma asks,

> "What better 'market fundamentals' than an ever growing world population, changing dietary preferences toward meat and protein in 'emerging markets' and a rising demand for agri-fuels and carbon sinks in the light of peak oil and climate change on the demand side, and the limited availability of agricultural land, stagnant or decreasing productivity levels in core production regions, and climate change induced crop failures on the supply side?" (2018, p. 2)

Larder et al. argue that the growing interest in land is in line with historical trends; a greater interest in tangible assets like land often surfaces during periods of crisis. The interest in farmland has stuck and between 2006 and 2016, institutional investors and high-net worth individuals invested an unprecedented US$45 billion in farmland (Laperouse, 2016). During this period, agriculture more broadly appears to have become an increasingly attractive site for capital accumulation as investment funds specializing in food and agriculture assets shot up from 38 to 446 with managing assets totaling US$73 (Valoral Advisors, 2018). This number includes investments in listed equities, agricultural commodities, farmland, private equity, private debt, venture capital as well as an "others" category which includes investments in water entitlements, land and water restoration, conservation and carbon offsetting (Valoral Advisors, 2018, p. 9).

The "farmland asset class" has become more mainstream not only due to global economic conditions but also because of the growth of farmland investment experts and the new investment tools (Bjorkhaug et al., 2018, p. 1). The development of novel financial tools such as Farmland Indices and the Map for Agriculture Project, which collects data to facilitate comparisons of farm productivity, help make farmland "legible in financial terms" and therefore more attractive to a variety of investors (Ouma, 2018, p. 12). Farmland securitization schemes, such as REITs, are an extreme form of farmland financialization, where "the profit streams from agricultural land are used as the basis to construct an actual financial asset" (Fairbairn, 2014, p. 9). Securitization turns farmland into a liquid investment that makes it more legible from an investment standpoint (Desmarais et al., 2017; Sippel, 2017; Visser, 2017).

The abstraction required for new financial tools also means that food and agricultural activities have to be conceptualized and represented as financial metrics (Clapp & Isakson, 2018). Not only is this a form of distancing in that the financial metrics are abstracted from the physical asset, but it also demonstrates how financialization encourages uniformity, as opposed to diversity. Reducing information in this way ignores the multidimensionality of agriculture and represents it solely as an economic endeavor. For example, Clapp and Isakson (2018) point out how,

> "proponents of financial investment have devised metrics to occlude contestations over land rights and meaning while abstracting the qualitative differences that characterize any given plot into measures that are legible to financial investors."

Initially the land rush was predominantly happening in poorer countries, but over time higher income countries such as the United States, Canada, and Australia have become attractive targets for private and institutional investment in farmland (Magnan, 2018, p. 108). This has served to drive up the cost of rural land in these countries.

At the meso-level of analysis, non-financial firms such as agrifood businesses are being reshaped by financialization and they are also profiting from it. Financialization at this scale tends to refer to firms' focus on maximizing shareholder value rather than prioritizing productive investments (Clapp & Isakson, 2018). For instance, agricultural trading firms such as Cargill are increasingly involved in financial activities to generate profit. Cargill is made up of a number of business units and subunits. The company produces and trades seed, feed, fertilizer and agrochemicals. It also a "landowner, cattle rancher, maker of transportation vehicles, biofuel producer and a provider of financial services", such as Black River Asset Management (Salerno, 2014, p. 1710). Black River acquires private equity in agricultural companies, indirectly controlling land in various countries around the world.

Often firms participate in mergers and acquisitions in order to generate value for shareholders, increasing corporate concentration in the food system. These activities have led to a situation where four companies dominate the global grain market, a handful of supermarket chains in advanced economies control the vast majority of food sales and the top five seed companies have massively increased their market share (up to 60%) in the last twenty years (Bonny, 2017; Burch et al., 2013; Carolan, 2018; Clapp, 2021; Clapp, 2015; Howard, 2019). As fewer and fewer companies control the food system, the more powerful the influence of the few remaining firms becomes. Howard offers a helpful depiction of this corporate concentration as an hourglass, where consumers and producers represent the top and bottom ends of the hourglass and the small number of corporations who control the system represent the bottleneck (Howard, 2016). The power concentrated at the

bottleneck can both exert control over producers in terms of the prices that they are offered, or the methods that they adopt and over the choices and prices available to consumers. A concentration of corporate power also allows them to shape rules and regulations along the food chain to their benefit (Fuchs et al., 2013). Some of the results of rising corporate control in the food system include jeopardizing small farmer livelihoods, environmental quality, food safety and consumer sovereignty (Clapp & Isakson, 2018).

Ultimately financialization makes it difficult for alternative food systems to develop and thrive. In particular, the prioritization of shareholder value whereby maximizing shareholder returns in the short-run are sought over long-term or ethical goals tends to further corporate concentration through mergers and acquisitions – activities that have to potential to generate strong dividends. This trend crowds out chances for economic diversity in the food system and limits opportunities for smaller and more sustainable alternatives to scale up and out (Clapp & Isakson, 2018). Howard's in-depth research on the power dimensions of the food system demonstrates how industrialized markets have a tendency to become dominated by a handful of corporations (2016). When markets become skewed in this way, companies have the power to shape outcomes to their benefit and the already disadvantaged end up bearing the brunt of costs (Howard, 2016, p. 2). Concentrated market share also tends to have a dampening effect on innovation (Clapp, 2021). In the context of the MLP, financialization can be understood as exerting landscape pressure on existing regimes that is, in part, causing smaller niche players to develop alternatives to improve societal outcomes.

Despite broad deregulatory trends in the food system that can be linked to the ascendancy of finance in the economy, recent scholarship on financialization increasingly warns against presenting financialization as a monolithic and homogenous process (Bjorkhaug et al., 2018, p. 2). These scholars stress the importance of presenting more nuanced perspectives on how financialization interfaces with food systems. Indeed, in some instances states have stepped in to regulate investment in farmland and increase oversight in commodity markets (Clapp & Helleiner, 2012; Desmarais et al., 2017). These interventions demonstrate that financialization does not always go uncontested. While to date the literature on financialization in the food system has made valuable contributions to deepening our

understandings of how this structural process affects food systems – large and small around the world – there is a need to probe further into ways in which alternative financial arrangements might encourage more sustainable outcomes. To this end, Clapp and Isakson call for more research into "dedicated social and impact investment vehicles to support sustainable agriculture" (2018, p. 455).

2.6 Social finance

The widespread negative environmental and social externalities associated with the 2007-2008 financial crisis generated significant interest in ways to "socialize" – or reorient – finance for the benefit of society (Langley, 2020, p. 130). Social finance is a term used to describe the deployment of financial resources for social and environmental return and, to a varying degree, financial return. The degree to which social finance seeks a financial return depends on the actors involved, but it still adheres to the economic growth paradigm which impact its transformative potential (Jackson & Victor, 2019). It is a growing field of research and practice aimed at supporting the success and spread of social and sustainable innovations (Geobey et al., 2012, p. 151). Not only is it a means by which innovation can be financed, it can also be seen as an innovation in itself (Moore et al., 2012, p. 116). Social finance draws on institutional-economic studies of innovation and socio-technical analysis to enable social change. Social finance does not have a precise definition, indeed as Nicholls and Emerson explain, "it is an emerging market...that has yet to develop clearly defined epistemological boundaries and institutional structures" (2015, p. 6). In recent years, foundations, individuals, institutional investors and governments have been drawn to this space (Spiess-Knafl & Scheck, 2017, p. 5).

Social entrepreneurship and social finance go hand in hand. Social enterprises are designed to address an issue of concern (e.g. homelessness, pollution), and sustain themselves financially (Roundy et al., 2017, p. 493). Social finance developed largely in an effort to drive more capital to social enterprises, through a number of tools such as impact investing and venture philanthropy (Lall, 2019, p. 562). Social finance attempts to achieve a positive impact on society, the environment and sustainable development through products and services such as loans, investments, venture capital and microfinance (Geobey et al., 2012, p.

161). New asset classes like impact investing, challenge grants and innovations at the fund level are common ways that social finance marries "conventional performance measures, based on narrowly conceived economic return, with broader social, cultural and environmental goals" (Quilley, 2012, p. 207).

Nicholls and Pharaoh consider social finance "a discourse around [the flow of money] that is developing in the new institutions of concrete supply, demand and intermediation" (2009). Social financiers believe that investors should consider more than pure financial metrics in their decision-making and that the market should be directed towards more sustainable ends. Based on this set of beliefs, social finance is described as a form of "caring capitalism" (Langley, 2020). A common thread in the narrative on social finance positions governments and charities as lacking the capital to address today's complex social and environmental challenges, requiring private market involvement (Bugg-Levine, 2009; Janda et al., 2015). Indeed, the perceived failure of non-market alternatives to capitalism encouraged the growing interest in "responsible capitalism" (Quilley, 2012, p. 207). Social finance is typically sandwiched between traditional finance and charitable giving/government investment. For Weber and Yayun, "conventional finance is located on one end of the spectrum and conventional non-profit investment is located on the other end with social finance in the middle" (2012, p. 162). Social finance attempts to enhance or fill gaps of the traditional welfare state by shifting the responsibility for delivering public goods to the economic system (Haigh & Hazelton, 2004).

Investing for the social good is not a new phenomenon. Indeed, Biehl et al. suggest that, "the idea of fairness and responsibility during a transaction is most likely as old as mankind" (2012, p. 112). Indeed, as early as the 1600s, the Quakers in the United States chose to not invest in slavery as such an act would defy their belief in the equality of individuals before God (Reeder & Colantino, 2013, p. 3). In the 20th century, the US Pioneer Fund was the first to screen for "unethical investments" (1928), and the Grameen Bank institutionalized the concept of microfinance (1983) (Reeder & Colantino, 2013, p. 3). Microfinance aims to democratize lending practices and provide access to capital to groups that would otherwise not have access to financial services. Though some view

microfinance as a highly effective poverty alleviation tool, others criticize it for prioritizing profit over human development. Critics question whether microfinance is predatory capitalism, designed to take advantage of some of the world's most vulnerable (Roy, 2010). More recently, changes in the scale of negative environmental and social externalities associated with financial markets generated significant interest in rethinking the role of finance in society. Starting in the 1990s, a process to price environmental risk emerged in financial markets. At the turn of the century, Kofi Annan launched the Principles for Responsible Investment (Biehl et al., 2012, p. 131). As mentioned, the 2008 financial crisis, resulting from the growing prominence of speculative finance along with the rise of the shadow-banking sector, was a major catalyst in the proliferation of initiatives to render finance more sustainable.

2.6.1.1 Impact investing

Impact investing falls under the umbrella of social finance and describes an investment approach that intentionally seeks measurable social and environmental returns as well as financial returns (Hochstadter & Scheck, Barbara, 2015, p. 454). Though there is not one clear definition of impact investing, one often cited definition is provided by the Canadian Task Force on Social Finance, "impact investing is the active investment of capital in businesses and funds that generate positive social and/or environmental impacts, as well as financial returns (from principal to above market rate) to the investor" (in La Torre & Calderini, 2018, p. 35). It goes beyond socially responsible or ESG investing which apply positive and/or negative screens to their investments but do not necessarily seek to intentionally generate specific social or environmental impacts through their investments. Generally, impact investors tend to target private enterprises, growth-stage businesses, and venture-stage businesses rather than mature publicly traded companies. The most frequently targeted industries include clean tech, agriculture, education, healthcare, financial services for the poor, housing and water (Hochstadter & Scheck, Barbara, 2015, p. 457).

Impact investments can take on a variety of forms including debt, equity and deposits amongst others. The financial instrument chosen profoundly influences the type of impact that can be achieved. For instance, deposits in community banks or social impact bonds will

have dramatically differently outcomes than investments in private equity or venture capital. Traditional impact investors are institutional investors, high-net-worth individuals, foundations and corporations. More recently retail investors have begun to participate as more opportunities become available to them. Given the wide range of investments, Freireich and Fulton (2009) developed the categories of "impact first" and "finance-first" to help distinguish between investors. Impact-first investors prioritize social and environmental impacts with a floor for financial returns, whereas finance-first investors predictably seek market-rate returns and some level of social and environmental impact (La Torre & Calderini, 2018, p. 25). The impact investing market is growing rapidly, at a rate of 20 percent per year (Roundy et al., 2017, p. 491). Though there are different definitions and ways of measuring impact investing, the Global Impact Investing Network estimates that as of 2020 there were 1,340 organizations that manage US $502 billion in impact investing assets worldwide (Mudaliar & Dihrich, 2019).

Measurement is considered an integral component in the theory of change of impact investments (La Torre & Calderini, 2018, p. 33). This is uncharted territory, and much energy has been devoted to developing tools to adequately measure impact, a tall order when dealing with socio-ecological metrics across a variety of industries. Over the last decade a "value infrastructure" has arisen in impact investing markets (Barman, 2015). The Impact Reporting and Investment Standards (IRIS) was the first attempt to develop a universal language for social, environmental and financial performance. Next, the Global Impact Investing Ratings Systems (GIIRS) was developed as a rating methodology for companies, investors, and intermediaries (Clarkin & Cangioni, 2015, p. 139). Both IRIS and GIIRS are attempts at codifying and bringing greater legitimacy to the field of impact investing. The push for more consistent measurement is happening more broadly in the area of "concerned markets" such as the Environmental Social and Governance (ESG) investment world. In September 2020, the World Economic Forum convened to develop a common accounting framework for environmental, social and corporate governance, which resulted in 21 core metrics and 34 supplemental metrics. Harvard Business school is also developing a tool for "impact weighted accounting". The sheer number of initiatives and systems that have

developed around measuring social and environmental return has led some to describe it as “alphabet soup” (Tett, 2020).

Despite these efforts, identifying and measuring social and environmental returns is often problematic, particularly compared to the rather uncomplicated process of measuring financial returns. Reasons for these challenges include the sheer vastness of what can constitute non- financial outcomes, complexity of identifying sustainability/prosperity indicators in interconnected socio-ecological systems as well as the reality that social and environmental returns may accrue to beneficiaries who are not directly connected to the investments (Reeder & Colantino, 2013, p. 7). Moreover, Hehenberger and Harling note how each impact investor will value an investment differently, which makes it very difficult to compare the performance of organizations that address different social and environmental issues (2018, p. 409). There is also always the risk of greenwashing and debate has arisen over whether top-down government driven frameworks would safeguard against industry capture or if a more flexible, bottom-up approach is more suitable to this budding sector (Findlay & Moran, 2019; Tett, 2020).

Kish and Fairbairn’s study demonstrates the performativity of impact investing, that is the ways that they must rely on informal and improvisational ways to communicate value generation such a through storytelling (2017). In their view, “for mainstream investors, producing economic value is a basis for moral claims-making, whereas for impact investors moral claims are a basis for producing economic value” (Kish & Fairbairn, 2017, p. 569). Since moral values are not legible to those in mainstream finance, impact investors must get creative with ways of demonstrating impact in order to attract greater investment to the sector (Kish & Fairbairn, 2017, p. 574).

The topic of measurement has raised many concerns. Though proponents believe that robust measurement practices make social enterprises run more effectively and efficiently, allowing them to “drive a focus on what is scalable” (Langley, 2020, p. 142). There are several problems with this approach. The first relates to how the legal infrastructure has lagged behind developments in the area of impact accounting. A stronger legal infrastructure is desperately needed as the previously completely separate social and

commercial sectors are brought into a common space (Clarkin & Cangioni, 2015, p. 144). In particular, the ways in which accountability to the communities that these investments portend to support can be ensured requires more defined legal parameters.

Shelby argues that, "the law has not sufficiently adapted to this new wave of innovation as regulatory concerns have arisen such as the extent to which impact should be measured and disclosed" (Shelby, 2020, p. 110). In response to concerns around accountability, some funds tie their bonus structures to the achievement of impact. As a general partner at Norrsken, a Swedish impact accelerator explained, "in order to be considered successful, we need to achieve financial targets as well as impact targets. Otherwise, no one on the team will get their bonuses" (Billing, 2020). However, in that same interview they note that many start-ups do not have the mathematical formula to calculate their impact and therefore do not attract investment dollars. There is a notion that strong impact measurement is tied to legitimacy. Put simply, "accountability, measuring the impact, is how you become an effective social entrepreneur" (Lall, 2019).

Thus, communicating impact is both a defining feature and a potential pitfall of impact investing. There are concerns that a myopic focus on impact measurement can overly burden resource-strapped social enterprises and lead them to focus on what is easy to measure rather than the true social and environmental value that they seek to generate (Lall, 2019). In some troubling cases, "organizations may not actually use any of the information collected through impact measurement but recognize the practice as a means of accountability and a badge of legitimacy, consistent with DiMaggio and Powell's (1983) description of institutional isomorphism" (Lall, 2019, p. 563). Another concern relates to time scale. Often, the types of changes sought by impact investors occur on long time horizons that do not align well with annual impact reporting requirements.

More broadly impact investing and social finance generally has been criticized for capitalizing on inequalities (Shelby, 2020). Shelby's critique focuses on the lack of transparency and imbalanced power relationships involved in impact investing. In their view, impact investors are elites who "profit from community pain while obscuring information about potential negative externalities flowing from their investments" (2020, p. 101). This

idea of profiting from our pain has roots in the philanthropic sector as well (Kish, 2015). Kish and Fairbairn's research also reveals power imbalances in the impact investing system in the sense that "impact investor ethics center on the value systems of the investors themselves, with little (if any) discernable input from broader communities involved or impacted by their work" (2017, p. 584). Rosenman raises important questions about whether social finance, which relies on the financialization of parts of life that were previously separate from the market, "allow financial logics to further dominate already neoliberalizing models of social services provision and poverty regulation" (Rosenman, 2019, p. 1141). She warns against the paradoxical act of trying to fix the problems of capitalism with re-tooled capitalism, but capitalism nonetheless (Rosenman, 2019, p. 1141).

The food sector is an obvious target for impact investing. Often farmers and food businesses, particularly those using regenerative practices, such as agroecological methods, are undercapitalized and underfunded. This reality is due to a number of factors including the massive subsidization of industrial agriculture by state governments. It is therefore nearly impossible for alternative or smaller scale producers to compete solely on price and in part explains why they remain at the periphery of the food system despite the desperate need to shift towards more sustainable practices. The recognition of the capitalization needs of small-scale enterprises has drawn impact investors who believe in the importance of a more sustainable food system into the space. A substantial 63% of impact investors surveyed by the Croatan Institute invest in the agriculture sector (Humphreys et al., 2017). However, these investments tend to only represent a small percentage of assets allocated by impact investors meaning that while impact investments in the food system are relatively common, they remain small in scale. Very few funds invest exclusively in food and agriculture (Humphreys et al., 2017).

The reason for this lack of buy-in might be related to the inherent risks of investing in food systems which are so vulnerable to inclement weather, policy changes and consumer trends. Despite this riskiness however, interest in food systems is growing as are the opportunities for investing across the food value chain. For instance, investors can participate in real estate investments in farms, cooperatives, and food enterprises or make equity investments in

sustainable food companies, innovative retailers and agricultural technologies geared towards improving the efficiency of water, energy and other inputs. They can also make deposits in community banks and credit unions that lend money to innovative and sustainable food businesses. To date, the most common instruments are private debt and private equity and the majority of impact investing funds that invest in food systems are small/regional loan funds or private equity funds (Humphreys et al., 2017).

Within the food and agriculture sector the most common areas for impact investing include sustainable production (e.g. ways of promoting sustainable production practices and standards), sustainable consumption (e.g. healthy food, food waste reduction), sustainable agtech (usually through intensification like smart irrigation, computer software), conservation and climate change (e.g. carbon sequestration, land restoration) and social equity/sustainable livelihoods (e.g. land grabs, fair trade, food sovereignty) (Pons et al., 2013). As with impact investing in general, measurement can be a challenge. Investors ultimately have to decide if they want to work with a narrow set of indicators that are proxies for certain sustainability outcomes or if it is more effective to adopt a principles-based approach by using frameworks like the Sustainable Development Goals or the Principles from the Global Alliance for the Future of Food for example (SWIFT foundation, n.d.).

2.6.2 Sustainable and regenerative food systems

I employ the terms "conventional" and "alternative" that are frequently used in the literature to categorize food systems. When referring to conventional agriculture, I mean agriculture that is "capital-intensive, large-scale, highly mechanised...with monocultures of crops and extensive use of artificial fertilizers, herbicides and pesticides with intensive animal husbandry" (Knorr & Watkins, 1984, p. x). The conventional model treats food as any other industrial sector – "as if food were a commodity like cars and widgets" – and places a high value on the role of production in the food system (Blay-Palmer, 2008). Those in favour of an alternative model believe that the multifunctionality of food must be prioritized (McMichael, 2008; Moon, 2010; Potter & Tilzey, 2007). With regards to the multifunctional nature of the food system, the basic premise is that there is a much greater role for food and agriculture than merely producing enough food for a particular population in an environmentally friendly way. In other words, sustainable food systems challenge the

narrow, productivist inclination and weak sustainability criteria of more conventional food systems. Sustainable food systems seek to enhance the social and ecological systems in which they are embedded; they provide ecosystem services in addition to improving the quality of life of communities (Chase & Grobinger, 2014, p. 103). In reality, there are shades of grey in between the conventional versus alternative categories but these categories remain useful for analytical purposes.

From a conventional perspective, the primary purpose of the food system is to produce enough food, efficiently, to feed the world. A devotion to productivity has its roots in a narrow yet persistent view of progress that gained traction during the industrial era. Industrialization solidified an outlook that celebrates the pursuit of maximum economic production, the domination of nature, and the role of the market in assigning value as markers of progress (Du Pisani, 2006, p. 84). Equating increased production with progress is a firmly entrenched norm and has consequently been extended to conventional approaches to food system sustainability (Chartres & Noble, 2015; Godfray et al., 2010). It has become increasingly apparent that a narrow commitment to productivism, whereby the priority is to produce the most amount of food, comes at social and environmental costs. Indeed, many scholars from diverse disciplines have questioned the industrial logic as they recognize the critical role of the food system in providing for human wellbeing (Chase & Grubinger, 2014, p. 59). Alternatives to the industrial model have arisen in an attempt to remedy the negative externalities of the dominant food system and improve sustainability outcomes.

It is important to grasp the breadth of what is meant by "sustainability" in the context of food systems. The basic meaning of sustainability is "the persistence over an apparently indefinite future of certain necessary and desired characteristics of the socio-political system and its natural environment" (Francis et al., 1990). There is widespread recognition that sustainability is a normative concept with no definitive end-point (Buttel, 2006; Kirschenmann, 2016; Marsden & Morley, 2014). Accordingly, when applied to the food system, Pretty maintains that sustainable agriculture avoids any "concretely defined set of technologies, practices or policies" (Pretty, 1994, p. 39).

Divergent views about sustainability are based on different moral and philosophical orientations about the "appropriate way to conceive of the relationship between humanity and nature" (Robinson, 2004, p. 379). Heal addresses this fundamental divergence in describing the difference between weak and strong sustainability: weak sustainability is concerned with valuing natural capital if it contributes to human wellbeing, while strong sustainability values other life forms "in their own right" (2012, p. 158). Resolving environmental and social problems through greater resource efficiency, technological changes, and substituting man-made capital for depleted natural capital are considered weak sustainability approaches (Connelly et al., 2011, p. 309). In contrast, strong approaches are those that prioritize solutions to social and environmental problems that are rooted in social rather than technological change. According to Connelly et al., from a strong sustainability perspective, "well-being can be enhanced through the development of different forms of community capital (social, human, cultural, physical, economic and natural) and not just through quantitative measures of growth, wealth and consumption" (2011, p. 309).

The conventional approach of sustainable intensification (SI) to agricultural production offers a strong example of weak versus strong sustainability outcomes. Producing more, with fewer inputs sums up the strategy of sustainable intensification (SI). SI is positioned as "closing the productivity yield gap" (Morley et al., 2014, p. 11) in a way that sustains more acceptable levels of biodiversity, ecosystem services, and other environmental resources (Tilman et al., 2011). Increasing yields through SI tends to involve technological advances (Anderson et al., 2016; Serageldin, 1999) such as the adoption of high-yielding plants and animals (Lengnick, 2015, p. 34), requiring greater skills and knowledge on the part of farmers about how to manage agricultural inputs (Pretty, 2012, p. 24). Since these technologies are only available to certain farmers, Koc argues that SI would serve to further entrench inequalities in the global food system (2010). Those concerned about SI maintain that it represents business-as-usual and thus will continue to perpetuate the problems associated with a productivist orientation. However, some believe that SI is a concept that can cut across ideological spectrums. Garnett et al. aim to debunk the myth that SI is associated with productivism by explaining how "other major food system goals may guide SI implementation" such as climate change adaptation and mitigation (2013, p. 33). Pretty

and Barucha echo this sentiment while rejecting the idea that SI is a "Trojan horse" to slip in intensive farming under the guise of sustainability (2014).

While Sneddon et al., acknowledge that action on sustainability issues can be highly controversial and fragmentary, they also believe that the larger goal of sustainability – maintaining the viability of the environment for human wellbeing – is unifying (2006, p. 257). This dual quality of sustainability is also evident in how scholars relate to sustainable food systems. There is general consensus that the food system is unsustainable, which is a necessary first step in moving towards a more sustainable system. However, there is a high degree of fragmentation in determining the best ways to enhance sustainability in the food system. The ambiguous nature of the term has important consequences for how it is interpreted and applied to complex socio-ecological systems, like the food system. Indeed, Buttel notes how "sustainability is employed variously as a critique and sometimes as a defence for prevailing agricultural practices and institutions" (Buttel, 2006, p. 213). Similarly, Kloppenburg et al. note how sustainability has achieved "canonization as a kind of cultural shorthand for the green and good", which allows actors to use the term's "discursive potency" for often incompatible ends (2000, p. 178).

There are many definitions of sustainable food systems and they cut across issues related to social structure, ecology, soil health, political economics, climate change and more. From a conventional perspective, farming operations are considered sustainable "in the sense that they are largely based on renewable natural resources and provide food and fibre efficiently and cheaply" (Buttel, 2006, p. 213). In contrast, the alternative perspective tends to place greater emphasis on social justice as well as ecological considerations.

Kloppenburg and colleagues found that an alternative sustainable food system involves the following attributes: "relational, proximate, diverse, ecologically sustainable, economically sustaining, just/ethical, sacred, knowledgeable/communicative, seasonal/temporal, healthful, participatory" (Kloppenburg et al., 2000, p. 177). Other influential thinkers such as Feenstra (2002) and Kneen (1993) offer their own criteria for a sustainable food system derived from their experiences working with specific farming communities. I share Hinrichs' view that these types of lists can be helpful in highlighting the fact that food systems are understood

and valued along "finely grained dimensions [that] eschew simple compartments and reach comprehensiveness" (2010, p. 20). But such exhaustive characterizations also make them difficult to apply in a satisfactory manner in research and practice.

Some have become "disenchanted" with the notion of sustainability as they believe it has been overused and misused to the point of being meaningless (Ikerd, 2021, p. 1). As a result, they have put forward the concept of "regenerative" food systems believing that it better communicates the types of social and ecological changes they aspire to. The concept of regenerative agriculture has been in the lexicon for several decades; since the 1980s the Rodale Institute in Pennsylvania has been conducting research on regenerative organic farming practices (Ikerd, 2021, p. 2). However, in recent years that term has experienced a growth in uptake – even amongst mainstream players who, as with the concept of sustainability, adopt a narrow understanding of the term. This suggests that any term referring to the amelioration of social and environmental outcomes in the food system are at risk for co-optation.

Some believe that the term sustainability, though not perfect, is still the best term available. They argue that it is perfectly adequate because for a system to be sustainable it cannot "sow the seeds of its own demise" and therefore necessitates the sorts of practices called for by supporters of regenerative agriculture (Gliessman 2018, p. 18; Ikerd, 2021). Nevertheless, for proponents of regenerative food systems, the term is viewed as a more robust and integrated concept than that of sustainability. Duncan et al., acknowledge that, "the root of the problem is not narrative or conceptual, but we also know that how we talk about these challenges matters...it is clear that we need better concepts and new stories that position us as part of nature; not as sustainers of nature, but as active participants in an integrated cycle of regeneration" (2021, p. 4). While there is not one definition of regenerative agriculture and the food systems that it supports, the main premise is that rather than maintaining the status quo its purpose is to generate value that will enhance the resilience of food systems over time. Indeed, "with regeneration, we push for a shift in focus: to fundamentally rethink and redesign our food and related practices so that they (re)build and contribute to (i.e.,

regenerate) soil fertility, community cohesion, integrated policies, or sustainable diets, to name but a few" (Duncan et al., 2021, p. 4).

Agroecology is considered one of the primary pathways for enabling regenerative food systems (Deijl & Duncan, 2021, p. 84). Gliessman, a leading thinker on the subject, defines agroecology as "the application of ecological concepts and principles to the design and management of agroecosystems" (2015, p. 19). Agroecology aims to produce systems that are designed for the local environment and that can regenerate themselves instead of relying on external inputs (Deijl & Duncan, 2021, p. 85). Initially agroecology was viewed as a scientific application to agricultural production systems, but it has since been broadened to include social and economic dimensions, like ensuring the right to adequate food and food sovereignty. It is now understood as a science, a set of practices, as well as a social movement (HLPE, 2019). According to the IPES, "agroecology is not a niche for small-scale artisanal farmers in given sectors, nor is it a label to be attained on the basis of specific practices. It is a universal logic for redesigning agricultural systems in ways that maximize biodiversity and stimulate interactions between different plants and species, as part of holistic strategies to build long-term fertility, healthy agro-ecosystems and secure livelihoods" (2016, p. 7).

However, supporters of industrial agriculture consider some elements of agroecology to be useful. The appeal of agroecology has meant that mainstream players have readily adopted some of its less political and more technical aspects. The co-optation of certain aspects of agroecology by conventional players is testament to the increasingly blurry lines between conventional and alternative food systems (Blay-Palmer, 2008, p. 2). This strategy is described as "functional dualism" where agroecology or other alternative methods can be relegated and segmented into niche markets of the corporate food regime without changing dominant methods (Holt-Gimenez & Altieri, 2013, p. 102).

One of the most valuable (and possibly least "co-optable"?) contributions of agroecology is its emphasis on diversity. Diversity is a cornerstone of resilience and falls in stark contrast to the uniformity characteristic of industrial food systems. Here, diversity not only refers to "on-farm attributes" such as genes, varieties and breeds, the number of species in agricultural

production and time in terms of uniform planting and harvesting of crops (Howard, 2016, p. 963). But it also refers to "off-farm attributes" like ownership, location and geography and the number of ingredients in our diets (Howard, 2016, p. 963).

Alternative Food Networks (AFNs) promote diversity in the food system in a number of ways. Farmers markets, consumer cooperatives, green enterprises, food hubs, farm stores, community supported agriculture, the slow food movement, specialized forms of organic production and direct farm retail are some examples of AFNs (Gliessman, 2018). As Henderson explains, AFNs "are decentralized and rooted in particular places and communities. Such decentralization ensures a diversity of organizational forms (e.g., individual vendors at farmers' markets operate within a collaborative public marketplace, cooperative contract with distributors for school food services and community-supported agriculture farms directly connect farms and consumers outside of a purely market relationship)" (2015, p. 427). Literature on local alternative food systems has proliferated since the 1990s (Eriksen, 2013, p. 48). Though AFNs are diverse, they strive for a holistic version of sustainability – that is, one that supports ecological integrity, social justice and the economic viability of all actors involved. This pits them as an alternative to the narrow version of sustainability that is promoted by mainstream actors, which is guided by standardization, efficiency and productivism.

Bringing farmers and consumers together is one of the primary purposes of AFNs. Alternative scholars often support the notion of localizing or reducing the distance between producer and consumer to counteract the long distances encouraged through trade liberalization (Beus & Dunlap, 1990; Feenstra, 2002; Kloppenburg et al., 2000; Kneen, 1993). The belief is that the increasingly complex and lengthy supply chains characteristic of industrial agriculture and global trade problematically create distance in the food system along social, environmental and even, emotional and intellectual lines (Blay-Palmer, 2008, p. 17). Greater distance is detrimental because it is associated with a growing concentration of control, and therefore inequality, in the food chain (Princen, 2010, p. 38). Moreover, when considered from a resilience perspective, greater distance in the food supply chain loosens

feedback loops, making it harder to assign accountability for environmentally destructive activities (Clapp, 2014).

Localized trading relationships show promise for enhancing the multifunctional benefits of agriculture. However, they are not enough to guarantee greater equality in the food system, nor do they necessarily align with more sustainable environmental production practices (DuPuis & Goodman, 2005; Hinrichs, 2010; Jarosz, 2008). An advantage of shorter supply chains is that they inherently allow for greater transparency in the food system through tighter feedback loops. Being able to identify connections between cause and effect is helpful for demanding greater accountability and challenging regressive practices (Clapp, 2014, p. 2014).

While there are many examples of alternative food systems in Canada and the United States, they continue to remain small as they must operate within the economic framework of the dominant system that supports and reinforces industrial agriculture (Hendrickson 2015, p. 427). Not only does the current economic system disincentivize the growth of more diverse food systems, in many ways it has led to their disappearance over time. The concentration of agriculture into large factory farms has meant a huge reduction in the number of farms and farmers over time. This is cause for concern amongst advocates of alternative food systems as local and place-based knowledge is critical for the functioning of agroecological systems. Moreover, in Canada and the United States mid-sized farms have hit particularly hard which are often described as the "backbone of the agricultural sector" (Stevenson et al., 2011, p. 29). Agriculture census data shows a 15 percent decline in midsized farms since 1992 (Gewin, 2019). Certainly, many consider the lack of mid-scale food systems as a detriment to achieving greater sustainability and regeneration. Indeed, Stevenson et al. argue that "the renewed vitality of these farms is critical for a diverse, decentralized, and resilient structure of agriculture" (2011, p. 29).

This section has elaborated on the various definitions of sustainable food systems. It is important to understand the range of definitions present in the academic and popular discourse as these have impacts on the ground. Different understandings of sustainability can lead to drastically different transition pathways, which will be more or less supportive of

social and ecological wellbeing for future generations. The co-optation of terms like sustainability by powerful actors like big food corporations can muddy the waters in terms of outcomes so it is necessary to be explicit about what is included in a particular vision of sustainability.

Chapter 3: Financing food system regeneration? The potential of social finance in the agrifood sector

Phoebe Stephens and Jennifer Clapp

3.1 Overview

The purpose of the chapter is to review and analyze the literature on the impact of financialization in the agrifood sector and the rise of "responsible" investment in the sector. The contribution of this chapter to the overall thesis is to provide the reader with greater context on the finance and food nexus. It directly answers the first overarching research question of this study about why social finance has arisen to support sustainable food systems as it details the rise of financialization in the food sector and the consequent rise in socially responsible investment. It also outlines the ways that social finance seeks to foster the regenerative capacity of food systems and adopts the case of FarmWorks Investment Co-operative as a real-world example. It concludes by providing recommendations for how social financing initiatives can be better supported by government institutions drawn from theories in the sustainability transitions literature, thus relating back to the guiding theory underpinning this research.

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3.2 Introduction

The regenerative capacity of food systems is profoundly shaped by the financial systems that serve them. Food and financial systems have been intimately entwined for centuries, although food studies scholars have only recently directed their full attention to this linkage. The concurrent 2008 food and financial crises prompted a closer look at the linkages between the sectors, as financial investors sought to profit from speculation in agricultural commodities, farmland, and agrifood equities investments (e.g., Fairbairn, 2014; Ghosh, 2010; Ouma, 2016). These studies have focused on the extent to which the agrifood system

has become “financialized”, with financial actors, institutions, and priorities becoming dominant in ways that reshape food systems (e.g., Clapp & Isakson, 2018).

This work exploring the linkages between food and financial systems has prompted growing concern in both scholarly and policy communities about the ways in which financial investment in the sector is associated with problematic outcomes, including food price volatility, weakened land rights, and corporate concentration. Such outcomes on the ground suggest that the growing role of finance can diminish the resilience of food systems – their capacity to withstand and recover from disruption – and their overall capacity for regeneration. Growing awareness of the potential for negative outcomes has prompted initiatives for more “responsible” financial investment in the agrifood sector through initiatives such as voluntary codes of conduct and investor guidelines. These efforts have on the whole focused on a “do no harm” approach to sustainability that is still rooted in profit maximization within the industrial food system.

Theorists and practitioners of social finance question whether outcomes are an inevitable result of financial investment in the food system. These scholars explore whether finance can be redeployed for more positive societal outcomes. Social finance seeks to invest for social and environmental return, rather than purely for financial gain. Though social finance has received far less attention in the academic literature on financialization in the agrifood system, there is value in bringing the two concepts together when examining this sector. Whereas most of the scholarship on financialization in the food system describes the ways in which finance interacts with various activities along the food chain, social finance offers potential solutions to the harmful effects of mainstream investment patterns and supports initiatives that reside outside of the mainstream industrial food system.

This chapter explores the theme of social finance and how, in the context of financialization in the agrifood sector, social finance could potentially support more regenerative food systems. We argue that regenerative food systems are those that are firmly rooted in local initiatives that explicitly seek to improve the capacity of food systems to provide positive environmental and social benefits that enable the sector not only to more “sustainable” (i.e., to enable the system to continue into the future without causing undue

harm), but also to improve its capacity to regenerative ecosystems and social dynamic of food systems in ways that see continual positive improvement.

The chapter unfolds as follows. First, we provide a brief overview of the literature on the impact of the sector. Second, we outline the ways in which social finance seeks to build not only more sustainable food systems, but specifically seeks to foster improvements that bolster the regenerative capacity of food systems by promoting initiatives outside of the mainstream industrial food system. Third, we present the case of FarmWorks Investment Co-op, based in the Canadian province of Nova Scotia, as a case study of the regenerative capacity of social finance for food systems. Fourth, we discuss the kinds of policy changes required for social finance to become a more dominant mode of financial support for the agrifood sector. Finally, we conclude with some reflections regarding potential contradictions and prospects for regenerative types of agrifood finance.

3.2.1 Current patterns of agrifood financial investment fall short

Financial markets have been deeply enmeshed in the agrifood system for hundreds of years. The relationship is two-way. Financial markets have long provided much needed capital for farmers as well as for firms that operate along agrifood supply chains to enable their economic viability. Agrifood commodities, firms, and farmland have also served as lucrative investment opportunities for financial investors seeking a decent rate of return on their capital. While the relationship between food and finance has the potential to be mutually beneficial, it has also been fraught throughout history. Farmers have long expressed skepticism about the role of financial speculators who invested in agricultural commodities, for example, viewing them as forces that drive volatility in commodity prices (Martin & Clapp, 2015).

Concern about the impact of commodity speculation on food prices became prominent during the 2008 food crisis. As the crisis unfolded, many analysts pointed to increased investment in financial derivatives such as commodity futures contracts as well as in new types of complex investment vehicles such as commodity index funds. The availability of these new investment products after the early 2000s fueled investor interest in the sector, which coincided with sharp increases in food prices by 2008, prompting a number of analysts

to conclude that speculative investment was a factor in the food price spikes (De Schutter, 2010; Ghosh, 2010; IATP, 2008). The 2008 food crisis also increased awareness of the extent to which financial actors are implicated in the global land rush, as pension funds and other institutional investors sought to increase their exposure to farmland through complex new financial instruments such as land investment funds (Fairbairn, 2014). What set this new investment apart from previous historical episodes of speculation is that large-scale institutional investors have come to dominate these markets. In other words, pension funds, hedge funds, university endowments, and asset management companies have become large investors in the sector (Clapp, 2019).

The growing interest by financial investors who were relatively new to the agrifood sector via new types of investment vehicles has been characterized by some analysts as "financialization" of the food system. Financialization refers to an increased role for financial actors, motives, and institutions in determining and shaping activities in the broader economy (Epstein, 2005; Krippner, 2011; van der Zwan, 2014). Financialization involves three distinct forms as it has taken hold in the food system: it has transformed a range of activities across the agrifood sector into an arena for financial accumulation by investors; it has encouraged the prioritization of shareholder value within agrifood firms; and it has facilitated the permeation of financial activities and values into everyday food and agricultural provisioning (Clapp & Isakson, 2018). This process of financialization within the sector has been associated with a range of effects, including the loss of land rights for many agricultural producers in some of the world's poorest countries; higher and more volatile food prices; corporate concentration; inequitable distribution of income among owners and workers in the sector; and a loss of autonomy for workers, farmers, and consumers (for an overview, see Clapp & Isakson, 2018).

As awareness of the potential negative impacts of financialization in the food system has grown, so too have calls for more responsible financial investment in the sector (Hallam, 2011; Clapp, 2017). Such initiatives have sought to ensure that investors do not exacerbate potentially negative impacts, such as rising food prices, land grabbing, and environmental degradation. Calls for responsible investment have had some appeal in the agricultural sector,

because many of the institutional investors that have a stake in the sector, such as pension funds, have long-term outlooks and passive investment strategies. Responsible investment approaches in farmland, for example, could help to ensure the long-term viability of those investments by ensuring that they are socially and ecologically sustainable, an important consideration given the illiquid nature of land as an asset (Scott, 2013). In this sense, making "responsible" investments is in the long-term interest of investors, while also reducing the potential for harm (Carrol & Shabana, 2010).

Several prominent responsible agricultural investment initiatives emerged over the 2009–14 period. These include the Principles for Responsible Agricultural Investment (PRAI), led by Japan along with the World Bank, FAO, and UNCTAD, launched in 2010. The PRAI advance seven key principles to guide agricultural investments: (1) recognize and respect existing rights to both land and natural resources; (2) strengthen food security; (3) require transparency and good governance when acquiring land; (4) ensure consultation with and participation of those affected by the investment; (5) ensure economic viability; (6) promote positive social impacts; and (7) support environmental sustainability. The PRAI targets all types of agricultural investment, including investment from both public and private investors (FAO et al., 2010).

The Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security were launched in 2012 (FAO, 2012; see also Seufert, 2013). The Voluntary Guidelines (VGGT) were meant to guide investment in land, fisheries, and forests, with a view to protecting land and resource tenure rights, especially customary land rights for indigenous peoples and smallholders, and to safeguard the environment. The VGGT are relevant to financial investment in that they call on governments to protect tenure rights and request that all involved parties, including private financial investors, be respectful of those rights (FAO, 2012). Coordinated by the FAO and overseen by the Committee on World Food Security (CFS), the VGGT were developed through a process largely viewed to be broadly inclusive and consultative (McKeon, 2013). As such, the VG are widely seen as holding more legitimacy than the PRAI (Margulis & Porter, 2013).

The CFS launched further discussions in 2012 with a view to developing yet another set of responsible agricultural investment guidelines that included land, but also encompassed other agricultural investment (Stephens, 2013, p. 190). Adopted by the CFS in 2014, the Principles for Responsible Investment in Agriculture and Food Systems (PRIAFS, also referred to as the CFS-RAI) (FAO, 2014), underline the role of small farmers as agricultural investors alongside corporate and financial investors. The CFS-RAI contain explicit language about the need to hold investors to account for any negative impacts of their investments (FAO, 2014).

Other responsible investment initiatives have also emerged on the voluntary responsible investment landscape. These include the G8 New Alliance for Food Security and Nutrition's Analytical Framework for Responsible Land-Based Agricultural Investments; the UN Principles for Responsible Investment's (PRI) Principles for Responsible Investment in Farmland; the UN Land Policy Initiative's Guiding Principles on Large Scale Land Based Investments in Africa; the Global Compact's Food and Agriculture Business Principles; the OECD-FAO's Guidance for the Responsible Agricultural Supply Chains; as well as numerous standards stylized for investment in specific commodities, including for soy, sugar, cotton, biofuels, etc. (GRAIN, 2012; OECD and FAO, 2016; World Bank et al., 2017).

These various responsible investment initiatives in the agrifood sector reflect a widespread interest to ensure that investment into the sector is socially and environmentally sustainable. But at the same time, these initiatives, based on the voluntary efforts of institutional investors to seek out responsible investments from the current products available through mainstream investment channels, have at best supported a "do no harm" type approach, which maintains a strong motive to maximize financial returns while avoiding negative outcomes. In practice, these initiatives are inherently weak even at avoiding negative outcomes. The responsible investment initiatives in the agrifood sector have tended to be broad in scope and vague with respect to requirements, making it easy to claim adherence without changing much by way of practice. The PRAI, for example, is only one page long, and while the FAO's Voluntary Guidelines and the RAI-CFS are much more detailed and specific, all three operate only as guidance frameworks and do not have signatories, making it difficult to ascertain how many

investors actually abide by them (Clapp, 2017). The number of voluntary initiatives in the agricultural investment space has also multiplied rapidly, leading to confusion as they cover overlapping themes. For the casual observer, the differences between the PRAI, the Voluntary Guidelines, the CFS-RAI, and the Farmland Principles are not easily discernible (Margulis & Porter, 2013).

The weaknesses of these responsible investment efforts have led some analysts to promote alternative financing initiatives, such as social finance, for the agrifood sector. Rather than banking on a sufficient number of institutional investors acting more responsibly in their global investment activities, these alternative initiatives seek to ground investment in sustainability by appealing to investors to fund specific sustainable agricultural initiatives at the local level.

3.2.2 Social finance

Social finance is an alternative way of conceptualizing finance that gained momentum after the 2008 financial crisis. It not only presents tools to align finance with social and environmental goals, but it also advances a progressive ethos about the way money is used (Nicholls, 2010). Moving beyond responsible investing, it intentionally and proactively targets businesses that will provide measurable benefits to society rather than merely avoiding the worst offenders. It does so in a variety of ways including redrawing investment parameters and measuring investments according to social and environmental indicators.

Social finance is a growing field of research and practice aimed at supporting the success and spread of social innovations (Geobey et al., 2012, p. 151). Social innovation can be understood as: “a complex process of introducing new products, processes or programs that profoundly change the basic routines, resource and authority flows, or beliefs of the social system in which the innovation occurs. Such successful social innovations have durability and broad impact” (Moore et al., 2012, p. 120). Such efforts go beyond the “do no harm” approach, and as such have more potential to promote regenerative food systems.

By definition, “regenerative” implies a more transformative process than “sustainable.” Certainly, maintaining desirable characteristics over a period of time, or being sustainable, is necessary for the functioning of our food systems. But it does not adequately describe

the changes that need to occur within agrifood systems to revitalize local economies, enhance biodiversity and soil quality, adapt to climate change, and improve the health of communities. Regenerative food systems, however, are about enhancing the vitality of natural and social resources bases over time (Dahlberg, 1993). These systems emphasize local expressions, seeing niche activity as containing "the adaptive possibilities that could offer stability to higher, more abstract levels of a system and resilience to the system as a whole" (DeLind, 2011, p. 274). There is significant overlap between principles of local food and those of regenerative food systems. In both cases, supporting food systems that are contextually aware, collaborative, and self-reliant is deemed critically important.

There is no shortage of innovative, local alternatives to the industrial food system. And, as consumer interest in supporting a better food system grows, more and more novel approaches are arising. However, these promising initiatives frequently remain in the ideation or pilot stages because they lack resources to grow and sustain themselves. This is largely because mainstream economic structures present numerous barriers and disincentives for investing in these socially beneficial projects (Moore et al., 2012, p. 116). Market-based approaches to regenerate food systems unfortunately tend to "employ narrow economic or production and productivity criteria to ensure their 'success'" (Dahlberg, 1993, p. 80). Such hurdles are increasingly recognized by governments around the world, which have responded in recent years by developing social finance strategies to stimulate social innovation. For instance, governments in Europe, Australia, the UK, and Canada are implementing policies to cultivate an institutional environment that will allow communities to prosper from these much-needed innovations.

The Government of Canada defines social finance as "an approach to mobilizing private capital that delivers a social dividend and an economic return to achieve social and en vironmental goals" (Government of Canada, 2015). Social finance looks to course correct existing resource flows to vitalize financially marginalized areas for individual and collective benefit. It involves a number of tools and approaches including community investment, ethical banking, alternative currencies, microfinance, social impact bonds, venture philanthropy, and impact investing (Rizzie et al., 2018, p. 805).

Investors may be drawn to social finance as a way of diversifying their portfolios and mitigating risk, but also because their investments hold promise for sparking "a radical systems change" (Geobey, 2014, p. 17). Indeed, the spectrum of what constitutes social finance and what motivates social financiers is mystifyingly broad. In an effort to bring some coherence to this emerging field, Nicholls (2010) put forward a three-part typology of social investment. Descriptions of the three types of social finance investments are provided in Table 1. Social finance can be applied to a variety of sectors and has featured prominently in supporting clean energy and poverty alleviation initiatives. It involves a range of actors from foundations to private investors, pension funds, individual community members, and governments. Similar to the well-established notion of strong versus weak sustainability (Neumayer, 2013) there can be weaker social finance and stronger social finance.

Means-end driven investments are primarily built on the desire to maximize financial return to investors, though social and environmental considerations still factor into the decision-making. Socially responsible investing falls under this category. We are sceptical about the degree to which means-end driven social finance can affect profound change and thus ascribe them a weak social finance status. Funds that abide by this rationale often invest in large multinationals that, granted, report on sustainability targets, but are ultimately vested in the growth of the industrial food system. For example, Closed-Loop is a social impact investment fund focused on improving recycling rates in the United States. The US$100 million fund enjoyed investment from some of the world's largest food and beverage multinationals including PepsiCo, Unilever, Walmart, Coca-Cola, and most recently, Nestlé Waters (Nestlé, 2017). While improving recycling rates is a laudable goal, addressing the root causes that produce abundant plastic waste is not a focus of this fund nor of its investors. Sustainability in the food system, as considered by means-ends driven social financiers, aligns closely with proponents of the industrial model of sustainability. That is, food productivity must be increased to feed growing populations, farms must become more efficient at using natural resources, and the adoption of high-tech solutions is key to achieving those outcomes.

Values-driven social investments are significantly smaller in scale and tend to reflect a grounded approach to investment that helps to seed more transformational change. So far, this appears to be the strongest type of social finance. The Slow Money movement in the United States is an example of values-drive social finance that is focused on building regenerative food systems. The movement was started in 2008 by Woody Tasch, a socially conscious investor who believes that supporting local, regenerative food systems is one of the most powerful ways to address the social and ecological crises of our time (Scheer & Moss, n.d.). Now a registered non-profit, Slow Money supports the formation of self-organizing local groups who determine the best ways to support their food systems (Slow Money Institute, 2010).

Slow Money investors often describe themselves as nurture capitalist: "fiduciaries that are working to balance financial returns with patient strategies for promoting carrying capacity, sense of place, and soil fertility" (Slow Money, 2014). The vast majority of the 27 local groups loan money to food enterprises along the food value chain at low or no interest rates in an effort to regenerate local food systems. Since 2010, Slow Money chapters have invested US$66 million in almost 700 food enterprises across the United States and, to a more limited extent, in Canada (Slow Money Institute, 2010). According to Tasch, one of the principal measures of success for the movement will be "the extent to which we have catalysed substantial new capital flows to enterprises that create economic opportunity while respecting, protecting, and promoting the fertility of the soil" (Tasch, 2008, p. 7).

Values-driven social finance initiatives show the most promise for nurturing food systems toward regeneration. The challenge with the approach is its small scale.

Table 1. Means-end driven, systematic, and values-driven social investment

Means-Ends Driven Social Investment	Systematic Social Investment	Values-Driven Social Investment
Focuses on maximizing returns to the owner of capital. This type of social investment consists of three categories of capital allocation: clean energy investments; socially responsible investment vehicles offered by	Reflects systemic investor rationality in owners of capital. This type of fund typically aims at balancing means-ends and values-driven rationality by seeking returns that benefit both the investor and the	Reflects a values-driven investor rationality. This rationality typically prioritizes the investee/beneficiary in terms of returns and often focuses on social and environmental impact and social change. This type

mainstream fund managers; and venture philanthropy.	investee/beneficiary. This type includes impact investments (typically in firms that offer high returns from operations in deprived areas or developing country settings); social enterprise investments; and government investment in social innovation.	consists of mainstream philanthropy; community mutual, and co-operative investment plus foundation mission Related Investment; and social change investment.

Source: Reproduced from Nicholls 2010.

Systematic social investment represents a mid-way point between means-ends and values-driven social finance. Some impact investing funds that target the food system fall within this category. While these funds are still motivated by a financial return, they work with investors with long-term visions and enough capital to weather short-term fluctuations. These funds invest with a goal of changing the food system and do so by establishing an impact framework through which to assess their activities. For instance, an evergreen impact investing fund (a fund with no fixed end-date) in the Netherlands that is focused on food system change only invests in companies that benefit soil fertility, consumer health, and enhance fairness in the value chain. There are challenges with this approach, however, such as determining how to precisely measure the desired impacts. As well, these funds must still satisfy investors in order to continue to operate and are thus required to generate an attractive rate of return. Because financial incentives support dominant social structures, this type of fund – which seeks a competitive level or return – can only challenge the dominant structures to a limited extent. These funds attempt to excel within today's economic system while supporting a broader diversity of food enterprises.

3.3 Social finance in the food system: the case of FarmWorks Investment Co-operative

The primary Slow Money chapter in Canada, FarmWorks Investment Co-operative, provides valuable insights for the ways in which social finance is applied in practice to build regenerative food systems. In 2011, community members in the Canadian province of Nova Scotia recognized the opportunity of social finance to increase the region's local food supply and set up FarmWorks Investment Co-operative (FarmWorks, n.d.a). FarmWorks is

considered a social finance initiative because it mobilizes capital to achieve societal benefit alongside financial return. It best fits the description of a values-driven social investment because it relies almost exclusively on relationship lending and prioritizes social and environmental impact above profit.

FarmWorks operates as part of Nova Scotia's landmark Community Economic Developme nt Investment Fund Program (CEDIF). The program came about because the majority of Nov a Scotians' investment dollars were being funnelled to large economic centers in Canada instead of supporting the region (FarmWorks, 2019). CEDIF was set up in 1998 to recapture some of this investment – less than 2% of which was staying in the province, to build a more vibrant and resilient local economy (Farmworks.ca, n.d.b.) CEDIFs allow individuals to pool capital and invest in for-profit businesses in their communities. Investors receive at 35% tax credit as an incentive to participate in the program. If they choose to hold their investments in the CEDIF longer than five years, they are eligible for an additional 20% tax credit, and after ten years another 10% tax credit (Nova Scotia Department of Finance and Treasury Board, 2018, p. 7). The maximum amount that any one individual can invest in a CEDIF is C$50,000. In the last five years, other Canadian provinces have started to set up their own versions of the CEIDF model in an effort to revitalize local economies, particularly in rural areas.

The CEDIF model gained traction not only because Nova Scotians' investment dollars were leaving the province, but also because of a dramatic hollowing out of rural communities. The population of roughly one million in habitants has been stagnant while youth out-migration is on the rise (The Canadian Community Economic Development Network, n.d.). This has exacerbated the issue of succession; there are fewer and fewer young people to take over family-run businesses. These unfortunate trends are at once fueling and being driven by the precarious economic situation. Farm populations in Nova Scotia have plunged from 58,000 to only 8,000 mirroring the declining number of farms from 12,518 to 3,905 over the last 50 years (Local Prosperity, 2015). Understandably, employment in the local food sector is suffering, with a 20% decline from 2005 to 2012 (Local Prosperity, 2015).

Currently, FarmWorks is the only CEDIF in Nova Scotia that invests along the food value chain. FarmWorks sees a unique role for local food in boosting the vibrancy and resilience of Nova Scotia's economy, particularly in rural areas. The organization believes that food production has a significant multiplier effect on local economies. In other words, "a dollar spent on the local food system tends to circulate within the local economy many times over" (Stephens et al., 2019). FarmWorks believes that by prioritizing the local food economy, Nova Scotians will benefit as a whole. It argues that "strategies that increase the availability of Nova-Scotian grown food will help improve the local economy" (FarmWorks, 2017). These strategies demand financial investment, however. Gaining access to financing is often cited as a barrier for the start-up and expansion phases for small food enterprises. FarmWorks aims to fill a financing gap in order to support the region's local food economy, a key aspect of regenerative food systems, through the lens of values-driven social finance.

FarmWorks allows members to purchase common shares for a fixed period of five years in a diversified portfolio of businesses. As a CEDIF, those shares are eligible for a 35% Nova Scotia non-refundable Equity Tax Credit. These investments "provide loans to farms, food processors, and value-added food producers, helping to increase the viability and sustainability of agriculture and the security of a healthy food supply" (Farmworks.ca, n.d.b). As of June 15, 2018, FarmWorks has invested C$2.8 million in 89 companies across the province (Stephens et al., 2019). Kennedy et al., (2017) estimate that because of the multiplier effect of the local food sector, FarmWorks could generate between C$11.2 and C$20.8 million for Nova Scotia's economy. FarmWorks' clients see great value in the co-op's loans – attributing 70% of jobs generated to them. As FarmWorks' clients grow, they overwhelmingly tend to source form other local businesses, helping to develop a more resilient local economy (Kennedy et al., 2017). Social finance applied in this context goes beyond narrowly supporting sustainable production practices by strengthening the social and economic vitality of communities in Nova Scotia.

FarmWorks prioritizes "relationship lending" and "meaningful financial returns" (FarmWorks, n.d.). Its lending criteria are less stringent than those of traditional financial institutions, enabling small enterprises that have non-traditional business models, such as those which

take environmental and social sustainability into account along with economic profit, to access financing. FarmWorks members regularly make in-person visits to their clients to learn about how their businesses are doing. If they are struggling, FarmWorks offers mentorship for how to improve outcomes and connects the business owners to other in the community who may help support their success. Here again, the organization's approach demonstrates a commitment to regeneration as they go beyond merely monitoring sustainability outcomes towards building and strengthening social capital. FarmWorks applies the principles of patient capital, meaning that its clients are not subjected to the pressures of "growth at all costs," allowing them to engage in practices that align with regenerative rather than industrial food systems, with their relentless focus on productivism and efficiency. As a social finance organization, FarmWorks seeks to create systemic change by intentionally channelling capital towards projects that will produce social and environmental as well as economic returns. In targeting the local food system, FarmWorks demonstrates the ways in which finance can be mobilized to regenerate both natural and social elements of the food system. There are issues with this model such as the fact that there is not much of a buffer if a client defaults on the loan, because of the small size of the fund. Moreover, the fact that volunteers are relied upon to run the fund makes this type of model quite vulnerable and limited in scope.

3.4 Making social finance a viable force

While the cases of FarmWorks – and that of Slow Money more broadly – are inspiring, the amount they invest in building regenerative food systems pales in comparison to financial investment in the industrial food system. According to some estimates, for example, the agricultural investments of pension funds alone was over US$300 billion in 2012 (Buxton et al., 2012, p. 2). Although agricultural investments, especially commodity futures, have seen some drop in investment in recent years due to depressed commodity prices, investments have shifted into private and listed equities in agrifood companies (Valoral Advisors, 2015; Clapp, 2019). By contrast, social impact investors remain tiny in terms of their size. This section explores what policies will encourage the growth of social finance to become a viable force in the food sector.

The case of FarmWorks demonstrates the need for government participation in creating incentives for investing in sustainable food systems. FarmWorks staff are adamant that the tax incentives available to investors through the CEDIF program substantially contribute to investor interest in the fund. The CEDIF model has been adopted in varying formats across several Canadian provinces. However, Canada's most populous province, Ontario, does not have anything comparable to the CEDIF program. For regions like Ontario that lack this type of government programming, investing in regenerative food systems is largely inaccessible to the average individual. It is clear that government has an important role to play in facilitating investments in sustainable food systems, and programs like CEDIF can help communities develop solutions well suited to their specific contexts.

More broadly, government funding is considered necessary for establishing a robust social finance market to foster social innovation. Raworth (2017) notes that state leadership is critical for catalyzing investments that will bring about the social and ecological changes required to comfortably live within planetary boundaries. In her view, "the state, not the market, turns out to have been the innovating, risk-taking partner, not 'crowding out' but 'dynamising in' private enterprise" (Raworth, 2017, p. 73). Indeed, government funding is often seen as a way of reducing risk for private investors to seed a fund that could then attract funding from other organizations. This is why states often offer tax breaks and other incentives as a strategy for attracting investment to key sectors that it views as vital for its development and competitiveness. Such an approach with social impact investing "signals confidence in social finance to other investors" (Eggleton et al., 2018, p. 8).

Mazzucato (2015) argues that society tends to overlook the importance of government funding is spurring innovation and advances several key arguments that could improve outcomes of government investment. First, she argues that government is well-placed to make riskier investments in novel fields, playing the role of investor first and building an ecosystem of entrepreneurialism that is necessary to address the complex challenges of the 21st century. For instance, the United States government generously funded the early days of the internet, which ultimately supported an explosion of technological innovation. Similarly, government funding in renewables helped to develop the industry, attract private investment,

and bring down costs of these cleaner technologies. We have yet to see significant government investment in the food system to help shift the market towards a regenerative model, but experience in other sectors suggests that this is a pivotal step.

Second, the terms up on which governments invest in innovation also need to be revised, according to Mazzucato. Traditionally, governments have done a poor job at recouping their investments in private companies that benefit from initial public investments reap spectacular profits. Since citizens are backing these investments in social innovation, it stands that they should also experience rewards when they prove to be successful (Mazzucato, 2011).

Governments are beginning to reconsider their role in innovation and are starting to leverage social finance as a tactic for generating desirable social and environmental outcomes. In 2013, the G8 launched the Social Impact Investment TaskForce with a mandate of "catalysing a global market in impact investment" (Social Investment TaskForce 2014). Since then, a number of national governments have established funds to support social innovation. In late 2018, the Canadian federal government announced the establishment of a C$755 million fund for social finance (MaRS, 2018) that could, among other outcomes, motivate social investors to "finance Indigenous social entrepreneurs to address challenges like food insecurity and clean energy generation" (McConnell Foundation, 2018).

3.5 Conclusion

Governments are evidently embracing social finance as a tool for innovation. However, it bears mentioning that there are risks and contradictions associated with this approach. Fetherston explains the rise in popularity of social finance in recent years: "For governments continuing to feel the fiscal pinch of the global financial crisis, it offers a new source of revenue without an unpopular increase in taxation" (2014, p. 29). The rise of social finance in a context of tight budgets has led some scholars to question whether it represents a retraction of state responsibilities such as the provisioning of social services. If social finance investments replace public investments, then it may serve to further consolidate power in the hands of a few (wealthy investors). This unfortunate turn could present a host of implications such as limiting the social and environmental issues that are deemed "worthy" of investment. The risks presented by social finance are well summed up by Rosenman (2017, p. 8).

> At stake is the question of whether social finance truly uses profits to engender a more holistic range of social values – as argued by the movement's proponents, or whether it allows financial logics to further dominate already neoliberalizing models of social services provision and poverty regulation.

In this light, a glaring contradiction of social finance becomes clear: social finance paradoxically seeks to fix the negative impacts of financialization by extending finance's reach into previously untouched realms – thereby further spreading financialization, albeit in a mutated form.

Recognizing these risks and contradictions, we see social finance as playing a useful but limited role in shifting food systems toward greater regeneration. Weak social finance initiatives are likely to further entrench the existing neoliberal economic order, and potentially further financialize aspects of social life and environmental phenomena. However, strong social finance initiatives that are rooted in local communities, with the primary intention of regenerating systems may prove to be useful tools in addressing some of the world's most complex challenges including the food system. In either case, however, social finance operates in the existing neoliberal order and therefore engages in incremental rather than transformative change. To date, the application of social finance for regenerative food systems is under-research and there are ample opportunities for exploring when and how it can be employed as a helpful intermediary towards greater transformation.

Chapter 4: Social finance for sustainable food systems: opportunities, tensions and ambiguities

4.1 Overview

This empirical chapter aims to fill gaps in the alternative food systems literature and the social finance literature. By analyzing two Slow Money initiatives, this chapter tracks their intended impacts and provides insights about the potential role of social finance for promoting alternative food networks. The novel contribution that this chapter makes to the thesis is that it focuses on community investment funds that prioritize social and environmental impact over financial return. Therefore, it helps us to understand the strengths and limitations of such a model in terms of transitioning towards more sustainable food systems. It contributes directly to answering each overarching research question in this study by explaining the context behind the rise of social finance, identifying the barriers and opportunities of community financing initiatives and the conditions that would allow this model to expand and make a greater impact.

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Abstract: In recent years social financiers have been increasingly investing in alternative food systems to improve sustainability outcomes. However, social finance for alternative food systems remain small and marginalized. This article seeks to understand why this approach is not yet making a larger impact towards food system transformation. It does so by investigating a specific application of social finance through the case of Slow Money to get answers as to why social finance occupies a niche role in food system transformation. These answers provide helpful lessons for Alternative Food Networks (AFNs) seeking to transform food systems towards greater sustainability. This study tracks the intended impacts of these initiatives and provides insights about the potential role of social finance for promoting AFNs. Key themes emerged regarding the ability of social financing initiatives to support AFNs and transform the food system for greater sustainability. These themes resonate with the literature on AFNs in meaningful ways, but also highlight an important contradiction between systemic change and individual action. The findings show that the

Slow Money model contains some useful elements for radical transformation but is ultimately limited in its ability to support deeper, transformative change. The conclusion advances recommendations for ways of enhancing the transformative potential of community financing initiatives in light of the findings, emphasizing the role of public investments.

4.2 Introduction

In advanced economies today, small, innovative and ecologically-minded food businesses that comprise Alternative Food Networks (AFNs)[2], often struggle to access financing. Banks hesitate to support these enterprises because agriculture is perceived as inherently risky, as is small business (Carlisle et al. 2019, p. 7). This has led to the current scenario whereby a large industrial farm is more likely to receive a loan than a small or medium sized bio-dynamic farm, and a supermarket chain is considered a less risky investee than an innovative local retailer (Vander Stichele, 2015, p. 260). These types of mainstream lending patterns are hindering food systems' ability to become more socially and environmentally sustainable. In response to this problem, a diverse group of change makers have begun to develop ways of investing in alternative food systems so that finance can play a role in regenerating, rather than degrading, food systems.

These efforts fall under the banner of "social finance" where social and ecological returns are sought alongside financial returns. Social finance is relatively new and little is known about its effectiveness as far as transforming food systems, but there is growing interest in understanding how to encourage sustainable food system innovation (Hackmann & St. Clair, 2012). To date social finance for alternative food systems remains small and marginalized as they represent a small fraction of the financial investment in food and agriculture innovation and are considered fringe to mainstream investment models. This article seeks to understand why this approach is not yet making a larger impact towards food system transformation. It does so by investigating a specific application of social finance

[2] Defined as, "New and rapidly mainstreaming spaces in the food economy defined by – among other things—the explosion of organic, Fair Trade, and local, quality, and premium specialty foods. In these networks, it is claimed that the production and consumption of food are more closely tied together spatially, economically, and socially…" (Goodman et al. 2012).

through the case of Slow Money to get answers as to why social finance, despite its promise, occupies a niche role in food system transformation. These answers provide helpful lessons for AFNs seeking to transform food systems towards greater sustainability.

Such an inquiry matters because it sheds light on blind spots in the alternative food systems literature and adds much needed empirical analysis to the social finance literature. Little attention has been paid to the topic of financing in the alternative food systems literature; either from the perspective of the problem of a lack of finance or the initiatives that are emerging to address it. This gap in the literature is puzzling considering how integral financial capital is for determining which sustainable innovations can develop, thrive and grow. Within the emerging literature on social finance, which focuses on financial models and theories that aim to improve social and ecological as well as economic outcomes, the food and agriculture sector is not well explored. However, in practice, a number of social financing initiatives have arisen to support alternative sustainable food systems such as Slow Money.

Slow Money is an organization that helps communities improve their local food systems by mobilizing private capital to fund AFNs. This study tracks the intended impacts of these initiatives and provides insights about the potential role of social finance for promoting AFNs. Consistent with a grounded theory approach, data gathered through fifteen intensive interviews with Slow Money investors and investees as well as a review of relevant documents provided the basis for the observations and subsequent analysis. Grounded theory is a qualitative research method whereby the data "forms the foundation of our theory and our analysis of these data generates the concepts we construct" (Charmaz, 2014, p. 3). This study identifies the opportunities that the Slow Money model presents for transitioning towards more sustainable food systems and also illuminates challenge areas that limit the transformative potential of this specific form of social financing.

Key themes emerged regarding the ability of social financing initiatives to support AFNs and transform the food system for greater sustainability. These themes resonate with the literature on AFNs in meaningful ways. The findings show that the Slow Money model does contain some useful elements for radical transformation but is ultimately limited in its ability

to support deeper, transformative change. More specifically, an emphasis on systems thinking and the nurturance of relationships aligns closely with the values embraced by the AFN literature to bring about transformative change. As well, the intuitive approach to impact measurement and varying perspectives on what constitute sustainable food systems are defining elements of the model that fit well within the AFN perspective on food system transformations. However, a clear barrier to transformation is the emphasis on individuals to shoulder the responsibility to finance and support AFNs. The tendency towards this individualization of responsibility demonstrates a tension in the AFN literature; while systemic change is the goal, individual action rather than structural change is considered the primary method for moving the needle on food system sustainability (Lawrence, 2018). By the same token, social finance seeks to make systemic change, but looks to altruistic and alternative investors to invest their money in order to make social and environmental impact. This individualization of responsibility inadequately addresses structural power and necessarily keeps these initiatives small in scale. This is a dilemma that requires more attention from both AFNs and social finance.

The first section of this paper describes perspectives on food system transformation and why social finance targets AFNs, the types of businesses funded by Slow Money to encourage food system change. After a description of the research methods, the paper then provides an overview of two Slow Money cases, that of FarmWorks Investment Co-operative in Nova Scotia and Slow Money Maine. The findings from the interviews and document review are then presented. The following discussion involves an analysis of the findings and refers back to relevant concepts highlighted in the initial overview sections of this paper. The conclusion advances recommendations for ways of enhancing the transformative potential of community financing initiatives in light of the findings. I argue that in order to bring about broader transformation more coordinated efforts such as public investments and a coherent financial ecosystem for social innovation are needed.

4.3 Overview: Sustainable food transitions and social finance

4.3.1 Food system transformation and the role of AFNs

Social finance is targeting AFNs as a way to transform food systems for greater social and ecological sustainability. It is doing so as a reaction to the problems stemming from the configuration of the dominant industrial food system. The configuration of a food system is based on interactions between structural conditions, activities and actors involved in the production, processing, distribution, consumption and disposal of food (Gaitán-Cremaschi et al., 2019). According to Friedmann and McMichael, different periods and processes of capitalism have produced distinct "food regimes" (Harriet et al., 1989). The latest iteration, and the one that we are grappling with today, is sometimes referred to as a the "corporate food regime" (McMichael, 2009). This corporate food regime is characterized by a concentration of corporate power and the rise of private actors in the governance of food systems. It is also informed by a productivist paradigm, whereby the emphasis is on producing large amounts of standardized food "efficiently". The efficiency of the corporate food regime is questionable as it has created a number of social and environmental problems including high greenhouse gas emissions; polluted waterways; decreased biodiversity; millions of overfed and underfed citizens; and corporate monopolies (Foley et al., 2011; Godfrey, 1985). The food industry is not always held accountable for these externalities, though researchers have argued that they are considerable and amount up to US$12 billion per year (FOLU, 2019). In the context of complex twenty-first century challenges, the dominant industrial food system is no longer considered fit for purpose and is in dire need of transformation (HLPE, 2020). A wide range of scholars and practitioners are calling for a shift towards food systems that are more regenerative, inclusive, "planet-proof" and that consider the true costs of production (Fraser & Campbell, 2019; Gosnell et al., 2019; Rockström et al., 2020; Van Zanten et al., 2019).

Several sustainability transitions pathways have been proposed towards food system transformation that can be categorized into two broad camps. There is no consensus on the definition of a food system transformation nor a sustainable food system, but rather different tools and tactics for changing unsustainable outcomes. This is partly because food systems differ, sometimes drastically, across regions and are necessarily place-based. The two main

sustainability transition pathways reflect underlying values about the appropriate role of the market, technology and humans' relationship to the natural world (Garnett, 2014, p. 10). The first category takes an eco-modernist approach and prioritizes technological solutions to transform food systems. Strategies include, sustainable intensification, precision agriculture, environmentally-friendly food processing technologies and food packaging alternatives (Gaitán-Cremaschi et al., 2019). While these, no doubt, represent an improvement to the current industrial food system, many warn that these efforts do not go far enough and, in some cases, even perpetuate unsustainable dynamics of the industrial food system (Friedmann, 2005; Maye & Duncan, 2017). The second transition pathway reflects a desire for more radical transformation, rather than incremental change. This approach goes beyond technical fixes and seeks to fundamentally change social and market relations. In this case, a transformed food system would be one characterized by diversified agroecological systems that foster more equitable power relations and are supported by multiple forms of AFNs (Gaitán-Cremaschi et al., 2019; HLPE, 2020). AFNs are seen as a critical piece of this more radical vision of food system transformation. Given the emphasis on addressing root issues, the second pathway is more appropriate for the changes required to meet complex socio-ecological challenges in the years ahead and has attracted the attention of social financiers.

AFNs seek to bring consumers and farmers into closer relationship in order to bring about structural change. According to Feenstra: "rooted in particular places, [AFNs] aim to be economically viable for farmers and consumers, use ecologically sound production and distribution practices and enhance social equity and democracy for all members of the community" (Feenstra, 1997). Farmers markets, consumer cooperatives, green enterprises, food hubs, farm stores, community supported agriculture, the slow food movement, specialized forms of organic production and direct farm retail are types of AFNs (Gliessman, 2018). The emphasis on changing power relations positions AFNs as transformative social innovations, but they have yet to scale to a size and influence that challenges business-as-usual.

The scholarship on social innovation offers insight on the process required to advance systemic and transformative change. Riddell and Moore (2015) created a typology of three types of scaling to illuminate this process: up, out and deep. Scaling out emphasizes replication of successful innovations in different communities, scaling up refers to changing institutions, policy and law, or the "rules of the game." Scaling deep is about impacting cultural roots – shifting norms and beliefs (Riddell & Moore, 2015). Scaling deep is about impacting cultural roots – shifting norms and beliefs (Riddell and Moore, 2015). The degree to which AFNs participate in each form of scaling varies across communities. The role of power and how it is disaggregated and distributed within the networks that are seeking change is a determining factor in how scaling occurs.

Within AFNs power is often vested in individuals to bring about broader change. For instance, individual purchasing decisions such as avoiding certain brands based on poor environmental reputations or buying eco-friendly products are championed. These tactics are forms of political consumerism, which are defined as "market-oriented engagements emerging from societal concerns associated with production and consumption" (Boström et al., 2019). Political consumerism can take the form of boycotts, buycotts, communicative actions and profound changes in lifestyle practices. While there are examples of how such individual consumption strategies have strongly influenced political outcomes[3], scholars maintain that they must be paired with alliance building across the public–private divide in order to be effective (Halkier, 2019). In a review of how agency is exercised in AFNs, Lockie (2009) points out how their marketing, distribution, and food standards rely on individual consumption choices while AFNs promote a discourse around "food citizenship where consumers participate actively and socially together with other food citizens and alternative producers and providers" (Halkier, 2019). In this way, AFNs often inadequately deal with structural power that shapes unsustainable outcomes in the food system.

[3] For example the Nestlé boycott launched in 1977 that lasted decades regarding breast milk substitutes

4.3.2 Barriers to financing AFNs

One reason why AFNs have remained marginal in the broader food landscape relates to their struggle in accessing capital. In a 2015 survey conducted with approximately 1,300 new farmers across Canada, affordability of land and a lack of access to capital, credit, or other sources of financing were ranked as the most significant barriers to success (Laforge et al., 2018). This situation is partly explained by the retreat of the state in agriculture. In the mid-twentieth century states played a critical role in mediating finance in agriculture, but that changed dramatically in the 1980s and 1990s (Martin & Clapp, 2015). As the global food system underwent restructuring near the turn of the century, entering the third corporate food regime, state involvement in agriculture declined. When states scaled back their support, commercial lending also moved away from agriculture (Martin & Clapp, 2015).5 It should be noted that government agencies such as the USDA do continue to provide affordable loans to farmers, but they are not always effective given the number of small and early-stage farming businesses that continue to struggle to access financing. Over time, there has also been a decline in the number of financial institutions that provide agricultural loans and staff expertise in agricultural lending (Cocciarelli et al., 2010). The typical mindset when it comes to agricultural lending is that "the larger the farm operation's scale the more profitable the operation is, based on price efficiency within the global marketplace (Cocciarelli et al., 2010). This can make it very difficult for small-scale, alternative food businesses to take off and thrive.

4.3.3 Social finance and the Slow Money model

The recognition of the lack of financing for AFNs has drawn social financiers to the food system. Social finance adopts a number of tools and approaches including community investment, ethical banking, alternative currencies, microfinance, social impact bonds, venture philanthropy, and impact investing (Rizvi et al., 2017). Social finance often involves patient capital, whereby investors do not require quick repayment nor the same amount of assets deemed necessary for collateral as with mainstream lending (Hebb, 2012; Moore et al., 2012) explain the two main ways that social finance is important for finding solutions to today's complex societal issues: "First, social finance can stimulate social innovation because the investment typically challenges the institutional logics associated with conventional

investor rationalities…which are often tied to other dominant social structures. Second, social finance can support social entrepreneurship and innovation directly throughout its development, adoption and implementation stages" (p. 116). In the past, the primary source of funding for social entrepreneurs came through government grants and contracts, but the rise of complex challenges combined with austerity measures have required different sources of capital (Moore et al., 2012, p. 117).

Slow Money is an example of social financing that applies a community investment model. Community investing for sustainable food systems has not arisen in a vacuum; indeed, there is a robust history of economic movements that predates these efforts, often with ties to agriculture and small business. For instance, agriculture co-operatives arose in the early twentieth century in the United States when farmers were not able to afford inputs or get fair prices for their products (Torgerson et al., 1998, p. 2). The Antigonish movement of the 1930s, and Alphonse Desjardins before that, were also progenitors to community financing initiatives such as Slow Money. Slow Money is both a movement and a non-profit geared towards facilitating community investments in local food systems. Slow Money is the brainchild of mission-related investor, Woody Tasch who established the Slow Money Institute in 2008. The primary function of Slow Money is as a financial intermediary, where funds from individuals in a particular community are invested in a Slow Money chapter to be then invested in sustainable, local food enterprises. If the financial intermediaries geared towards sustainable food systems are plotted according to the "patientness" of their capital, Slow Money falls on one end, with venture capital funds falling on the other.

Slow Money encourages the formation of self-organizing local groups, which have taken on a number of forms including: peer-to-peer loans, pitch fests, investment clubs, and non-profit clubs that make 0% loans (Slow Money, 2019). The Slow Money Institute has evolved from loosely espousing its 12 principles and hosting small events around the country, to providing brand guidelines, a tool-kit and, more recently, a Master Class to help local chapters succeed in their missions (Leibel, 2019). Each Slow Money chapter has developed a unique identity based on its own understandings of the principles and needs of their particular regions. For instance, in the two cases explored here, Slow Money Maine (SMM) developed

an investor club whereas FarmWorks leveraged a provincial government program, Community Economic Development Investment Funds, in order to channel community investments towards a more sustainable food system. In some cases, Slow Money chapters link up with other financial intermediaries to create more impact. For instance, SMM helped to support the creation of Main Harvest Credit Union, a credit union that finances small farms and food producers with deposits from individuals and institutions dedicated to growing a healthy local food system. Another example is RSF Social Finance, a financial services organization that connects social entrepreneurs with capital. Slow Money Northwest refers businesses to them that meet their criteria so that they can receive as much financial support as possible.

Slow Money provides overarching aspirational goals in the form of six principles, which allow each chapter to adopt them according to their specific context. Slow Money principles help to give shape to the movement, while allowing for a broad cross section of social innovators around the world to adopt the model for the widest reach and success (Box 1).

Box 1. Slow Money Principles (Slow Money 2019)

In order to enhance food safety and food security; promote cultural and ecological health and diversity; and, accelerate the transition from an economy based on extraction and consumption to an economy based on preservation and restoration, we do hereby affirm the following Slow Money Principles:

1. We must bring money back down to earth.
2. There is such a thing as money that is too fast, companies that are too big, finance that is too complex. Therefore, we must slow our money down — not all of it, of course, but enough to matter.
3. The 20th Century was the era of Buy Low/Sell High and Wealth Now/Philanthropy Later—what one venture capitalist called "the largest legal accumulation of wealth in history." The 21st Century will be the era of nurture capital, built around principles of carrying capacity, care of the commons, sense of place, diversity and nonviolence.
4. We must learn to invest as if food, farms and fertility mattered. We must connect investors to the places where they live, creating healthy relationships and new sources of capital for small food enterprises.
5. Let us celebrate the new generation of entrepreneurs, consumers and investors who are showing the way from Making A Killing to Making a Living.
6. Paul Newman said, "I just happen to think that in life we need to be a little like the farmer who puts back into the soil what he takes out." Recognizing the wisdom of these words, let us begin rebuilding our economy from the ground up, asking:

- *What would the world be like if we invested 50% of our assets within 50 miles of where we live?*
- *What if there were a new generation of companies that gave away 50% of their profits?*
- *What if there were 50% more organic matter in our soil 50 years from now?*

In addition to the 23 chapters across the United States, there are four international chapters including FarmWorks in Nova Scotia, Knives & Forks in British Columbia, the Organic and Regenerative Investment Co-Operative in Australia, and Slow Money Francophone in France. The budding global reach of Slow Money helps to demonstrate the strengths of leading with aspirational goals rather than rigidly prescribing one way of operating.

4.4 Methodology

Two Slow Money chapters, Slow Money Maine (SMM) and FarmWorks Investment Cop-operative (FarmWorks), were chosen as cases for several reasons. They are comparable in the sense that these chapters started around the same time in North American, Eastern coastal regions that have a strong history of agriculture. The mix of urban and rural demographics are also similar. Moreover, FarmWorks is the first and largest Slow Money chapter in Canada and SMM is also one of the oldest and most robust chapters in the United States. Both chapters are spearheaded by retired women who are well-known in the community and are deeply committed to the cause of building sustainable food systems. However, they differ in terms of the types of institutional infrastructure available to them. In Nova Scotia, FarmWorks relies heavily on formalized government programming to support its efforts, whereas in Maine, the pre-existing network of non-profits and community organizations dedicated to sustainable agriculture and food systems is critical to its success. The similarities and differences between these cases therefore permit me to zero in on the causal factors that have allowed the Slow Money model to survive and consider what elements might be holding back its transformative potential. Though the sample size is relatively small, the interviewees are representative of the mix of stakeholders that are attracted to the Slow Money model more generally, such as the types of farmers and business owners that seek financing from alternative sources to help start and grow their operations.

After reaching out to the co-founders of each chapter, snowball sampling was used to recruit investors and investees of AFNs. Through the interviews, I aimed to identify the ways in which participants aimed to transform food systems through the Slow Money financing approach. Therefore, questions were geared towards understanding how these funds invest in the food system to enhance sustainability. Do they focus on a particular part of the food chain? Do they use formal measurements or sustainability criteria to track their progress? It was also important to ascertain what version of sustainability these initiatives aligned themselves with. Was it a techno-optimist one consistent with a sustainable intensification approach where technological innovations will solve complex sustainability challenges, or a more holistic, radical one? Additionally, I probed whether or not investees felt as though their particular Slow Money chapters filled a gap in financing that they could not access elsewhere; the logic being that if Slow Money meets a need in these communities, there may be a role for it in other places as well. I wanted to understand how the models work in practice and whether or not there were any obstacles from the perspective of investors and investees to achieving their aspirations for food system transformation. Finally, I sought to understand what opportunities were created as a result of these models and what a transformed system ideally looked like to those involved in Slow Money. Each participant was asked whether or not they believed that community financing had the potential to profoundly transform the food system for greater sustainability and if not, what else might be needed to bring about a deeper transformation. The interviews revealed the values, philosophies and goals of Slow Money participants and my analysis considers the extent to which these factors support or limit food system transformation.

This qualitative study follows the principles of grounded theory whereby data forms the foundation of the concepts that are later theorized and constructed. The analysis that follows from gathering data and reflecting on research participants' perceptions and experiential views is definitively not an exact picture of the world, but necessarily an interpretive portrayal of it. And, of course, my own positionality including my interdisciplinary background influences what I can see and focus on in the data. As with many grounded theorists, I began the study with a handful of sensitizing concepts, those that "give researchers initial but tentative ideas to pursue and questions to raise about their topic"

(Charmaz, 2014, p. 30). Some of these concepts proved to be useful and others less relevant. For instance, one critique of social finance is that it allows the state to offload some of its traditional responsibilities to individuals and the private sector. I expected this theme to arise in the interviews, but it only did so tangentially. Meanwhile, the concept of individualization of responsibility is well developed in the sustainable consumption literature and I thought there might be some reference made to the importance of individuals in making change, but I had not anticipated how strongly or often this would be raised by interviewees.

Because few studies exist on impact investing in the food system, grounded theory is an appropriate approach. As the grey and academic literature on Slow Money is relatively thin, interviews were considered the best way to gather rich data. I conducted fifteen intensive formal interviews in person with FarmWorks (8 interviews total) and SMM stakeholders (6 interviews total), together comprising 7 investors, 7 investees and 1 FarmWorks staff member. Intensive interviewing makes room for an open-ended yet directed approach. The interview data itself supports grounded theorists in constructing "inductive conceptual categories" (Charmaz, 2014, p. 87). The interview transcriptions were coded using Nvivo software. This study involved two rounds of coding. The first step of this process included open coding and memo writing. The initial coding did not follow a systematic method and was more exploratory in nature. This was done according to grounded theorist, Charmaz' instructions for initial coding, to "remain open to all possible theoretical directions indicated by your readings of the data" (2006, p. 246). In the first round, descriptive coding was used where a word or short phrase attempted to capture the topic of a passage of interview data (Saldaña, 2009, p. 67). In the first pass, 36 codes were applied to the data. The next round involved categorizing and streamlining the initial codes. Before categorizing, the data was recoded for more accuracy in terminology and some terms with conceptual similarities were merged together. Those codes were then categorized according to 17 themes. This second round generated what is known as pattern codes, "explanatory or inferential codes, ones that identify an emergent theme, configuration, or explanation…" (Huberman & Miles, 1994, p. 69). The information was very consistent amongst interviewees and there were many commonalities between the two chapters despite their different structures. The themes formed the basis for my theorizing on the transformative potential of

Slow Money. For a richer picture, data also collected through material provided on the chapters' websites as well as foundational documents like Woody Tasch's books (Tasch 2008).

4.4.1 Slow Money Maine (SMM)

SMM is one of the oldest and largest chapters of the Slow Money Institute. The state of the local food system in Maine generally reflects declines in other advanced food economies. According to the 2017 Census of Agriculture, between 2012 and 2017, Maine saw a 10% drop in the amount of farmland, placing it amongst the top states with declines in farmland (Sabina 2019). During the same period, Maine lost 573 farms, but certain categories of farms experienced an increase in number. These were either the very smallest farms (1 to 9 acres) and the very largest farms (2,000 acres or more) (Sabina 2019). The financial situation of farmers in Maine has also been challenged as the market value for agricultural products decreased over five years and farmers lost an average of 15.8% of their income from 2012 to 2017. However, there are some positive trends that can be noted as well, which may be linked to the relatively robust network of organizations aimed at sustaining and growing local food in Maine. Notably, the number of young farmers (under age 44) has increased by almost 10%, the amount of food sold directly to consumers increased by 53% and the quantity of organic product sales increased by 63% (Sabina, 2019).

SMM has become an integral component of the leading social impact strategies across the state of Maine (Phillips, 2016, p. 63). Since its inception, SMM has funneled $15 million into Maine's food economy. The region has a well-developed network of organizations focused on sustaining and revitalizing the local food system, which has undoubtedly contributed to the successes of SMM. For instance, the Maine Organic Farmers and Gardeners Association is one of the largest and oldest organic associations in the United States. Maine Farmland Trust and Coastal Enterprises are other well-established organizations that provide financing to food and fishing enterprises. SMM thus can enjoy operating within an environment characterized by a high degree of awareness and interest in building alternative, local, sustainable food systems.

SMM plays a networking role as it does not directly invest or handle due diligence. Rather, its members are encouraged to establish models that are deemed to work best for their particular circumstances. One of the most active areas of the network has been the investment clubs, such as No Small Potatoes. In the club's own words, "No Small Potatoes Investment Club strengthens Maine's local food economy by making small loans to farms, fisherman and the food businesses they supply to help them thrive" (Slow Money Maine, n.d.). The clubs provide zero collateral loans of up to $10,000 at a 5% interest rate for up to 3 years to businesses with sustainable practices that source locally for equipment, special projects, and working capital. Investors are individuals that pool their own resources for the sake of growing Maine's local food economy (Slow Money Maine n.d.). Investors can expect to receive back their principal, and perhaps a small return on their investment. To date, No Small Potatoes has made 49 loans, totaling $311,146 to 33 enterprises.

4.4.2 FarmWorks Investment Co-operative (FarmWorks)

Nova Scotia has experienced a declining food and farming sector. In less than a decade, food sector employment, particularly food processing, declined from 12,300 in 2005 to 8,900 in 2012, representing a 20 percent drop (Local Prosperity, 2015). Over time, agriculture has also received a small percentage of the provincial budget, falling from 0.9 to 0.6 percent from 1996 to 2016 (Kennedy et al., 2017). Additionally, many banks closed their rural branches in the province, removing a key piece of infrastructure through the provision of credit to entrepreneurs in the food system.

This situation motivated a group of concerned citizens to establish FarmWorks as a Community Economic Development Investment Fund (CEDIF), a government run program. A CEDIF is a "pool of capital raised from individuals in the community to operate or invest in a local business" (Newfoundland and Labrador Environmental Industry Association, 2019). The Nova Scotian government developed the CEDIF program in order to revitalize the local economy as 98% of Registered Retired Savings Plans was leaving the province. The program provides tax incentives to Nova Scotians who invest in local businesses and keeps money in the province in an effort to reverse this trend (CEDIF, n.d.).

FarmWorks' mission is to "promote, and provide, strategic and responsible community investment in food production and distribution in order to increase access to a sustainable local food supply for all Nova Scotians" (FarmWorks, 2019). FarmWorks was brought into the fold of the Slow Money Network after its establishment since it aligns with the Network's principles and approach. The fund attempts to fill a gap in financing and help small businesses overcome existing roadblocks by providing loans on favourable terms (no collateral, credit check, or immediate repayment) (Kennedy & Knezevic, 2014). To date, FarmWorks has invested roughly $3.5 million in 99 AFNs (FarmWorks, 2019). The fund invests in start-up or expanding enterprises along the food chain; roughly half of investees are farmers and the other half are food retailers and restaurants (Kennedy et al., 2017). Loans are relatively small in size as far as agricultural lending goes (ranging from $5000—$25,000). Investees pay loans back within two-to-five-year terms at a rate of 6%.

The CEDIF model has been applied to a number of different businesses from solar PV installers to intermediaries investing to meet a broad array of community needs. CEDIFs can fund an individual business or a group of businesses through a pooled fund, as is the case with FarmWorks. Investors are required to purchase shares up to $15,000 (with a minimum purchase of 1 share at $100) that are non-refundable for 5 years. In doing so, investors receive a 35% equity tax credit. Investors can enjoy another 20% tax credit and a 10% credit if they keep their investments for another 5 years after that. FarmWorks operates as a CEDIF that is run by a Board of Directors, elected by shareholders. According to the 2013 Annual Report, "success for FarmWorks will be a measurable increase in food production: positive outcomes for investees and a return on investment for shareholders" (FarmWorks, 2013).

FarmWorks conducted a survey in 2016 of 38 businesses that had been in operation for more than six months to gauge the economic and social impacts of these businesses and how FarmWorks is supporting them. The survey results demonstrated that these businesses are generating at least $8,000,000 in annual gross business revenues, with annual business expenditures of over $6,800,000. Respondents reported 148 full-time and 110 part-time jobs, and 70% of these jobs were supported by FarmWorks financing. The survey reports that overall outcomes have improved by 87% for the businesses. FarmWorks also embarked on a

survey in 2019 of which partial results are available. In this survey, 46% of the 37 businesses surveyed reported that their business was not in operation before FarmWorks funding. This survey data also suggest that FarmWorks plays a key role in supporting businesses that provide local employment and purchase goods and services locally to help support in the development of a self-sufficient and sustainable food system for the province of Nova Scotia. However, these businesses sometimes still require more financing and other support in order to survive and thrive beyond what FarmWorks is able to provide. In the 2019 survey, 51.4% of respondents said that they required additional funding along with the FarmWorks funding in order to complete their projects. They also identified financing (47.2), Mentoring (36.1), Promotion (52.8), Networking (47.2), Advice (36.1), Staffing (38.9) as areas where further assistance would help their businesses move forward.

4.4.2.1 The systemic approach to investing

When speaking with investors, they emphasized the importance of considering how their investments were not only helping individual businesses, but also supporting the development of an alternative food system whereby all points along the food chain are thriving. For instance, SMM focuses on investing in infrastructure businesses so that farmers have a market for their goods. Food processing and manufacturing businesses have declined significantly in the region and therefore require extra attention. A co-founder of SMM explains this approach,

> We began focusing on **infrastructure businesses**, that are the key to bringing all the small and mid-sized farms that exist in Maine to make them more viable. So those are the hardest to support, they're under-capitalised, they're needing management support in many ways, so that area remains the toughest to find investors for and the toughest to maintain and enhance viability given our industrialised food system (Respondent 1, 27 November 2018).

The importance of rebuilding the middle of the food value chain was echoed by another SMM investor,

> We have targeted **food processing plants** that will create new markets for farms, so [grain milling] is an example of that…Those grains are largely sourced from Maine so it's

> created this market for Maine farmers to grow and sell their grain products and so we've also worked with chicken processing plants, vegetable processing plants, milk processing plants, cheesemakers, but we also help the farmers that help source those that supply the inputs. So yeah, **we work both with the farmers and food processors** but far more of the money has gone to the food processing companies (Respondent 2, 27 November 2018).

Similarly, FarmWorks investors carefully consider the impact on the entire system before approving a loan. Rather than just focusing on financing farmers, they make sure that they balance their investments so that a market can be created for businesses all along the food value chain.

> I would say that we look at the **big picture so all of the parts need to be working together.** It wouldn't matter how many farms we had up and running if there wasn't processing for that produce, then you know the system would break down, if there wasn't markets for the produce then the system would break down. So, I think it's the balance that's important as opposed to any one particular point. So, from an investing point of view if we look at it from a FarmWorks perspective, **all of them are important**, it's not an either or. It's a yes and (Respondent 3, 9 September 2018).

Investees, too, showed an inclination for systems thinking. Several discussed how price has a profound effect on which businesses are able to thrive and consequently what type of system is able to prevail. These investees emphasized their commitment to paying fair prices to suppliers that operate in a way that aligns with their values. For instance, even if prices dropped in another region, they would continue to support local suppliers. They also encouraged their suppliers to price things in a way that reflects the true cost of production rather than trying to get the lowest possible price. These investees believed that paying fair prices is critical to building a lasting food system. Such a commitment helps to support the development of an alternative to the industrial system where typically price and efficiency dominate decision making.

4.4.2.2 Primacy of relationships

Nurturing strong community relationships came out as a key feature of the Slow Money model. Moreover, the networking and technical support provided by volunteers was mentioned as integral to the success of Slow Money investments.

> We're trying to build a food system that can last. And I think the best way to try to keep a food system intact and evolving, is through **maintaining relationships**. You know people who are in it, driving it, they need to be learning year after year as opposed to making the same mistakes every year with new producers (Respondent 4, 26 November 2018).

The following FarmWorks investee makes the case that the presence of social capital within their community helps to ensure that loans are more likely to be repaid; rather than defaulting on a loan from a large, faceless bank, investees would work much harder to meet payments for their neighbours and other community members.

> I've been very impressed with the very low loss rate, and the most impressive thing…we're not allowed to use collateral. The actual **personal lending** is in some ways a better collateral because nobody wants to tell [investors] that they've lost their money so they'll do whatever they can, whereas if it's an anonymous bank holding a lean on a property, and things get too difficult and they feel the bank doesn't care they could easily just walk away. And I think they're less likely to do that in the current environment because it provides a bit more **mentoring and social support** (Respondent 5, September 11 2018).

The importance of community relationships is also evident in the emphasis on technical support. Both FarmWorks and SMM investors recognized the value of leveraging community resources and relationships to provide technical support to local AFNs. These efforts have resonated with investees as several of them how helpful the technical support was for their businesses beyond just the financial support.

4.4.2.3 Consumer demand perspectives that individualizes responsibility

Consumer preferences and education were seen as critical to supporting AFNs and building a thriving alternative to the industrial food system. The need to get consumer buy-in to this more sustainable vision was mentioned by several investees.

> I really see **consumers as being a key part** of how we make sustainable farming last…The way we make it last is kind of changing the thinking behind when you pay a dollar for good local meat or produce, you're supporting and system and by doing that you're part of the system, and not just like pleading and saying please save us poor farmers, it's saying, be a part of this community. **We're all shouldering a little bit of this** (Respondent 4, November 26 2018).

When asked about the impediments to transitioning towards more sustainable food systems, investees lamented consumers choices. For instance, this FarmWorks investee noted how one of the problems to creating larger impact comes down to,

> …**consumer behaviour,** and sort of how people spend their time and their money. I don't think the results have been realized yet to changing the culture and shifting people's values to support local small businesses… (Respondent 6, September 7 2018).

However, individual action was also seen as a source of hope by some. The co-founder of SMM noted how a change in consumer awareness can lead to significant impact,

> There are increasing opportunities for people to become aware of their impact on change and **individual opportunitie**s for making a difference towards systemic change in food sustainability (Respondent 1, November 27 2018).

4.4.2.4 Small-scale

Though in theory, shifts in individual action can lead to transformative change, the reality to date has meant that the Slow Money model remains very small in scale compared to mainstream investments in the industrial food system. The model can operate successfully in the current food regime, but its small size means that it cannot make a significant impact. Both investors and investees mentioned the small-scale of the initiatives, described as "a drop in the bucket" compared to mainstream investments in the food system. The need to grow bigger in order to have a broader impact was a common theme. As one investee SMM put it,

> I suppose you could argue that keeping it super small and just having a lot of little small producers maybe is a viable model, but it doesn't allow enough people to really participate, and it certainly, we need to be thinking about how we get good food

> into the food systems, we need to start talking about how we get good food to everyone not just people who can pay for it, and **we'll never get there unless we get a little bit bigger** (Respondent 4, November 26 2018).

4.4.2.5 Anecdotal evidence of impact

SMM and FarmWorks mostly engage in informal reporting of the impacts of their investments, relying heavily on anecdotal evidence. Where possible, they track numbers that are relatively easy to gather, such as the number of jobs supported by the loans. Placing a heavy burden on investees is not considered a practical option. The impact of the investments is sometimes gauged in vague terms like bringing "these communities back to life." One FarmWorks investor explained their approach,

> when we look back on whether we've had a successful impact we're looking at everything from you know farm failure…how well is the farm doing, how many employees, what's been the economic impact, and looking at the impact on other industries. The things we can look at as a symbol of our success is that if someone talked about Nova Scotia as being a culinary destination then you know that's we've made a difference there (Respondent 7, September 11 2018).

The FarmWorks staff member described how they view the impact of their investments,

> growing up in NS and seeing these rural communities that are really historical and beautiful and have so much history and amazing people and see those places come back to life again. To me that's where I see the biggest impact (Respondent 8, September 11 2018).

The co-founder of SMM explained how they rely on informal metrics to make sense of their impact,

> We do much **less with formal metrics than** we do with anecdotal, **relational pieces** of our work. So, we know that we have provided jobs, we have kept acreage in production but to come up with all those numbers is not something we focus on. We leave that to the other statisticians (Respondent 1, November 27 2018).

The above quote demonstrates the value of anecdotal evidence in communicating impact. Since tracking social and environmental indicators of food system sustainability is not only difficult but contested, a storytelling approach may in fact be the best way to explain the impact of investments in a way that resonates with investors. However, a qualitative versus quantitative approach may not appeal to more mainstream investors as it represents such a significant departure from a positivist approach to knowledge.

4.4.2.6 Multiple versions of sustainability

When asked "What does sustainability in the food system mean to you?" each interviewee had a unique response, but they all reflected a multifaceted approach. To describe their version of sustainability, interviewees mentioned a range of criteria which included: sustainable production methods, such as organic and agroecological practices, access to healthy food for all, equitable value chains where farmers and workers are paid a fair price, a "food system that works for everyone", food self-sufficiency and supporting local economies. Here are some examples of how respondents defined sustainable food systems in their own terms.

> For me sustainability **means that it continues**. So growers can continue to prosper and continue growing, having succession plans and people in the pipeline to take over some of the arable lands and attract immigrants with skills that are missing here to fill gaps in the market, is super important. So sustainability to me means cutting the red tape and having access to financing for young people that want to go back to the land or people with skills to be able to get land with which to work (Respondent 9, September 7 2018).

> Sustainability in the food system to me probably would have to tie down to **food security** in a way so making sure that everyone has equal and fair access to the necessary food that they require so that people aren't going hungry or are malnourished and stuff like that. So, for me it ties down to making sure there's **enough food for everyone**, food doesn't go to waste (Respondent 8, September 11 2018).

The range of definitions of sustainability demonstrates that there is not necessarily a coherent vision for the types of food systems that investors and investees are working

towards. Though the definitions all reflect an understanding of the need for a holistic approach to sustainability, there may be some value in determining up front what strong sustainability looks like from FarmWorks and SMM's perspectives as it could help streamline their investment approaches and better track their impact.

4.5 Discussion: opportunities, challenges and ambiguities

4.5.1 Opportunities

The radical sustainability transition pathway that relies on the proliferation of AFNs emphasizes the need for structural change. The Slow Money model aligns with this perspective as it attempts to shift power in the food system by redirecting capital towards a more diversified group of actors. The corporate food regime is characterized by a high degree of corporate concentration all along the food chain, from agricultural input companies to food retailers (Howard, 2016). Targeting investments towards local or regional businesses can help to break up this corporate concentration in the food system. The growth of various businesses that could support AFNs including small-scale agroecological farms and the proliferation of alternative retailers represent a departure from hyper-concentration, however according to interviewees, the middle of the food value chain has not developed as quickly and requires attention. This is partly because processing and manufacturing companies tend to require more capital and longer-term investments than those on either end of the food value chain, making them less attractive to investors.

The interviews revealed that both investors and investees are aware of and thinking about the broader structures that are limiting progress towards more sustainable food systems. They are investing in businesses that they believe are critical to supporting the entire food system in order to build an alternative that can thrive. In addition to the whole systems approach to investing, investees also tend to operate in a manner that challenge existing structures. Their insistence on pricing products in such a way that reflects the true cost of production radically challenges the economic model that the dominant food system subscribes to. The combination of the systems thinking investment strategy and the emphasis on fair pricing demonstrate how these Slow Money chapters can help support a pathway towards food system transformation, rather than merely incremental change.

In his seminal book, Inquiries into the Nature of Slow Money: Investing as if soil, food and fertility mattered, Tasch states that Slow Money is about discovering new economic relationships that move at a slower, more natural pace (2008). He believes that there is an appropriate velocity to money, which is not respected in modern society. Part of the objective of Slow Money is to attract investors that not only do not seek but also do not accept unnaturally high returns. In the foreword to Tasch's book, Carlo Petrini addresses these "unnatural returns":

> If we use money like synthetic fertilizer, we will get artificial growth, which can only last for a while, but which lacks sustaining relationships with the earth. If we use money like manure, we may have a chance to create an economy built on lasting, healthy relationships. We may create a new breed of investors who refuse to accept unnatural returns (2008).

Slow Money is about creating an alternative to the hyper-consumer culture that has driven environmental degradation around the world, to one that is based more on relationships – both between people and the land.

It is important of course to keep in mind that discourses are not always fully adopted or evenly applied in practice and Slow Money chapters are no exception. Nevertheless, there is evidence that the SMM and FarmWorks chapters have integrated Tasch's perspective on the value of relational economics to a degree. In many cases, strengthening and maintaining strong relationships was explicitly prioritized over cutting costs and increasing profits. For instance, several interviewees explained how when sourcing local ingredients, they strive to uphold ethical standards in their business dealings; even if they have the opportunity to get a cheaper price for a product from another location, they stick with their local suppliers as they recognize how external market forces can be detrimental to the vibrancy of small-scale local food systems. These entrepreneurs are instilling norms to help build trust and reciprocity because of their strong commitment to developing more sustainable food systems.

Strong local relationships set the foundation for FarmWorks and SMM to fill a financing gap where relationships with governments or traditional financial institutions have withered. Although there are some government loan programs

specifically geared towards supporting small businesses, many interviewees mentioned how governments have become less focused on serving small and midsized family farms and entrepreneurs and more on large industrial export farms and corporations. Banks have also turned their focus to large-scale agriculture and have decreased their presence in rural areas. The value of relationships is apparent in the sense that FarmWorks and SMM are more likely to consider making loans to businesses that do not have a track record or collateral if they share a close relationship, though such social capital is certainly. not the only criteria for approving a loan. The importance of strong community relationships was also made apparent in terms of the value that investees placed on the technical support and networking opportunities provided by the Slow Money chapters.

The prioritization and reorientation of relationships is a feature of Slow Money that arguably supports transformative, rather than incremental change. Conducting business in a way that enhances social capital represents a radical departure from how business is typically conducted today. This tendency to reinforce community relationships therefore can be seen as step towards structural change and one that is necessary for a more profound food system transformation rather than one that proposes technical fixes to the problems at hand.

4.5.2 Challenges

A strong barrier to transformation presented by the Slow Money model lies in how responsibility is individualized, because it does not adequately consider power relations in making systemic change. This is a common pitfall in the mainstream environmental movement that is otherwise known as the "individualization of responsibility" (Maneates, 2001). The individualization of responsibility renders power limited and diffuse as individuals are not effective leverage points; relying on them to change their behaviour for systemic impact is often futile. Interviewees frequently cited consumer change as necessary for bringing about greater transformation but did not mention other ways such as putting pressure on governments to help change the food system. The literature on the individualization of responsibility offers some insights into why a propensity to rely on consumers to bring about change limits transformability (Adams & Rainsborough 2010; Halkier et al., 2011). For instance, Maneates explains how "the relentless ability of contemporary capitalism to commodify dissent and sell it back to dissenters" has set societies

up for failure in tackling complex global issues (2001, p. 38). The common strategy for addressing such issues is by encouraging consumers to spend responsibly, as with political consumerism, often resulting in a series of uncoordinated individual consumption choices with questionable impact (Maneates, 2001, p. 38). The individualization of responsibility is a threat to transformation because it relies on uncoordinated individual consumption patterns rather than actions such as protesting or voting – actions that contest the powerful structures that have led to unsustainable outcomes in the first place. For bigger shifts, its more useful to focus on changing the rules and goals of the system (Meadows, 1998, p. 3). This is something for AFNs to grapple with. Though they are seeking to make systemic change, their strategies largely involve relying on individual consumption choices to support alternative food businesses that comprise the AFNs.

Slow Money's size is another clear obstacle to supporting a sustainable transformation. Slow Money investments are miniscule in comparison to mainstream financial investment flows in industrial agriculture. And I surmise that its small scale both ensures Slow Money's survival while at the same time hindering its transformative potential. Slow Money's small scale does not threaten the existing dominant agricultural and financial model and so, in a sense it is able to carry on largely unnoticed. It can continue to fulfill its specialized function in an area that is overlooked by the dominant financial system.

One of the reasons that the scale remains so small is because the model relies on individuals to decide to invest to support a cause that they believe in rather than tapping into more institutionalized structures, again raising the issue of individualization under neoliberal governmentality. Riddell and Moore's (2015) typology of scaling up, out and deep is helpful for understanding the limitations of Slow Money's impacts. Slow Money is adept at scaling out – that is, the model can be effectively replicated and diffused across various locales. However, it is lacking in what these authors term "scaling up" and "scaling deep" (Riddell & Moore, 2015). Scaling up relates to addressing the broader institutional or systemic roots of a problem while scaling deep is related to the idea that lasting change comes about when "people's hearts and minds, their values and cultural practices, and the quality of relationships they have, are transformed" (Riddell & Moore, 2015, p. 74).

The writings of Woody Tasch call for a deeper shift, but the interviews reveal that Slow Money participants have not fully integrated this vision. In the discussions with investors and investees, the over-emphasis on individual agency suggests that even though there are elements of systems thinking in the decision-making processes, the proposed actions (relying solely on individual consumers and investors) do not match up with what is required for systemic change. A more deliberate focus on ways of challenging the fundamental structures of power is necessary. This is not just evident through Slow Money but applies to social finance more broadly—just like AFNs, it relies on the uncoordinated efforts of individuals to invest their money to make broader societal impact. Without more institutional support, these efforts are likely to remain marginal.

4.5.3 Ambiguities

The way that impact is measured and the varying ideas about what constitutes sustainable are both strengths and weaknesses in terms of supporting a more radical sustainability transition pathway. Though both SMM and FW measure the impacts of their investments by tracking formal metrics around job creation and amount of local food sourced, for the most part, anecdotal evidence is used to report impact. While this approach accurately reflects the intangible nature and complexity of sustainable food systems, the lack of formal metrics may limit the spread and uptake of the model. It is understandable that investors would hesitate to put their money into initiatives that they are not certain are making positive impacts. Moreover, the model itself may not be adopted in certain regions for the same reason. It is also difficult to convince institutions to support this type of social financing without quantifiable evidence of the impact.

The lack of formalized impact measurement is reflected in the various perspectives and understandings on sustainable food systems. Participants each had their unique ideas about what constitutes sustainable. Sustainable food systems scholar, Garnett, notes how a recognition of the complexity of food systems is a strength as it accounts for the dynamic interactions between the social, economic and environmental components of the system at various scales. However, accounting for all these components is also seen as a drawback as this, “very complexity presents an obstacle to the development of specific recommendations as to the way forward” (Garnett, 2014, p. 7). As a remedy, she suggests introducing more

tangible metrics to certain practices in order to quantify the social, environmental and economic impacts. However, as the interviews suggest, applying more formalized metrics is operationally very challenging and unlikely to occur given the resources available. Thus, the informal measurement practices and lack of consistent definition around sustainability both bring adaptability and fluidity to the model which can be helpful for navigating complex systems change, but could well dampen investor and institutional actors' interest as they remain unclear about the benefits of the model.

4.6 Conclusion

The proliferation of small-scale social finance initiatives in industrialized countries for addressing complex challenges such as the sustainability of food systems demands greater scholarly attention. While there is considerable lay interest in the concept and application of social finance, these efforts are still niche. This paper contributed research to this area by exploring the cases of Slow Money in Maine and Nova Scotia in order to understand why these models are so marginal and their potential for more radical change. This study also showed how a lack of finance for AFNs keeps them small and disjointed and how, despite the development of social financing models like Slow Money, they are unable to challenge the dominant industrial paradigm. This study illuminated a tension in both AFNs and social finance in their desire for systemic change through a reliance on individual action.

The interviews paint a picture of a model that shows some promise towards transformation but that is ultimately constrained in its current form. The small scale of the initiative is one crucial inhibiting factor which is connected to the model's reliance on the investment decisions of individuals to engender broader systemic change. However, the actors' interests in systemic change and emphasis on nurturing strong community relationships are elements that could support a transition towards more sustainable food systems should they be coupled with greater institutional support. Finally, the way that impact is measured, and sustainability is understood and communicated are ambiguous factors that in some ways allow for the model's broad appeal but may also keep it from being adopted more widely and draw greater interest from larger institutional investors.

An implication of this analysis is that in order to elevate Slow Money to a position where it could make transformative change in the food system, more powerful societal actors need to be brought on board. The individualization of responsibility is a trap that both those seeking to promote AFNs and social finance have succumbed to. Without broader institutional change, these efforts are likely to remain marginal with limited impact. Government certainly has a role to play in implementing policies to encourage investment in more sustainable food systems and even to provide resources to funding models that are attempting to do so. The large-scale transformations to complex systems that we are contemplating today require coordinated, intentional efforts rather than an appeal to consumers to "buy green" or vote with their wallet. A more robust financing ecosystem for sustainable food systems is required to help bring about broader scale transformation and such an ecosystem must be fostered through institutional support rather than waiting for individuals to decide to invest their dollars more responsibly.

Chapter 5: Transitioning to sustainable food systems: understanding the role of impact investing

5.1 Overview

This paper focuses on finance-first impact investments to better understand their specific role in transitions to more sustainable food systems. The novel contribution that this paper makes to the overarching thesis is that it provides insights into how social finance investments that are structured to deliver high financial returns through private equity are limited in their ability to support strong sustainability outcomes. This differs from the approach taken by community investments funds as the investors studied herein directly invest in the debts and shares of companies for positive returns on their investments. The paper directly answers the three overarching research questions as it provides background into the rise of impact investing in food and agriculture; and identifies the challenges associated with these initiatives which deepens our understanding of how the design of certain social financing tools limits their social and environmental outcomes.

Abstract: Impact investing, a niche investment approach that intentionally seeks measurable environmental and social returns alongside financial returns was developed to support more sustainable outcomes across industries. While impact investors are optimistic about their role in supporting more sustainable food systems, there has been little empirical research on impact investing in the food system. The focus of this article is on impact investors that invest private equity in food and agriculture enterprises that they believe will deliver social, environmental, and financial returns. These investments take the form of venture capital investments, angel investments, and long-term mission aligned private capital. This study takes a qualitative case study approach by focusing on five impact investment funds that aim to improve sustainability outcomes in the food system. Through semi-structured interviews with fund managers combined with document analysis, the findings reveal that such impact investing initiatives are likely to make incremental changes towards improving the sustainability of our food systems. While these changes will not suffice to usher in the transitions required for strong sustainability outcomes, there is nevertheless a role for these actors to play in directing resources towards sustainability goals, particularly in the current neoliberal context.

5.2 Introduction

Transitioning to a more sustainable economy requires a host of societal changes, from the personal and communal to political and economic (Jackson & Victor, 2011). Investment is a key aspect of sustainability transitions – that is, the target of investments must shift from one based purely on financial return towards sustainability goals (Jackson & Victor, 2011). Impact investing, a niche investment approach that intentionally seeks measurable environmental and social returns alongside financial returns (Hochstadter & Scheck, 2015), was developed in the mid-2000s as a tool to support more sustainable outcomes across industries. The market for impact investments has mushroomed in the last decade and the food and agriculture sector has become a prime target for impact investments (Humphreys et al., 2017). While impact investors are optimistic about their role in supporting more sustainable food systems, there has been little empirical research on impact investing in the food system. Specifically, the extent to which this type of investment lends itself to the shifts required for long-term social and ecological sustainability regarding our food systems remains understudied. Moreover, the sustainability transitions literature tends to position finance neutrally, leaving room for a critical perspective on the role of different forms of finance for promoting sustainability objectives. This paper seeks answers to the questions: How are private equity impact investors in investing for sustainable food systems and what opportunities and challenges arise from this approach?

Impact investing can take many forms (i.e., community banks, venture philanthropy) and each form represents a distinct set of logics and practices that affect the sustainability outcomes of the investments (Cetindamar & Ozkanzac-Pan, 2017). The focus of this article is on impact investors that invest private equity in food and agriculture enterprises that they believe will deliver social, environmental, and financial returns. These investments take the form of venture capital investments, angel investments, and long-term mission-aligned private capital. This study takes a case study approach by focusing on five impact investment funds that aim to improve sustainability outcomes in the food system. Through semi-structured interviews with fund managers combined with document analysis, the findings reveal that such impact investing initiatives are likely to make incremental changes towards improving the sustainability of our food systems. While these changes will not suffice to

usher in the transitions required for strong sustainability outcomes, there is nevertheless a role for these actors to play in directing resources towards sustainability goals, particularly in the current neoliberal context.

The paper is organized as follows: First, the concepts of weak and strong sustainability are discussed in the context of sustainability transitions. The changing role of finance in the food system and the history of impact investing in the food system are then presented. Next, an overview of the qualitative research methodology undertaken for this study is provided. The results and discussion follow and help to situate private-equity-driven impact investments' role in transitions towards more sustainable food systems.

5.3 Social and ecological sustainability

There is general agreement that the mainstream, industrial food system is unsustainable, but consensus breaks down when it comes to specifying what actions and outcome constitute as sustainable (May & Duncan, 2017; Marsden, 2013). The fault lines of the sustainability debate trace back to different disciplinary concepts and models. On the one hand, there are those who draw on economics and technological innovation to find the most efficient way of achieving sustainability in the food system. In this case, efficiency is measured according to profits and resource use, such as through the application of digital agriculture (Cook, S. at al., 2021; Van. Es, H. & Woodard, J., 2017) On the other, environmental social sciences inform an alternative view of sustainability, one that prioritizes ecological and energy efficiency as well as social justice (Clapp & Scott, 2018). Heal addresses this fundamental divergence in describing the difference between weak and strong sustainability: weak sustainability is concerned with valuing natural capital if it contributes to human wellbeing, while strong sustainability values other life forms "in their own right" (Heal, 2012, p. 158). Another way to think about the distinction between weak versus strong sustainability outcomes, is in terms of the substitutability of natural capital. For instance, Neumayer maintains that proponents of strong sustainability believe that man-made and natural capital are not substitutable in the long-term, while those of weak sustainability actions believe the opposite to be true (2013). Others view weak approaches as those that largely focus on improving efficiency and overlook long-term risks, while strong actions are concerned with patterns of production

and consumption and how they interact with resource limitations (Mourad, 2016, p. 462). Moreover, the nature of decision-making features prominently in discourses on sustainability. The literature on sustainability underscores the importance of broad public participation as a key feature of a truly sustainable society (Geczi, 2007, p. 379). Decision-making processes that include a wide variety of and traditionally marginalized groups lead to stronger sustainability outcomes than those that represent narrow interests.

Weak versus strong sustainability approaches are present in discussions around sustainability trajectories of food and agriculture. The food and agriculture industry has devoted substantial resources to finding ways to increase profits in a more sustainable manner on both the supply and demand sides of the equation. These approaches largely rely on technological advances that enhance productivity and efficiency. On the supply side, sustainable intensification and climate smart technologies aim to increase productivity while reducing the number of inputs required to grow food (World Economic Forum, 2019). On the demand side, there is a push to develop alternative proteins to reduce the ecological footprint of industrial livestock production. While such approaches do improve sustainability outcomes according to certain indicators, their narrow focus on productivity and efficiency crowds out other important factors such as diversity and equity that are cornerstones of resilience (World Economic Forum, 2019). These industrial approaches therefore tend to align with a weak sustainability approach as they do not challenge structural factors that produce unsustainable outcomes in the dominant industrialized model. Weak approaches mean that key features of the current industrial food system are replicated, running the risk of further entrenching socially and environmentally unsustainable characteristics of the mainstream industrial food systems such as large-monocropped farms and extreme levels of corporate concentration. Strong sustainability approaches take a more holistic perspective and consider the multifunctional attributes of sustainable food systems. They not only consider soil health, but they also focus on social dimensions of sustainability such as equity along the supply chain. Agroecology is an example of a strong sustainability approach as it is not only a science but also a political and social movement (Gliessman, 2018).

Anderson and Revera-Ferre offer a parallel classification of extractive versus regenerative food systems with "the former focusing on productivity and profit increases and the latter on multifunctionality, providing food for human use but also sequestering carbon, preserving biodiversity, producing diverse diets to combat malnutrition, and maintaining farming livelihoods and the social reproduction of culture and farming communities" (2020, p. 2). Importantly, approaches that are extractive, or that lead to weak sustainability outcomes often lack resilience and are characterized by linear thinking. Proponents of alternative, agroecological food systems argue that complex socio-ecological systems like the food system require holistic, systemic thinking, that takes into consideration social and institutional factors and non-linear feedback loops within food systems (Anderson & Revera-Ferre 2020, p. 4; Gliessman, 2018; HLPE, 2019).

The concepts of weak and strong sustainability or extractive versus regenerative food systems are applied to understanding the contribution of impact investors to sustainability transitions in our food systems.

5.4 Impact investing and sustainability transitions

The connection between the financial system and sustainability transitions is beginning to gain traction in the sustainability transitions field. In a recent article, Naidoo explains how the financial system has an "indisputable role" in responding to sustainability challenges, but that "research on finance within the sustainability transitions field remains limited (2020, p. 272).

The 2007-2008 financial crisis brought forward questions about the role of finance in society, giving rise to the distinct field of impact investing. The rise of impact investing is in line with and part of "a broader movement gaining momentum in contemporary market economies, one demanding a more ethical and socially inclusive capitalism" (Dacin et al. 2011, p. 1204). Once impact investing became a recognized – albeit niche – form of investment, some impact investors began to focus on sectors such as food and agriculture (Humphrey et al., 2017). This was a natural area of focus because as more and more people came to recognize the unsustainability of the food system, impact investors saw an

opportunity to profit from increased demand for more sustainably produced food as well as to generate social and environmental benefits.

Measurement is considered an integral component in the theory of change of impact investments (La Torre & Calderini, 2018, p. 33). Much energy has been devoted to developing tools to adequately measure impact, a tall order when dealing with socio-ecological metrics across a variety of industries. The Impact Reporting and Investment Standards (IRIS) was the first attempt to develop a universal language for social, environmental and financial performance (GIIN 2011, p. c). Next, the Global Impact Investing Ratings Systems (GIIRS) was developed as a rating methodology for companies, investors, and intermediaries (Clarkin & Cangioni, 2016, p. 139). Both IRIS and GIIRS are attempts at codifying and bringing greater legitimacy to the field of impact investing. Despite these efforts, identifying and measuring social and environmental returns is often problematic, particularly compared to the rather uncomplicated process of measuring financial returns. Reasons for this include the sheer vastness of what can constitute as non-financial outcomes as well as the complexity of identifying sustainability/prosperity indicators in interconnected socio-ecological systems (Reeder & Colantino, 2013, p. 7). Though they are focused more broadly on the impacts of policies, programs and action plans, the literature on sustainability assessments (Gibson, 2016) and evaluating sustainability experiments (Luederitz et al., 2016), may provide some insights for those seeking to develop robust impact measurement tools.

Generally, impact investors tend to target private enterprises, growth-stage businesses, and venture-stage businesses rather than mature publicly traded companies. Impact investments can take on a variety of forms including debt, equity and deposits amongst others. The financial instrument chosen profoundly influences the type of impact that can be achieved. For instance, deposits in community banks or social impact bonds will have dramatically different outcomes than investments in private equity or venture capital. Traditional impact investors tend to be institutional investors, high-net-worth individuals, foundations and corporations. Recently, retail investors have begun to participate as more opportunities become available to them. Given the wide range of investments, Freireich and Fulton (2009)

developed the categories of “impact first” and “finance-first” to help distinguish between investors. Impact-first investors prioritize social and environmental impacts with a floor for financial returns, whereas finance-first investors predictably seek market-rate returns and some level of social and environmental impact (La Torre & Calderini, 2018, p. 25). The cases explored in this article are considered finance-first impact investors.

The subcategory of impact investors that this article analyses, are those that invest private equity into food and agriculture enterprises. Some of these private equity investors exist in the form of venture capital (VC) funds that behave as impact investors. An increasing number of VC firms are applying principles and practices borrowed from the VC industry while aiming to generate positive social and environmental impacts (Centidamar & Ozkanzanc-Pan, 2017). These hybrid organizations are inspired by the playbook of VC investments in start-ups, which, according to Natarajan et al. involves the following core beliefs: (1) disruptive innovations can have a significant, even transformational impact on major development problems; (2) entrepreneurs can successfully commercialize these technologies to scale; (3) an incentive-compatible venture financing approach is appropriate for financing social enterprises. Since VC firms have been at the core of developing innovative start-ups and have considerable resources, experience, knowledge, and networks, in theory they could be a positive force for mission-driven companies that are seeking to transform societies (Cetindamar & Ozkanzanc-Pan, 2017). However, VCs are driven by a strong financial logic, so VC firms acting as impact investors must balance their financial and socio-ecological goals.

The food sector is an obvious target for impact investing. Often farmers and food businesses, particularly those using regenerative practices, are undercapitalized and underfunded (SWIFT foundation, n.d.). This undercapitalization makes it nearly impossible for alternative or smaller scale producers to compete solely on price and in part explains why they remain at the periphery of the food system despite the desperate need to shift towards more sustainable practices. The reality of the lack of financing has drawn impact investors who believe in the importance of a more sustainable food system in significant numbers. A substantial 63% of leading impact investors surveyed by the GIIN invest in the agriculture

sector (Humphreys et al., 2017). However, these investments tend to only represent a small percentage of assets allocated in the sector, meaning that while impact investments in the food system are relatively common, they remain small in scale. Very few funds invest exclusively in food and agriculture (Humphreys et al., 2017).

The reason for this lack of buy-in might be related to the inherent risks of investing in food systems because they are so vulnerable to inclement weather, policy changes and consumer trends. Despite this riskiness, however, interest in food systems is growing as are the opportunities for investing across the food value chain. For instance, investors can participate in real estate investments in farms, cooperatives, and food enterprises or make equity investments in sustainable food companies, innovative retailers and agricultural technologies geared towards improving the efficiency of water, energy and other inputs (Humphreys et al., 2017). Investors can also make deposits in community banks and credit unions that lend money to innovative and sustainable food businesses. To date, the most common instruments are private debt and private equity and the majority of impact investing funds that invest in food systems are small/regional loan funds or private equity funds (Humphreys et al., 2017).

Within the food and agriculture sector the most common areas for impact investing include sustainable production; sustainable consumption; sustainable agtech; conservation and climate change; and social equity/sustainable livelihoods (Pons et al., 2013). As with impact investing in general, measurement can be a challenge. Investors ultimately have to decide if they want to work with a narrow set of indicators that are proxies for certain sustainability outcomes or if it is more effective to adopt a principles-based approach by using frameworks like the SDGs or the Principles from the Global Alliance for the Future of Food for example (SWIFT foundation, n.d.).

5.5 Methodology

This study took an inductive, constructivist approach by conducting semi-structured interviews with six managers from four impact investing funds and one impact investing network, primarily to understand how and why they invest in the food system and how they measure the impact of their investments. Exploratory, inductive methodology is appropriate for a study of this nature because impact investing theory is still nascent, necessitating

empirical insights for developing new theories in the field. The interviews were aimed at unearthing the subjective perceptions of impact investors and revealed both case specific interpretations as well as patterns that were consistent across the funds. The six informants include fund and network managers in the United States, Canada and the Netherlands. Interviews were conducted in person or over the phone and lasted from 30 to 60 minutes. Six interviews do not provide enough data for generalization, but they do offer insights into emerging themes that can inform future research in the field.

Interviewees were selected based on both pragmatic and theoretical considerations and a specific target number of interviews was not identified at the outset of the study. Rather, Impact investors were identified through internet search using terms such as 'impact investors and sustainable food' or 'impact investing and sustainable agriculture'. This approach was borrowed from Roundy et al.'s study that compares traditional investors and impact investors (2017). These authors explain how relying on individuals to self-identify as impact investors is beneficial because of the lack of definitional clarity of impact investing. An additional criterion for this study involved screening for the type of financial instrument adopted. In this case, funds that invest private equity were selected for analysis. Once impact investors that invest primarily or solely in the food system were identified, they were contacted by email to request participation in the study. Informants were offered confidentiality for themselves and their ventures and questions ranged from open-ended ones such as 'what motivated this investment?' and 'what does sustainability in the food system look like to you?' to more specific questions including 'what level of financial return are you seeking?' and 'how do you measure impact?'

The interviews were recorded and later transcribed. Secondary sources of data including company websites and reports, where available, were also collected. This data was used primarily to obtain background information on the cases. The interview transcripts were coded in the qualitative data analysis software program, NVivo. This was done in two rounds following procedures used for inductive theory-building research. In the first round of coding, emerging themes were identified. These included themes such as 'consumer driven' and 'sustainability criteria.' The codes were refined in the second pass, where larger

categories were identified to help group common codes into overarching themes such as 'individualization' and 'impact measurement.' Emerging patterns were assessed to determine if they were consistent across all interviewees. This data analysis generated the empirical results that are discussed later in this article.

Though they vary in terms of structure, all of the cases that were analyzed for this study involve private, equity investments in food related businesses to enhance sustainability outcomes while generating market-rate financial returns. Overviews of these initiatives are provided below including their stated goals, the financing tools they use, their investors, and their desired level of financial return.

Table 1. Description of cases

Fund	Interviewee	Background and Structure
Fund 1	Fund director (Respondent 1)	This evergreen fund invests in the transition to more sustainable agriculture systems and changes in consumption patterns by providing long-term mission- aligned private equity to leading European organic food and sustainable businesses. It invests throughout the value chain, with an emphasis on the end consumer. It aims for 8% returns for its investors, which are a combination of semi-institutional, high net-worth individuals and family offices.
Fund 2	Two fund managers and co-founders (Respondents 2 and 3)	This seed and growth stage equity fund attempts to tackle the challenges of climate, environment, health and regional economies by investing in a "clean" food system. The fund is US-based. The fund uses debt and equity and looks for anywhere between 10-15% returns. The biggest investor in the fund is a non-profit with a specific mandate around investing/fixing the food system and a handful of family offices and a wealth management firm.
Fund 3	Fund Manager (Respondent 4)	This venture capital fund invests in expansion-stage private companies and that promote health and sustainability in the food and agriculture sector in North America. They are looking for 20% returns per year, have invested in 14 companies to date across North America. Investors are mostly private a public insurance company has invested in the fund.
Fund 4	Fund Manager (Respondent 5)	This venture capital fund thinks about where to deploy capital in early stage, venture backable businesses where financial success creates meaningful social and environmental value. This fund aims for 20% returns over a 5-year time frame. The only investor in the fund is a private family office.
Network 1	Director of Impact Investing (Respondent 6)	This network is a private impact investing club that provides members with access to rare, early-stage impact investment opportunities.. The rationale for this group is that philanthropy alone

		cannot develop the infrastructure to supply good food and that solutions must come from private-sector commitments. This includes investments in companies across the food supply chain that can bring more sustainable, healthy and affordable food to market. There are 25 members in this private network, which mainly consists of high-net-worth individuals and families with a high tolerance for risk. The approach is much like angel investments, where investors invest with the expectation that the targeted company could grow to a size where it would be acquired or go public. The goal is for investors to realize returns around these transitions, but no specific amount of return is provided.

5.6 Results and Discussion

This section identifies key findings that arose from the interviews and document review. Quotes are provided throughout that represent actors' opinions in the field of impact investing and are used to support observations around the role of impact investing in sustainable food transitions. The interviews revealed that impact investing through private equity presents challenges for ushering in strong sustainability outcomes in the food system. Reasons for this include the tendency to individualize responsibility; techno-optimism; and ambiguous measurement practices.

5.6.1 Individualization of responsibility

The contradictions between structural factors and an emphasis on individualization by impact investors emerged as a key theme. Interviews revealed that consumers are considered integral by this group of investors in the transition towards more sustainable food systems. Interviewees pointed to consumers as fundamental to driving change in food systems rather than addressing structural barriers that restrict the options available for consumers to make more substantial, long-term impacts.

Consumer-end products are a primary focus of the impact investing initiatives under analysis. Generally, investment opportunities are identified through shifts in consumer tastes, and are focused on the consumer end of the spectrum rather than at other points along the food value chain. Indeed, as Respondent 2 explains "the closer you are to the consumer, the more value-added you can capture, so that's typically where we tend to focus." Respondent 4

provided another perspective as to why consumer facing products tend to receive the most attention from their fund:

> "We are mandated to target pretty broadly, but we end up mostly targeting consumer facing brands, either the products themselves or retail stores or distribution, like home distribution. And I think it's because the brand is easier to scale up where we are in the value chain, you're seeing a lot more growth in a company that's based on the brand and we have more experience with it so we can help companies move along and grow at that stage. So, it ends up being organic products, retail, delivery, stores, or you know like organic food delivery and organic products basically" (Respondent 4, 7 December 2018)

For funds focusing on market rate returns, this is a logical approach. Yet, Respondent 3 explained how if you want to see real change, governments have to act, though they acknowledged that in the current era government action is highly unlikely. They argued that change must come from the bottom up, and in this context, bottom-up change happens through commercial means. This perspective helps to explain why consumers are looked to as the primary drivers of sustainable change:

> "…we need more capital to support the companies that will grow, and consumers have to shift their buying behaviour…So that ties back to how we invest, but I think you need somewhere along the way to have massive change, governments have to act. And then financial capital will open up more liberally than it even is now, and consumers will respond with their pocketbooks, or we need a disaster to happen. It's unfortunate but it works" (Respondent 3, 20 November 2018).

There is a well-developed literature on sustainable consumption that exposes the bias towards individualization in our current economic context and the problems associated with this approach (O'Rourke & Lollo, 2015; Sefang, 2005). Strategies where "responsibility for environmental problems is individualized" (Maneates 2001, p. 33) rather than directed towards institutional/structural issues are ultimately ineffective in transitioning towards more sustainable outcomes. An overreliance on changes in consumer behaviour is common

in industrialized food systems that are dominant in the United States, Canada, and the European Union (Lawrence 2017). In these regions, consumer demand is often relied upon as the primary driver of change such as through community supported agriculture (CSAs) and farmers markets. These types of initiatives are likely to lead to weak rather than strong sustainability outcomes as they rely solely on consumer goodwill and thus remain small in scale. By relying on consumers to buy their way towards a sustainable future, they individualize responsibility which avoids addressing larger power dynamics and fits nicely into the "current neoliberal ideology of self-help" (Lawrence, 2017; Maneates, 2001).

Although people may report a desire to pay for more sustainably produced products, in reality their behaviour does not reflect this desire. Considerable research on the intersection between consumption and environmental issues shows that changes in beliefs, attitudes or values does not seamlessly translate into behaviour change (Heiskanen & Pantzar, 1997, p. 432). Thogerson illustrates the limitations of the individualization bias when it comes to sustainable food consumption (2010). Their research showed that uptake in organic food consumption was largely attributed to structural factors such as policy, legal definitions and standards, financial support to farmers, and national labelling systems. Other influential structural factors included soil conditions, food distribution systems as well as prices of organic versus conventional food products. In sum, individual-led attitudinal behaviours were not a strong indicator of increases in organic food consumption. The results of this study and the general observations from the literature on sustainable consumption detailed above suggest that relying on consumer behaviour to drive change is unlikely to lead to measurable shifts and puts the transformability of the impact investing initiatives studied herein into question.

Policies and practices that address the core issues of unsustainable consumption and production patterns in complex systems are more likely to encourage strong sustainability outcomes than those focused on decoupling or improving efficiencies while doing little to curb overall consumption. This type of 'green growth' may have unintentional rebound effects where efficiencies lead to increased consumption (Victor, 2020). More fundamental reform requires looking at power structures and identifying key leverage points for

transformation (Meadows, 2009). Financial investment certainly has potential as a key leverage point, but not so if the investments are premised on supporting individualized actions through consumption as they tend to be through private equity-based impact investing initiatives. Moreover, in a climate of unlimited economic growth, companies cannot thrive by pushing for an absolute reduction in consumption (Cato, 2012; Jackson, 2009). Similarly, data from the interviews suggested that finance-first initiatives such as private equity-based impact investments, have to deliver strong profits to investors, so their focus is largely on developing greener products rather than services or innovations that reduce consumption entirely. While decoupling is certainly necessary in the current environment, it is not sufficient to make the fundamental shifts required to respect planetary boundaries (Jackson, 2009; Raworth, 2017). The emphasis on consumers by these impact investing initiatives thus supports a weak rather than strong version of sustainability, limiting their ability to support sustainability transitions in our food systems.

5.6.2 Techno-optimism

All interviewees identified alternative proteins as a strategic target for their impact investments, which aligns with a technological focused approach to sustainability transitions. For instance, when asked to discuss inspiring trends on the horizon, interviewees said:

> "…if you look at the food system, there's a lot of things happening, especially moving to plant based and I think that's a very inspiring trend…the plant-based shift is something we're supporting very well and we're seeing how we can incorporate that within our portfolio of companies." (Respondent 1, 25 September 2018).

> "…innovative approaches to food, alternative-based proteins, and these kinds of you know factory or lab meat, I think is what they're calling it. We're seeing a lot of companies in that space and they're kind of calling into question our dependency on meat." (Respondent 6, 9 January 2019).

This enthusiasm for alternative based proteins reflects a techno-optimist approach, that is – one that views technological developments as providing solutions for more sustainable food

systems, rather than social or institutional change. This reliance on technology is one of the primary distinctions between weak versus strong sustainability approaches.

While many are hopeful about the potential of alternative proteins, others caution that they are not inherently sustainable (Ransom, 2021; Sexton, 2016; Sexton et al., 2019). Those that support alternative proteins believe that they are not only more environmentally friendly as they require less inputs, but they are also healthier since they do not involve antibiotics and hormones characteristic of industrially produced meat (World Economic Forum, 2019).

Critics raise concerns about the processed and artificial aspects of alternative proteins and take issue with the techno-scientific nature of the solutions. Alternative proteins may reduce carbon footprints, but they may also be less nutrient dense, and more expensive that traditional protein sources (Sexton, 2016).

Big Food is showing considerable interest in alternative proteins, suggesting that they see them as a potentially profitable arena that they can benefit from. For instance, Danone, Conagra, Burger King and Tesco are all using plant-based products to drive sales growth (Ramachandran, 2019). An increase Big Food's market power, or corporate concentration, through the development of alternative proteins could exacerbate unsustainable outcomes such as economic inequality in the food system. Thus, by narrowly focusing on technological advances to unsustainable aspects of the food system, these investors could be missing opportunities to invest more holistically, for stronger sustainability outcomes.

5.6.3 Ambiguous measurement practices

Measuring impact is one of the characteristics that sets impact investing apart from more mainstream approaches to investment. However, when it comes to measuring impact in the food system, measurement is still in its infancy and tends to support weak rather than strong sustainability outcomes.

A core observation that came from the interviews is that there is no one size fits all approach when it comes to impact measurement, which confounds attempts to determine how impactful these initiatives are overall.

Accordingly, the cases vary in terms of how thoughtful they are in their measurement approaches. For instance, Respondent 1 takes a comprehensive approach to measurement that is informed by their theory of change, which they label impact management, rather than impact measurement. The reason for this is because they believe that with a focus on impact measurement, one can fall into a trap of narrowly focus on a few indicators, which in the end are only proxies for sustainability and ultimately "miss the point."

This interviewee emphasized how the inflexibility of measurement can mean that even if an impact target is met, it may not be leading to the desired change, so a more qualitative based approach is required. There can be significant challenges in translating these impacts into hard numbers and, at times, storytelling can do a better job of capturing the impact. Respondent 1 explained how, an impact management approach that is driven by a theory of change is approached in the following manner:

> "we ask, what are the challenges that we see in the world? Well, those are soil fertility and health and inclusiveness…then what can we do with each investment? We kind of link [companies'] activities with the impact goals of the fund and then we establish impact metrics and KPIs for each company individually" (Respondent 1, 25 September 2018).

The other funds did not have such a comprehensive or clearly communicated strategy when it comes to impact measurement. Respondent 3 explained how they publish an impact report that focuses on "things that are "easy to measure", such as the number of women in leadership positions, the amount of food waste prevented, dollars spent on local food, and the number of jobs created. in the companies that they invest in. They are considering adopting the SDGs to add consistent framework to their reporting, but they "aren't there yet." One of the main reasons driving this limited approach to measurement is that these investors are conscious of the burden that measurement can place on investees. These are start-up companies that are small and tend to be overstretched resource wise. High expectations regarding measurement and reporting could take away from ensuring that their companies succeed over the long term.

Respondent 4 also explained that they try to avoid any onerous reporting requirements for their investees. When asked about how they approach measurement, they responded:

> "We have this list and its very intuitive and broad and we choose very specific metrics for our companies that are easy to measure. These are small companies with few resources, we can't require them to spend resources on measurement when, you know, they have to spend resources on building their company. So, you know, easy to measure, so things like the amount of organic food source…" (Respondent 4, 7 December 2018).

Respondent 6 explained that they rely on entrepreneurs to articulate their impacts and how they measure them rather than having the fund direct the process. Respondent 5 explained how they approach impact measurement on a case-by-case basis, starting with a theory of change, and employ a combination of qualitative and quantitative measurement approaches. The types of indicators that they usually track include GHG emissions, mitigated, water saved, communities that have access to healthy, nutritious and affordable food. Their plan to create bigger impacts over time involves coming up with their "own internal benchmarks where we can kind of get better about understanding what kind of impacts are achievable by companies in these categories, and then we'll be raising the standard" (8 February 2019). They entertained using the GIIRS rating system to guide their measurement practices but found it to be too rigid for their purposes.

The various approaches these initiatives take to measuring impact is testament to the underdeveloped nature of the field. While much of the literature on impact investing emphasizes the importance of clear and systematic measurement, in practice, these interviews show that the process is more arbitrary and iterative. Part of the challenge relates to a mismatch in terms of time scales – changes in socio-ecological systems often take place on a longer time horizon than what can be accounted for in investment cycles which means that they cannot be adequately captured at the scale in which measurement is occurring (Geobey, 2014, p. 33). An inability to measure impact does not mean that impact is not being achieved, but it does make it difficult to ascertain the degree to which impact investment initiatives are indeed contributing to greater sustainability. However, the tendency to focus

on impact indicators that are convenient rather than relevant, does present challenges for strong sustainability outcomes. The approach of focusing on what is easily measurable likely contributes to weak sustainability outcomes. There is evidently room for improvement when it comes to strengthening impact measurement for sustainable food systems.

5.7 Conclusion

This article offers answers to the question of the role of private equity impact investors in transitions to sustainable food systems. The impetus for this work is the understanding that financial investment is a key aspect of sustainability transitions and that the type of financial instrument employed dictates the type of impact that can be achieved. Private equity is one of the most common instruments chosen by impact investors targeting the food system. This fact, along with the distinct lack of empirical research on the role of impact investors in sustainability transitions motivated this study. The cases studied herein provide insights into the ways that private equity impact investors contribute to greater sustainability in our food systems, and the important ways that they are constrained in their attempts to bring about sustainable outcomes. The concepts of strong versus weak sustainability and extractive versus regenerative provide a useful heuristic for understanding these investors' roles in sustainability transitions.

The results show that these finance-first investors adopt particular strategies such as focusing on consumer-end products and potentially disruptive innovations such as alternative proteins in an effort to secure strong financial returns while make some social and environmental impacts. They borrow aspects from the philosophy of venture capital and apply it to innovations that are meant to value for the public good. The potential tension between investing for market rate returns and creating non-financial impact, raises questions about what types of contributions such investment practices can make towards sustainability transitions. The semi-structured interviews with key actors affiliated with private equity impact investments reveal that they are bound to focus rather narrowly on high-growth innovations at the consumer end of the spectrum. Their tendency to invest in this way led to the conclusion that these funds are unlikely to contribute to strong sustainability outcomes, but rather support weaker, more incremental change. In the worst-case scenario, their

investments may perpetuate unsustainability in the food system by funding innovations that further corporate concentration and greater inequality in the food system. However, some may see the role of private equity impact investors as perfectly rational and defensible and playing an important part in sustainability transitions by focusing on such profitable areas. From this perspective, other actors such as non-profits or governments can step in to fund less profitable but necessary areas of the food value chain. The trouble with this, is the public and non-profit sectors do not typically have the amount of capital required to adequately support innovation in more upstream points of the value chain.

The cases studies herein provide insights into the growing field of impact investing and what it could mean for addressing grand societal challenges. This article offers an initial step to lay the groundwork for future studies into the intersection between financial investment and sustainability transitions. One area that requires more research in particular relates to the tensions that arise as hybrid models develop to address social and environmental challenges and thrive in the current marketplace and what policies are required to make such hybrids successful in their pursuits.

Chapter 6: Social finance investing for a resilient food future

6.1 Overview

This chapter considers the role of social financiers that are committed to building regenerative food systems by strategically investing in the middle of the food value chain. Many of these investors take an unconventional approach to financing as they consider alternative ways to restructure the food system to support strong sustainability outcomes. This chapter makes a novel contribution to the thesis by providing insights into these fringe organizations that are attempting to make structural change by rebuilding food value chains to support small and mid-scale food systems. This paper helps to uncover some of the promising elements of social financing initiatives and sheds light on the areas that are holding back progress in this area. In this way it helps to answer the research questions around the opportunities and challenges of social finance, and the focus on the missing middle and alternative ownership structures offers some insights into the last question on lessons for broader application.

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Abstract: The converging climate, biodiversity, public health and nutrition emergencies highlight the need for more regenerative food systems. Despite the recognition that regenerative food systems enhance resilience, resource efficiency, and equity, they continue to be dwarfed by extractive industrial approaches. One factor that is holding back regenerative food systems is their lack of access to financial capital. In response to this financing gap, social financiers have turned their attention to regenerative food systems. To date, the scholarship exploring the role of social financing in supporting regenerative food systems is limited. Yet, this is an important area of study for understanding the tools that could support pathways towards greater social and ecological resilience in our food systems. This paper develops propositions on the links between social financing and regenerative food systems, with qualitative insights used as illustrations. Six semi-structured interviews were conducted with key stakeholders related to social finance and regenerative food systems in the United States. Additionally, this paper draws on information gathered through

presentations from the Regenerative Food System Investment (RSFI) forum. The analysis identified five observations that enrich the social finance and food systems literatures: (1) those who get funded are not necessarily the best placed to advance the goals of regenerative agriculture; (2) tensions exist between the way that scholars and practitioners view social finance; (3) impact metrics are in flux and must be approached thoughtfully; (4) the middle of the food value chain remains severely underfunded; (5) early steps are being taken to maintain diversity that is core to the resilience of regenerative food systems. Topics for further research in this emerging area are identified in the conclusion.

6.2 Introduction

The converging climate, biodiversity, public health, and nutrition emergencies highlight the need for more regenerative food systems. Regenerative food systems contribute directly to goals of increasing diversity and resilience.[4] They do so by emphasizing a range of locally adapted farming practices and integrating markers of social and economic diversity to enhance the resilience of food and farming communities (Anderson & Ferre, 2020). The term "regenerative" is gaining popularity over the now ubiquitous "sustainable" in relation to food systems (Ikerd, 2021). For this paper, I interpret regenerative food systems as approaches that are designed to enhance soil fertility, reduce reliance on fossil fuels, and support local communities.

Despite the growing recognition amongst industry, government, and non-governmental organizations alike that regenerative food systems are sorely needed, they continue to be dwarfed by extractive, industrial approaches (Frison, 2021). One reason why regenerative food systems remain small and are not expanding rapidly is because they lack access to financial capital, as they do not fit well within existing investment modalities that prioritize quick, tangible returns (Pavageat et al., n.d., p. 5). However, in the past 15 years, there has been increased interest amongst investors to step in and provide the types of capital necessary to allow regenerative food systems to flourish (Day Levesque, 2020). These investors are

[4] I borrow from Tendall et al.'s definition of resilience as "the capacity to continue providing a function over time despite disturbances" and in how they position resilience as a means to achieving sustainable or regenerative goals, even when the system is under stress (2015, p. 17).

known as social financiers because they are not solely driven by the bottom-line, but also seek to make a positive social and environmental impact through their investments. Social financiers seek out social innovations that they believe will deliver strong social, ecological, and financial returns. These actors support regenerative food systems with varying degrees of impact depending on which definition of "regenerative" they aspire to.

To date, the scholarship exploring the role of social financing in supporting regenerative food systems is limited. Yet, this is an important area of study for understanding the tools that could support pathways towards greater social and ecological resilience in our food systems. This paper helps to fill this gap through an examination of the ways that social finance actors are investing in regenerative food systems. I see the problems faced by those seeking to build regenerative food systems as being in part caused by, on the one hand, the ways that "big finance" or international agricultural derivative markets and other investment products shape the broad contours of the food system and exacerbate unsustainability. On the other hand, the lending practices of traditional banking institutions at the domestic level limit the development of regenerative food systems, particularly for infrastructure and processing businesses.

The research questions guiding this paper are: What lessons can we learn from the current trajectory of social finance in regenerative food systems, and are there policy recommendations that arise from studying such initiatives to further support a more resilient food future? To answer these questions, this paper elaborates upon the links between social financing and regenerative food systems, with qualitative insights used as illustration based on a combination of data gathered through semi-structured interviews, primary documents, and conference proceedings.

The interviews provide perspectives from the field into the motivations and strategies of social financiers interested in supporting regenerative food systems. Additionally, this paper draws on information gathered from the Regenerative Food System Investment (RSFI) forum held virtually from 14–17 September 2020. The forum brought together investors (fund managers, foundations, financial advisors, and consultants) and stakeholders (companies operating along the regenerative supply chain) interested in increasing capital investment in

regenerative food systems. The presentations provided key insights into how regenerative food systems are positioned as investment opportunities as well as the challenges to building long-lasting regenerative food systems. Throughout the paper, quotes from key stakeholder interviews as well as speakers from the RSFI forum are used to supplement and add a richer picture to the scholarly and gray literatures. The analysis is based on a read of the social finance and alternative food systems literatures and is supplemented by the empirical data. This qualitative study employs the tools of grounded theory to develop key findings.

The analysis identifies the following five observations that help to paint a picture of the current state of social financing for food system regeneration. in the United States. These observations indicate areas that are ripe for intervention. Briefly, these are: (1) those who get funded are not necessarily the best placed to advance the goals of regenerative agriculture; (2) tensions exist between the way that scholars and practitioners view social finance (3) impact metrics are in flux and must be approached thoughtfully; (4) the middle of the food value chain remains severely underfunded; (5) preliminary steps are being taken to avoid concentration and maintain the diversity that is core to regenerative food systems. These observations will be elaborated upon later in the paper.

This paper proceeds in the following manner. First, background is provided on the conceptual development of regenerative food systems. The fault lines of the debate surrounding what constitutes as regenerative are presented to highlight the importance of understanding which version of "regenerative" those investing in the food system subscribe to. Next the financial landscape as it relates to food and agriculture is presented, which demonstrates the structural challenges that are faced by those seeking to build more regenerative alternatives to the industrial food system. The notion of corporate consolidation is emphasized here, as it paints a picture of the powerful forces that alternative models come up against in their quest to transform food systems. Following the contextual background, the qualitative methods employed for this study are elaborated upon. The results and discussion are then presented. Finally, the conclusion provides a summary of the main contributions and findings of the paper and identifies areas for future research.

6.3 Context and background

There is a growing sense of urgency amongst a variety of actors and institutions on the need for food system transformation (HLPE, 2020; IAASTD, 2008; World Economic Forum, 2019). The conventional industrial food system has created social and environmental problems that are impossible to ignore and a variety of pathways have been proposed to transition food systems towards greater sustainability. Regenerative food systems have received significant attention amongst academics and practitioners in recent years. "Regenerative" has gained popularity as many believe that merely maintaining the status quo, as the term "sustainability" implies, is simply not enough. Indeed, to regenerate suggests "a degree of cumulative emergence – a more-than-the-sum-of-the-parts type of outlook that is interested in more than maintenance" (Duncan et al., 2020, p. 1). Some believe that "sustainability" has become watered down and co-opted by defenders of industrial agriculture and maintain that stronger vocabulary is in order (Ikerd, 2021).

There is however no legal, regulatory, nor widely adopted definition of regenerative agriculture. Some equate regenerative food systems with specific farming practices that are designed to enhance soil fertility and sequester carbon. For instance, Rhodes states that regenerative agriculture "has at its core the intention to improve the health of soil or to restore highly degraded soil, which symbiotically enhances the quality of water, vegetation and land-productivity (Rhodes, 2017). However, others maintain that regenerative food systems are much more encompassing and foster agro-bio-socio-economic diversity. Rather than a rigid definition, Duncan et al. who favour a more holistic approach present six principles of regenerative food systems and emphasize that these are dynamic and cross-cutting: (1) acknowledging and including diverse forms of knowing and being; (2) taking care of people, animals and the planet; (3) moving beyond capitalist approaches; (4) communing the food system; (5) promoting accountable innovations; and (6) long-term planning and rural-urban relations (Duncan et al., 2020, p. 5). The above definitions are merely two examples in the wide range that exists.

Since there is no agreed upon definition, some adopt a narrow understanding of "regenerative" and focus mainly on improvements to physical landscapes, while others

consider a more encompassing logic that necessitates profound changes in market relationships. This lack of conceptual coherence has meant that a variety of approaches can fall under the banner of "regenerative" with more or less potential for transforming our food systems towards greater resilience. Thus, regenerative food systems can easily fall prey to the same co-optation by the agrifood industry as sustainable food systems. Indeed, there is evidence that this is already underway. General Mills and the World Business Council on Sustainable Development (a coalition that consists of corporate heavyweights such as Walmart, Danone, Loblaw Companies Limited, McCain Foods, etc.) endorse the language of regenerative agriculture to drive transformative systemic change (General Mills, 2021; WBCSD, 2021). However, they tend to only identify with a narrow definition of regenerative agriculture, largely soil fertility, abandoning the holistic socio-ecological goals that regenerative practices were originally designed to achieve. Similarly, in the world of social finance, there are those who take a more holistic interpretation of "regenerative" and others that focus on narrow indicators to achieve their goals for a more regenerative food system.

Agroecological food systems and related approaches are practices that are designed to produce regenerative outcomes. One of the defining characteristics of these approaches is their commitment to enhancing diversity—both ecological diversity as well as the diversity of actors that can thrive all along the food value chain. Diversified agroecological systems fall in stark contrast to the conventional food system, which is dominated by a handful of powerful corporations that support industrial methods of production (McMichael, 2009).

6.4 The relationship between industrial food systems and mainstream financial investment patterns

The industrial food system is characterized by uniformity rather than diversity, making it vulnerable and less resilient to disruption (Frison, 2021; Lang & Heasman, 2015). Industrial agriculture which relies on the heavy use of chemicals and fertilizers as well as intensive monoculture and feedlot farming contributes to a host of environmental ills such as biodiversity loss, high CO2 emissions, and polluted waterways (Foley et al., 2011). Moreover, food system scholars point to the ways that corporate concentration in the food system increases income inequality along the food value chain and strengthens the power of

private interests in food system governance (Azizi, 2020; Fuchs & Kalfagiani, 2010; Howard, 2016; Lang, 2004).

Mainstream finance – both the activities that shape the broad contours of the food system through patterns of international financial investment and localized lending practices tends to work in ways that reinforce the industrial food system. Structural forces such as financialization, which is the "increased influence of private capital on the agrifood system" (Burch & Lawrence, 2009). intensifies the flow of speculative investments into food and agriculture and furthers industrialization (Clapp & Isakson, 2018). These investments tend to be in agricultural commodity markets, large scale land investments, and publicly traded food companies all features of industrialized food systems. The rise of speculative investments in agricultural commodity markets has further entrenched industrial agriculture. For instance, some argue that a connection has been made between financial investments in agricultural commodities and higher food prices (Ghosh, 2010). These higher food prices, in turn, have led to increased interest in large-scale farmland acquisitions. These investments are often made on land that produces commodities or adopts large-scale industrial farming methods that are harmful to the environment (Clapp, 2015, p. 215).

Moreover, financialization has also led to the ascendance of shareholder value in corporate governance, which has served to restructure the food system towards greater corporate concentration (van der Zwan, 2014). Put simply, the rise of shareholder value has led companies to prioritize generating short-term profits for shareholders over other goals such as investments in research and development. According to Clapp and Isakson, in order to satisfy shareholders "the executives of agrifood firms have pursued growth strategies that include financial activities as well as mergers and acquisitions" (Clapp & Isakson, 2018, p. 443). Prioritizing investors' interests has encouraged corporate consolidation in the agrifood sector, ultimately limiting options for more diverse, regenerative models to thrive.

Through vertical and horizonal integration, multi-national food corporations have amassed a significant amount of power over the course of just a few decades. Now a small number of

companies control agricultural inputs, food production, processing, distribution (Howard, 2016). In just the last five years, we have witnessed monolithic deals that fundamentally change the structure of the markets they operate in such as the Amazon/Whole Foods acquisition and the Bayer/Monsanto merger (Cowan, 2016; Clapp, 2021).

Another manifestation of the shareholder value concept is the development of corporate venture capital funds that are set up to identify and acquire innovative start-ups. Danone Manifesto Ventures, an investment fund established by the European multi-national food product corporation, is one such example. This corporate venture arm, "partners with a tribe of disruptive entrepreneurs to serve the food revolution" (Danone, 2014). The fund is exploring opportunities across the entire agrifood value chain, and according to a 2018 report planned to acquire 20-25 start-up companies over a two-year period (Vidalon, 2018). These growth strategies make it difficult to maintain diversity – a cornerstone of resilience in the food system. There is evidence that the acquisition of sustainable enterprises by larger corporations to fill their innovation gaps can dilute social and environmental outcomes as their sustainability commitments are gradually "hollowed out and subsumed into the practices of the parent company" (Mooney, 2017, p. 59). Alternative ownership models such as steward ownership models that are designed to avoid such concentration are avenues that some proponents of regenerative food systems are exploring to maintain greater diversity along the food value chain. Others are finding ways to survive in the corporately concentrated food system through the sharing economy (Carolan, 2018).

Bank lending practices are also hindering the potential of regenerative food systems. State funding for agricultural lending declined beginning in the 1980s and the private financial services industry has not adequately filled the gap (Doran et al., 2009). Today, alternative, regenerative food and agriculture businesses frequently lack access to capital (Electris et al., 2009). Indeed, a lack of access to financial capital in the form of loans and equity is cited as the "chief obstacle" for beginning small to mid-tier food and farm enterprises (Cocciarelli et al., 2010). The reasons for the lack of financing relate to: "(1) decline in the number of financial institutions providing agricultural loans; (2) decreases in lender staffing levels; (3) fewer staff with agricultural expertise even in rural areas; (4) lenders unwillingness to

venture outside of their specialty areas" (The Carrot Project, 2009). Moreover, banks that continue to work in this area tend to use standardized loan packages that are catered to large agribusinesses (Cocciarelli et al., 2010).

Social innovations, including regenerative food and farm enterprises, often require access to different forms of capital to be financially sustainable in the long-term. Their capital needs can differ from more mainstream businesses as the social and environmental impacts that they hope to make may require more patient forms of capital. Patient capital refers to lenient repayment terms, either related to collateral, interest rates, and the length of an investment. Patient capital is one method of ensuring that the investments support and nurture rather than place strain on investees. In addition to flexible repayment options, loan size appears to be a major issue for small to medium food businesses (The Carrot Project, 2009).

The market conditions in a country like the United States where industrial agriculture reigns supreme overwhelmingly (Smith, 2016). The current financing landscape is evidently not well set up to cater to the types of farms and food businesses that would comprise more regenerative food systems, signaling the need for more alternative and diverse approaches.

6.5 Social financing and food innovations

Several financial intermediaries, sometimes referred to as impact investors, have emerged in an effort to ameliorate conditions for small, innovative food businesses in light of the inadequate financing available. These intermediaries often involve a combination of capital from individuals and foundations. They broadly fall under the umbrella of social finance. At its core, social finance aims to employ capital in a way that is regenerative rather than extractive. The degree of financial return sought through these investments varies, but they each share a desire to generate measurable social and environmental outcomes. The main function of social finance is to support social innovations that are needed to address the complex challenges of the 21st century. It gained popularity after the 2007–2008 financial crisis, when many began to question the existing market's ability to benefit society as a whole (Langley, 2020). Today, there is a growing social financing ecosystem as government institutions, non-profits, and the private sector increasingly see benefit in leveraging private capital to deliver public goods.8 (public goods are typically goods and services that are

provided through taxation and benefit all of society – in contrast to private goods, which are "inherently scarce and paid for separately by individuals" (investopedia.com accessed on 4 March 2021). Business schools, consultancies, and public policy think tanks are also turning their attention to the field.

Though there is no clear definition of social finance, it can be narrowly understood as "a set of investment structures typically providing capital for social enterprises, not-for-profits and mutual organizations operating in the "social economy" across the Global North and Global South—that feature measurable targets for social impact alongside calculations of return on investment" (Langley, 2020, p. 113). Partly because the definition is so broad, there are varying estimates on the size of the social finance market, but the Global Impact Investing Network impact estimates the market at $715 billion globally, which though growing, is still a tiny portion of global investments (Hand et al., 2020).

Social finance intermediaries have arisen to channel capital towards social enterprises that they believe will help them achieve a desired mission. Social finance intermediaries "connect the supply side of the market, or social finance investors with the demand side, i.e. social enterprises and social good organizations" (Government of Canada, 2019). In classifying social financing approaches, Nicholls and Emerson offer the concept of a spectrum from "impact first" to "finance first" depending on the priorities of the initiatives (Nicholls & Emerson, 2015). Impact first investors will take concessionary rates of financial return for strong social and ecological performance, while finance-first investors seek market-rate or above market-rate returns to invest in social enterprises. Regardless of where a particular initiative lands, the goal is to generate blended social and financial value. Blended value emphasizes the inseparability of social and economic spheres.

In the past 15 years, there has been increased interest in agriculture amongst institutional investors, impact investors, and other funders via various funding vehicles such as real asset funds, private equity, and venture capital (Day Levesque, 2020). Indeed, more than half of respondents to the Global Impact Investor Network say they plan to increase investments in food and agriculture over the next five years (Janiec, 2020). Those trying to attract investment into agricultural land point to strong long-term demand and supply fundamentals.

These fundamentals include rapid global population growth, economic growth in emerging markets, and changing dietary patterns as well as declining arable land per person. They emphasize how investment in regenerative food systems could generate more favorable farm economics, and environmental benefits, creating more climate and community resilience. Additionally, they point to the ways that agriculture is seen as offering historically strong returns and attractive risk-return ratios.

Arguments such as these aim to increase investor confidence in farmland. Though the market fundamentals can be convincing, there is more nuance in terms of farmland investments which, in part, explains banks' hesitancy to provide loans to individual farmers that are interested in regenerative practices. Indeed, there are inconvenient realities about investing in farmland that make it different from financial assets. As Fairbairn explains, "farmland is laden with varied and sometimes contradictory meanings: a commodity that was not produced and cannot circulate, a source of personal independence and of group identity, a productive asset that moonlights as a financial asset" (Fairbairn, 2020, p. 81). Even amongst social financiers, there are differences between the levels of financial return that are sought from their land holdings and, consequently, differences in social and environmental impact. As this study shows, distinctions between impact- and finance-first investors and the ways that funds understand what is meant by "regenerative" determine how transformative their investment practices can be.

6.6 Methodology

A combination of qualitative research methods was employed to answer the guiding research questions: What lessons can we learn from the current trajectory of social finance in regenerative food systems, and are there policy recommendations that arise from studying such initiatives to support a resilient food future? This study followed a constructivist research approach and is aligned with the principles of grounded theory, one of the most common qualitative research methods in the social sciences (Belgrave, 2019). Put simply, grounded theory is a method that allows a researcher to develop theories that are "grounded" in the data. The main approaches for gathering data through grounded theory are interviews and observations (Belgrave, 2019). Grounded theory is an effective method for uncovering

an existing social reality, one that has not been systematically studied before and that lends itself well to rich descriptions.

A review of the scholarly and gray literatures on regenerative food systems and social finance helped to provide context for the current state of social financing in regenerative food systems. Interviews with key stakeholders involved in social finance for regenerative food systems and presentations at the RFSI forum provided valuable information regarding the opportunities and challenges facing the field. In-depth semi-structured interviews were conducted with six key stakeholders involved in social financing initiatives for regenerative food systems. Interviews lasted up to an hour and a half and interviewees were asked open-ended questions about their motivations to invest in regenerative food systems, their investment strategies, and how they track and measure impact amongst others. Interviewees were guaranteed anonymity for themselves and their organizations. I transcribed the interviews and then coded them in two rounds (a first round of initial coding followed by a second round of focused coding). Grounded theory emphasizes the conceptual nature of coding—the fact that at every level of coding, analysis is taking place and the coding becomes more abstract with each round (Belgrave, 2019). The abstracted codes become the foundation for theories that develop based on the data. Documents such as reports, and websites associated with these initiatives were also analyzed for relevant information pertaining to the research questions. Data from the RFSI forum served to triangulate the findings from the literature review and the key stakeholder interviews.

6.7 Findings and discussion

Interviews corroborated findings from the literature review regarding the gaps and motivations behind social finance investments in regenerative food systems. As one interviewee noted, “Loans between $50,000 and $500,000 dollars are a difficult size. They are not interesting to large commercial banks; they are still too small. We know that the US has this farm credit system, which is geared towards the industrial food system. For them, a $500,000 loan is very small. They’re set up to do you know 10 to 100 million-dollar loans. So, loan size, I think, is part of the gap issue” (Respondent 1, 29 November 2018). On the topic of appropriately scaled financing, another interviewee relayed an anecdote

demonstrating the mismatch between commercial lenders and those seeking to build alternative, regenerative food systems "like the time when a colleague of mine went to JP Morgan, or some bank like that, and [said] we want to try some alternative bond issuance at $10 million and they laughed him out of the room because they were like, "we won't do anything under $100 million" (Respondent 6, 8 February 2019). According to Sarah Day Levesque, Director of the RFSI forum, agricultural land has outperformed both domestic stocks and bonds on an annualized basis for over 40 years. In her presentation, she highlighted how farmland also compares favorably to other asset classes, demonstrating strong returns per unit of risk that also offer diversification potential and provide a hedge against inflation. The above comments help to paint the picture for why social financiers are targeting innovative food and farming businesses. On the one hand, there is a clear gap in the financing ecosystem, leaving regenerative food businesses underserved. On the other hand, investing in the agriculture sector can be a strong investment strategy, a recognition that is drawing new investors to the sector.

Given that food and agriculture is such a popular site of investment for social financiers, it is important to gain an understanding of the implications for regenerative food systems. Five core observations arose from the interview data and presentations from the RFSI Forum. These observations help to capture a point in time in terms of the way that social finance for regenerative food systems is developing and setting a future research agenda for scholars interested in this field. The five themes that emerged from the data shed light on the lessons that can be gleaned from the current trajectory of social financing initiatives for regenerative food systems and point to areas for policy intervention.

6.7.1 Regenerative agriculture

Depending on where they land on the continuum from finance-to-impact first investments, social financiers are variously attracted to enterprises based on the level of returns they can expect to deliver. For instance, funds such as Agricultural Capital which is "held to nothing short of the same return expectations for oil and gas and mining" seek market-rate returns. However, there is debate about the appropriateness and viability of such an approach. For instance, the fund manager of a financial services organization that provides "catalytic capital" to social enterprises noted that, "I think there are certain types of organizations that

you can support as an investor that you can get those market rate returns, but if we're thinking about those organizations that are truly committed to helping farmers or helping provide healthy food access or bringing about justice in the food system, those organizations cannot deliver high returns" (Turner, 2020). In addition, Mackay from Iroquois Farmland REIT expressed his opinion on the matter of returns versus impact. He argued that,

> People are always asking you know what are your impacts, are you regenerative, and then what are your returns? And the entire concept of creating a system where we're being more patient and we're not necessarily planting the same thing every single year, those things are all by definition you know less cost effective than just growing one thing, harvesting it and selling it…Complicated is usually expensive and sometimes when you ask how do I solve the world's problems and make the same amount of money with my investment? The answer is you can't (Mackay, September 2019).

Essentially, regenerative food systems do not always align with the requirements of the mainstream financial system. Though social financiers are attracted to the space for a combination of social, environmental, and financial incentives, the reality is that the financial incentives may not be great enough to attract the significant amounts of investment required to properly support and scale these alternative food systems. Therefore, businesses that take a narrower approach to regenerative agriculture might receive more funding than those that take a more holistic approach. A holistic approach tends to take time and is misaligned with the short-termism that is typical of many financial vehicles. This was echoed by an interviewee who shared their awareness of the "social limitations, the boundaries in which our natural social systems have become increasingly misaligned with the norms and day to day operations of the financial industry" (Respondent 6, 8 February 2019). However, they remained hopeful about the "many opportunities to begin to realign those systems in a way that not only provides us with a return on investment…but also begin to repair if not reverse the damage that was done to both our social fabric as it relates to food and culture but also to our ecosystems and broader environment" (Respondent 6, 8 February 2019).

There is an obvious role for the public sector and foundations to provide more patient forms of capital that would support businesses that require longer time horizons.

Additionally, these comments bring the issue of financialization in the food system to the forefront. Without more regulation of agricultural commodity markets and stronger antitrust laws, the negative impacts of financialization will continue to reverberate through the food system, placing strain on regenerative food systems. Indeed, the current set up tends to reward players in the industrial food system. Even social financiers are limited in the companies that they can fund depending on the level of financial return that they are seeking based on the design and structure of economic incentives in the mainstream financial system.

6.7.2 Impact measurement is in flux and must be approached thoughtfully

The way that value is measured and captured by social financiers varies significantly, though there have been efforts to standardize this process through the development of the Impact Reporting and Investment Standards (IRIS) and the Global Impact Investing Reporting System (GIIRS) amongst others. While these tools are known, the stakeholders that I spoke with largely measure impact qualitatively. For instance, one fund manager explained,

> There's about a thousand different certifications or specific metrics that you can tie to your fund or firm or operation. At the end of the day if you're doing something that isn't covered by one of those metrics, or there's a holistic attribute that you're working on that isn't captured by a specific metric, that's going to go unreported, and everybody is going to assume it's zero. And so, on the one hand don't let the perfect be the enemy of the good, but one shouldn't lean on metrics as being a perfect representation of everything that anybody is doing. (Respondent 5, 3 March 2019).

Some social financiers try to strike a balance between more qualitative and quantitative assessments. For instance, one fund manager explained how they measure impact mostly qualitatively, through what they call their "mission aligned assessment" (Respondent 2, 7 December 2018). It covers a few different areas such as business model, community building work, sources of capital, supply chain, resource management, leadership, and organizational culture. Borrowers fill out a tool on an annual basis so that they can then track progress and have conversations about ways to improve equity in the supply chain. This organization is hoping to add more rigor to its measurement process and has hired a consultant to help them

do so as donors are "always really interested in impact data, and for good reason" (Respondent 2, 7 December 2018). Another interviewee mentioned that they are trying to figure out the right evaluation systems and put forward the idea of a "principles-based approach" to impact measurement where pre-determined principles are used as a guide (Respondent 3, December 2018). In their mind, a principles-based approach "makes a lot of sense from a systems standpoint, because we can't use linear strategies to measure a system that's not linear. Traditional peer reviewed methodologies that isolate variables and show direct causal relationships…in a system where there are so many indirect relationships" (Respondent 3, December 2018).

The RFSI forum featured speakers from finance -first to impact -first intermediaries who presented different approaches to measurement depending on where they fall on that continuum. For instance, on the finance -first end of the spectrum, Agricultural Capital runs two real asset funds worth around $USD 800 million that are trying to scale regenerative agriculture. They have been "habituating measurement" by which they mean they have been putting measurement structures in place so that their team can start collecting data on water, energy, biodiversity, labor, waste reduction, pollinator health, etc. They have a performance system of 150 different factors that fall into social, environmental, and economic categories and track performance quarter over quarter, year over year. In contrast, Adrian Rodrigues from Provenance Capital Group, a boutique financial services firm exclusively focused on investing capital into regenerative natural resources, provided another warning about myopically focusing on certain impact metrics, such as carbon (emitted or sequestered). Rodrigues emphasized that there is no silver bullet to measuring impact or the regenerative capacity of a particular system, and that there is danger in focusing exclusively on a handful of quantifiable metrics and losing sight of what "true balance in an ecosystem is" (2019). Finally, Alex Mackay from Iroquois Farmland REIT noted that they publish a "public benefit report" and adopt guiding principles to track their impact, which includes land security for farmers, healthy and humane farming practices, and democratizing their shareholder base and board (September 2019). Mackay mentioned how since they do not own or operate the farmland, they cannot simply "flip a switch and get all the data we need." They are constrained in collecting data "not because we're not willing but because the cost of

collecting [the data] would be to the detriment of our shareholder return. We're proud of the metrics we can deliver but there will always be some lacking" (Mackay, September 2019).

The burden that measurement can place on social enterprises in delivering more formal, quantifiable metrics is an issue that has also been raised in the literature. Not only can tracking metrics be onerous for resource strapped social enterprises, but the emphasis on metrics may change the focus on certain organizations in a way that hinders their ability to make impact. As Langley points out, on one level requiring performance data on impact may help to improve organizational efficiency and focus on what is scalable (Langley, 2020, p. 142). However, "intensified competition between social organizations for social finance works to transform those organizations" towards an organization that "embraces social entrepreneurialism" for better or for worse (Langley, 2020, p. 142).

Measuring impact and ensuring accountability is a major point of contention in social finance. While many are drawn to identifying quantitative metrics as a proxy for regenerative food systems, the data reveals that this is much more complicated in practice. While some are pushing for standardization of metrics, others point out the importance of a bespoke approach. I argue that reflexivity must be built into any measurement system because as organizations mature and the relevance (or irrelevance) of reporting certain metrics becomes clear over time, there will be a need to adapt evaluation approaches. Impact measurement is still a moving target, and something that is being considered at the organizational, national, and global levels. If holistic and strong regenerative outcomes are the desired goal, then the value of reflexivity and nuance must be prioritized in these conversations.

6.7.3 Discrepancy between the way that social finance is portrayed by scholars and practitioners

In the gray literature, it is common to see social finance positioned in a positive light, which contrasts to the more critical view present in the academic scholarship. In a report published by Social Finance at J.P. Morgan and The Rockefeller Foundation in partnership with the Global Impact Investment Network, the introduction opens with "In a world where government resources and charitable donations are insufficient to address the world's social problems, impact investing offers a new alternative for channeling large-scale private capital for social benefit" (O'Donohoe, 2010). Another example is offered in the inaugural report for

the Canadian Taskforce on Social Finance, which states that "mobilizing private capital to generate not just economic value, but also social and environmental value represents our best strategy for moving forward on impact" (Canadian Task Force, 2010, emphasis added). Moreover, on the topic of social finance David Cameron, former Prime Minister of the UK, is quoted saying "We've got a great idea here that can transform our societies, by using the power of finance to tackle the most difficult social problems" (in Prior, 2013). Interviewees and presenters at the RSFI forum also took a largely uncritical position towards social finance, which fell in stark contrast to the way that it is positioned in the scholarly literature.

Scholarly critiques of social finance point to how it is trying to use the tools of finance to solve the problems of finance. From this perspective, social finance is financializing social and environmental spheres, or, as Rosenman puts it "financializing good intentions" (Rosenman, 2019). Here, the logics of the market rather than community-driven logics are extended and overlaid onto issues of concern. Moreover, one could argue as it has been with philanthro-capitalism that social finance relies on the existence of social ills in order to thrive (Kish, 2015).

There has been an effort to increase critical engagement of social finance and the sub-field of impact investing amongst scholarly communities. To this end, the Journal of Business Ethics put out a call for a special issue to critically examine various impact investing practices. In particular, the journal sought submissions exploring the ethical decision-making process in allocating capital to certain social enterprises and not others (Journal of Business Ethics, 2020). This is indeed a core question in determining how transformative social finance can be to socio-ecological systems.

The discrepancy in critical assessment of social financing amongst scholars versus practitioners is perplexing. Without this critical lens, it is unlikely that social finance will usher in radical changes to the systems that it seeks to improve. As innovation scholar Westley points out, social innovations must contain a radical seed and question broader structural constraints to bring about transformative change such as those required of our food systems (Westley, 2017). It is important to bring these critiques to practitioners of social

finance so that they can have a more realistic view of the nature of change that is possible with such an approach and as well as its limitations.

6.7.4 The problem of the missing middle

Social financiers are investing all along the food value chain, though some parts of the value chain are receiving more interest than others. This uneven application of investment dollars creates challenges when trying to build a holistic, regenerative food system. As mentioned, farmland tends to be a relatively popular site of investment. However, according to the Conservation Finance Network, mainstream farmland ownership and financing avenues have created barriers to the adoption of regenerative agriculture. The first barrier relates to price as farmland values have doubled in the last decade alone. This has made it very difficult for new farmers to enter the space and has led to a situation whereby 38% of all farmland and the majority of cropland is rented in the United States (Renton et al., 2020). Tenant farmers are less likely to invest in the types of regenerative agriculture practices required that lead to healthier, more biodiverse soils, as these require long time horizons. If there is a chance that they may not be able to continue farming a particular plot of land once their leases run out, they face a significant disincentive to invest in these types of long-term strategies. Recognizing this, some farmland investment companies with an eye towards impact such as local non-profit chapters and credit unions have developed financing options that will allow farmers greater access to land ownership.

While farmland has received a significant amount of interest from social financiers, the same is not true for infrastructure investments in processing and manufacturing. This is a problem because without that key link in the middle of the food value chain, it is impossible to build whole and thriving regenerative food systems. Indeed, as Paul McMahon, Co-Founder of SLM partners, an asset manager that acquires and manages rural land for institutional investors, made clear, “not all parts [of the food value chain] are as investible as others” (Crosby, 2020). Generally, the areas of the food system that tend to receive the most financing from social financiers land on the production or consumption ends. As one interviewee succinctly put it, “obviously the majority of food system impact investors are on either one side of the food system” (Respondent 5, 3 March 2019. Another stated, “there’s so much emphasis on at one end real assets and farmland funds…and on the other end consumer

packaged goods and bars and things that you squeeze out of tubes on the other end. And not a lot in the middle" (Respondent 1, 29 November 2018). Similarly, speakers at the RFSI forum noted the lack of investment in infrastructure. As Tim Crosby, director of the Thread Fund stated, "I know investing in meat processing is not sexy. I've lost some money on it and broken even on others. But it's necessary, especially if you look at a return spectrum that includes stabilization and re-regionalisation and resiliency, all beyond financial return spectrum". One of the fund managers I spoke with explained how they have historically targeted "middle of the supply chain infrastructure with the theory of change being that by investing in the processing, distributing and marketing infrastructure that connects farmers with consumer demand for locally, sustainably produced food, we can help to grow a sustainable, regenerative food system" (Respondent 5, 3 March 2019).

At the RFSI forum, David LeZaks from the Croatan Institute shared results from research that he and his team conducted in order to understand the financing needs of regenerative food systems. From his perspective, the consolidation of mid-sized farms has also led to a consolidation of processing infrastructure in the industrial food system, which has increased its vulnerability to external shocks such as COVID-19. In his view, the pandemic revealed the resilience and adaptability of smaller, regional regenerative food systems compared to conventional supply chains. In his conversations with stakeholders in the regenerative livestock and grain sectors across the United States, infrastructure stood out as a core piece that requires greater financing. During his presentation on Identifying Missing Opportunities in Processing and Infrastructure LeZaks surmised that, "If we know what we need to shift towards…a new diversified landscape, a new regeneratively managed landscape, then we're going to need a new type a new model behind this network of physical infrastructure that are going to help get products from farm to market" (LeZaks, 2020). Additionally, while he acknowledged that there is already appropriately scaled infrastructure being built, he argued that it is not happening quickly enough.

The observations from interviewees and presenters at the RFSI forum regarding the need for greater diversity in the middle of the food value chain are corroborated by the gray and academic literature. Mid-scale farms have been in decline for several decades causing ripple

effects throughout the entire supply chain. In the United States, the only farms that have experienced growth in recent years are either very large or very small-scale operations. This hollowing out of the agriculture of the middle is translating to a significant lack of diversity and resilience in the food system (Lyson et al., 2013). Research suggests that mid-sized operations may be "pivotal to helping regional regenerative agriculture reach a meaningful scale" (Gewin, 2019). However, farms of this size need to be plugged into a third-tier marketing option, or midscale value chains, which tend to be underdeveloped. Proponents of these mid-scale food systems believe that they would support redundancy and varied geographic distribution in food production which would enhance food system sustainability and resilience.

However, appropriately structured capital is needed to revitalize infrastructure to support more diversified food systems (Hohenrider, 2020). This capital is unlikely to come from traditional sources as, "most bankers and investors do not value the full set of benefits that these types of infrastructure investments required for sectoral growth provide" (LeZaks, 2020, p. 9). The middle of the food value chain presents a formidable challenge for those seeking to support and grow more generative food systems. Traditional investors and even some finance-first social financiers will not be interested in the risk/return ratio involved. Therefore, this part of the value chain will most likely require patient forms of capital and other concessionary forms of financing to develop to scale to a point where it can support the other ends of the food chain. Program-related investments (PRIs) can be loans, equity investments, or guarantees which allow private foundations to invest in mission-aligned projects that generate low returns. PRIs are the types of investments that would support "less investible" projects such as those occupying the middle of the value chain. Another option to support the missing middle would be government financing.

6.7.5 Exploration of alternative ownership models to stave off consolidation

While social financiers are attempting to realign financial and socio-ecological systems with modest success, another concern relates to the design of the current financial system to encourage consolidation such as the shareholder value conception of control. As regenerative food systems require diversity to deliver environmental and community resilience that they purport to offer, they must stave off consolidation across the food value chain. Indeed, a

regenerative food system requires a "re-fragmentation of our food system" (Hohenrider, 2020). To this end, some of the social financiers I spoke with were considering ways of ensuring long term diversity through the development of alternative ownership structures such as the steward ownership model. As opposed to the shareholder value model that dominates corporate structures today, the steward ownership model helps to "preserve the mission of a business in perpetuity and allow founders to retire and not sell the business creating further consolidation" (Respondent 3, 18 December 2018). This model is still nascent in the United States but has a longer track record in Europe (Respondent 3, 18 December 2018). Purpose, a consultancy based in the United Kingdom supports businesses in transitioning towards steward-ownership models. In their words, "steward ownership structurally retools who holds control in companies and what motivates decisions. By disrupting the relationship between power/money and the purpose of business, steward-ownership is a powerful agent for economic change" (Respondent 2, 7 December 2018).

Avoiding corporate consolidation in the food system was not a strong focus in the conversations I had with interviewees nor at the RFSI forum as it was only raised by a couple of key stakeholders. However, is a critical piece of the puzzle that is beginning to attract attention from those seeking to enhance the resilience of our food systems. I view alternative ownership models as an important area for future research and policy intervention, as the consolidation of the food value chain is a key factor that is stifling innovation in the food system and blocking efforts to build more regenerative food systems. Indeed, as Jasper van Brakel of RSF Social Finance states, "The world urgently needs to move from an extractive to a regenerative economy, and to do that we need to fundamentally redefine business ownership and governance structure" (Purpose and RSF, 2019). In collaboration with Purpose, RSF Social Finance recently published a report, "The State of Alternative Ownership in the US" where they identify demand and the legal implications of such structures in the US context. This is an area that requires more research, but we believe it will be increasingly relevant as the complex challenges of the 21st century push businesses to operate in a way that leads to a more resilient future.

6.8 Conclusion

This article aimed to shed light on the state of social financing for regenerative food systems in the United States. This research enriches both the literatures on social finance and alternative, regenerative food systems. Though the focus of this paper is specifically on food systems, the observations have implications for the role of social finance more broadly, such as the insights that arose in terms of how measurement is conducted on the ground, and the targets of investments considered through a diversity lens. Compared to the extensive research conducted on certification standards in the alternative food systems literature, there is a noticeable dearth of studies on metrics as tools to govern sustainability and regeneration so this empirical data helps to enrich the alternative food systems literature (Freidburg, 2020, p. 741). though alternative food systems scholars acknowledge the need to rethink market relationships for in bringing about long-term transformational change, the role of social finance in this process is underexplored. Thus, this paper provides new insights to both the literature on social finance and alternative food systems and sets the stage for future research agendas at the intersection of social finance and regenerative food systems.

This research develops propositions on the ability for social financing to increase the diversity and resilience of our food systems. First, the paradox of solving problems in part caused by finance with the application of more finance is something that requires further attention amongst practitioners. Though there is scholarship on the topic (Kish & Fairbairn, 2017; Rosenman, 2019), this does not appear to have made its way into conversations amongst practitioners. It raises the question of the ability for private finance to solve broader societal issues as investors will always be drawn to financial returns to some extent. Therefore, government's role in supporting more holistic outcomes for regenerative food systems should not be ignored. Second, the appropriateness of valuing nature and societal benefits in quantifiable metrics is something that calls for more in-depth engagement. Is such an approach to impact accountability going to support the types of changes we need to see in 21st century food systems? Third, clearly the middle of the food value chain is a weak link for regenerative food systems and scholars could support the movement by exploring ways of supporting this under resourced aspect of the food system. Governments and foundations with patient capital are well positioned to invest in the missing middle to help support the

growth of more regenerative food systems. Understanding any hesitancy that these investors face in financing this part of the food value chain would help to identify practical solutions to enhancing the missing middle. Finally, one clear challenge area is how social financiers can address structural factors such as the tendency toward consolidation in the current market system to maintain diversity in the food system. The potential of alternative ownership structures needs further exploration in this context and is an exciting and nascent area ripe for empirical research. This paper aimed to advance preliminary findings and set the stage for further studies on how financing can better support the goals of regenerative food systems.

Chapter 7: Conclusion

What role does finance play in the sustainability of our food systems? Are approaches such as social finance effective in bringing about the changes in our food systems that are required to meet the needs of current and future generations? These are the types of bigger questions that this thesis grapples with. Though the connection between finance and the food system is centuries old, new ways of thinking about the role of finance in society are ushering in alternative approaches – a new type of "creative capitalism" (Roy, 2010) that require scholarly attention. The cases outlined in this research project provide insights into the bigger picture about the role of finance in sustainability transitions.

In reflecting on these broader issues, this concluding chapter synthesizes the arguments from the four empirical chapters and ties them back to the study's three overarching research questions. It also acknowledges some of the study's limitations and identifies areas for future research.

7.1 Review of research objectives and goals

The unsustainability of the industrial food system has led to growing calls for transitioning towards more sustainable food systems. Many argue that we need future food systems that are regenerative, inclusive and ecologically sound (Gosnell et al., n.d.; Rockström et al., 2020; Van Zanten et al., 2019). The Covid-19 pandemic only served to highlight how critical such a transformation is (Clapp & Moseley, 2020; Blay-Palmer et al., 2020; Klassen & Murphy, 2020). It did so by exposing the vulnerabilities of global, industrialized food systems as lockdown measures impacted mobility and food importation measures (Tarra et al., 2021). Closures blocked farmers from exporting certain goods internationally, leaving them scrambling for other avenues to sell or dispose of their food. The socioeconomic inequalities in our food systems were revealed as migrant farm labourers contracted the virus due to cramped living conditions, and meat processing plants became hotbeds for infection. These are all symptoms of interconnected, food systems that prioritize efficiency over other factors that would increase resilience such as food self-sufficiency (Clapp 2020). While the pandemic demonstrated the weaknesses of the industrial food system, by the same token, it created room for smaller, alternative food systems to prove their ability to

adapt quickly to change and serve their local communities (Blay-Palmer et al., 2020; LeZaks et al., 2020).

Social finance tools are increasingly being adopted to encourage food system change. Indeed, the GIIN's survey shows that 63% of impact investors are allocating to the food and agriculture sector, the most of any other (Humphrey's et al., 2017). There is a need for more in-depth evaluation of these tools to better understand their potential role in supporting more sustainable food systems. I embarked on this study as I believed there were tangible contributions that could be made to the literatures on alternative food systems, financialization and social finance. Moreover, I saw how this study might enhance our understandings of the role of social finance in facilitating sustainability transitions more broadly.

The overarching objective of this research was to understand the dynamics of financialization and explore the potential opportunities of social finance in the food system. It sought to extend the debate beyond identifying the negative impacts of financialization on the food system and the ways in which mainstream finance is under-serving alternative food systems to also consider how finance might be reoriented for more sustainable outcomes and whether the initiatives that have emerged are meeting these goals.

The chapters in this thesis were written to answer the overarching research questions: (1) What explains the rise of social finance initiatives that target food systems?; (2) What are the opportunities and challenges facing these initiatives?; (3) What broader lessons arise regarding the design and implementation of these initiatives for scholars and practitioners interested in food system change? This qualitative study set about answering these questions through a research design that included in-depth semi-structured interviews to gain the views of those involved in the industry, document analysis of alternative financing initiatives, and a review of the grey and scholarly literatures on alternative food systems, financialization and social finance. The literature on sustainability transitions served as a guiding conceptual framework for understanding the role of finance in transformations. This research enabled me to bring forward new empirical information for analysis within the broader context of sustainability transitions. By using grounded theory, I brought forward analysis from primary

data sources to make arguments that contribute to a greater understanding how social finance interfaces with sustainability transitions in the food system.

7.2 Synthesis of arguments

This dissertation adopts a manuscript format, whereby each empirical chapter is written as a standalone piece that contributes to the overarching arguments in multiple ways. The chapters are structured according to the investment priorities of the social financing initiatives. Below is a table that showcases the foci and contributions of each chapter as a summary for the reader.

	Case study focus	Contribution
Chapter 3 "Financing food system regeneration? The potential of social finance in the agrifood sector"	FarmWorks investment co-operative, a community investment fund that provides low interest loans to small-scale food and farm businesses in Nova Scotia.	Contextualizes social finance in the broader responsible investment movement. Advances arguments about the role of government in supporting more robust social finance ecosystems.
Chapter 4 "Social finance for sustainable food systems: opportunities, tensions and ambiguities"	Slow Money chapters, which are grassroots community investment funds designed to support small-scale, local regenerative food systems.	Case studies of FarmWorks and Slow Money Maine contribute empirical insights into the development and implementation of community investment funds as a form of social finance. Identifies a contradiction in the alternative food systems literature and advances

		arguments that highlight the strength and weaknesses of the social financing tools.
Chapter 5 "Transitioning to sustainable food systems: understanding the role of impact investing"	Finance-first initiatives that reflect a venture capital model that cater to high-net worth individuals or institutional investors.	Provides in-depth explanation of finance-first impact investing and how it manifests in the food system. Identifies factors that limit the transformative potential of these funds through targeted case studies.
Chapter 6 – "Social finance for a resilient food future"	Mixed groups of initiatives in terms of the level of financial return sought, but that share a common target of mid-scale food and farm businesses.	Explores the role of corporate concentration in the food system and how it stifles the development and growth of alternative food systems. Draws on empirical data from semi-structured interviews and presentations at the RSFI forum to identify factors that support or hinder these initiatives' abilities to support or hinder sustainability transitions.

This section now turns to a synthesis of the arguments that are advanced through these four chapters. In response to the first research question, “What explains the rise of social finance initiatives that target food systems?”, I argue that the unsustainability of the dominant industrial food system, the increased financialization of the food system, the lack of financial capital available to alternative food systems, and the growing interest in alternative financing mechanisms after the 2008 financial crisis all contribute to the rise of social finance in the food system.

All of the initiatives studied herein were motivated by the unsustainability of the industrial food system, though their perceptions of what constitutes as sustainable varied. Although they may not have used the term “financialization of the food system” to explain their dissatisfaction with existing circumstances, many interviewees identified issues such as corporate concentration which some scholars associated with financialization as a reason for wanting change.

Community investment funds such as Slow Money Maine and FarmWorks explored in Chapters 3 and 4 were also motivated by the lack of financing options available for small-scale food and farm enterprises. Similarly, the funds and organizations studied in Chapter 6, were compelled to focus their investments on the undercapitalized middle of the food value chain in an effort to strengthen more resilient mid-scale food systems. The finance-first impact investing funds in Chapter 5 were motivated by perceived market opportunities rather than the desire to provide capital to businesses that traditionally struggle to accept capital. In their view, consumers' greater demand for sustainably produced food products was the driving force behind their investment focus.

These initiatives also arose because of shifting societal attitudes towards finance after the 2008 financial crisis. Indeed, all of the initiatives developed post-2008, reflecting the growing interest in social finance more generally. These initiatives were able to grain traction because they aligned with currents pushing for greater alignment between financial investments and positive societal outcomes.

The second question, “Which characteristics of the initiatives support or inhibit transitions towards more sustainable food systems?” generated several findings. The opportunities

ultimately add up to less than the challenges and varied significantly according to the structure of the particular initiatives. For instance, initiatives that took a systemic approach to investing – by carefully considering how their investments could support tangible shifts in the food system and the impact of their decision-making on the entire value chain are cause for optimism. These include the community investment funds studied in Chapters 3 and 4 as well as the funds investing in the middle of the food value chain to rebuild mid-scale food systems as seen in Chapter 6. Relationship-based lending also surfaced as a factor that enhanced the transformative potential of social financing initiatives but was only seen in the case of the community investment funds that maintain close ties to their local communities. Initiatives that took a holistic view of sustainability were also viewed as more likely to support sustainability transitions than those that took a narrow approach to the concept of food system sustainability such as the impact investors in Chapter 5. Though the initiatives in Chapter 5 were seen as limited in their transformative potential, the analysis showed that their closer alignment to more traditional finance-first approaches to investing may give them more lasting power in the current economic context. This longevity, in and of itself can be understood as an aspect of sustainability.

The limitations of social financing initiatives can be roughly grouped together according to the following categories: (i) prioritization of individual versus structural change; (ii) weak accountability mechanisms; (iii) incompatible time horizons with social and environmental change; and (iv) weak sustainability outcomes.

The initiatives studied in Chapters 3 and 4 (community investment funds) differed philosophically on many grounds from those studied in Chapter 5 (finance-fist impact investors), yet they both shared a tendency to rely on consumers to shop their way to a better food system, or on enlightened individuals to personally invest in building more sustainable food systems. In the case of the Slow Money chapters, the reliance on individuals to create systemic change was found to hold back progress and contributed to the small scale of the initiatives. Meanwhile, an overreliance on consumer behaviour, as witnessed with the impact investors in Chapter 5, is likely to only bring about incremental change at best.

Across the board, accountability and inherent features of the funds stood out as impediments to the transformative potential of these initiatives. Though certain bodies like the GIIN and others have and continue to develop standardized reporting metrics to improve the consistency and credibility of impact reporting, as well as the way that certain initiatives present themselves publicly, suggests that impact is measured in a systematic way. In practice, however, none of the initiatives did so and they all either measured factors that are easy to account for but may not directly correlate to more sustainable outcomes, or they used anecdotal evidence to track and communicate impact. While these strategies may be entirely appropriate given the desire to not overburden investees and the reality that sustainability cannot be easily captured by the aggregation of standalone metrics, this lack of accountability could detract certain mainstream (big) investors from investing. The lack of accountability likely keeps these initiatives small and only able to play a niche role in the food and agriculture financing ecosystem. Moreover, this lack of coherent measurement practices presents an existential conundrum for these initiatives, as measurement is one of the distinguishing factors of social finance impact investing.

Time horizons that the funds operate under are inherent features that limit their transformative potential. The basic features of operating an investment fund or network in the current economic system limits transformative change. This is because system change is a long-term effort requiring patient forms of capital, which certainly some initiatives provide, but many of the cases showed that funds are required to deliver returns on a much shorter time horizon that does not align with sustainability transitions.

Weak sustainability visions also limit the role that these initiatives can play in transitioning towards more sustainable and regenerative food systems. Impact investors such as those featured in Chapter 5 demonstrated a narrow version of sustainability, primarily investing in consumer-end products and alternative proteins rather than considering more multi-functional attributes of a sustainable food system. Likewise for certain investors at the RSFI forum who opted for a limited version of what constitutes as regenerative food systems and thus invested in food and farming enterprises with questionable ability to contribute to more transformative change.

The third question, "What broader lessons arise from a closer look at these initiatives?" lead to several insights. The sustainability transitions literature acts as a guiding conceptual framework for understanding the role of social finance in encouraging transitions towards more sustainable food systems for all of the initiatives analyzed in this thesis. This literature reflects on how to shape future food systems and considers the role and structure of various societal actors, including science, business, civil society, and government in co-creating future food systems (Klerkx & Begeman 2020, p. 184). Intermediaries in sustainability transitions are researched by scholars in this field and their work provides theoretical explanations for why social finance for sustainable food systems remains marginal. Scholars in this field talk about "mission-oriented" innovation systems, which include food systems that need to tackle grand societal and planetary challenges such as climate change and food security (Klerkx & Begeman 2002; Mazuccato et al., 2020).

The insights from this scholarship on creating mission-oriented innovation policy is helpful for understanding the ways that social finance could be better supported to be more impactful in sustainable food transitions. The reliance on individuals to decide to invest in funds or enterprises that will deliver public goods is unlikely to lead to the scale and speed of investment required to address our century's grand challenges as it ignores structural issues. From the sustainability transitions point of view, there is a need for a more "active and guiding role of the state with comprehensive innovation policies to govern innovation…moreover, state involvement moves from fixing market failure to shaping markets for societally relevant innovation and fixing directionality failures" (Howells, 2006; Klerkx & Begeman, 2020, p. 184; Mazzucato, 2015; Polzin et al., 2016). Therefore, a more directional role from government in financing sustainability transitions would strengthen the efficacy of social finance for sustainable food transitions.

In achieving mission-oriented innovation, like sustainable food transitions, there is a joint role for government and the private sector. The government can help to determine the direction of growth by strategically investing in the food and agriculture sector, which the private sector can build upon (Mazzucato et al., 2020). Such an approach is referred to as "market shaping" or "market creating" and is far more comprehensive than

the *adhoc* approach of current social financing arrangements. This market shaping approach requires a clear direction of change, which is to be determined by a decentralized group of public agencies. However, as this dissertation illuminated, determining the direction of food system change is no simple feat as various interpretations of what constitutes as sustainable and regenerative co-exist and compete for legitimacy.

Nonetheless, the insights from my research support the view that a more active form of government involvement is necessary for bringing about the types of change required of our food systems. Though social financing is an interesting approach that signals a desire by many to invest for positive societal change, my research demonstrates how the social financing ecosystem can best be described as a horizontal network of actors in need of more directional vertical policies to catalyze and accelerate investment in alternative food systems.

A final point to note when examining the transformative potential of social finance is the unignorable fact that it is using the tools of the system to fix the problems caused by the system. Indeed, scholars of social finance have pointed out this reality arguing that it fundamentally limits the degree to which social finance can make widescale change. Critical geographer, Rosenman, argues that "social finance attempts to resolve the unequal and often unjust results of capitalism with the application, albeit re-tooled, of more capitalism" (Rosenman, 2017, p. 2). Social finance requires making nonfinancial value calculable, which also reconfigures social and environmental services as a source of market value (Rosenman, 2017, p. 11). This involves "financial enclosure" or financialization. Thus, from this point of view, rather than presenting a solution to financialization, social finance is a particularly pernicious form of financialization.

Geobey also explains how social finance fits within and may strengthen the current neoliberal economic order (Geobey, 2014). While he admits that social finance may encourage 'profound changes in basic routines, resource and authority flows or beliefs', however these changes will take place within "certain subsystems of the existing neoliberal order" (Geobey, 2014, p. 3). From this point of view, social finance lacks transformability and is more likely to support incremental change.

Though incremental change is welcome, these scholars warn that social finance could backfire and entrench the neoliberal economic order (Geobey, 2014; Rosenman, 2017). If social finance investments replace public investments then it may serve to further consolidate power in the hands of a few (wealthy investors). This unfortunate turn could present a host of implications such as limiting the social and environmental issues that are deemed "worthy" of investment. The risks presented by social finance are well summed up by Rosenman,

> at stake is the question of whether social finance truly uses profits to engender a more holistic range of social values – as argued by the movement's proponents – or whether it allows financial logics to further dominate already-neoliberalizing models of social sciences provision and poverty regulation (2017, p. 8).

Though I certainly appreciate the limitations of social finance given its position within the neoliberal economic system, I do believe that it has at least some value in making small shifts in the system, and if supported by more radical structural changes is *a* not *the only* tool for shifting food systems along a more sustainable trajectory.

7.3 Contributions to improving the practice of impact investing in sustainable food systems

The practical contributions of these findings are useful to policymakers, investors and advocates of food system change. Understanding the barriers and opportunities of such initiatives can support more effective design and collaborations for facilitating sustainable food transitions. This research could help support the design and implementation of new and existing social financing funds so that they are positioned to make more meaningful impacts. Recommendations based on this study's findings would encourage funds to clarify their sustainability vision and carefully select investees that support strong versions of sustainability. It is also recommended that funds explore opportunities for extending their investments and provide more patient forms of capital in order to support long-term change. This could involve partnering with government or working with foundations that are interested in investing mission-aligned capital. In order to engage in more structural change, funds could become more politically involved, pushing for policies that would support food

system innovation at the local and regional scales, anti-trust legislation, firmer regulations on speculative investments that drive financialization, and rules that would put social and environmental return on equal footing with financial return. They could also become involved in efforts to find ways of improving impact measurement practices. These findings from this study could also extend to other contexts and geographies where people are seeking to promote alternatives to the industrial food system.

7.4 Limitations

There are several limitations to this study. First, ensuring the validity of qualitative data is difficult as interviews provide filtered information that is then interpreted through a researchers' own subjective viewpoint. Moreover, the relatively small number of funds that agreed to be part of the study, means that observations cannot necessarily be broadly applied to all social financing initiatives. Though data was gathered from other sources in order to create a more fulsome picture, the wide variety of types of funds that exist related to social financing in the food system makes it difficult to generalize with any certainty.

It is interesting to consider hypothetical scenarios when reflecting on a study's research limitations. Questions such as "what would you do if you had more time?" and "what would you ask if you had a huge budget?", "what information was unavailable to you but probably exists elsewhere?" prompt thought exercises that are useful in identifying how a study might be improved. If I had more time, I would have interviewed social financing funds in the UK. Social finance is relatively well established in the UK and it would be fruitful to gain an understanding of how social finance investors are working to improve food system sustainability in a more established environment. Because this study focused on industrialized food systems, the UK would be a useful addition to the project. However, I found more examples of social financing initiatives that focus on food in the Netherlands, so I opted to study those instead. However, if I had a huge budget (and more time) it would be valuable to explore the ways that impact investing in food systems is being conducted in an emerging economy context. Impact investing in the Global South is differs and is often focused on poverty alleviation and involves financing flows from North to South and all of the nuances associated with such a dynamic. However, it would be an interesting foil to

the cases that I focused on for this study and would help paint a more complete picture of the current state of social financing for more sustainable food systems. Finally, one limitation in terms of data that I was unable to overcome was speaking to investees affiliated with finance-first initiatives. The funds that I spoke with were protective of their investees for competitive reasons and did not feel comfortable putting me in touch with them. That leaves a gap in terms of perspectives as I was unable to gather empirical data from investees to learn about the ways that they felt that they benefit from or are possibly hindered by their investors. There is also likely some internal documentation that I was not privy to that would provide valuable insights into these funds' longer-term strategies such as the way that they perceive and measure impact and their visions of sustainability. I had to work with the limited number of documents that were either provided publicly on websites or that funds felt comfortable sharing with me.

7.5 Areas for future research

This study offers an initial analysis on the role of social finance in the food system, and there remain many areas related to this topic that have yet to be researched. As this study was qualitative in nature, there would be much complementary value in a quantitative study on social finance initiatives for sustainable food systems as it could add more systematic observations to the field of social finance. Moreover, hearing from different actors in the innovation process including government officials as well as investors in social financing funds themselves would provide greater insights into the barriers and opportunities of such initiatives for sustainable transformations. However, gaining access to investors in the funds themselves can represent a challenge.

The potential role of government in facilitating social finance investing in sustainable food systems is an area that requires more research. Governments can support social finance by providing tax breaks to social finance investors, they can regulate financialization and implement policies that facilitate social innovation through a more robust social financing ecosystem. There is research on government funded R&D but less on finance for agriculture (Anandajasekaram, 2019; Juruzelski et al., 2017). Though an in-depth exploration of the role of government was outside of the scope of this paper, more research into this area would be

beneficial for understanding where government fits into the food system innovation ecosystem and would result in highly relevant practical applications.

A comparative study between social finance initiatives in developed versus emerging economies would also contribute valuable findings to the literature on sustainability transitions and alternative food systems.

The role of structural racism in investment decisions and the ways in which it stifles social innovation is also an area that is ripe for research. The food and financial systems in Canada and the United States are structured in a way that privileges white people (Horst & Marion, 2019). Exploring the policies and practices that could support greater diversity, equity and inclusion in social financing practices would contribute novel insights into the scholarship on sustainability transitions and alternative food systems and generate practical insights for practitioners in the field of social finance and social innovation to confront some of the legacies of white supremacy.

More broadly, considering the role of finance in food system innovation requires further research. For instance, the role of corporate venture capital funds in spurring innovation in the food system is growing rapidly but, to date, I have not found scholarly research on the implications of such investments. Also, understanding if or how social enterprises who are funded by these social finance funds maintain their integrity to social and ecological impact while operating in a market context is necessary for bringing about sustainable transformations. This issue became clear to me throughout the course of my research.

Essentially, there is ample room for more research investigating the interaction of finance for sustainable food transitions. The practical and theoretical applications of such studies are clear given the vast unsustainability of the dominant industrial food system and the need to support the great efforts of those working to build more sustainable and regenerative alternative food systems.

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Appendix A

Questions for investors

What motivated this investment?
What attracted you to the food system?
What does sustainability in the food system look like to you?
Is there a particular point along the food chain that you are trying to target most? If so, why?
Are you interested in seeing the impact of your investments?
Are you seeking financial returns? If yes, to what level?
In your view, can impact investing create long-term change in the food system? If yes, why? If no, what else is needed?
Are there any government regulations that have either hindered or facilitated your work?
Are there any new trends on the horizon that you find inspiring?

Questions for investees

How did you come to be involved with this fund?
Does it fill a financing gap that you couldn't access elsewhere?
How do you get information about financing options?
What does sustainability in the food system look like to you?
Are you concerned about the food system? If yes, what concerns you the most?
How does your business contribute to the sustainability in the food system?
What is the biggest challenge for your business?
Does the fund help to alleviate this challenge?
Does the fund limit your autonomy in any way?
Do you think impact investing is shaping the food system?
Does anything need to change from a regulatory perspective?
Does anything need to change from a societal attitudes/values perspective?
Are there any trends on the horizon that are inspiring?

Appendix B

Example Codes

First cycle coding

Background	Explaining role of government	Networking function of FarmWorks
Bringing consumers into the fold	Explaining Slow Money investment approach	Outlining the advantages of FarmWorks
Corporate concentration	Explaining the motivation behind FarmWorks	Outlining the barriers of CEDIF
Crediting founders with attracting investors	FarmWorks providing mentorship	Outlining the benefits of CEDIF
Defining sustainability in their own terms	Filling a cap in financing	Problematizing the food system
Describing approach to impact measurement	Humanizing approach	Putting our money where out mouth is
Describing loan history	Identifying the importance of social capital in loan repayment	Return on investment
Describing problems in the food system as losses	Lamenting responsibility on private citizens	Seeing uptake in plant based diets
Describing rules of investment clubs	Lamenting the lack of trust in the model	Stating the need to educate people
Describing the benefits of Slow Money Maine	Lamenting the stifling of innovation	Warning about the precarity of FarmWorks
Describing the potential of FarmWorks	Mentioning the consolidation of farms	Watering down of sustainability meaning

Second cycle coding

Consumer demand	Describing sustainability as self-sufficiency	Impact measurement
Importance of processing and manufacturing	Individualization	Kicking off domino of funding
Lack of trust	Founders	Price
Problems with traditional lenders	Putting money to work	Relationship based lending
Relationship	Scale	Shifting role of government
Technical assistance	They've got to walk the walk	