

ABSTRACT


Impactful Thinking: Impact Investors as Agents of Systems Change

Jack Pflug

Director Shane Underwood, Ph.D.

The goal of the impact investor is to create both a financial return and a social or environmental impact while doing so. This dual-goal profession puts impact investors in a new seat than those in the financial world seldom find themselves, that of the social problem solver. Unfortunately, the world of addressing complex social problems requires a different mode of thinking than the world of investing most often requires. This thesis argues that linear thinking, similar to reductionist thinking and our most default thinking mode, fails to serve the impact investor's goal of creating net positive impact in their investment portfolios. Linear thinking, and its subsequent linear bias, lead impact investors and social enterprise investees to make poor decisions, often resulting in harmful externalities. This thesis argues that impact investors ought to consider using systems thinking and a systems change investment process in an effort to curb those negative externalities. Through the analysis of research studies, academic papers, subject matter expert opinion, practitioner opinions and books, this thesis dually highlights how linear thinking fails impact investors and how systems thinking empowers impact investors to make optimal investment decisions.

APPROVED BY DIRECTOR OF HONORS THESIS:

A handwritten signature in black ink, appearing to read "Shane Underwood", written over a horizontal line.

Dr. Shane Underwood, Department of Finance

APPROVED BY THE HONORS PROGRAM:

Dr. Andrew Wisely, Interim Director

DATE: _____

IMPACTFUL THINKING:
IMPACT INVESTORS AS AGENTS OF SYSTEMS CHANGE

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By
Jack Pflug

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CHAPTER ONE

Introduction

The world in which we live is enormously complex. Its complexity reaches far beyond our understanding, and yet we are able to interact with it. Though our perceptions of the world around us are always an incomplete version of reality, we are still able to understand some aspects of our world. We can even influence our world, and, to an extent, mold it to our desired state. The problem, however, is that every person has their own unique view of the world and how they think the world ought to be. So, as different people with different opinions and different goals alter their worlds, interests clash, and create a world that nobody in particular wanted. From this world, complex problems are born, the result of thousands of years of competing interests interacting with a myriad of complex systems. These problems, like generational poverty, hunger, and racism, are familiar to most, but like the world in which they exist, are largely beyond our understanding. Normally, when one approaches something beyond their understanding, they will interact with it and learn about it from the outcomes of their interaction. A child learns to not play with knives when their hand gets cut. In most life circumstances, this cause and effect learning process is appropriate, and is a normal part of an individual's growth. However, there are some circumstances in which approaching something unknown requires a different method of thinking. Specifically, one of these circumstances is when someone is working to help solve a complex problem that affects others. This thesis focuses on when those problem solvers find themselves working in the world of finance as impact investors.

Impact investors have elected to use their capital to fund efforts that work to solve global social and environmental issues. However, most impact investors address these problems with the cause and effect learning method most people are used to, a mode of thinking called linear thinking. Unfortunately, plenty of well-intentioned solutions championed by impact investors end up failing because of how linear thinking fails to address the complexity of our world. The necessity for an assessment of how impact investors think exists because, unlike the child who cuts their own hand, a failed impact initiative can harm other people. Failure might not just lose money for investors but may also create harmful negative externalities for a range of other stakeholders, even the victims of the target problem themselves. So, this thesis argues that impact investors should adopt systems thinking as a more suitable mode of thinking to address the complex problems of our complex world.

The purpose of this thesis is to prove that systems thinking better serves impact investors to create deep, net positive impact than linear thinking does. The following chapters will serve to describe the two modes of thinking, and explore the negative externalities linear thinking can cause, and the empowerment that systems thinking can provide. For the sake of the argument, this thesis will regard impact investors as those who invest in private markets, as that is where impact investors have the most direct influence over impact initiatives and outcomes. As the impact investing industry gains more assets under management and worldwide attention, it will be critical for the industry to prove itself. Hopefully, after reading this thesis, an impact investor will agree that the industry must more widely adopt systems thinking if it is to prove itself capable of creating real, deep impact.

CHAPTER TWO

A Brief Overview of Impact Investing

Though the intended reader of this thesis already understands what impact investing is, this chapter serves to highlight and explore some of its key characteristics. These key characteristics will be important in framing the discussion on linear and systems thinking.

What is Impact?

An interesting idea though it may be, assessing a systems approach to impact investing must come second to assessing the industry's principal question: what is impact? A vague term, "impact" can often be the culprit for the premature stalling of conversations or debates about the industry. Is impact subjective? How, then, can one surmise if the impact being done is "good" for everyone? Is it objective? How, then, do you choose a definition of impact that doesn't exclude some stakeholder's view of the ideal world? Surely, ideal impact to a Christian American must look different than ideal impact does to a Buddhist Tibetan, or to an atheist. How, then, is an impact investor supposed to approach the definition of such an enigmatic term? These are but a few of the valid questions being discussed among industry thought leaders, but here they serve only to highlight the problem of the illusiveness of "impact's" definition. This paper will not serve to answer these questions, nor can its author do so if he wished. However, understanding that there is a lack of clarity and consensus within the industry on what impact means highlights that the industry still needs to prove itself capable of consistently creating and measuring it. After all, how can an impact investor actively

create impact if they don't definitively know what it means or if their understanding of it is actually correct?

Impact Investing

Impact investing is not simply an investment that has an impact. As most Wall Street skeptics will say when you first bring up the topic, “don't all investments have an impact?” The answer is yes, all investments have an impact (*The Trouble With Impact Investing* | *Confluence Philanthropy*, n.d.); investments can create economic opportunities that allow for many stakeholders to benefit financially, improving their lifestyle potential materially. Emerging markets investment activity tends to have a lot of positive impact, as investment increases industry, which creates jobs and improves local emerging economies that host a large proportion of impoverished people. However, simply providing an investment in an energy company in Northern Africa as a part of a standard emerging markets private equity strategy is not an impact investment, even if it just so happens to have great positive impact in addition to financial returns. In addition to positive impacts, all investments have the opportunity to also create negative impacts such as a carbon footprint or displacement of jobs. So, if every impact has a potential array of impacts from positive to negative, what then is an impact investment?

What classifies an impact investment has little to do with the investment structure, but rather, the investment process. Though the industry still lacks strong cohesion, there are thought leaders and organizational leaders that many view as being authorities on the topic of impact. One such organization is the Global Impact Investing Network, or GIIN. The GIIN has helped cement the industry with thorough reports and common definitions to industry terms. For the sake of explaining what impact investments are, this thesis will

analyze the GIIN's definition, "Impact investments are investments made with the intention to generate positive, measurable social and environmental impact alongside a financial return"(What You Need to Know about Impact Investing, n.d.). There are two key primary elements in this definition that are most relevant to this thesis: measurable impact outcomes and intentionality.

Measuring and Managing Impact

The first aspect of the GIIN definition of impact investing is that the impact occurring from investment must not only be measurable, but also actively measured by the impact manager. For a long time, the idea of measuring impact has been elusive and hard to define; it's not as easy as it seems, and even now is certainly never comprehensive. The impact from an investment is its contribution to solving social and environmental problems, but problems aren't siloed, they have ripple effects. This also means that solutions carry the same ripple effect. So, even if an impact manager lists a hundred statistics or figures that indicate the fruit of their investment, it's almost impossible to fully capture the impact an investment has made on every stakeholder. This characteristic of impact is particularly pronounced because unlike financial returns where the beneficiary is the wallet, the ultimate beneficiaries of impact are the heart and minds of those whose problems have been alleviated. Without the burden of whatever problem they were facing, the real impact from the investment is what that beneficiary can now do in the future. For now, impact investors will have to settle with certain metrics that serve to indicate those potential impacts on people's lives. However, that is not to belittle the current standards, especially considering how far they've come thanks to the help of leading institutions such as The Impact Management Project. Founded in 2016, the IMP

has talked to thousands of impact practitioners in an effort to form consensus on how impact ought to be numerically represented, measured, and managed. From all of their research and collaboration, the IMP states that impact can be measured across five dimensions: what, who, how much, contribution, and risk (*Impact Management Norms*, n.d.). “What” describes the outcome, “who” describes the stakeholders experiencing the outcome, “how much” describes the degree to which the stakeholder experienced the outcome, “contribution” describes whether an investor’s efforts resulted in outcomes better than what would have likely occurred otherwise, and “risk” describes the likelihood that the impact will be different than expected. These five dimensions can be further broken down into data categories, which define specific, quantifiable traits of impact outcomes. Though all impact managers have a unique take on how they report their impact to investors and other stakeholders, most are guided by the standards set forth by IMP. Being able to identify and report your impact is essentially the most critical aspect of impact investing. As this thesis will explore in later chapters, systems thinking provides a means by which an impact investor can more deeply understand the impact that their investments create, and how to manage them by using a systems change approach to impact management. Linear thinking, as this thesis will explore in the following chapter, often detracts from an impact investor’s ability to measure impact effectively.

The Significance of Intentionality

The second, and arguably most important, aspect of the GIIN’s impact definition is intentionality. As noted before, all investments have some form of impact other than a financial return; intentionality is the key that makes an investor an impact investor. Of

course, the aspect of intentionality goes beyond just calling oneself an impact manager and actively thinking about the impacts of your investments. As the previous paragraph on impact measurement and management alluded to, it is the impact investor's job to not just report their impact, but also manage it. It can be a confusing thought, that the ill-defined and enigmatic nature of impact can be "managed." However, the word "manage" is not to be confused with the idea of control because as any finance veteran will attest, control is an illusion. One can view the management of impact similarly to how an investor manages two primary aspects of finance, risk and return, they optimize it. Similar to how investors select investments and construct a portfolio in an effort to optimize the portfolio's risk and return profile, impact investors select investments and construct a portfolio with the goal of optimizing impact in addition to optimizing risk and return. What, then, does optimal impact mean or look like? As previously mentioned, all investments have a potential array of impacts ranging from negative to positive. So, the job of the impact optimizing investor is to select investments and construct a portfolio that has what is commonly referred to as net positive impact. Palladium Impact Capital, an impact shop with a particular focus on systems change, defines "net positive impact" as follows: "with the recognition that all investments have positive and negative social and environmental impacts, the positive impacts outweigh the negative impacts" (*Palladium - Systems Change*, 2019, pg. 4). The key aspect to note from this definition is that it acknowledges that negative impact still exists. That is to say, the job of the impact investor is not to create no negative impact, as that is an impossible task. Yet, with an intentionality that fosters impact awareness, an impact investor can minimize negative impact and react to unintended negative impacts with additional combative action.

The combative action is where the second major aspect of intentionality becomes relevant, where the impact investor is called to do more than the typical investor. The second major aspect of intentionality is collaboration. In order for the impact investor to actively work towards solving social and environmental problems, collaboration and consistent communication with partners is a necessity. With a mindset of collaboration and humility, understanding that investors have their expertise, but that other stakeholders have far greater insights into the problem at hand than they do, impact investors can allocate capital in such a way that actively fights systemic, complex problems. The idea of not working alone but functioning within a collaborative web of change makers is a central idea of systems change. This idea will be further explored in Chapter Six of this thesis.

Finally, intentionality is critical in impact investing because the self-awareness needed to switch modes of thinking requires it. If an impact investor wants to make the switch from linear thinking to systems thinking, they cannot do so without taking the time to look inward and assess their own mind. Linear thinking, as the following chapter will describe, is not only our default mode of thinking about the world around us, but it is also especially enforced in conventional financial decision making where math and cause and effect relationships reign. By nature, thinking about systems is a very different lens through which to view problem solving than any investor has used in their career. Before this thesis can explore the benefits of systems thinking, the following two chapters will serve to highlight why an impact investor might want to leave behind the mode of thinking they've been accustomed to.

CHAPTER THREE

An Overview of Linear Thinking

An aspect of intentionality relevant for any professional, but especially for impact investors, is an active self-awareness about how personal flaws or inadequacies may hamper their work. Though an individual's list of flaws is as long as their near-infinite ability to grow and improve, there is one flaw in particular that an impact investor ought to be keenly aware of: thinking linearly. By observing the manner in which humans typically think about problems and the world around us, it becomes clear how a linear style of thinking fails to serve us past a certain degree of situational complexity. Impact investors, by engaging with global problems like poverty, hunger, and climate change, are stepping into a world of complexity that requires a different type of thinking than investors typically employ in financial decision making and problem solving.

What is Linear Thinking?

Linear thinking is often dissected through the lens of sub-optimal or incorrect business management decisions such as improper assumptions on cost-benefit relationships that result in shrinking margins. Relationships between variables like sales price and sales volume are nonlinear, but managers often make pricing or discount promotion decisions based on an assumed linear relationship. The outcome of business decisions like these are often failed projects because of the effects of some unanticipated variable or from the relationship between variables acting differently than presumed. This

paper, however, will focus on linear thinking's contrast to the more complex systems thinking in regard to assessing and remedying social and environmental problems.

Principally, linear thinking is concerned with only two variables and their linear relationship. Though not inherently improper—especially for instances in which variables are few and relationships are, in fact, linear—the danger for impact investors is that from linear thinking, linear bias is born. The danger in this bias is that it encourages an impact investor to close off their minds to the possibility of more variables and more complex variable relationships existing beyond what their initial perception indicates. Thus, by narrowing their scope of observation, the impact investor limits their ability to see the full problem, and, subsequently, the full array of potential solutions.

In the words of personal and professional development author Scott Miker, linear bias, “ignores the complex system and instead focuses on an aspect of a system. Reality says that there is much more at any given time than a simple start and finish or cause and effect. Yet linear thinking leads us to believe that is all we need to know or understand” (Miker, n.d.). Miker is arguing that linear thinking forces the thinker to be too zoomed-in, similar to how looking at an image zoomed-in provides little evidence of what you are looking at. Linear bias makes it very difficult for a thinker to zoom out and see the full picture.

For the impact investor who seeks to understand how different styles of thinking effect the efficacy of their work, intentionality requires a step beyond just knowing what linear bias is. A deeper application of an impact investor's intentionality would be to observe the areas in their problem-solving process, from problem identification all the way to solution application, that might be subject to linear bias. This level of

intentionality is significant because linear bias is not something an impact investor ought to try and avoid, it is something they likely already have that needs correcting. It is important to note that it is not impact investing, or even investing, that produces the bias from this mode of thinking. On the contrary, linear thinking is most often the default mode of thinking that we humans use in our daily lives.

Why Humans Think Linearly

Even with this deeper intentionality, to settle at that would be to apply a band-aid solution of our own. Rather, it's important to take a step back and look at not just one but multiple variables that create this linear thinking habit. Miker describes how, "Most people have been taught over the course of their lifetime to see things linearly. We are taught that there is a cause and then an effect. We learn about beginning and then an end. We see a problem and then a solution. We witness birth and then death. After a rise comes a fall. From every action brings a reaction" (Miker, n.d.). Miker's description points to two key ideas: our brains prefer linear patterns, and the simplest linear pattern is a binary one. Point A to point B thinking is prominent because it is easy to think in binary, black and white terms. Vu Le, Executive Director at systems change non-profit Rainier Valley Corps, describes this phenomenon by noting how, "The world is complex. Therefore, to put order to things, we try to become more organized and linear in many aspects of life and existence" (Le, 2017). These two points indicate that our brains are inherently aware of how complex the systems around us are, and like an overwhelmed computer, they choose the most efficient way to process all of the data by organizing it linearly.

Our brain's propensity towards binary, surface-level, linear thinking is described by Daniel Kahneman's famous distinction between fast "System 1" thinking and slow "System 2" thinking. Simply put, System 1 thinking is the mode of thinking concerned with intuition and automation, whereas System 2 thinking is the slower, more controlled mode of thinking that is tasked with problem solving, decision making, beliefs and any task that requires significant attention and effort. Kahneman notes that, "System 1 has biases, however, systematic errors that it is prone to make in specified circumstances. As we shall see, it sometimes answers easier questions than the one it was asked, and it has little understanding of logic and statistics" (Kahneman, 2011, p. 25). The potential problem lies in the relationship between System 1 and System 2 thinking, where, "System 1 continuously generates suggestions for System 2: impressions, intuitions, intentions, and feelings... If all goes smoothly, which is most of the time, System 2 adopts the suggestions of System 1 with little or no modification" (2011, p. 24). The key phrase from Kahneman is, "If all goes smoothly," unfortunately, sometimes this is not the case. What this indicates is that even when an impact investor's mind is engaged in System 2 thinking, it can still be controlled by System 1 thinking if intuitions aren't actively challenged. Furthermore, Kahneman describes how, "The division of labor between System 1 and System 2 is highly efficient: it minimizes effort and maximizes performance" (2011, p. 25). What this entails is that our brain's default state is System 1, and that it prefers using System 1 more than System 2 for the sake of minimizing effort. What helps perpetuate our bias-prone linear thinking, then, is that our System 2 brain is convinced by our System 1 brain that it doesn't need to sacrifice ease for performance.

It's natural for our brains to operate with multiple modes of thinking, as Kahneman so brilliantly describes. So, it is important to emphasize that linear thinking is not inherently bad. Indeed, there are circumstances in which thinking linearly, thinking simply, and using System 1 thinking work to our benefit. As many in the financial world are aware, "analysis paralysis" or overthinking a problem, is common. This paper will address the distinction between overthinking and thinking with more complexity in the later chapter on systems thinking.

The Problem with Linear Thinking

If linear thinking, and even linear bias, then, aren't inherently dangerous, what is the problem? The problem is that, "the obvious choice is often wrong" (de Langhe et al., 2017). Bart de Langhe, one of the Marketing Science Institute's most promising young scholars in marketing in 2017, describes how, "The human brain likes simple straight lines. As a result, people tend to expect that relationships between variables and outcomes will be linear" (2017). The authors go on to describe how, "nonlinear phenomena are all around us in business...If you don't recognize when they're in play, you're likely to make poor decisions. But if you map out relationships in data visualizations, you can actually see whether they are nonlinear and how — and then make choices that maximize your desired outcome" (2017). There are a few key points to discuss from de Langhe's et al's article. Firstly, because our default is to use System 1 fast thinking, we assume linearity amongst variables in the same way that we instantly assume certain emotions by viewing a person's face. Secondly, because of this aforementioned common trait, humans are subject to making poor decisions when we allow System 1 thinking to maintain our default mode of thinking even when facing

complex problems. Lastly, the authors note that, in marketing, a tactic that helps force practitioners to take a step back and use more complex thinking is to use data visualizations (2017). This points to the idea that impact investors, in an effort to avoid linear bias, may find using data helpful as a tool to avoid making immediate, System 1-type assumptions. This idea will be further explored in later chapters as it describes how systems thinking impact investors effectively use data and systems maps to better understand the problem they face and the impact they mean to create.

An example of the linear bias that impact investors currently face is in the impact measurement process. In the previous chapter's description on impact measurement, this thesis mentioned how linear thinking often detracts from an impact investor's ability to effectively measure and report impact. Impact consultant Meeghan Zahorsky describes how the timely evaluation process of a potential impact investment encourages impact investors to, "rely on the bad science of simply counting outputs (the number of lives impacted or solar panels installed) and assuming a correlation between outputs and impact" (Zahorsky, 2020). Coupled with an incomplete understanding of what impact truly is, the assumed linearity between action and outcome often leads impact investors to report unsubstantiated impact metrics. Chapter Six will discuss how systems thinking allows impact investors to more accurately define their contribution to problem solutions.

What Perpetuates Linear Bias

Before this thesis explores how exposure to linear bias might negatively affect an impact investor's ability to create net positive impact in their portfolios, we ought to look at what perpetuates linear bias. We've discussed why humans in general are susceptible to linear bias, but it's also important to be aware of what might perpetuate linear bias

specifically for impact investors. Many factors that perpetuate an impact investor's inability to solve others' problems come from the fact that they usually don't experience the problem themselves. So, impact investors are often too far removed from the problem to diagnose it effectively. This distance between impact investor and problem can attribute to improper assumptions because of the skewed data our brains are fed, our privilege, our naivety, and our ignorance. This is not a condemnation of impact investors, rather, a sober claim of what impact investors struggling to create impact might be subject to.

Author, social and political activist, and founder of Solutions Journalism Network, Courtney Martin, describes the aforementioned problem through a phenomenon called "the reductive seduction of other people's problems," of which her article shares the name. The premise of this phenomenon is that the privileged, well-intended people who want to create a life of meaning by helping others are, "attracted to solving problems that seem urgent and readily solvable" (Martin, 2016). The fact that purpose-driven people are often attracted to exotic problems that seem readily fixable tends to cause them to reduce the complexity of others' problems. Martin, too, notes how the reductive seduction is not malicious, but that it is, "psychologically defensible; we don't know what we don't know" (2016). She does, however, declare the reductive seduction as reckless because it is dangerous for both the people whose problems have been mistakenly misdiagnosed as easily solvable, and for the people whose problems have been avoided. It wouldn't be unreasonable to claim that this effect is especially dangerous for an impact investor because of the temptation to serve investors over the problem at hand. The satisfaction an impact investor may derive from creating positive outcomes,

and the subsequent investor attention they may receive via praise or increased AUM, may cause them to invest in solutions to problems that they deem to be simpler and quicker to “fix” than they actually are. Kahneman, too, addresses this reduction problem in saying that, “You cannot help dealing with the limited information you have as if it were all there is to know. You build the best possible story from the information available to you, and if it is a good story, you believe it. Paradoxically, it is easier to construct a coherent story when you know little, when there are fewer pieces to fit into the puzzle” (Kahneman, 2011). Essentially, our propensity to oversimplify problems fits well into the oversimplified narrative of our individual worldview.

In addition to privilege and ignorance, an influx of misleading information in Western media has, over a long period of time, built a misinformed vision in the minds of many well-intentioned people as to what the reality of those less fortunate than them truly is. In an episode of TruTV’s popular series, “Adam Ruins Everything,” entitled, “Why ‘Buy One, Give One’ Companies Don’t Help Anyone,” host Adam Conover discusses how the Toms Shoes failed social business model highlighted a key problem found all too often in Western thinking as it pertains to helping less fortunate people overseas. Though this paper will discuss Toms in more depth in the next chapter, it is important to highlight what Teddy Ruge, a guest on the show, says about a phenomenon he calls “poverty porn.” Founder of Raintree Farms in Uganda, Ruge describes how, “[the media] finds the most extreme situations and make it look like the most common situation on the continent. Shoes is the least of our problems” (truTV, 2015). What this statement reveals is that people already have an accumulation of information in their mind, true or not, about what reality is like in generally more impoverished regions like Africa or Southeast

Asia. So, when well-intentioned people try to think of solutions for others' problems, they are subject to thinking through the lens of all of the information in their head. Poverty porn, like the reductive seduction phenomenon, not only crowds viewers' heads with non-problems, but also, in doing so, clouds viewers from seeing what the true problems actually are. As this paper will discuss later, communication and collaboration are so essential to a problem solver like an impact investor because of the necessity to vet the information and assumptions that drive their investment decisions.

When addressing a problem that is not our own, impact investors must be especially vigilant in checking their own assumptions about how other people live, what their experiences are like, and what their real needs are. The judgement and problem-solving capabilities of an impact investor are subject to linear bias because of how our brains will use System 1 thinking to trigger immediate, oversimplified opinions on the basis of an accumulation of information that is incomplete and tainted with inaccuracies. So, if an impact investor seeks to avoid linear-biased impact investments, they must be consistently conscious of the aforementioned influences in their life that might perpetuate their linear bias. This paper will now explore some ways in which linear bias-induced oversimplification of problems has led to harmful, negative externalities.

CHAPTER FOUR

Negative Externalities Caused by Linear Bias

For the average person, linear thinking may serve as a real benefit. It can help one stay organized and feel in control of your surroundings. Linear thinking isn't tied to the System 1 brain, either, so in certain circumstances, it is helpful for the System 2 brain to solve problems. In reality, most decisions and problems we face in day-to-day life are adequately addressed by linear thinking. Linear bias, though it may distance how one thinks about certain aspects of life from reality, only rarely has the opportunity to cause material impact on our lives or the lives of others. Unfortunately for the problem-solving impact investor, linear bias is an occupational hazard. Though further analysis could unveil a potentially limitless array of negative externalities that could arise from problem solving attempts, this paper will outline five general categories.

The categories are as follows: externalities from failed social business models; market-wide externalities; supply chain and operational externalities; externalities from the fallout of upended problems; externalities caused by the fundraising environment. As may be apparent, not all of these categories pertain directly to the impact investor's actions. An impact investor's capital enables the actions of the investees, so this thesis also considers the externalities caused by the investees as if they were caused by the investor. Especially from the perspective of an impact fund's limited partners, all negative impact in the investment portfolio has the same effect on net positive impact, regardless of where it came from. The rest of this chapter serves to showcase examples for each these categories in the sequence in which they were previously introduced.

Externalities from Failed Social Business Models

One of the more popular ways an impact investor can gain exposure to positive impact is by investing in social enterprises. Sometimes these are businesses that see their profits as a way to fund a distinct purpose, and sometimes these are businesses whose impact is integrated into the very fiber of their business models. We will call the business's structure put in place to create impact their social business model. Regardless of whether a business's social business model is separate from or connected to its regular business model, a social business model can outright fail. These models may fail for as wide a range of reasons as a regular business model, but this paper is only concerned with instances in which failure is caused by a flaw inherent to the social business model itself resulting from linear bias.

It may be beneficial to begin with an example of a company that most people are familiar with: Toms Shoes. It's a very popular example of a failed social business model, in part, because it is so simple to break down. The story begins with Toms founder Blake Mycoskie, previously a reality star on CBS's *The Amazing Race*. On a trip to Argentina, Blake was inspired by the impoverished people he saw and interacted with to devote his life to providing the needy with shoes. So, Blake created Toms Shoes, and the now infamous one-for-one social business model along with it. For every pair of shoes Toms sold, the company would donate a pair to a child in need. To date, the company has given away more than 100,000 pairs of shoes across the US and 82 countries (Chochrek, 2019).

There are a handful of linear thoughts that influenced this social business model. In problem identification, Blake witnessed shoeless children and made three assumptions: shoeless children must not own shoes; shoeless children are a significant problem relative

to other local problems; he was best suited and well-equipped to solve this problem. The linear thought supporting the first assumption was that because children in first world countries most often wear shoes when outdoors, then this must be true for children everywhere. The linear thought supporting the second assumption was that if children didn't have shoes, surely, they must want shoes, and the absence of shoes must make their lives worse. Lastly, the linear thought supporting the third assumption was that because he had the passion and entrepreneurial drive, he was best suited to start a first-world company that would import the solution to shoeless children. Of course, one could argue that Blake never made assumptions like this, but that would require believing that he created Toms and used the social mission only as a marketing tactic called impact-washing. I choose to give Blake the benefit of the doubt and assign to him naivety, not deceit and greed.

Even if these linear thoughts never occurred, there was surely a linear thought in solution identification. The one-for-one social business model is built on this kind of linear thought: if a shoeless child is a problem, then giving that child a shoe will eliminate that problem. A proponent of the social business model may say, "surely, the success of the brand in the US and the smiles on the millions of children's faces who have new shoes must indicate that some form of good has occurred." Of course, children having shoes is not a bad thing, but the specific solution of the one-for-one business model is flawed.

The first flaw is that the problem identification was incorrect. As mentioned in the previous chapter, Raintree Farms founder Teddy Ruge noted how shoes was the least of Uganda's problems, and that real concerns regarding poverty are access to electricity,

malaria, and a lack of quality jobs (truTV, 2015). This led to the second flaw, which was the decision to provide free shoes. There are two major negative externalities that are caused directly from this social business model. First, as Courtney Martin from the previous chapter described, this problem misdiagnosis draws attention away from the more severe problems an impoverished group of people may face. Of course, this could mean that less investor or philanthropist dollars go towards solving relatively more intense problems. Secondly, the introduction of thousands of free shoes into a certain area kills the local shoe market that exists there. Knowledge@Wharton, The Wharton School's online business journal, notes how Toms shoes had received investment from Andreas Widmer and his social equity venture fund, Seven Fund ("The One-for-One Business Model," 2016). However, a couple years after his initial positive impression, Widmer retracted his praise, saying, "The unintended consequence is that, of course, there is a local cobbler who actually makes shoes and sells them. Can you imagine what happened to that guy the day the truck showed up with Toms shoes? Why would you go buy something if you could get it for free?" (2016). What Widmer realized, albeit unfortunately two years into his investment, is that he had helped fund the destruction of the local shoe market, because no one can compete with free shoes. Thus, his investment helped exacerbate the problem of struggling local job markets in impoverished areas. Teddy Ruge brilliantly sums up this negative externality by stating that, "a kid doesn't understand the ramifications of receiving free shoes from somebody in America...it takes away the agency of the community to be self-sustainable" (truTV, 2015). Of course, this negative externality is unintended. Nevertheless, the responsibility does lie on Toms and similar one-for-one businesses and their investors. Measuring the positive impact of

children having more shoes is difficult. What is easier, in this case, is measuring the negative economic impact from the loss of jobs associated with a crushed local shoe market.

Market-Wide Externalities

Unintended negative externalities may also arise from the creation of social markets. Social markets are often created in response to widely perceived market failures to treat certain market participants fairly, most commonly the small, independent producers that tend to be impoverished. One of the earliest and most established of these social markets is fair trade, a sect of which, fair trade coffee, will be the example this paper uses to highlight negative effects of linear thinking in social markets.

Colleen Haight, Economics Program Officer at the Institute for Humane Studies at George Mason University, explains how, “Fair Trade has sought not only to protect farmers but also to correct the legacy of the colonial mercantilist system and the kind of crony capitalism where large businesses obtain special privileges from local governments, preventing small businesses from competing and flourishing” (Haight, 2011). Additionally, Fairtrade Labelling Organizations International, the parent agency running the fair trade market, states that their mission is to, “use a market-based approach that empowers farmers to get a fair price for their harvest, helps workers create safe working conditions, provides a decent living wage, and guarantees the right to organize” (2011). This market-based approach is dubbed the “FLO (Fairtrade Labelling Organizations) model,” and consists of a handful of tactics. For the fair trade coffee market, the most significant tactics are a \$1.40/pound price floor for Fair Trade coffee, a \$0.20/pound Fair Trade premium above conventional coffee, and the organization of

farming cooperatives. Though little research exists to prove it, arguments can be made for some benefits of Fair Trade coffee (Raynolds, 2002). However, controlling aspects of the market hasn't led to the fair trade desired outcomes.

The most significant negative externality of fair trade coffee is that, for a number of reasons, Fair Trade coffee farmers ultimately end up worse off economically than conventional coffee farmers. A highly-regarded study from the University of Hohenheim in Germany, colloquially referred to as the Hohenheim Study, is one of few long-term studies regarding fair trade coffee. Researchers studied the economic progress of coffee growers in Nicaragua over a ten year period. The study's control group was conventional coffee growers, and the experimental group was a cooperative of coffee growers who had joined the fair trade network. Surprisingly, the study found that, on the basis of standard of living and quality of life in their respective villages, the fair trade coffee growers were worse off after 10 years in the fair trade network than the conventional coffee growers were (Beuchelt & Zeller, 2011). Fair trade expert Victor Claar from Florida Gulf Coast University explains that the primary reason for this outcome is that to join the fair trade network, small farming cooperatives have to pay \$600 upfront, and \$1,300 to \$4,000 annually to retain the fair trade status (Macmillan Learning, 2016). Claar notes how the premiums fair trade farmers collect to sell their coffee most often doesn't amount to more than the fees (2016). In addition to this significant negative externality, Claar lists other reasons as to why fair trade coffee might not be so fair after all. Firstly, there is no guarantee that after the farmer joins the fair trade network that there will be a willing buyer for their product at the fair trade price, leading growers to often sell their fair trade coffee without the fair trade label, and subsequent premium (2016). Secondly, Claar

found that most fair trade coffee comes from relatively richer countries of the countries that produce fair trade because of their proximity to first world buyers and their greater ability to produce at higher standards; this outcome further enhances wealth inequality in the market (2016). Furthermore, Colleen Haight, notes how, “premiums paid by consumers are not going directly to farmers” (Haight, 2011). Though premiums sometimes go towards social projects within the farming communities, they are most often pumped back into the cooperative in the form of capital expenditures. Though this may not be a problem, per se, it is a flaw in the fair trade model: premiums do not trickle down to the workers on coffee farms, rather, they stay with the land owners who make up the coffee cooperatives. Haight adds how the lack of trickle-down benefits is especially true for migrant laborers.

These negative externalities can be explained by failures in the fair trade model that are the result of linear thinking. Firstly, the fair trade model assumes linearity and high correlation between price premiums and farm worker incomes; aforementioned studies indicate this is not true. Secondly, the model linearly believes that if price floors are implemented, then fair trade workers will have greater economic stability. Haight notes how, “For some cooperatives the fair trade price became the ceiling, not the floor... Many fair trade buyers do not see a reason why they should pay any more than the fair trade price for the value that is Fair Trade” (2011). An unfortunate outcome of the fair trade model is that the coffee is usually of lower quality because of how farmers are incentivized to sell their varying bean qualities. When market prices for coffee exceed the price floor for fair trade, as they drastically do now, farmers have become incentivized to sell their worst beans as fair trade beans in order to get the price premium that the price

floor entails, while selling their better quality beans at conventional market prices. Lastly, and perhaps most significantly, the model, “has changed little since its inception. Although the fair trade price and premium for coffee has been adjusted upward over time, the rules and regulations have remained fairly static” (2011). Business, communications, and creativity trainer, Andy Eklund, describes how, “The [linear] thought process is singular: there is one path toward completion which ignores possibilities and alternatives... A person who uses Linear Thinking is constant” (Eklund, 2012). In other words, linear thinking perpetuates a lack of change, even when a linearly constructed model like the FLO model is largely ineffective.

Regarding investable initiatives within social market contexts, impact investors must be keenly aware of failures within market models because they may not be indicated by poor financial performance. Fair trade still exists and grows in popularity largely because it is profitable for the Fair Trade Labelling Organization International to do so. This context allows for the festering of mission drift, the inauthentic shift from an original mission to another. Haight claims that, “Fair Trade coffee has evolved from an economic and social justice movement to largely a marketing model for ethical consumerism” (Haight, 2011). When those that lead a social market profit from its existence, and there is no source of accountability to ensure that the impact consumers believe is occurring is actually occurring, a perfect breeding ground is formed for negative externalities. Impact investors are uniquely positioned to hold social market organizations accountable, but the example of fair trade coffee indicates what may occur if impact investors don’t take that initiative.

Supply Chain and Operational Externalities

Negative externalities can arise along a social business's supply chain, even if the end product or service has positive impact. Manager of Impact Investing at impact fund KOIS, Ladislav de Guerre, notes how, "Most endeavors of social entrepreneurs, while having a great positive impact, still involve some negative externalities – whether they are investing in education, health, housing or agriculture" (de Guerre, 2020). An impact investor subject to linear bias may be less likely to assess the entire array of impacts that an investment opportunity may have. Even if the impact investor is aware of optimizing the net impact of their portfolio, linear thinking may force them to overlook the simple fact that an optimal net impact portfolio is just the aggregate of a number of optimal net impact investments. Each impact investment can have positive and negative impacts, making it important to assess if a social business may create more negative externalities than positive ones in an effort to produce its positive ones. Additionally, even if a particular investment opportunity has net positive impact, its marginal negative impact may make the net impact of the portfolio as a whole less optimal. This can be understood mathematically by viewing the net impact of each investment as a ratio of positive to negative impact. An additional investment in the portfolio may have a positive impact ratio but could have a negative effect on the portfolio if that ratio is smaller than the portfolio's preexisting total impact ratio.

Though these negative externalities can come in all shapes and sizes, among the most common are environmental impacts. The carbon footprint of a business is an example of how this negative externality can be measured, and any social business that manufactures a product has to be aware of how their own processes or their partnerships

may increase their footprint. For the impact investor, the fund's carbon footprint can be determined by multiplying their ownership of a particular asset by that asset's total carbon output and summing this figure from each position in the portfolio. Working to minimize this figure is a key facet of impact optimization.

An example of an investment opportunity with operational or supply chain externalities could be a social enterprise that recycles wasted plastic and sells cheap water bottles in impoverished communities. A linear biased investor may be tunnel-visioned towards the endgame only and be happy with the environmental and social benefits of the business. However, the social business may not have as high of a net positive impact as one may think if its manufacturing plant's energy inefficiency or the collective exhaust from its fleet of plastic collecting trucks create offsetting environmental harm. Additionally, Tommy Piemonte, head of sustainable investment at Bank für Kirche und Caritas in Germany, explains that, "Windfarm investing, for example, has positive environmental impacts, but it might have really negative social impacts" (Goh, 2018). More than the disruption of animal habitats, Kennan Rapp of the World Bank's Energy Sector Management Assistance Program, notes how windfarms can displace families via expropriation and create nuisance for local communities (Rapp, 2013). A social business doesn't exist and operate in a vacuum, but a linear-biased impact investor may treat its impact evaluation as if this was the case.

Externalities from the Fallout of Upended Problems

Even investments in social businesses that work to upend industries plagued with negative externalities can create new negative externalities. A linear-biased impact investor may be attracted to the story of a social enterprise whose innovative nature

disrupts a domineering and unethical industry, shifting consumer demand towards a more ethical product. The problem with this story is what the US government has learned all too well: removing a foreign dictator from power doesn't do any good unless an effective governance system replaces them, otherwise a new dictator will take their place overnight. A linear-biased impact investor may not be as likely to consider the, "what ifs," or the, "then whats," of their investments. Sometimes a full-steam ahead attitude towards problem solving can create linear bias-induced tunnel vision, where the greater concern is not the ultimate wellbeing of the problem's victims, but the eradication of the problem itself.

A relevant, ongoing example of this is the ethical jewelry industry pushing for unethical gemstone mines to be shut down. Impact investments in ethical jewelry businesses such as lab-grown gem companies or ethically sourced jewelry makers are examples of investments that contribute to this negative externality. Linear bias is especially potent in this category, because the negative externality exists outside the scope of the investment entirely. As financing and demand continue to increase in the ethical jewelry space, demand for conventionally mined gems will decrease, resulting in the closure of conventional gemstone mines (Hill, 2018). Though industry leaders such as DeBeers are closing some of its mines, the real pain of this shift in demand will be felt by the small and medium sized mines.

Without follow-on support, the shift in consumer demand will take away what is often the best opportunity for thousands of families and villages to support themselves financially (2018). Sarah DeLeon, in her thesis for a Master of Science Specializing in

Natural Resources from the University of Vermont, describes this problem in the following passage:

Artisanal and small-scale mining (ASM) are important sources of income for impoverished rural populations in many developing countries. Poor labor and environmental conditions often prevail because governments lack the capacity and sometimes the will to responsibly control ASM. At the other end of the supply chain, corporate social responsibility (CSR) strategies increasingly require jeweler's suppliers to control social and environmental aspects of mining. In a sense, jewelry and mining corporations are voluntarily taking the issue of governance into their own hands. A combination of CSR and revenue-centric development strategies has the potential to further marginalize poor, rural populations who depend on ASM. It is important to examine how ASM has been affected by global social responsibility trends, why it is often left out and to find ways that ASM populations can be successfully integrated into planning for sustainable development and socially responsible business" (DeLeon, 2008).

Sometimes removing a problem can lead to further marginalization, which indicates that the problem being addressed isn't the primary, core problem, rather, it is just a bad solution. Unregulated mining is not the problem in this scenario, it is a problematic solution to the real problem, which is the lack of access to safe, financially sustainable jobs. ASM, as dangerous as it might be in some parts of the world, is just like a dirty bandage that needs changing, but if the bandage is taken off without a clean one to replace it, the bleeding could be bad. A linear-biased impact investor might be ready to invest in taking off the bandage without considering that it's their responsibility to invest in the new one as well.

Regarding the problem of child labor in these mines, inhabitants of the first-world may linearly think that if children don't work, their lives will be better because they'll have time to go to school or have what they would consider more regular, leisure-filled childhoods. We assume that our values of anti-child labor are shared across the world, when in reality, many places rely on the whole family contributing to their survival. Of

course, child education is incredibly important in combating global poverty, but removing a particular child labor environment won't directly put them in school. It doesn't take data analysis to understand that putting the majority of a village out of work without provisions is a worse outcome for living standards than their children working in risky mines. This particular negative externality highlights how linear-bias can create rash, gung-ho attitudes that blind problem solvers from the problems they are inevitably going to create.

Externalities Caused by the Fundraising Environment

This category focuses more specifically on the actions of impact investors. The pressure on social enterprises and impact funds to attract investments from linearly biased impact investors creates negative externalities in the capital raising environment.

Fundraising, as anyone who has done so before knows, is a selling game; the fund manager or social enterprise CEO have to sell their fund or business as a product. In an ideal world, the buyers of the social product understand and share the same vision that the sellers do, and the vision alignment is what attracts transactions. Buyers interested in impact investments, however, have two goals: finance positive impacts, and receive returns while doing so. Unfortunately, even though they don't have to be, these two goals are often viewed combatively or cannibalistically from the perspective of the buyer. So, responsibility falls on the seller to convince the buyer that, in their investment opportunity, the buyer's goals won't conflict. Of course, it is necessary for sellers to showcase their opportunity on some kind of basis; the buyers won't buy blindly. However, because of how many buyers think linearly in their buying process, negative

externalities arise regarding the fairness and efficacy of the allocation of capital in the problem-solving industry.

Sellers, in an effort to prove their product's worth, are tasked with showing buyers data that highlights the validity of the investment opportunity and data on their track records to consistently deliver buyers the return and impact they paid for. The effect that this creates is what Vu Le calls Weaponized Data. Le describes how, "the linear belief that 'first we must get data, then we do the work' screws over smaller grassroots communities due to the Data/Resource Paradox: You need good data to get funding, but since good data is expensive, you need funding to get good data" (Le, 2017). What this Data/Resource Paradox entails is that mainstream organizations attract the majority of the capital, giving them the loudest voice in shaping the problem-solving conversations. Le notes that, "while everyone is well-meaning, it happens over and over again that crappy policies and programs are put into place because the people most affected by injustice are not leading the work" (2017). A key point to remember from the previous chapter, and one that Le is saying between the lines, is that the greater the distance between the problem-solver and the problem, the more likely that problem-solver is to have linear-bias and think about the problem incorrectly. Conversely, problem-solvers closer to the problem, or even victims of the problem themselves, are much more suited to see the problem correctly, and understand more effectively how to approach it. Weaponized Data reduces the likelihood that impact investors are willing to trust those grassroots initiatives with their money.

It is understandable that impact investors may have this disposition. After all, almost no impact investor alive began their career in impact investing; their investor

brains have been shaped by many linear processes that are very effective in the financial world. For instance, investors are taught to analyze the risk profile of an investment before making an investment. If the potential return doesn't justify the assumed risk, then the investor would be very hesitant to invest, and rightfully so. However, in impact investing, risk must be analyzed differently, because the potential returns are not only financial and the motivations for investment are not only financial.

In sum, there are a few negative externalities that can arise from Weaponized Data. Firstly, as Le mentioned, mainstream organizations obtain more influence, and shift attention away from potentially more holistic and effective impact initiatives. Secondly, the inability to prove themselves upfront marginalizes potential problem-solvers who may have innovative ideas and insights into how to address problems. Lastly, the need to collect data to build a large plan to impress investors takes too much time; by the time a linear plan has been created to solve a complex problem, the problem has already changed. Of course, these negative externalities are just a few examples of what can occur when linearity is introduced into the impact industry. Financing is the lifeblood of problem-solving initiatives, and if the problems are complex, the solutions must be reactive and adaptive; if a problem-solver's financing cannot mirror the adaptivity in which they live, it will hold them back.

Conclusive Thoughts

The linear-biased investor may create negative externalities of their own or invest alongside linearly-biased problem-solving enterprises. In the latter case, an impact investor could be directly financing negative externalities, which, sadly, are often the

degradation of financial wellbeing and agency within the very community the investor was trying to help.

The key takeaway from this chapter is that it is critical for the impact investor to assess not just the financial opportunity, but also the strength and legitimacy of a potential impact investment. Unfortunately, in the attempt to create positive impact, intent is not enough, even from the financier. Experience with the problem at hand is required; intent doesn't care about an optimal solution, intent cares only that the problem solver believes their solution is optimal. Recalling Kahneman's System 1 thinking, if the impact investor doesn't initially know better, and isn't looking to see what they don't know, then their System 1 brain will adopt a bad solution as a good solution. It follows, then, that if an impact investor doesn't know the reality of the problem well enough to discern good from bad investments, collaboration with those who do know is absolutely necessary. Collaboration, as this paper will soon discuss, is a key aspect of engaging in Systems Change, and is supported by Systems Thinking, the type of thinking better suited for making optimal impact investments.

CHAPTER FIVE

An Overview of Systems Thinking

Thus far, this thesis has focused on linear thinking, and how it is not a good fit for an impact investor working to create net positive impact. Moving forward, this paper will introduce the argument that systems thinking, and the systems change approach to problem-solving, are better suited for impact investors to achieve their goals. Before a practical application of systems thinking can be applied to impact investing, it is necessary to illuminate what exactly is meant by systems thinking and systems change. This chapter will be largely definitional and will provide context that will serve to frame the ideas laid out in the following chapter.

Systems Basics

Systems thinking is a complex, dynamic mode of thinking that is focused on seeing the world, its processes, and its malfunctions, through the lens of systems. Before describing systems thinking in more detail, it is important to understand what a system is and what its various components and characteristics are.

A system, as defined by the late scientist and writer Donella Meadows in her book *Thinking in Systems*, is, “a set of elements or parts that is coherently organized and interconnected in a pattern or structure that produces a characteristic set of behaviors, often classified as its function or purpose” (Meadows & Wright, 2008, p. 188). Meadows’ definition highlights the three core aspects of a system: elements, interconnections, and function/purpose. An example of a system that we are plenty

familiar with is our bodies. There are many elements at work within our body, and those elements work together in specific ways towards the common function of sustaining life. Furthermore, Meadows describes how a system is more than the sum of its parts, that is, the system produces a unique behavior not possible from just the aggregation of its parts nor present in any of its parts alone (2008, p. 188). Only when the body's many parts are working together in their proper manners is life sustained; if those manners falter, the body falls out of equilibrium and the behavior of life is not possible. This characteristic of a system identifies a key fact: system outcomes are much more dependent on the interconnectivity of its parts than what the parts do themselves. The reason this fact is important and relevant for impact investors is because interconnectivities between system parts are often non-obvious. Linear, cause-and-effect-focused thinking will gloss over the nature of interconnectivities. So, because negative system outcomes are heavily dependent on interconnectivities, impact investors working to change those outcomes must change their mode of thinking.

Without diving needlessly deep into systems jargon, the following are the essential aspects of a system that are required to understand how systems change might occur. The measurable elements of a system are called stocks, what Albert Rutherford, in his book *The Systems Thinker*, calls, "the building blocks of a system" (Rutherford, 2018, p. 56). Meadows also describes stocks eloquently as, "an accumulation of material or information that has built up over time" (Meadows & Wright, 2008, p. 188). In the education system, for example, a stock could be the number of students within a particular school district, the amount of funding dollars a school system has, or even the stress levels of a school's teachers. Stocks are changed over time by flows, the, "material

or information that enters or leaves a stock over time” (2008, p. 188). A stock might have inflows and outflows, or sometimes only one or the other. Following the education system example, the stock of number of students is affected by inflows of new students and outflows of graduating students. Systems thinkers are more interested in the change of stocks over time than they are the static state of a stock in any current moment. So, systems thinkers are also concerned with the nature of the flows. If inflows are greater than outflows, a stock will increase over time, and vice versa. If the inflows and outflows are identical, then a stock is in dynamic equilibrium. Understanding stocks and flows are a critical aspect of becoming a systems thinker. A systems-thinking impact investor will be better equipped to identify and diagnose a problem if they’re aware of the stocks and flows that are associated with it. However, understanding trends in stocks and flows isn’t where systems thinking ends, it requires a deeper understanding of the forces behind those trends.

Regardless of whether a stock is growing, declining or in dynamic equilibrium, Rutherford notes that there are control mechanisms in place called feedback loops that describe a stock’s behavior (Rutherford, 2018, p. 71). Feedback loops are arguably the most important part of a system, especially when it comes to activating change within a system. Meadows defines a feedback loop as, “The mechanism that allows the change in a stock to affect a flow into or out of that same stock. A closed chain of causal connections from a stock, through a set of decisions and actions dependent on the level of the stock, and back again through a flow to change the stock” (Meadows & Wright, 2008, p. 187). Feedback loops can either serve to balance a stock or reinforce the change of a stock. A balancing feedback loop will, “seek stability and always have the goal of

keeping stock levels within the range deemed acceptable” (Rutherford, 2018, p. 72). If a stock rises too high or falls too low, a balancing feedback loop will serve as an opposing force that returns that stock to its balanced level. A practical example of a balancing feedback loop is a thermostat, where its function only kicks in if the room temperature falls too far from its desired state (Amran, 2021). A reinforcing feedback loop does what it sounds like, it reinforces the positive or negative net flows of a stock. Rutherford explains how, “[The feedback] loop magnifies and multiplies results, creating a cycle that can be hard to break free from. It can cause amazing growth or great harm” (Rutherford, 2018, p. 75). A financial example of the positive reinforcing feedback loop is compound interest. The interest gained on accumulated interest reinforces the growth of the capital stock, thereby accelerating growth in an exponential fashion. Fascinatingly, a stock can have both balancing and reinforcing feedback loops of various influence, the most influential of which is the dominating feedback loop. As systems change over time, influence of feedback loops can also change, and a previously less influential feedback loop could become the dominant one. Shifting dominance, as this phenomenon is called, explains some of the erratic and dynamic behavior that systems often display. Impact investors must understand these system concepts if they are to effectively map a system and properly diagnose problems they choose to target. The following chapter will explore these topics more deeply.

Systems Thinking is Not Overthinking

Systems thinking, most simply put, is the mode of thinking that is concerned with the dynamics of a system and the behaviors and outcomes it produces. This thesis contrasts systems thinking to linear thinking in that systems thinking is focused on the

very complexity that linear thinking tends to reduce. Whereas linear thinking is concerned with binary cause and effect, systems thinking is concerned with understanding outcomes as a product of multiple variables, multiple unique, non-linear relationships between variables, and the change in those variables and relationships over time. Systems thinking provides a wholistic view regarding the complexity of the world around us, and the complexity of the system problems that exist within it. So, in essence, systems thinking allows one to zoom out and see the big picture, as opposed to being blinded by tunnel-vision.

Impact investors, by way of their financial background, are well positioned to make the jump to systems thinking. Standard financial analysis of an investment opportunity does not exclude some aspects of systems thinking. When analyzing a company for potential investment, a financial analyst would look at financial trends and market behaviors that might explain those trends. Additionally, markets can act erratically and have fast-changing dynamics just like systems do. After all, markets are parts of multiple different systems. Systems thinking requires an impact investor to apply an understanding of systems to their impact opportunity analysis in a manner not too dissimilar from a very deep fundamental analysis of an investment opportunity.

As mentioned in Chapter Three, systems thinking is not akin to overthinking. However, when done wrong, systems thinking can lead to analysis paralysis. Analysis paralysis occurs when someone struggles to make a decision because they overanalyze data or overthink a problem. For a financial analyst, analysis paralysis may cause them to lose out on investment opportunities or fail to exit investments soon enough, leading to opportunity losses and real losses (Chen, 2020). Similarly, a systems thinker that is

engaged in trying to change a system may miss an opportunity to do so if they try too hard to understand the system in full before acting. This highlights two key points: systems change is an iterative process, you can never fully understand a system. These key points are essential for an impact investor to challenge their linear thoughts within problem identification. A big, linearly-biased plan that is built on too many assumptions is more likely to fail than an iterative approach that builds upon learned facts rather than assumptions.

As this thesis will address more thoroughly in the next chapter, systems thinkers attempt to solve complex problems through a process of understanding the system, recognizing intervention points, intervening, and collecting outcome data to enhance understanding. The circular nature of these aforementioned steps clearly suggests iteration. However, overthinking and analysis paralysis caused by linear thinking can lead to misunderstanding about the first iteration of this process. Thinking back to the chapter on negative externalities caused by linear thinking, Vu Le described how Weaponized Data occurs when decision makers linearly require substantial data before making a decision (Le, 2017). Of course, understanding a system before taking action is crucial, but, there is a blurry line between not having enough information and having more than you need to start. Linear thinkers use the analysis of data as a means to decrease perceived risk, however, systems thinkers understand that heavy upfront information doesn't necessarily decrease risk at all. If misunderstood, the systems change process could make it seem as if you need to understand everything about a system before you can alter it, which is false. Thinking about systems is largely a learning process, and you can only learn so much about a system without poking and prodding at it and observing

how it reacts. Of course, this idea can be challenging for impact investors because their time and capital is not always their own. Serving limited partner interests while remaining dynamic enough to make iterative investments is a balance that the impact investor needs to strike. This means that systems change impact investments will often require non-traditional investment structures that allow for an impact investor to retain their dynamic and reactive nature.

A helpful way to think about the iterative aspect of systems thinking and systems change is by comparing it to the minimum viable product (MVP) aspect of Lean Startup Methodology. Theleanstartup.com, the official website for Eric Ries' famous book of the same name, states that, "A core component of Lean Startup methodology is the build-measure-learn feedback loop. The first step is figuring out the problem that needs to be solved and then developing a minimum viable product (MVP) to begin the process of learning as quickly as possible (*The Lean Startup | Methodology*, n.d.). When bringing a product to market, an entrepreneur using lean startup methodology understands that spending the necessary time and capital required to create a final product is wasteful unless the product is constructed iteratively accounting for customer feedback. The goal, of course, is to deliver a product that the target customers want and enjoy, which is not necessarily the original product that the entrepreneur had in mind. An entrepreneur will only learn this about their product if they are willing to iterate its creation and continuously adapt it according to its product/market fit, or lack thereof. The same can be said of systems change initiatives. If a systems thinker can spend all the time in the world developing their perception of a system they want to change, only to find that their understanding of the system was far from correct and their applied strategy failed

miserably. The key to systems thinking is to understand systems through a cycle of hypothesizing, testing, and learning. Of course, this means that systems thinking can make systems change more and more effectively over time. In a way, systems thinking creates its own positive reinforcing feedback loop within the mind of the thinker.

Closely linked to the idea that iteration is required in systems thinking is the idea that a system can never be fully understood. No amount of iterative systems thinking cycles can unveil to anyone the full extent of a system's elements and interconnectivities; they are simply far too complex. This fact introduces the importance of the mental model. Models, as Rutherford notes, "take a complex system and simplify it, making it easier to understand. They are the abstract or simplified representation of something larger." (Rutherford, 2018, p. 83) Mental models, then, are models we create within our minds as cognitive tools that help us understand complex realities. Mental models are how we see the world; they are comprised of what we know and what we think about what we know. How we think and observe systems, then, dictate how our mental models are built. Linear thinking builds linear mental models, whereas systems thinking builds mental models that more closely resemble systems. Rutherford also describes how, "When we use mental models, our minds are automatically jumping to conclusions of what will come next" (2018, pg. 88). This statement further highlights the necessity for mental models of systems and system problems to be constructed with systems thinking rather than linear thinking; this thesis has already described the danger of linearly jumping to conclusions.

In short, systems thinking is the marriage of iteration and long-term thinking. A systems thinker focuses on remaining dynamic while understanding that solving complex problems is a slow process that could extend well beyond one's own lifetime.

The Nature of Wicked Problems

Before the next chapter addresses what systems change is in more depth, the following describes with more clarity what systems thinkers are actually trying to change. Surveying the many negative externalities made possible by linear thinking in the problem-solving industry highlights the existence of the antagonist of systems change: the wicked problem. Wicked problems are dysfunctionalities in complex systems. The Systems Innovation (SI) Network describes them as unstructured, open-ended, multi-dimensional, systemic, often unbounded in space and time, and discipline crossing (Systems Innovation, 2019). To make matters worse, wicked problems are dynamic, evolving over time. Ursula Wright of FSG, an impact consulting firm, states how, “Complex problems, like raising a child or alleviating poverty... don’t have clear causes and their influencing variables can’t be easily isolated” (Wright, 2019). Not only are wicked problems as impossible to fully understand as the system in which it exists, but by the time one could figure it out and create a solution, critical aspects of the problem have likely already changed. The SI Network states that there are two common reactions to wicked problems, an overwhelming feeling that causes denial and resignation, or determinism, which often results in an attempt to try and tame the problem, thereby oversimplifying it (Systems Innovation, 2019). Previous chapters have already described how dangerous the latter reaction can be. There is, however, a third reaction to a wicked problem, the one most appropriate, which is to engage in systems thinking to assess how tweaking aspects of the system might create outcomes that incrementally weaken and remove wicked problems.

CHAPTER SIX

Improving Net Positive Impact with Systems Change

Now that this paper has established a basis of understanding for systems, systems thinking, and wicked problems, this chapter will discuss how a systems thinking impact investor can help drive systems change. This chapter will also focus on how being an agent for systems change helps an impact investor achieve their goals and why impact investors should care about systems change at all.

Systems Change, How it Occurs, and the Role Impact Investors Can Play

The previous chapter briefly alluded to the idea of systems change, and how closely it is tied to the idea of systems thinking. Of course, systems thinking is the mode of thinking required to help an individual or group of people drive systems change forward. So, specifically in the social and environmental problem-solving industry, systems change is essentially the goal and purpose of systems thinking. Srik Gopal and John Kania, directors at impact consulting firm FSG, in an article for the Stanford Social Innovation Review, define systems change as, “a fundamental change in policies, processes, relationships, and power structures, as well as deeply held values and norms” (Gopal & Kania, 2015). Essentially, systems change is a shift in system functions, purposes and outcomes as a result of shifting system elements and interconnectivities. As systems create multiple outcomes for multiple groups of people involved in the system, systems change is the attempt to optimize the outcomes so that the system is as favorable as possible for as many individuals in the system as possible.

For simplicity's sake, systems thinkers who work towards systems change initiatives, whether they be philanthropists, activists, policy makers or impact investors, may be referred to as systems change agents. An important distinction must be made between systems change and the influence into systems change that systems change agents are capable of. The European Venture Philanthropy Association (EVPA), a leading systems change collective, describes that the way systems change actually happens challenges the myth of the hero (EVPA, 2020). In other words, there is no single person, single event, or single phenomenon that changes a system. EVPA exemplifies this through the example of the development of Rock and Roll as a genre, and how Elvis Presley is often credited as the one to create and cement the new genre as a new cultural epoch (2020). However, EVPA describes how the rise of Rock and Roll is actually the outcome of a broader set of trends and new technologies. More specifically, systems change is a byproduct of long-term changes in mega-trends and shared social values, how business is done as usual, and technical innovations (2020). Another example of systems change more relevant to this paper's ideas is the emergence of impact investing as a distinct field of practice. No single firm or legendary investor created the idea of impact investing and founded its growing prominence. Impact investing as it exists today is the result of decades of systems change in the interacting worlds of finance, philanthropy, and activism. Additionally, the emergence of altruism and fairness as shared social values in the millennial generation (Choi, 2018), coupled with the largest generational transfer of wealth in history from boomers to millennials created significant demand for values-based, ethical investing (Kelley, 2019). Furthermore, as access to investing has become more and more available to younger investors via platforms like Acorns and Robinhood,

the largely empathetic culture of Gen Z continues to create more demand for social investments. These factors, alongside countless others, brought forth a systems change in the world of finance that culminated in purpose-driven impact investing. This example paints systems change as a largely organic phenomenon, activated by what seems like an invisible hand. However, what deserves emphasis is that there were indeed multiple players in the emergence of impact investing that acted intentionally in an effort to drive the field's emergence. Simply, systems change is not arbitrary, it occurs due to a collective of influential decisions made by humans. The systems change that led to impact investing was driven out of opportunity recognition. In recent history, as the understanding of systems thinking has become more widespread, the problem-solving industry has adopted systems change as a method of combating wicked problems.

In order to understand how impact investors can play a role in systems change, it is important to understand the different stages of a systems change. Of course, systems change is as complex and non-linear as the systems are themselves, but there are distinguishable stages of progress that occur. The EVPA describes three stages: start up, acceleration, and stabilization (EVPA, 2020). In the start up phase, the ground is being laid for change. New technologies are being developed, a robust case for change is being crafted through science-based information, that information begins to spread, and policies begin to be discussed. The acceleration phase is where the system dynamics undergo most of the change. Power structures often shift, feedback loops develop or change, new widely-held mental models engrain themselves in society, culture shifts, innovations scale towards mainstream, collaborations are formed to spark new innovations and align goals, and new incentives, financing, and business models shift the mainstream. Finally,

the stabilization phase is where systems change cements itself and grows roots. Policies are finalized and enforced, and new rules and standards govern the mainstream. From this description, it is clear that the impact investor's most opportune time to influence systems change is before and during its acceleration. Impact investors are uniquely positioned to drive systems change forward faster than it would otherwise through the strategic allocation of capital to the points at which the change is most readily happening. The following section of this chapter will address how an impact investor might understand when a systems change is ripe for acceleration, and how they might identify the strategic points to invest in.

Tools for Driving Systems Change

Now that an understanding of how systems change emerges and the role impact investors can play has been set, the following sections explore various tools and methods an impact investor can use to fulfill that role. Additionally, the following explores how fulfilling the systems change agent role helps the impact investor achieve their goal of creating and improving the net positive impact of their portfolio.

An impact investor can help drive systems change through the use of systems thinking tools such as systems mapping and theories of change. Systems mapping is a process that embodies the fundamental aspect of system thinking in that it is the systems thinking process described previously but on paper. Dr. Joe Hsueh, Founding Partner at Academy for Systems Change, states that, "Systems Mapping is a visual mapping resource that looks at how variables interact over time and form patterns of behaviors across the system. It combines two other visual mapping resources: Causal Loop Mapping with Stock and Flow Diagrams" (Hsueh, n.d.). Causal loop diagrams indicate

the influence of feedback loops on system elements, and stock and flow diagrams indicate how the elements of a system change over time. The significance of making a literal map in addition to mental maps is that a system map can be continuously added to over time and collaborated on as the impact investor and their systems change partners learn from their interventions in a system. Systems maps help the impact investor identify what systems theory calls leverage points. Leverage points are what this paper referred to previously as strategic points in the system that would most readily allow for change to occur. Rutherford defines a leverage point as, “pieces in a system where making a small change could result in a big difference in behavior. In essence, these are the places in our system where we get the ‘biggest bang for our buck’” (Rutherford, 2018, pg. 148). Though there are as many as twelve archetypes of leverage points in a system, the ones most relevant to an impact investor’s capabilities include constants, feedback loops, bottlenecks, and mental models (Casali, 2015).

Targeting constants, otherwise known as parameters, as leverage points are the most typical investment approaches in impact investing funds that don’t consider systems thinking. Of course, they create some form of impact, though, as Rutherford believes, it is not that significant (Rutherford, 2018, p. 151). These would be investments that alter the level of stocks, for instance, investing in an affordable housing business that creates more homes in reasonable locations for families on the lower end of the economic spectrum. However, the outcomes of these investments are often linear, where one dollar of investment leads to a fixed amount of impact. Unfortunately, these investments are so popular because their key performance indicators are the easiest to identify and indicate that impact has occurred.

A more potent leverage point is the feedback loop, where an aptly placed investment can create non-linear, scaling impact. Feedback loops are perhaps one of the best ways that systems mapping allows impact investors to improve their net positive impact, as impact can scale in the same manner that financial returns can. This thesis introduces its own original investment strategy regarding feedback loops: a dual investment strategy called “sow and reap.” The sow investment is a push on a positive reinforcing feedback loop, whereas the reap investment provides exposure to the system stock that will rise non-linearly in response to an activated reinforcing feedback loop. Palladium Impact Capital, in their systems change report, provide an example that supports the sow and reap investment structure. Palladium states that, “a fish farm in Kenya starts buying more sustainable fish feed, other fish farms in the area see that buying decision and start doing the same, leading to wider adoption of sustainable fish feed in the broader region” (*Palladium - Systems Change*, 2019, pg. 15). An impact investor can make a sow investment in the influential fish farm that starts to buy more sustainable seed. Then, they can make a reap investment in the most popular sustainable fish feed businesses who will see massive growth from the change in industry standards.

Another leverage point that impact investors can target are bottlenecks. The knowledge of bottlenecks, as provided by systems mapping, allows impact investors to both create positive impact and limit potential negative externalities. Rutherford notes how, “The Theory of Constraints recognizes that every system is limited by constraints, and by nature, there will always be one constraint that exerts more pressure on a system than all of the others. This constraint becomes the bottleneck that causes the biggest problem in the system” (Rutherford, 2018, pg. 75). One potential bottleneck could be an

under-invested element. As the saying goes, a team is only as strong as its weakest link, which Rutherford believes describes the effect of bottlenecks on systems (2018, pg. 89). So, impact investors could initiate massive positive impact if a precise influx of capital could alleviate a system bottleneck. Additionally, a systems map may show impact investors that their own involvement in a system has created a bottleneck. Systems Theory describes that some systems have self-organizing natures, where the prevailing dynamics can solve problems on its own. Rutherford describes how, “Supporting self-organization in a system requires a loosening of the reins and being willing to let go of a bit of control to give the system the chance and freedom to do what comes naturally. It means letting go and allowing a degree of trial and error within the system” (2018, pg. 93). The self-organizing aspect of systems indicates that bottlenecks may occur from a problem solver’s misplaced involvement in the system dynamics. A system-thinking impact investor is concerned not just with the financial and impact return nature of a potential investment, but also how that impact return relates to the outcomes that would occur without investment. Recall from Chapter One that in impact investing, the common term for framing this decision is called contribution: the difference between their impact and what would have likely occurred otherwise. If the impact investor’s contribution is negative, then the investment may have created a bottleneck or other adverse effects.

Lastly, impact investors can help create the deepest impact by targeting mental models (Casali, 2015). As previously mentioned, mental models are the mental constructs through which individuals are able to understand bits and pieces of the complex world around them. Impact investors can usefully target mental models in two ways: by accelerating change in the mental models that contribute to wicked problems, and by

telling stories that shape how limited partner investors view the work of a systems-focused impact fund. Impact investors can identify the mental models that contribute to wicked problems through a series of causal loop diagrams that indicate the points within systems where human decisions directly add to system problems. Understanding the commonalities in mental models amongst those whose decisions contribute to wicked problems highlights the driving forces of those decisions. An impact investor may be able to create deep systems change if they are able to apply capital correctly to investments that serve to eliminate those driving forces. This process of finding the problem behind the problem is what Rutherford calls Going Deeper (Rutherford, 2018, pg. 87).

Rutherford describes how storytelling is a powerful way to, “motivate and inspire others and make our message memorable” (2018, pg. 229). By telling stories, an impact investor can help shift the mental models of potential limited partner investors. Rutherford lists that telling the systems story will help mental models shift from seeing parts of the system to seeing the whole system, from placing blame for wicked problems to accepting one’s own role in creating them, and from thinking of quick solutions to problems to focusing on deep system structures (2018, pg. 229). By effectively telling the systems story, impact investors can draw more capital towards solving wicked problems. Later in this chapter, this paper will discuss why attracting substantially more capital to systems change efforts and impact investing is so critical.

When an impact investor has mapped a system and identified leverage points, they can use a Theory of Change as a strategy roadmap. A Theory of Change (ToC), as defined by international cooperation organization Hivos, is, “a process-oriented approach to analyzing the complex systems... and for planning actions we think will influence

parts of the system in a positive way” (Alford, 2017). Hivos also describes how the ToC is based on the premise that systems change is complex and unpredictable, multiple perspectives must be considered, and a full context of change intervention and underlying assumptions are critical to enhancing its chance of success (2017). Social think tank and consultant, NPC, describes that a ToC, “helps organizations think through what they do and why, reveals assumptions and flaws in logic, engages staff and stakeholders, provides a sense of common purpose, tests the rationale for what an organization does, and structures an impact measurement framework” (Abercrombie et al., 2018, pg. 5). When used in a systems thinking manner, a ToC is a testable hypothesis of how an interaction with a leverage point will effect a system and hopefully create positive impact. Though ToC is not a tool unique to systems change, when viewed as an iterative tool and not a master plan, it fits very well into systems change initiatives. The very popularity of ToC in systems change highlights another reason why systems thinking is a better fit for impact investors than linear thinking. Hivos notes how, “in practice, the ToC visualization often presents a diagram or flow-chart of the pathways of change, in a linear way. The result is a logic model that does not explain key elements” (Alford, 2017). The risk involved in this tool is that, if not careful, the diverse and rich information used in the ToC can lose its significance and step-by-step plans can push an impact investor back into linear thinking.

Examples of Systems Mapping

Now that this thesis has covered the most relevant leverage points that impact investors can target as made possible by systems mapping, the following are three examples of positive outcomes that occur due to systems mapping. These examples are

described by Palladium Impact Capital in their popular report, “Systems Change: An Emerging Practice in Impact Investing.”

The first example follows Aqua-Spark, an investment collaborative dedicated to sustainable aquaculture. In an effort to find investment solutions that would make long-lasting change, they realized that they couldn’t change conventional fish farming without considering the inputs from all other parts of the supply chain (*Palladium - Systems Change*, 2019, pg. 11). So, as Palladium describes, Aqua-Spark adopted an open-ended fund strategy that involves the whole supply chain, “from solutions in genetics and feed ingredients, to farm management technologies and farming operations, to traceability, consumer products, and distribution – while generating a high economic return.” (2019, pg. 11). This example indicates how systems thinking allowed an impact investor to reduce their contribution to negative supply chain externalities, thus, improving their net positive impact.

The second example follows Open Societies Foundations, an impact investor interested in investing in sustainable fish farms in Kenya in order to contribute to the sustainability and inclusivity of Africa’s food systems. Open Society Foundations mapped Kenya’s food system and found that, “all fisheries in that region were owned by men, and all traders were women. More importantly, the way in which these stakeholders interacted was that the men would only sell the fish to the women in exchange for sex” (2019, pg. 12). If Open Societies Foundations had used linear thinking, they would have assumed that investment in the growth of sustainable fish farms would only create positive impacts on the food system. However, systems thinking allowed them to zoom out and see where the food system perpetuated sex trade. In response to what they learned

from their system map, “they are currently seeking to develop partnerships to support a more complete set of changes across the fishing industry, trading market, and civic rights protection in that region” (2019, pg. 12). In this example, the systems thinking impact investor was able to avoid negative impact and target deeper impact.

The third example follows prominent impact investor The Omidyar Network’s Democracy Fund, which invests in organizations that support the US political system as it withstands new challenges. Palladium reports that, “With the mapping and analysis of the feedback loops, they found Congress was increasingly unable to fulfil its role and identified two key sets of dynamics that reinforced this state of dysfunction” (2019, pg. 20). In this example, systems thinking provided deeper insights for an impact fund to fulfill their mission. Systems are complex; without mapping the political system, the Democracy Fund would have missed important dynamics that are elusive and hard to identify with the naked eye.

Methods and Other Characteristics of Systems Thinking Impact Investors

The following will address the other methods that will allow a systems thinking impact investor to access deep impact, as well as outline other key characteristics of those impact investors.

First, a systems thinking impact investor should consider the prudent portfolio manager’s darling principle: diversification. Albert Rutherford, whose highly insightful book *The Systems Thinker* has been quoted healthily in this thesis, also provides insight on how this classic idea of finance intertwines with systems thinking. Rutherford recalls that,

“Warren Buffet wisely said, ‘Never test the depth of the river with both of your feet.’ This wisdom reminds us of the importance of protecting ourselves from unfortunate events by trying to be stable and diversified. If we put all of our efforts, hopes, and resources into one area and something bad happens, we will quickly find ourselves on shaky ground. Systems thinkers understand this as well. They know that diversity is a key component of shielding ourselves from vulnerability and a lack of stability should things go wrong” (Rutherford, 2018, pg. 35).

One big, linear, rigid plan would be like testing the depth of a river with not just both feet, but a head-first dive. Making iterative change is a form of diversification; if you take small steps, you can never go too far in the wrong direction, and you can much more easily and quickly back-track and go another way. The principle of diversification enforces the importance of the incremental, iterative aspect of systems thinking. Practically, when creating a ToC, an impact investor must understand that both taking small steps, as well as addressing multiple stakeholder perspectives, provides diversification that reduces the risk of failure.

Secondly, a systems thinking impact investor should consider systems hierarchy. Donella Meadows, in her fundamental book *Thinking in Systems*, describes systems hierarchy as, “Systems organized in such a way as to create another system. Subsystems within systems” (Meadows & Wright, 2008, pg. 187). Meadows notes how, “If subsystems can largely take care of themselves, regulate themselves, maintain themselves, and yet serve the needs of the larger system, while the larger system coordinates and enhances the functioning of the subsystems, a stable, resilient, and efficient structure results” (2008, pg. 82). The EVPA also describes how systems change occurs at multiple levels within the system hierarchy (EVPA, 2020). The nature of hierarchical systems requires systems thinking impact investors to pay very close attention to the relationships between sub-systems, especially when it comes to wicked

problem identification. What may initially seem like a problem in one sub-system may just be the consequence of the actual core problem in a neighboring sub-system.

Additionally, a systems thinker may be able to identify where subsystems are combative, creating inefficiencies or negative outcomes. Rutherford states that, “When subsystems think of their purpose as being more important than that of the system, and achieving their goals comes at the expense of and detriment to the entire system, the process is called sub-optimization” (Rutherford, 2018, pg. 122). Sub-optimization can form a sort of bottleneck that an impact investor can target. Furthermore, if an overweight amount of capital is invested in one particular sub-system’s purpose, there may be consequences for other sub-systems resulting in sub-optimization of the system at large. A systems thinking impact investor might take note that too much capital is flowing to a particularly attractive archetype of impact investment, and not enough capital is flowing to an equally important part of the system. The significant lack of investment relative to other sub-systems could have the same effect on the lacking sub-system as if it initially had a capital shortage, even if it may not have.

Lastly, perhaps the single most important method that a systems thinking impact investor could adopt is collaboration. Collaboration exists at the center of every tool and method mentioned thus far. Systems mapping, theories of change, problem identification, leverage point identification, solution development, financing, collecting results data, learning and adapting, and so much more all benefit from collaboration. Collaboration also brings a healthy realism into the largely idealistic process of systems change. As EVPA described, there is no hero in systems change; the collective efforts of a unified collaborative, however, can drive great change and create deep impact. This fact indicates

that impact investors cannot accomplish much without working with the advocates, non-profits, policy makers, leaders of communities effected by wicked problems, and so many other stakeholders. Practically speaking, very few impact funds have the capacity to run the full method of systems change, but thankfully, systems thinking itself suggests that they shouldn't even try. Palladium Impact Capital recognizes that, "For investors that have adopted systems practice, collaboration with – and meaningful participation by – key stakeholders in the targeted system is essential during each part of the process, from setting the vision and mapping the system to the distribution of tools and extrapolation of learnings" (*Palladium - Systems Change*, 2019, pg. 14). Palladium notes how it is generally accepted that such collaboration will drive better outcomes for all stakeholders (2019, pg. 14). In the systems change community, this form of collaboration is called collective impact. The key element of collective impact is unity. Rutherford describes how the idea for collective impact came from a group of community leaders focused on improving the schools of a local community who realized that their individual efforts could only accomplish so much. That realization, "drove this group of leaders to abandon the individual goals of their organizations in favor of joining together and working collectively on one unifying goal of improving student achievement" (Rutherford, 2018, pg. 181). Palladium emphasizes this idea by declaring that a guiding star, a unifying set of goals and values, isn't only a critical part of an impact investors systems change process but should be the very first step (*Palladium - Systems Change*, 2019). What this entails, then, is that an impact investor keen on using the method of collaboration shouldn't wait to use others to fact-check and confirm their ideas, or just collaborate by out-sourcing tasks to others only to be fit back into their master plan. Rather, collective

impact requires an intimate, humble approach to collaboration not too often seen in the world of finance. Rutherford also notes how, “collective impact leads to mutually reinforcing efforts” (Rutherford, 2018, pg. 181). As wicked problems highlight seriously daunting and seemingly unsurmountable problems, it makes sense that all efforts to address those problems ought to build on one another. Again, collective impact is not synonymous to conventional forms of collaboration. Ursula Wright of FSG describes how, “Collective impact is a structured, multi-sector approach to changing systems...Unlike other approaches to collaboration, collective impact is defined by long-term alignment around a common agenda that seeks to address root causes of a systemic problem” (Wright, 2019). Collective impact has four distinct phases: initiating action, organizing for impact, early execution, and sustaining impact. These phases follow the systems change process, and include shifting mental models so that everyone is on the same page for goal alignment, forming a shared understanding of the problem and potential solutions, and producing outcomes (2019). When applied, the collective impact model allows for the power of systems thinking to come into full force, thereby empowering those who use it to find ever deeper insights and create even deeper impact.

Why Should Impact Investors Care?

Though this paper has thus far identified how systems thinking helps impact investors, the question may still remain that impact investors seem to be attracting popularity and capital just fine without systems change initiatives, so, ultimately, what’s the need for it? This thesis suggests three primary reasons.

Firstly, impact investors ought to care about systems change because impact investing and systems change are ultimately the same thing. Impact investors haven’t

created a new problem-solving industry, they're just joining one that already exists, full of incredible organizations that have been solving problems for decades. What this indicates is that there is mission-alignment between the goals of impact investors to create impact, and the goals of other change makers to solve wicked problems.

Secondly, though impact investing is attracting a massive amount of attention, it's not all positive. As the collective AUM of impact funds rises dramatically, more skeptics are rising, and their voices are getting louder. Skeptics often ask a very valid question, "do impact investors actually create any impact at all?" Many critics of impact investing don't believe impact is actually occurring, and are hesitant to believe that it's possible to create impact while delivering competitive financial returns (Piper, 2018). History is no stranger to misleading, nice-sounding campaigns that ultimately were labeled greenwashing. The last thing that impact investing needs is for a large proportion of people to believe that it's just an effective marketing scheme chalked up to take advantage of altruistic, yet naïve, investors. Systems thinking and systems change initiatives, however, do create deep impact. As more impact investors adopt systems thinking and abandon linear thinking, not only will they be able to improve their net positive impact, but it will prove to the street that impact investing deserves to exist.

Lastly, if impact investing is able to truly prove itself with deep, systemic change, it will continue to draw more capital towards its initiatives. Multiple points within this chapter have alluded to the importance of attracting more capital, and the reason is simple: there exists an immense capital gap between where the world currently stands and the solution of massive wicked problems. The United Nations notes that, "The financing gap to achieve the SDGs in developing countries is estimated to be US\$ 2.5 – 3

trillion per year” (*Financing the 2030 Agenda for Sustainable Development*, 2019). Of course, this funding gap is basically insurmountable. So, addressing the SDGs requires a dual-goal of tackling wicked problems, and doing so in the most efficient manner possible. As impact investors improve their net positive impact by improving positive outcomes and decreasing negative externalities, they are reducing the capital required to solve wicked problems. Rockefeller Philanthropy Advisors indicates how, in reference to net positive impact, “With a catalytic mindset, this goal leads to closing the capital gap in order to deploy capital where traditional capital is scarce, provide a pipeline of investable opportunities, or engage underserved populations” (Briaud & Godeke, 2020, pg. 62). However, if impact investors maintain that goal but within a systems change framework, they can target leverage points and reinforcing feedback loops that scale impact exponentially. Systems thinking provides the opportunity to understand how to increase the impact per dollar of impact investments. Thus, systems thinking and impact investing benefit one another in such a way as to create positive change the likes of which the world has not yet experienced.

CHAPTER SEVEN

Conclusion

Through the exploration of various research studies, academic papers, subject matter expert opinions, practitioner opinions, articles, and books, this thesis has demonstrated that systems thinking empowers impact investors, whereas linear thinking holds them back. Linear thinking limits an impact investor's ability to find deep impact opportunities yet increases the likelihood that their actions, or the actions of their investees, creates or leads to negative externalities. Systems thinking allows the impact investor to do the opposite, as it can highlight non-obvious opportunities, as well as the non-obvious dynamics that create negative externalities.

In addition to establishing the benefits of systems thinking, this thesis also displayed the tools and methods of systems change that are enabled by systems thinking, and how they benefit the goals of impact investors. Ultimately, it becomes clear that systems change and impact investing are not dissimilar. Both work to create impact, but systems change methods predate impact investors, thus, it may be beneficial for impact investing to adopt methods of creating impact that are tried and true. In fact, doing so may help to solve many of the identity problems mentioned at the outset of this thesis currently plaguing the still young industry.

There are real limitations to adopting systems change techniques that this thesis recognizes. Practically, not every impact investor is capable, on either a skill set or capacity basis, to move into a very new approach. Additionally, this thesis acknowledges that impact investors are often not free to make major changes in their approach without

consent of their limited partners. Furthermore, as this thesis has regarded impact investors as those working in private markets, it also acknowledges the limitations of systems change efforts in public markets impact investing. This thesis does not claim that every impact investor ought to collaborate as extensively and engage in systems thinking as intensely as the next impact investor. However, you can scale down the ideas in this paper and still maintain that there is something every impact investor can do beyond their duties strictly as an investor. The following figure indicates, in simple terms, how anyone can begin making the jump from linear thinking to systems thinking.

Even one meeting with a relevant stakeholder, phone call with a change organization, or read-through of a system research report could alter the flow of capital away from suboptimal, linear solutions, and towards optimal, systems-aware solutions. Systems thinking can be adopted by any impact investor, and even without systems change methodology, the argument stands that systems thinking empowers the impact investor more than linear thinking does. After all, systems thinking can be applied not just to the impact investment approach, but also to solving business and workplace problems.

The argument this thesis makes for systems thinking in impact investing is a foundational one, one that could easily be built upon or dug into with deep insights into specific case studies or data sets. So, there exists a plethora of various approaches to further studies. Most notably, further studies could include an in-depth case study on a systems change impact investor as they make the shift to systems change, analyzing how their impact and economic results change over time. Additionally, further research could be done into the impact measurement and reporting standards associated with deep,

systems change, as opposed to surface level KPIs. However, the further study I find most fascinating regarding impact investing and systems change would be to study return data on what impact investors would consider optimized impact portfolios. It would be an important insight to be able to quantitatively prove, or disprove, that you can optimize impact and financial returns at the same time, or if the optimized impact financial frontier is less optimal than either on their own.

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