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MANAGING IMPACT PORTFOLIOS: A CONCEPTUAL VIEW OF SCALE

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Abstract

Problem/ Relevance *- As impact investing continues to grow, it will see economies of scale and the management of larger pools of capital in portfolios. This makes it possible to fund a wider variety of social and environmental initiatives, but also means that managing the challenges particular to impact investing become increasingly important.*

Research Objective/Questions *- What happens after impact measurement? What challenges remain in the analysis of cost, risk, and joint impact-financial net returns that will be unique to impact investment portfolios?*

Methodology *- Our conceptual view of portfolio management for impact portfolios focuses primarily on two difficulties at scale – subjective judgment and investor value heterogeneity.*

Major Findings *- New tools capable of addressing value heterogeneity and subjectivity in decision-making are necessary to capture vital cost savings at scale and avoid limits on the impact that can be pursued. Regarding potential solutions, there is strategic opportunity in utilizing transparency, dialogic accounting, and democratic values in portfolio management.*

Implications *- Existing tools could be adapted to the space to foster greater preference aggregation. To enable both market building and robust research, there is a need for additional transparency about current impact investment portfolio allocations and the decision-making processes that are used to set these allocations.*

Keywords*: impact investing, scale, risk management, investor values, sustainability*

Introduction

The enthusiasm for impact investing, which spawned a robust conversation about the functions of metrics and measurement processes (e.g., Dadush, 2012; Reeder & Colantonio, 2013; Bengo, Arena, Azzone, & Calderini, 2016; Clarkin & Cangioni, 2016), has evolved into a strong push to see impact investment products made available on a larger scale and to mainstream investors (U.S. National Advisory Board on Impact Investing, 2014; Brandstetter & Lehner, 2015; Smiles, Haefele, Carter, Donovan, & Koester, 2017). The reasons for this are varied, but in part it is driven by a more widespread belief – reflected by the creation of the Sustainable Development Goals (SDGs) and the ratification of the Paris Agreement on climate change – that big actions with correspondingly large capital investments are required to respond to pressing social and ecological concerns and stay within proposed planetary boundaries (Rockström et al., 2009).

Demand from investors for more diversified portfolios that include social investments (Responsible Investment Association, 2016) and some dissatisfaction with the returns from traditional investing in this extended period of low interest rates (Smiles et al., 2017) also contribute to the growth of the impact investing sector. Despite the broad range of interests allied with the goals of impact investing, Snider (2016) pointed out that, "Evolution in the impact investing space has largely been a result of pressures coming from the investing community itself" (p. 2). Wider global conditions, including austerity policies that constrain public budgets, have helped soften the ground for the acceptance of this market (Dowling, 2017), and further the full picture of the values driving the emergence of the impact investing sector remains cloudy (Giacomantonio, 2017; Daggers & Nicholls, 2016).

Nonetheless, if impact investing is going to offer a significant contribution to managing complex socio-ecological challenges, it will have to grow in size and improve the effectiveness of its social impact. To do this, impact investors must tackle impact data analysis challenges that will arise once impact data collection has become sufficiently stable and credible. Comparability of measures, not only for *ex-post* social and environmental impact analysis but also *ex-ante*, including in terms of risk, are crucial to the formation of the kinds of portfolio frameworks that would allow more traditional investors to participate in impact investments (Brandstetter & Lehner, 2015) and for modifications to the mainstream portfolio approach that could exploit the potential learning from socially and environmentally focused investing (Geobey, Westley, & Weber, 2012). Moreover, the management of portfolios that include or are comprised entirely of impact investments will require the serious treatment of social and ecological impact risk. Doing so requires the development of new tools to balance the dual mandates of financial and impact returns in a strategic manner. Without such tools, the danger is that over time, financial returns will tend to squeeze out impact consideration, or that impact investment portfolios will be unable to properly manage financial risk, leading to the abandonment of impact investing in favour of mainstream finance and philanthropy. As impact investing grows, its barriers to adoption at scale need to be mapped out, and the task of moving forward needs to be laid out.

This paper asks a simple question: What happens after impact measurement? Once impact investors are able to confidently measure impact, what challenges remain in the analysis of cost, risk, and joint impact-financial net returns that will be unique to impact investment portfolios? After a review of the literature focused on the leading rationales for scale, and discussion of some of the strategic implications of measurement, we suggest that as impact investments scale, barriers will emerge, in particular from investor value heterogeneity. This is because different investor perspectives of what a valuable social impact is will make the pooling of capital for impact investments increasingly difficult. To provide possible routes for addressing this

challenge, this paper considers transparency, dialogic accounting, and democratic decision-making processes as approaches with the potential to reduce these barriers at scale.

Towards critical mass

A 2017 white paper produced by UBS (Smiles et al., 2017) for the World Economic Forum's Annual Meeting in Davos, Switzerland, stated, "Engaging private capital investment in funding the SDGs needs to start now," and with the recent rise of populist politics in mind, added, "current policy approaches may be running out of time" (p. 11). But while impact investing is gaining traction as a way of supporting positive societal impact (Case, 2017), it is worth remembering that exchanging money for social or environmental goods has always been possible. Impact investing is different because of the belief that this can simultaneously be financially rewarding, successful when situated in the milieu of the capital markets, and conducted by primarily non-state actors.

It is maybe unsurprising, then, that Allman and Escobar (2015) seem to have highlighted a gap between impact-focused professionals and the finance sector when they indicated that, "Many social entrepreneurs create business plans that can be viewed as weaker from a business functionality point of view because the social mission is too aggressive" (p. 12). Such concern does not comport with a relatively recent report from Oxfam and Sumerian Partners, which argued that "one of the key functions of impact investors is to find impactful enterprises that are not ready or suited to commercial investment" (Bolis, West, Sahan, Nash, & Irani, 2017, p. 12), or an earlier report from Monitor Group which championed enterprise philanthropy as "the key to truly realizing the 'impact' in impact investing" (Karamchandani, Koh, & Katz, 2012, p. 49). Monitor's vision of enterprise philanthropy involves impact-focused philanthropic funders allocating capital to "establish models for inclusive business enterprise into which return-seeking capital can be invested to drive scale" (Karamchandani et al., 2012, p. 18). This is a vision for a philanthropy that paves the way for primarily profit-seeking investment, a vision that can fit uncomfortably with the rhetoric of impact investment.

For Brest and Born (2013), additionality is an important component of impact investing, and such investments ought to "increase the quantity or quality of the enterprise's social outcomes beyond what would otherwise have occurred" (p. 24). Still, there is no standard that must be met for 'impact' in impact investing (Höchstädter & Scheck, 2015), and considerations become even more complex in the context of the sustainability imperative. There is a genuine question as to whether impact investing is something that needs to be made more financially attractive via things like market-rate financial returns, or if investments into social and environmental initiatives are inherently more appealing now than in previous times, because the urgency behind the SDGs increases the value of making progress in the face of global challenges.

This distinction will be important for the development of the sector. The 'impact investor' label will only be meaningful if impact investor behavior is qualitatively different from mainstream investing. For Daggers and Nicholls (2016), impact investing is distinct from 'social investing' in social sector organizations and "concerns the use of capital to create specified social or environmental impact, whether it is through direct allocation capital, investment in funds, or contractual agreements such as [social impact bonds]" (p. 6). In this paper, the *a priori* formulation of an impact goal is viewed as a crucial component of impact investing and stands in contrast to the peripheral positive impact of a desirable mainstream investment. Other investment products commonly placed within 'socially responsible investing' or those that use

environmental, social, and governance (ESG) screens are excluded from 'impact investing' here; the use of passive filters to avoid negative social impact and achieve better performance on ESG criteria by simply narrowing the universe of securities is far less complex to originate and administer.

The reasons for the impact investing market

Some view the rise of the social finance market as a response to market failures in traditional investing. For instance, Nicholls and Tomkinson (2015) referred to the "historic failure to price the environmental impact of carbon emissions into share valuations in the energy and heavy industry sectors" (p. 286) as an example of a broader set of informational failures. Indeed, these can present mainstream risks, as in the case of 'stranded assets' in industries where regulatory or market changes render current business practices unprofitable. Along these lines, there have been calls to include climate change assessments in general asset valuations (Dietz, Bowen, Dixon, & Gradwell, 2016). But this does not explain why impact investing has found its place in the world now as opposed to 20 or 30 years ago, when similar market failures were present and observed in places such as the 1972 United Nations Conference on the Human Environment and the 1987 Brundtland Report from the World Commission on Environment and Development.

Snider (2016), writing as an employee of Bank of America Merrill Lynch and referencing the energy sector, focused on how investors' concerns about carbon emissions lead to financial injury: "When energy markets increased in value substantially over the last decade . . . they missed out on significant gains" (p. 2). Snider's (2016) white paper compares impact investing favorably to negative screens, but also asserted that the "increased availability of impact data from companies and data providers" means investors and money managers can analyze investments "using positive environmental, social and governance data. This combined with modern portfolio construction techniques helps eliminate the risk and performance drawbacks of negative screening" (p. 3). The utility of the measurement practices and the resultant data expected from engaging with social and environmental initiatives via impact investing is thus somewhat different when viewed from different perspectives. While the former viewpoint suggests more of a priority on increased recognition of externalities, leading to more holistic decision-making that places financial choices in a global context, in the latter, impact investing is seen as a way to better serve the financial asset holders who value the social and environmental impacts of their choices.

In taking the existing financial markets as the reference point, neither orientation is altogether different from that contained in the report of the G8's Social Impact Investment Taskforce (2014), which called the inclusion of impact considerations "a paradigm shift in capital market thinking" and referred to the 2008 financial crisis, which, "highlighted the need for a renewed effort to ensure that finance helps build a healthy society" (p. 1). While impact investing as an industry-enacted amendment to certain failings of the capital markets would likely lead to improved outcomes, as a concept it is something less than the idea of an impact investing market which generates unique and innovative flows of funding for humanity's shared, complex, global problems.

Financing comes from private sources, public sources, or some combination thereof, and discussion around this is especially relevant where the common goals of sustainability are concerned. In an April 2017 speech (Impact Investing World Forum, 2017), David Galipeau, global director of the United Nations Development Programme's Social Impact Fund, said, "My perspective, personally, is that governments are simply impact investors. They're very bad impact investors, but they're impact investors all the same." While citing cash-strapped public

finances as part of the rationale for including private capital in social and environmental initiatives, impact investors have asserted, without additional discussion, "government policy frequently allocates capital poorly" (Weatherley-White, 2017, para. 21). The oft-cited UBS white paper (Smiles et al., 2017) also encouraged "tax breaks or government incentives on for-profit impact investing akin to those afforded to philanthropic giving" (p. 25) as a way to incentivize private investors.

What is absent from the discussion is recognition of the complexities of portfolio management. Impact investments have not yet come anywhere close to the scale of investments that governments routinely administer. A failure to engage – even conceptually – with the complications of managing social finance at a large scale poses a problem for impact investing. When the challenges of scale are not included in the efforts to build the market, no solutions are proffered, and we argue there are intrinsic difficulties at scale. Additionally, the reality that "periods of rapid transition offer one thing for investors—opportunity" (Weatherley-White, 2017, para. 24) seems significant in light of the denigration of governmental efficacy, since governments can play the role of balancing force between the strong and the weak. Further, there is the "accountability gap" between investor and beneficiary that is inherent in social finance interactions (Nicholls, Nicholls, & Paton, 2015, p. 256).

The task of creating robust mechanisms via which private investors would be held to account for irresponsible behavior that damages the public interest is not a small one, but even if accomplished, impact investors would still need tools to wield impact measures at scale. For example, a $500 million fund with the combined capital of a dozen investors could fund a variety of projects. Over time, the success or failure of certain investments can be expected to improve or reduce the prospective returns of others. The ability to strategically adjust capital allocation in response to events requires not only expert analysis by the fund's portfolio managers, but a method by which the managers could satisfy the social and financial goals of a group of investors who value social priorities differently. That impact investments require longer investment time horizons and are more illiquid than stocks or bonds only makes these issues thornier, because the circumstances for the investors will also change over time, and in different ways (Geobey, 2016). Scale is important if impact investing is to fulfill its promise of significant societal contribution, and it is suggested here that achieving scale entails clearing hurdles that lie beyond measurement.

The costs and benefits of measurement

Though social and environmental impact measurement is costly, in impact investing it is also a key investment enabler. This is because a metric is always a piece of data *and* a tool for capital allocation; the nature of the value realized from any metric is determined by choices made as a result of having the information (Geobey, 2016). This section of the paper examines the interactions between the costs and benefits of measurement that are unique to impact investing, and explores how identifying and analyzing these interactions over time is important for the sector to realize the benefits of managed portfolios.

In global capital markets, increases in investment profits are often achieved by externalizing social and environmental costs. Because these externalities are not absorbed by the investor or the investee, there is little incentive for either party to measure them. Impact investing, with its dual mandate of creating and measuring financial and social value, accepts the significant cost of impact measurement as a means of internalizing these externalities. Two components of risk management shift this from being an unambiguous loss. First, the information forfeited by

avoiding non-financial impact measurement can expose traditional investors to an unacceptable amount of risk (Carney, 2017). Without any impact considerations, capital allocations will be based on highly erroneous estimates of both financial and non-financial risk and return. Second, when creating investment portfolios in an environment where the amount of correlation between fixed income and equities changes, and is often highly sensitive to external events (Chiang, Li, & Yang, 2015), impact investing can be used to augment existing investment portfolios.

Information about impact, once measured, can be provided at a negligible marginal cost. Indeed, if the information were made freely available it would be an additional positive externality from investments made. However, traditional markets rarely value these measurements directly, and thus investors are unlikely to be compensated for their costly collection or the distribution of the results. Since the impact investor seeks both social and financial return, they are likely to want their investment to cover some of the data collection cost. That said, it does not follow from this that the impact investor will want to make those impact results easily available.

Time and money

There is also an important temporal aspect to the benefits of measurement. To the extent that social impact measurement is practiced more and more, it can be expected to become both less expensive and more accurate. Cost reductions should make measurement feasible for a larger body of investors, and the burden would be markedly reduced for investors who split the costs by pooling their money.

Publicly sharing the results of impact measurement would create conditions conducive to making significant leaps in industry-level capacity. This has implications for the sector's ability to attract investors for whom the early stage of the market represents a large risk and measurement subjectivity is worrisome. Nonetheless, while 57 percent of respondents to the most recent Global Impact Investing Network (GIIN) impact investor survey (Mudaliar, Schiff, Bass, & Dithrich, 2017, p. 41) reported using metrics "aligned" with the Impact Reporting and Investment Standards (IRIS), 75 percent of respondents reported using proprietary metrics or frameworks for measurement (respondents could choose more than one option). This suggests that the bulk of those using IRIS-aligned metrics are using them to craft individualized, private measurement frameworks. A divide was also visible between emerging markets and the developed world, as the GIIN report (Mudaliar et al., 2017) said that respondents whose investments were mainly in emerging markets "were more likely to report using IRIS-aligned metrics (70 percent) than any other measurement tool or framework," whereas impact investors in developed markets "were most likely to use proprietary metrics (85 percent)" (p. 41).

Reisman and Olazabal (2016) also observed the use of proprietary measurement tools in the impact investing sector and Wilson (2014), who highlighted a need for "more transparency and real knowledge sharing about social investment practices," further argued, "there is a lot of show casing [*sic*] but not enough learning about what is working and what is not, including about the true costs and efficiencies" (p. 28).

Impact measurement is not the only aspect of impact investing that requires significant upfront capital expenditure; crafting procedures around deal sourcing and structuring, infrastructure development within impact investing organizations, and, at this stage, learning-by-doing in an emerging market are also entry costs. Respondents to the 2017 GIIN survey (Mudaliar et al., 2017) said they planned to execute 20 percent more impact investing deals in 2017 than in 2016, and the GIIN's analysis of responses from those who completed the survey in both the current year and the previous year found that the number of deals increased by 3 percent

from 2015 to 2016. From this, we can infer that these organizations have reached a level of discrete operational capacity that allows them to participate more in the market. This alone could trigger some of the benefit of Geobey et al.'s (2012) "developmental impact investing" framework, which reveals how, once extant, the impact investing "portfolio can then be used not just to make an impact, but also to better understand a complex social or environmental system upon which it aims to have effects" (p. 158). This richer understanding would increase measurement quality in the future, thereby reducing the chance of unintended consequences that would be most worrisome to investors for whom management of reputational risk is paramount.

But a failure to share metrics would not foster the development of a transparent impact investing marketplace where others might also benefit from this learning. In turn, this could stunt the development of sophisticated, new tools that are capable of addressing the complexity of portfolio management as scale increases. Moreover, relatively isolated entities using proprietary measurement and/or reporting techniques would not allow for consideration of the social and environmental impacts of these investments within the broader sustainability discussion.

Difficulties at scale

At the point where impact measurement procedures reach effectiveness in terms of cost, relevance, and reliability, they should satisfy several of the challenges that arise early in the market and when activities are on a smaller scale. These include assessing the value of the underlying social and financial impact, executing the dual mandate of a specified combination of financial and impact return, and dealing with the uncertainty inevitable when engaging in complex social-ecological systems. As more money flows into impact investments, though, the next hurdle is analysis of the measurements in a way that aligns with portfolio balancing to achieve the desired risk/return profile (Markowitz, 1952). In this section, we expand upon some of the specific challenges that we suggest arise when managing impact investing portfolios of a large scale; mostly these are centered on subjective judgment and investor value heterogeneity.

Synergies arise between social value creation and financial value creation when the processes are integrated in impact investing, and the opportunities for additional value are not present if the social and financial are separated (Geobey, 2016). An individual investor with a $10 million portfolio capitalized with personal funds will create some of these synergies, but pooled investor funds are able to provide more funding to potentially larger social and environmental enterprises while also containing per dollar management costs, leading to economies of scale. If the $10 million investor joined with 10 others, each with their own $10 million to invest, management of the $100 million portfolio would present different synergies. Opportunities to take advantage of these synergies improves when portfolio investment strategies can be conducted over a longer time horizon, and when (and if) social or financial returns begin to diminish as more money is allocated, as Geobey (2016) explained; but "it is necessary for the social returns to be internalized to the extent that it expands the [Strategic Choice Frontier] to allow a range of financial and social return strategies beyond the simple linear trade-off" (p. 386) where one kind of return is sacrificed for the other.

Internalizing social returns requires judgment and analysis of the information available, because it is a subjective decision as to when and how much of this is appropriate. Further, decision-making in a pooled portfolio context is constrained by the bounded rationality to be expected of humans within complex systems (Arthur, 1994) and, per Geobey (2016), "metrics that are used to capture impact are always imperfect proxies for actual social impact" (p. 391). It

is impossible to maximize the value of more than one objective. While constructed indexes can transform multiple objectives into a single, synthetic objective (gross domestic product, for one, is a synthetic indicator), a decision-maker must still construct some way of weighing different values, either explicitly or implicitly. When more than one person is making the decision, each person is likely to bring with them a different approach to value weighting; indeed, Koenig and Jackson (2016) stated that in impact investing, "risks and barriers depend on the individual profile of each investor" (p. 20).

To pull this out further, the variance in returns tied to the riskiness of an impact investment can be both positive and negative. That is, financial returns can be above or below what was expected, and social return can be above or below what was expected (see Figure 1). Different investors will have different tolerances for these risks. All impact investors will be pleased with returns that are financially better than expected, socially better than expected, or both. Similarly, all impact investors will be displeased with returns that are financially worse than expected, socially worse than expected, or both. However, when financial returns are better than expected and social returns are worse than expected, or vice-versa, not all impact investors will react the same way. Some may be pleased with the tradeoff, while others might be displeased by it, depending on their impact investment objectives. These different perspectives become even more challenging to integrate into a single investment portfolio strategy when multiple impact objectives are being sought.

Social Return \ Financial Return	Low	Expected	High
High	Financially worse; socially better	Financially as expected; socially better	Financially and socially better
Expected	Financially worse; socially as expected	As expected	Financially better; socially as expected
Low	Financially and socially worse	Financially as expected; socially worse	Financially better; socially worse

Figure 1. The variance of returns possible from impact investing. Source: Authors.

While many argue against pursuit of standardized metrics and measurement systems for social impact (e.g., Mulgan, 2010; Ebrahim & Rangan, 2010; Costa & Pesci, 2016), the use of measures that cannot be compared prevents the weighing of investments against each other for inclusion in portfolios. Ruff and Olsen (2016) observed that common measures are less effective and "measurement alone cannot solve the comparison problem" (para. 2). Further, in highlighting the need for "analysts who are capable of interpreting and comparing apples and oranges," Ruff and Olsen (2016) noted that, "variation, it turns out, is best managed, not eliminated" (para. 7). Very similar issues are likely to arise when scaling up the impact investing

market and it is important to be able to deal with them. Opportunities for maximization of returns exist conceptually, but operationalizing them over time is complex and requires judgment.

Brandstetter and Lehner (2015), who stated that "optimized asset allocation is an indispensable necessity for institutional investors" (p. 90), used the Black-Litterman model as the basis for their approach to combining social and financial value into tools used in more traditional portfolio optimization. The authors also stated that the model's "feature of formulating and incorporating investor's individual views has been reworked to include the [social and environmental] perspectives" (Brandstetter & Lehner, 2015, p. 101). While this would be helpful for the $10 million individual investor, it would remain especially difficult for the $100 million pooled vehicle to offer maximized returns that fit each of the 10 investors' individual preferences.

Value heterogeneity in practice

Maximizing expected returns in an impact investing portfolio is conceptually possible, but as the number of investors, and therefore investor objectives, increases in a single capital pool, the challenge of managing those different objectives increases. While most impact investors will likely satisfice when pooling capital together rather than seek perfect alignment with an impact investment fund – the mainstream capital markets, which offer poor social objective alignment, help ensure this – the differences in investor objectives can still be enough to raise challenges for fund managers.

First, imagine the aforementioned 10 investors are participating in the $100 million impact investing portfolio. From the start, they agree to a seven-year time horizon with a management strategy that pursues a minimum social return that we will understand simply as Q, and a financial return in the range of 2 to 4 percent. There is likely to come a point, perhaps one year into the fund, or maybe not until four years in, when an exogenous event will make it difficult to achieve the financial and social objectives in the way predicted. If the fund were to, for example, suffer a financial loss that makes the 2 percent target impossible to hit without a new purchase of equities, and shares in Lockheed Martin were purchased in response, some investors might applaud this judgment. Others, however, are liable to find this a violation of their values so severe that it diminishes the value they personally assign to Q.

Conversely, it is possible, or even likely, that some portion of the financial and social returns will exceed those originally targeted. Here, too, it becomes a matter of judgment about whether re-balancing is appropriate. Some investors might assume that attaining surprisingly good early results towards Q means the strategy could then be shifted to emphasize more financial goals than social. Others, however, might believe that as long as the 2 to 4 percent financial return seems safe, all extra effort should go towards driving increased social value creation. Similarly, if the fund is nearing completion and is below its 2 percent return, there is the question of whether it would be appropriate to make *any* effort possible to boost monetary return. These examples show how the inclusion of social value considerations colors both the non-financial impact analysis and the big-picture appreciation of financial decision-making. Absent agreed-upon methods and tools for dealing with these kinds of situations, portfolio managers are left without direction in attempting to satisfy clients. And in a landscape where investors could always return to the capital markets, it is reasonable to wonder if financial considerations might take priority, and the impact goals of impact investing could be eroded.

Thus, when an impact investing portfolio manager risks losing clients by not focusing enough on the social, or enough on the financial, the handling of investor preferences looms large.

Where sustainability is concerned, it is possible to make a normative argument that the priority ought always to be on the social and environmental. But impact investing at scale would need to attract institutional investors, and for some of them – like pension funds – such emphasis could prove problematic. Even if pension funds were to accept social return as part of their mandate, the lack of liquidity in impact investing could present an almost insurmountable obstacle. An approach that maximizes only financial returns each year has the ability to allow outsized gains in one year to offset losses in others. But if impact investments are expected to prioritize social return, that would not offset financial loss for pensioners, and they would face significant difficulty in exiting from impact funds in order to return to the capital markets in search of financial gain.

Getting to scale also requires attracting a greater number of clients, and bearing the costs associated with that, or finding clients with larger amounts to invest. In practice, pooled impact investing portfolios are likely to have a mix of larger and smaller investors, and even those with strikingly similar original goals can be expected to encounter some degree of value differences over time. Consider that the aforementioned $100 million fund was instead comprised of six investors, five of whom contributed $10 million and a sixth who invested $50 million. Suppose, also, that the issue of strategic weighting between impact and financial returns was addressed by combining the social-ecological goal of Q with the financial return target of 2 to 4 percent, and all parties agreed to pursue a synthetic objective that we will call Z. While investors in pooled mainstream funds receive the exact same financial return per monetary unit of investment, the subjective decision-making over the life of an impact fund might lead to a version of Z that, while skillfully maximized, nonetheless pleases some investors more than others. For instance, when internalizing the social returns from an investment in a sustainable housing development, the strategic choice to subsequently invest in a nearby bike-share enterprise, instead of in local wetlands restoration, has the potential to leave the more environmentally minded investors somewhat less satisfied. This will not necessarily be a significant disappointment, but the disparity of investment sizes is likely to require extra effort by the investment manager to assure smaller participants that the preferences of larger investors have not been favored.

What is lost without scale

If the hypothetical 10 investors were each alone, doing impact investing via $10 million portfolios, none of the aforementioned problems would exist, because those individual investors could make personal choices. But 10 portfolios of $10 million each is not an example of the sector at scale – it is an example of isolated organizations using portfolio techniques. Such activity would be located near competence and replication, as shown in Figure 2.

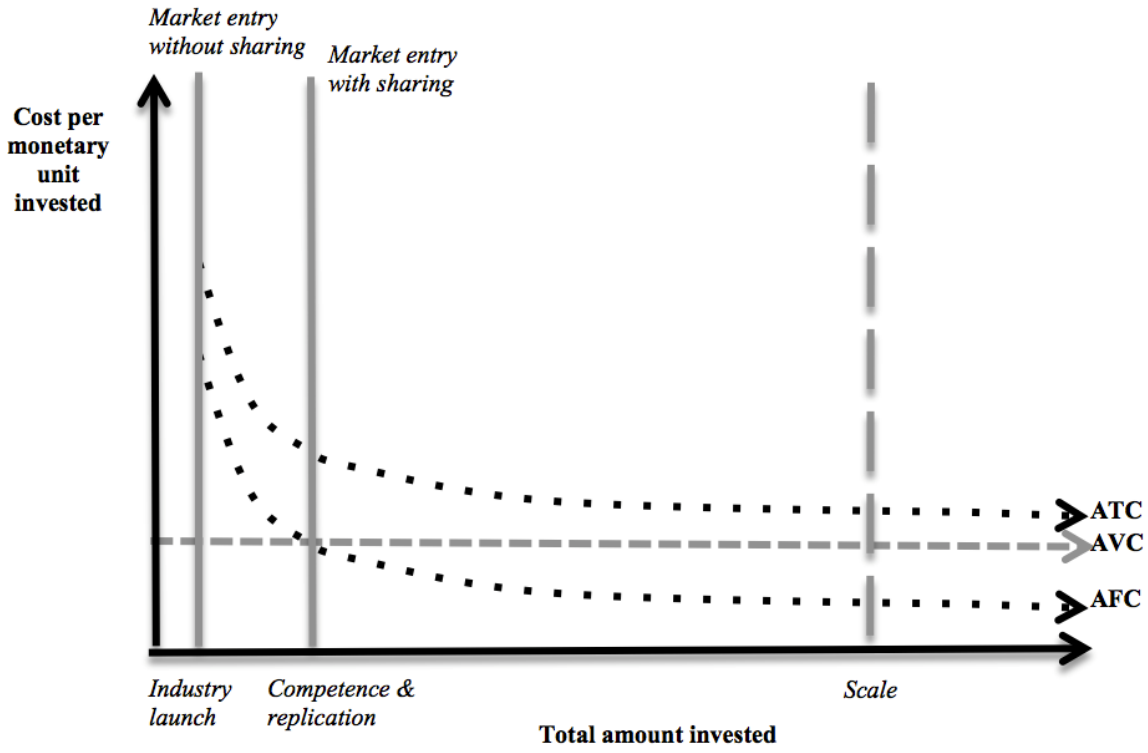

Figure 2. Conceptual trend lines of costs as more capital moves into impact investing. Source: Authors.

Whie there are benefits realized from impact investing executed at the area of the curves close to competence and replication in Figure 2, cost-saving potential from scaled impact investing goes untapped at this stage, where the average fixed costs (AFC) are approximately the same as the average variable costs (AVC; these are assumed as a constant for simplicity). Capturing the cost efficiencies at scale could bring average total costs (ATC) further down, and this might prove important for making impact investing affordable for more asset owners, and for expanding the range of projects that are suitable for investment.

To briefly illustrate, imagine a single investor is strongly attracted to a $5 million project's potential social-ecological impact, but the financial return is not expected to exceed 4 percent and measurement costs alone are $250,000, or 5 percent of the total investment. Nothing precludes the single investor from supporting this project, but some drawdown of the $5 million in the process is inevitable. However, if the same investor's $5 million were instead part of a $500 million portfolio the project could be funded, and not necessarily at a loss. The $250,000 in measurement costs is only .05 percent of the $500 million. Even if the $500 million portfolio held costs at 1 percent, $250,000 is just 5 percent of that.

When considering the potential of impact investing, the value of cost savings at scale is probably three-fold: it permits engagement with more diverse projects, in line with the far-reaching agenda represented by the SDGs; market-rate financial returns are not realistic for all impact investments (Goldman & Booker, 2015); and elasticity around deal structure should help with deal flow. Reduced management cost structures also free up capital that can be put towards seeking returns. All of this might be crucial to facilitate investment in projects that generate meaningful impact, and that is, in many ways, the whole point of impact investing. It is not uncommon for different parties in an impact investment deal to take different levels and types of

risk, with governments and philanthropies frequently providing first-loss capital to de-risk financial returns for other investors because they feel the additional investment will produce higher social returns (Wood, Thornley, & Grace, 2013). However, this approach is not a sustainable one if the social returns are not produced, because then the rationale for impact investing falls apart for those impact-seeking investors.

Discussion

Having considered some of the problems that are unique to the impact investing model at scale, in this section we identify three things – transparency, dialogic accounting, and democratic values – that are worthy of attention because they might illuminate a path towards successful resolution of some of the more sticky issues.

Transparency

Daggers and Nicholls (2016) found in impact investing a rather fundamental "question as to if and how both investors and investees are accountable to the people whose lives they are aiming to change," and critically observed that the answer would be heavily influenced by the investor's posture with respect to making the investment in the first place (p.18). This raises an important but perhaps easily overlooked reality, i.e., that no level of social or environmental impact measurement and analysis is going to provide a better understanding of who is investing and why. Simultaneously, it crystalizes the value of investor transparency.

A radical level of information sharing by and between investors and their fund managers would not eliminate their differences, but it might helpfully illuminate them. First, a willingness to share information that would not be provided in traditional investing is an initial way to establish some degree of impact investor bona fides. Second, it creates the opportunity to pursue a portfolio strategy that does not need to be perfectly in line with each investor's preferences, because the investors would engage with all of the perspectives and goals of those participating in the fund, and ultimately agree to support a somewhat more general purpose of investment. This would be a way for managers to execute portfolio adjustments in line with a strategy that is qualitatively satisfactory to all investors; the power of pooled capital, and the security offered by information sharing, could help attract and retain impact investor clients who are in pursuit of scaled impact. At scale, the impact investing market cannot be a perfectly competitive one – heterogeneous impact preferences will prevent this. But it can be a monopolistically competitive one through competition for and cultivation of impact niches.

Transparency is also treated in the literature. Stagars (2014), who cited the 2014 Capgemini World Wealth Report as evidence that high-net-worth individuals are keen to engage in investments that have a positive societal impact, suggested that many of the risks that are most commonly presumed by investors "can be mitigated with financial structuring and a transparent, stringent asset sourcing process" (p. 350). In a case study of social impact bonds in the Netherlands, Smeets (2017) focused on the "collaborative learning process," defined as "continuous learning by organizations through facing and overcoming challenges in their partnership" (p. 68). The study found that articulated reminders of common purpose were beneficial in instances were various stakeholders were at odds about a given issue, and further that, "The results demonstrate that everything starts with *transparent, reasoned* communication" (Smeets, 2017, p. 78, emphasis in original).

Additionally, Jackson (2013), in arguing for theory of change as a framework for the evaluation of impact investments, stated that it would "optimize learning" in many ways, including "enabling evaluation partners to co-produce and share new evaluation knowledge as a *public good*, with the aim of improving performance at all levels of the industry" (p. 106, emphasis in original). This would also serve to address somewhat the aforementioned accountability gap, as Jackson (2013) asserted that public expression of the theory of change could be used by any number of groups to "hold the investor accountable for their stated intentions. In a generally unregulated and emerging industry, checks and balances matter" (p. 103). Acceptance of and enthusiasm for this kind of public sharing might serve as another kind of pre-investment screen for investor intentionality. Returning also to the above-referenced failures of the capital markets, a level of public transparency from the impact investing market would offer citizens more information about efforts towards sustainability than the mostly opaque private markets currently offer. This would allow for deliberation and engagement that would otherwise be impossible, and such transparency could be viewed as a normatively healthier paradigm for pursuit of the SDGs.

A clarity among investors at the outset – potentially including open sharing of all fees paid and investment amounts by each member of a given pool – and a commitment to shared goals and behaviors with respect to investees and beneficiaries should be a sizeable help for the portfolio manager who will make decisions over the life of the fund. Investor transparency would help investees, as well. Scheuerle and Schmitz's (2016) interviews with leaders of social entrepreneurial organizations in Germany identified "funders that seek to influence their strategy or impose too many obligations" as one of 17 factors inhibiting the scaling up of these ventures, and leaders "declined funding from the state, foundations, private investors, and corporate partners in order to retain their independence" (p. 142). But this independence deserves protection only insofar as it is preserving the social-ecological mission and is not meant to provide an avenue for social entrepreneurs to withhold information that is germane to the impacts it is trying to achieve. The transparency therefore applies in both directions.

Whereas there has been a lot of (appropriate) focus on the need to measure and report the activities of investees, freely shared information about investor purpose and posture would almost certainly contribute to managing complexity over time. In addition, client feedback leads to constructive changes in products and processes in a variety of industries. Where transparency is practiced by and between investors, feedback from one investor would be shared freely, and this would support learning on the sector level much the way Jackson (2013) envisioned.

Accounting as a process

Calls for the exploration of dialogic accounting as a "facilitating medium" that might produce tools "responsive to the decision-making and accountability needs of a range of societal groups in organizational and civil society contexts" (Brown & Dillard, 2015, p. 248) comport with the conceptualization of relations in a comingled portfolio of impact investors. Brown (2009) further "argues for the legitimacy (and inevitability) of 'the political' in accounting" (p. 317). The fact that externalities are given little consideration in the traditional investment and accounting paradigm is a strong reflection of values, and whether – and how – to change this is in many ways a political question. In dialogic theory, particular attention is given to "exploring competing perspectives in a particular social arena and their implications for accounting/accountability systems" (Tanima & Brown, 2016, p. 8).

In a similar vein, Nicholls' (2015) "critical framework" approach to accounting "positions social innovation impact measurement as a more interpretive phenomenon that has the potential to be emancipatory in its processes as well as outcomes" (p. 2). Particularly where sustainability initiatives are concerned, this could support potential impact investors in releasing from the dualistic struggle that pits the subjectivity of impact measurement against perceived accountability risk. The latter might instead be satisfied by the shared responsibility associated with being a member of a fund that has engaged with complex issues from this more pluralistic framework.

What has to be measured and reported, and how, will surely influence the nature of the investment, and that consequently affects the social-ecological impacts that are realized. Barman (2015) explained that the "measure and meaning of value in impact investing remains multiple, as intended by the market's initial experimenters" (p. 36), and further these experimenters crafted tools like IRIS and the Global Impact Investing Rating System to reduce the barriers to entry for mainstream investors. But as Räikkönen et al. (2016) highlighted how "weights and scores for various forms of impact in the social impact assessment cannot typically be supported by empirical analysis as the data simply does not exist" (p. 85), there will unavoidably be a higher degree of subjectivity in the accounting process than mainstream investors typically bear.

Indeed, in discussing the use of Key Performance Indicators in sustainability accounting, Hiss (2013) stated the "process leaves plenty of room for manipulation according to private interests, making the accounting highly contested" (p. 237). Also, recent research analyzing the effects of changes to Generally Accepted Accounting Principles on corporations found "evidence that accounting rules have an impact on investment decisions even when the rule change is unrelated to the measurement and financial reporting of investment" (Shroff, 2017, p. 6). Explicit and competent negotiation of the inherent subjectivity via a process like dialogic accounting would contribute to professional-grade impact management that would appeal to a wide variety of investors and stakeholders.

Boguslavskaya and Rozhdestvenskaya (2015) further argued that effective evaluation of a project allows for "necessary corrections over time" (p. 121), and these are needed to increase returns. As part of their suggested impact reporting system, which was based on Social Return on Investment, the authors used "the prudence concept that meant using the highest possible value for resources, and the lowest value – for social results" (2015, p. 108); this serves as a safeguard against mistaken inflation of impact. Such consideration would be important in a comingled portfolio where investments are being considered both for their individual characteristics and for the ways in which their characteristics compare and contrast with the other investments.

A heterogeneous group of investors will have different interests, but by agreeing to transparency as a barrier to entry in a portfolio and then accepting a different accounting system like dialogic accounting, there can be an open, reasoned process for managing investments according to the core values of the impact portfolio. The results of the efforts of such groups would almost certainly be different, also. The impact investing market includes "various conceptions of social and environmental value, each entailing a different meaning and corresponding metric/s of value" (Barman, 2015, p. 29). This is both a challenge and an opportunity, because an industry that engages with these issues has the potential to build solutions. The qualities of the accounting systems developed for impact investing will influence the quality of the impact the investment products are able to deliver.

Acting from democratic values

As the Vancouver City Savings Credit Union case study offered by Geobey and Weber (2013) showed an organization that had successfully operationalized a model for impact investing within the confines of British Columbia, and because the established values and mission clarity of Canadian credit unions are part of what makes them well positioned to offer retail impact investing in the future (Harji, Hachigian, Jeyaloganathan, Biron-Bordeleau, & Martin, 2016), they might allow otherwise heterogeneous investors to unite around some fundamental common values. Credit unions historically reduced transaction costs by substituting trust for costly and time-consuming reviews of credit applicants (Geobey & Weber, 2013). In a similar way, if there were some democratic functionality present in an impact investing vehicle, investors might find that space for participation an agreeable substitute for what participation 'costs' them in terms of their personal preferences.

Over time and as complexity requires subjective decision-making, differences could be resolved within the created democratic space. Broadly speaking, it is fair to say that the intrinsic benefits of cooperating are among the things that attract and retain credit union members; this might offer cushion from any disappointment resulting from 'not getting exactly what you want' as an impact investor. Cooperation can positively impact the surrounding community, as well. Karthikeyan's (2015) case study of the Lume Adama Farmers Cooperative Union in Ethiopia found its social projects were viewed favorably by members, management, employees, and, notably, non-members.

An impact investing market at scale is conceivable if groups of impact investors pool their resources. A study by Scheck, Höchstädter, and Busch (2016) found that participants had no "fundamental concerns engaging in profit-seeking impact investing as opposed to providing an interest-free loan" (p. 154) and "when larger amounts of money are involved, individuals appear to demand a positive financial return" (p. 155). This reinforces the benefit of due diligence around investor intentionality. Also, the information flow and dialogues fostered by democratic principles would help protect investors from potentially negative consequences from how preferences concerning financial returns are understood, pursued, and achieved. In making their intentions clear to one another at the outset, and agreeing to a radical transparency for the benefit of optimal portfolio management decisions throughout the life of the fund, these investors would plausibly have less exposure to commonly assumed risk factors. Mission drift and moral hazard, and potentially even exit risk problems, would arguably be less prominent in a space of informed inter-investor dialogue and democratic processes than it would be for investors in a setting where opacity is indulged and considered a competitive advantage the way it often is in traditional investing.

There remains a dearth of public data about the joint social-finance results of impact investments (McCreless, 2017). Much impact investing comes through private equity funds, where secrecy is the norm rather than the exception. The value that could be realized from having such data available for industry-building and the launching of innovative new funds will be limited by the tools available for analyzing this impact data. In examining the road ahead for impact investing, Bugg-Levine and Emerson (2011) highlighted the serious debates about the implications of mainstream capital's participation in microfinance, and Yunus (2011), criticizing the profit motive in microfinance, stated, "Poverty should be eradicated, not seen as a money-making opportunity" (p. A23).

Conclusion and Future Research Directions

What impact investing promises at scale is an asset class that generates financial returns with different risk characteristics than existing assets, while also generating social impacts that are different from current philanthropic and public investments. Current practice has not worked through the portfolio challenges, nor provided the proper foundation for a mature investing industry. Even at scale current tools alone cannot manage the analysis of incomparable metrics, nor can they fully realize risk mitigation opportunities through impact portfolio construction.

But the enthusiasm to grow the impact investing sector persists in spite of its current and anticipated barriers because the social and environmental challenges ahead are inspiring social entrepreneurs and innovators globally (Scheuerle & Schmitz, 2016). Moreover, because current practice in the mainstream financial markets does not seem sufficient to address these social and ecological challenges, investors and the public are exploring alternatives, with impact investing as one of many new approaches. With respect to using transparency to navigate the subjectivity of impact assessment, future research should examine the practical implications of this, including barriers to implementation. A transition to transparency would require an understanding of where transparency is important for various stakeholders and where it might be problematic for participants.

There is a direct relationship between the magnitude of the sustainability transitions ahead and the size of the investment opportunities they create. For impact investing, this calls for heightened vigilance around financial returns, as the appearance of excessive profit-taking could be seen as a signal that the investments in question are not focusing on impact or may be misreporting their impact. In the absence of credible impact measurement, the alternative means of enticing investment are to default to mainstream practice primarily by offering high financial returns.

Going forward

Additional transparency in both current impact investment portfolio allocations and the decision-making processes that are used to set these allocations is needed. While the case has been made for this from a market-building perspective already in this paper, from a research perspective this is vital to enabling robust discussions about the sector. The current lack of transparency limits researchers to theoretical work, case studies, and reliance on data drawn from grey literature that is often insufficiently detailed for deeper analysis.

The design of decision-making tools that could be used to aggregate different investor goal preferences, both social and financial, into the development of impact portfolios is also needed. Although allocations by portfolio managers may be sufficient for investment portfolios at their current scale, if these portfolios are to grow and draw in a broader range of impact investors, other tools will need to be brought in to engage these investors. Existing tools, such as online ratings systems, analytic hierarchy processes, quasi-markets, and crowdfunding platforms could be adapted to the impact investing space to enable greater preference aggregation.

Alongside a consideration of the design of impact investor preference aggregation tools is the need to analyze the strengths, limitations, and failures of preference aggregation tools that have been applied outside the impact investing field. Management cybernetics, participatory budgeting, and participatory planning are fields that have engaged with similar issues to a greater or lesser degree and could offer valuable lessons to impact investors. Indeed, a revisitation of key arguments in the socialist calculation debate with an eye to taking lessons for use in impact

investment portfolio development could be enlightening; the core issue of how to structure investments in and assign value to projects without clear price signals is a common problem to both impact portfolio creation and central planning.

Finally, as the sector grows closer to scale, there will be a question of how much the values of those with disposable income should or could come to dominate the choice of projects that fit under the sustainability umbrella. Intermediaries will certainly play a role, but so will the investors, who will reveal their values by whether they embrace the complex process, and how they do so. Ultimately, investment today builds the infrastructure for tomorrow, opening up and constraining future possibilities. Who decides what becomes reality today will determine what can be imagined tomorrow.

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