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SIPA Proposal

Measuring MFX Impact

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mfx CURRENCY RISK SOLUTIONS

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ABSTRACT

The ability of an organization to meaningfully measure the impact of its business activity is a priority of increasing interest to investors and partners. Impact measurement efforts allow impact investors and practitioners to make better decisions, but can be difficult to apply without universally accepted metrics and tools. This project aims to identify the nature and magnitude of the risk taken by MFX Currency Risk Solutions, and develop an approach to build a more robust model and framework for impact assessment. The proposed approach draws upon insights from a series of ten targeted interviews with key MFX stakeholders, extensive research, and discussions with impact professionals at Columbia University. Part I outlines the background to the project, including the motivation behind it and the ultimate goal of our work. Part II contains a high-level summary of insights gleaned from our interviews with MFX stakeholders. Part III details the results of research into impact measurement best practices, including an explanation of the approach we took. In Part IV we propose an approach that MFX can take to more robustly measure and report the impact it has. Part V moves from our proposed approach to a quantitative demonstration of the proposed metrics. In Part VI, we close out the report with a discussion of future areas of work based upon our research.

01

PROJECT BACKGROUND

1.1. Project Motivation
1.2. Company Background
1.3. Goal of Capstone

Project Motivation

MFX plays a unique role in providing impact investors access to currency hedging products in an unparalleled range of currencies. This activity facilitates an increase in investment and spurs the development of nascent financial markets in developing economies. This report aims to recommend an approach to impact measurement that is tailored to MFX's distinctive place in the industry and allows for several degrees of removal from on-the-ground impact.

Robust Impact Model

The first set of factors that spurred the initiation of this project relate to a development that has swept not only the impact sector but the wider economy. Increasingly, investors and impact investing organizations demand that companies, particularly in the impact space, report on the social and environmental impact that can be attributed to their activities. This means that companies must 1) conduct a detailed analysis of the impact that they have, 2) develop reliable processes for collecting data in a standardized format, and 3) publish regular reports which make use of both collected and rigorously extrapolated data to present relevant metrics that can be validated by independent observers.

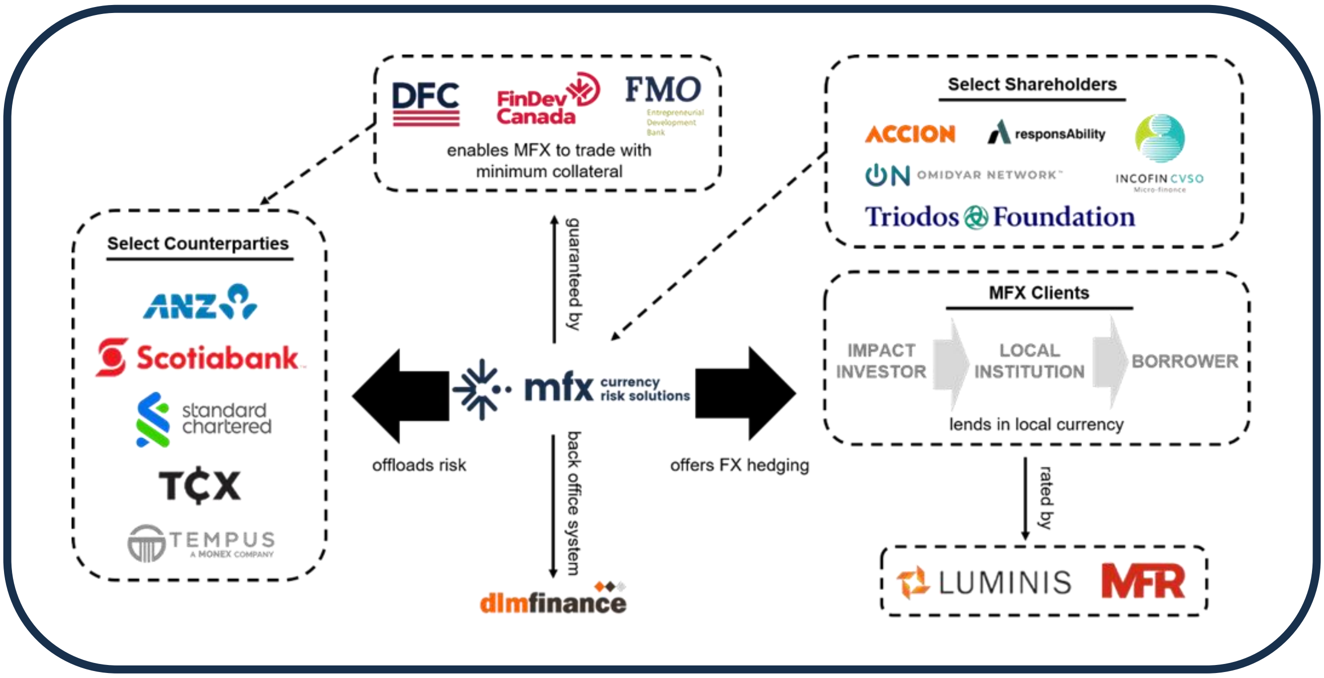
Unique Position

MFX needs a report that is tailored to its impact because its place in the impact value chain is not directly comparable to any other firm. It takes on credit risk, unlike TCX and local partner banks which take on currency risk. It does not provide money directly to MFIs and local SMEs, but rather sells hedges which enable its clients to make loans to these entities, thereby facilitating impact. This two-step removal from direct impact necessitates the development of a novel approach that allows professionals at MFX to fully understand the value it is creating so that it can communicate this information to clients, investors, and the general public.

Additional Granularity

In order to develop a robust report, it is necessary for MFX to collect additional data or develop ways to extrapolate from data it has in order to extract more granular insights on MFX's impact. In particular, MFX's investors and guarantors are interested to see more detailed information regarding gender and other high priority impact data.

Company Background



MFX Currency Risk Solutions is the first dedicated currency hedging facility created by and for microfinance, SME, and impact investment lenders. It offers affordable hedging products and risk management education to their clients.

MFX's clients include Microfinance Investment Vehicle (MIV), Microfinance Financial Institutions (MFI) and SME lenders. When they start working with MFX, they first enter into the ISDA Process and sign an agreement. Before the transaction, clients need to undergo an external credit rating by rating agencies Luminis or MFR. Then, MFX enters into a cross-currency swap with its clients, and simultaneously enters into a matching swap with counterparties such as TCX or commercial banks. DFC/FMO provides guarantees for MFX, which act as the client's collateral. If an MIV is rated as "creditworthy", MFX does not require it to post collateral. For MFIs, they are required to provide initial cash collateral for 7% of notional, regardless of rating.

- The currency swaps allow MSME borrowers to access capital sources in hard currency but obtain and repay loans in local currency with a low collateral requirement.

- Potential clients should provide additional documents as a part of their KYC process.

- DLM Finance provides support for MFX's back-office department in the area of valuations, risk management, and functional application management.

Goal of Capstone

To develop a nuanced, credible approach to reporting MFX's impact to stakeholders and the broader impact community.

The central purpose of this project is to build upon the existing report developed in partnership with Luminis to propose approaches that MFX can take to report on its impact in a more comprehensive and specific way while ensuring that the metrics used are credible to investors and the broader impact community. Our team has detailed two approaches to improving MFX's impact reporting.

First, using the data it has on hand, MFX can take steps to extrapolate impact data in a way that neither exaggerates nor shortchanges the integral role that the firm plays in enabling investments in developing economies. In this way it can incorporate variations in impact by geography, sector, and currency. Second, MFX can improve both its own efforts to collect data as well as integrating secondary data collection into its business with clients.

02

Interview Findings

2.1. Methodology of Information Collection
2.2. Key Research Questions
2.3. High-Level Summary of Interviews

Methodology of Information Collection

In order to better understand the differences between MFX's impact (credit risk) and TCX's impact (currency risk) and propose a revised impact measurement framework for MFX, more information is needed. The method that is chosen depends on the research question that is being asked. In terms of building the impact report, both objective data and subjective views are necessary. Our team took three approaches to collecting information: interviews with MFX's stakeholders, MFX's internal trade data, and document reviews.

METHODOLOGIES

INTERVIEWS

As MFX's stakeholders are more familiar with MFX's business model and its impact and possibly already incorporate MFX's impact into their own impact reports, it is helpful to conduct interviews with them to build a better understanding of MFX's position in the investment ecosystem. We separate MFX's stakeholders into 5 categories: client, investor, rating agency, counterparty and guarantor. For each type of stakeholder, we compiled a customized question list, including company information, purpose of meeting and sample agenda. Each participant was informed that interviews are part of MFX's effort to improve its impact framework and will be quoted in the report.

MFX'S INTERNAL TRADE DATA

In order to better understand how to incorporate MFX's internal data, we conducted an interview with MFX's operations analyst. An important takeaway from this interview was that there is access to the information on the name of the end borrower but not the details on what funds are used for, indicating that it is not feasible to measure the exact impact of investments that are hedged through MFX. It is instead necessary to extrapolate it wherever data on primary impact are necessary. We were able to obtain rich financial data, including trade amount, duration, and the total size of the hedged portfolio by region.

DOCUMENT REVIEWS

In addition to conducting interviews and obtaining trade data, our team reviewed documents containing information on previous efforts to measure MFX's impact. We reviewed a preliminary impact report compiled by Luminis and provided to us by MFX in addition to TCX's impact report and MFX's hedging process, allowing us to make a comparison between TCX and MFX and to have a basic understanding of MFX's business model. We then performed secondary research on existing frameworks and metrics used in impact measurement, including the Operating Principles for Impact Management, the Impact Management Project's Dimensions of Impact, and the IRIS+ System by the GIIN.

Key Research Questions

CLIENT

PURPOSE OF MEETING	To understand and isolate MFX's impact in the value chain
RELATIONSHIP	Could you walk us through how the money flows from you to the end beneficiaries?
	What percentage of your debt portfolio is hedged through MFX?
	Are you a client with MFX first or a shareholder of MFX first? Why did you choose to invest in MFX?
	As a client, why do you hedge with MFX?
	What would the level of collateral required be if you hedged with another organization, assuming alternatives are available in the geographies in which you operate?
IMPACT INVESTING STANDARD	Does MFX impact your lending standards/decisions? (subtext: does MFX enforce ESG standards, values, restricted list, etc.)
DATA	Do you have an impact model? What are the key parameters you look at? How do you gather the data?
	Can we assume that you also acquire your impact data from the microfinance institutions you partner with?
SEPARATION OF MFX IMPACT	What percentage (from 0 to 100) of your impact would you attribute to MFX (hedges, low collateral, etc.)?

COUNTERPARTY

PURPOSE OF MEETING	- To determine how counterparties approach differentiating their impact from that of MFX - To determine the degree to which MFX helps counterparties expand impact through pooling and other methods - To determine how working with MFX is a part of counterparties' efforts to burnish their impact credentials in emerging markets	
RELATIONSHIP	Why do you work with MFX?	
	Could you briefly describe the history of your relationship with MFX?	
IMPACT INVESTING STANDARD	How does MFX fit into your social responsibility initiatives?	
	How do you divide offloaded risk between you and MFX?	
DATA	How do you gather the data that informs your impact report?	
	How much collateral do you request from MFX?	
IMPACT MODEL	How do you measure your impact in a translatable and standardizable way?	
	Does the impact you have vary by region/sector?	

RATING AGENCY

PURPOSE OF MEETING	- Rating agency is more familiar with MFX's clients at a more granular level than others we are meeting with; they may have insights on how we could collect a standard set of data from clients without straining their relationship with MFX - Rating Agency should have a better idea of MFX's preliminary efforts to measure their impact; we can ask how they have thought to approach distinguishing the impact of MFX from that of their clients
RELATIONSHIP	How did you start partnering with MFX?
IMPACT REPORT	How did the report start? What was its purpose?
	Is the report a one-time request? Or will it be prepared for MFX on a regular basis?
	How did you come up with this framework?
	Why didn't you evaluate this outcome?
	Why didn't you include ESG metrics into these outcomes?
	What were the greatest challenges? Were they resolved?
DATA	Did you apply the IRIS system when rating your clients?
	Are you asking the funds to score their business or certain outcomes?
	What is the typical format of the data you gather from MFX's client when performing risk scoring analysis?
MFX IMPACT	How do you separate MFX impact from its counterparties, clients, and guarantors?
	How do you think MFX is unique in this position and different from the other clients?

GUARANTOR

PURPOSE OF MEETING	- To figure out the impact of the guarantee provided by guarantors in the ecosystem - To determine how these institutions measure impact and how they collect the data from their various partners
WHY GUARANTEE MFX	What is the nature of your relationship with MFX?
	Does MFX have a special status? Are there similar relationships?
	Is there any cost for MFX to get the guarantee you provide?
IMPACT INVESTING STANDARD	Do you have a specific mandate or any geographical/industrial preference for the use of the guarantees?
DATA	Do you have any recommendations on how to source data to report on gender impact?
	Is the gender requirement a new requirement or a longstanding one?
IMPACT MODEL	What do you think are the major impacts of MFX in the ecosystem?
	How might you go about separating MFX's impact from that of its counterparties, clients, and guarantors?

INVESTOR

PURPOSE OF MEETING	To determine how MFX shareholders view the MFX impact
RELATIONSHIP	Why did you invest in MFX? How does MFX fit in with your business strategy ?
IMPACT INVESTING	In what way do you think MFX makes a unique, distinguishable impact separate from MFX counterparties, guarantors and clients?
	Have you already evaluated MFX's impact within your impact measurement model?
	Do you have a specific mandate for MFX? In other words, what impact factors/metrics do you assign value to (i.e. gender, sector, etc.)?
DATA	How do you acquire the data that you need to demonstrate the value of your investment?
	MFX is two steps removed from impact; do you have any ideas on how to help MFX get that data?
	What is your response to the suggestion by clients that we should stick only to financial inclusion?
IMPACT MODEL	Do you have any advice on specific impact measurement models/principles that we should use?
	What metrics do you prefer to quantify MFX's impact?

High-level Summary of Interviews

STAKEHOLDERS	NAME	IMPACT MODEL	DATA COLLECTION	MFX IMPACT
Counterparty	Standard Chartered	Know your customer (KYC) process important in determining what data to collect from clients and what impact you are having by investing in them	SCB is not able to provide additional data on impact aside from what is in their public-facing report.	MFX is an important partner in emerging markets, where SCB has a strong presence and MFX provides opportunities to expand their business.
	TCX	**3-pillar framework** - Core business: De-risk development finance by unloading currency risk - Actively off sell risk from balance sheet - Outside of hedging - advocacy: talk to local banks, policymakers	**Rich financial data:** - Volume - Tenor - Underlying currency - Sector - MFI, renewable energy, manufacturing	MFX absorbs **credit risk** while TCX absorbs currency risk.
Guarantor	FinDev Canada	- **Direct impact**: How can we capture the impact and who reports it, who will accurately attribute the impacts? - Methodology for **indirect impact**	- **Encourage organizations to start collecting data and feed it back**: How many women work there? How many women and leadership with the women ownership level? - **Methodology**: Strategy → Implementation → Provide governance → Reporting requirements on an annual basis.	The impact is not clear-cut: - **Indirect** - **Cascading effect**: various levels → difficult and subjective.
	DFC	DFC does not seek to influence the degree to which MFX invests in a particular geography or industry. DFC does play an important role in determining what types of entities MFX does business with, as when a revised agreement opened up hedging directly with SMEs.	DFC borrowers are required to submit a form on their impact each year.	- **Impact**: Channel more capital to emerging markets with challenging local currency environments; Enable companies and funds and SMEs to have hedging capacity to do local currency financing - **No rigorous way to pull apart the impact**: If you take one party out, nothing happens in many cases. MFX is not solely responsible for any impact; it is a market maker that has impact through its clients
Investor	Omidyar	- Try to target **quantitative metrics**. - Establish **protocols** for MFIs to report data and ask about easily accessible data MFIs already report to their board. - **Extrapolate** the rest with the data available	**Randomized control trials**	- **Enable** microfinance through hedging - **Contribution** →"MFX contributes to the living standards of country X, because it enables…"
	Accion	Accion's approach is to measure impact by reporting that they can leverage X dollars to serve N thousand SMEs across a given rural area.	**Challenges:** - Clients do not report a standard set of metrics. - Hard to get the data: "How much an additional dollar of hedging enables in terms of capital inflows?" **Suggestions:** - Focus on a specific set of MFIs to get solid impact measurements.	Accion suggests two metrics: Hard currency loans that were not flowing in before are now flowing in as a result of MFX's hedging

			- Have some sort of reporting from clients that will tell MFX that For X million in loans, we will impact y people. - Deeper level: What impact did the end borrower have that benefited from the loans enabled by MFX's hedges?	Who used MFX for the first time in a given market, measured as a percentage or a number
Client	ResponsAbility	ResponsAbility measures its impact across three broad areas: financial inclusion, sustainable food, and climate finance	- **Send requests to its borrowing MFIs** for substantial impact related data and the clients comply and provide the data. - This exercise is done on an **annual basis**.	- MFX's Impact: "It plays a very important role in terms of enabling specific structures like SIDA." - Thanks to MFX's zero collateral hedging solution, it helps **mobilize the private capital** by bringing in the public guarantees.
	Triodos	Triodos uses an impact model which relies on clients to fill out information in an Excel-based model. Their most standardized impact metrics are in the area of financial inclusion.	**Survey-based Data**: Quarterly basis; Excel based model; May need to track additional indicators with some loans **Financial Data:** - Quantitative data on the portfolio (yearly basis) - Quantitative indicators: number of clients, number of clients in rural areas, % female clients, green loans, educational loans, type of products they offer (quarterly basis) - Capturing data on: policies, investment theses, governance, sustainable practices	**Two approaches**: - Go and ask this at a granular level (earmark loans) - Have hedge percent of total NAV and have access to fund level impact data
	Global Partnerships	**Investment Initiative:** - **Research** into the opportunity/investment areas (i.e., microfinance, solar lights, health clinics) - **Evaluate** before making decisions into companies: What product/aspect of a specific sector has the greatest impact on people living in poverty?	**Data Source:** - Reliant on partners (MFIs) - Excel template provided by GP - Internal impact report made by partner **Challenges:** - Get standardized data across different sectors GP invests in - Different internal capacity and quality of data - Have an NDA with downstream partners. **How to acquire quantitative impact data?** - Randomized controlled trials - Lean data: Survey-based questions	There are many factors that contribute to the success of the deal. MFX is one step of the transaction. - "X% of the loans from # impact investors involve MFX." - "MFX helps enable $X million dollars of impact capital to organizations in different geographies."
Rating Agency	Luminis Advisors	List financial indicators and quantitative data that relate to their projects	**Data Collection Methods**: - Excel: Standard financial statements - Balance sheet/Income statement; Tab on asset-liability management for exchange and interest rate risk; Tabs on the portfolio - Risk reports - Due diligence rating committees **Challenge**: - Difficult to ask for social impact data after 10 years later - Ask for information: Cumbersome and difficult that they start to push back → Confidentiality - No information on the details of the entrepreneur that the MFIs lend to, only portfolio data - Little access to information about transactions that counterparties did with their clients	- Much more money goes to these countries that have exotic currencies than ever before because institutions are protected from the volatility of the currency. - MFX → Give the ability to be able to do this in a **cost-effective** way - Where MFX makes a huge difference in facilitating and guaranteeing smaller outfits that are specialized to do what they do, where the market wouldn't allow it. - MFX could not exist if it didn't have the guarantees from development institutions. → They are filling in the gaps. - Uniqueness: a part of the value chain, but it's a link that is absolutely necessary.

03

IMPACT FRAMEWORKS

3.1. Purpose
3.2. Existing Applications & Takeaways

Purpose

The Impact Principles

are a framework for the design and implementation of the impact management system proposed by the IFC. According to Principle 4, impact investors need to assess the expected impact of each investment based on a systematic approach.

MFX plays an integral role in enabling impact finance to be delivered, but does not hold a traditional position in the ecosystem of impact investing. It is nonetheless necessary to evaluate and monitor its impact. A robust and reliable impact measurement framework is essential for the measurement process.

Due to MFX's unique position in the ecosystem, our team has developed a proposal to build an impact performance measurement framework which is highly customized but closely aligned with existing industry standards. The major challenge encountered in this process has been how to connect established impact frameworks to our approach in order to ensure the proposal would be recognized as valid by investors, guarantors, and the industry at large. We first selected three frameworks to use, then performed research to determine how other companies apply them to their own impact investment efforts. The three frameworks selected are Theory of Change (TOC), Impact Management Project's (IMP) five dimensions, and the Joint Impact Model (JIM).

Systems to Build Framework

THEORY OF CHANGE (TOC)

Theory of Change (TOC) is a tool to clarify long-term goals, identify measurable indicators of success, and formulate actions to achieve goals. Before we move on to the specific metrics to evaluate MFX's impact, developing a TOC could provide support to verify the situation that MFX is facing and identify its unique position in the ecosystem.

Every TOC contains five key elements:

- **Impacts**
- **Outcomes**
- **Outputs**
- **Activities**
- **Inputs**

IMPACT MANAGEMENT PROJECT (IMP)

The IMP has established a Practitioner Community to build global consensus on how to measure and manage the impacts. They first defined the "Impact". To understand an organization's impact, the IMP reached a consensus that impact should be measured across five dimensions:

- **What:** What outcome the enterprise is contributing to
- **Who:** Which stakeholders are experiencing the outcome
- **How Much:** How many stakeholders experienced the outcome
- **Contribution:** Whether an enterprise's and/or investor's efforts resulted in outcomes that were likely better than what would have occurred otherwise
- **Risk:** The likelihood that the impact will be different than expected

JOINT IMPACT MODEL (JIM)

The purpose of the JIM is to enable users to estimate the gross direct and indirect economic, employment and environmental impacts of a portfolio of investments in developing markets in a single year, and to track changes in these impacts over time.

The JIM is a portfolio-level tool that relies on modelling, using statistics reflecting sector and country averages. Impact results from the model can be considered robust at the portfolio level.

The key economic and environmental impact indicators of the model are:

- **Employment**
- **Value added**
- **GHG emissions**

Existing Applications & Takeaways

Our team conducted extensive research about how other institutions use the existing framework and apply to their own business model or combine different frameworks. It helps us to have a deeper understanding of the experience of other companies.

TAKEAWAYS

Based on best practices established by recognized organizations, our team built a customized framework for MFX, including the Theory of Change, IMP's five dimensions, and extrapolation informed by the JIM.

MFX's Report by Luminis: Theory of Change

The impact report of MFX, which was compiled by Luminis, states how MFX's services will lead to specific outcomes. The analysis was based on the Theory of Change (TOC), which is focused on mapping out what has been described as the "missing middle" between what a program does and how these lead to desired goals being achieved. To fill out the gap, the report created 4 layers: Inputs, Outputs, Outcomes and Impacts and described the Outputs section with emphasis.

ResponsAbility's Report: Impact Management Project

According to ResponsAbility's impact report, their impact focuses on three areas: Healthy Bodies, Healthy Environment and Healthy Economies. To quantify the impact of their investment program, the report used the IMP (Impact Management Project) and its five dimensions to identify the industry indicators they intended to use and more specifically, the numbers. Five rows of the table include: What, Who, How Big, Contribution and Risk. The columns were divided into different areas that ResponsAbility made impact.

TCX's Report: Joint Impact Model

The Joint Impact Model (JIM) is a jointly developed model by various TCX shareholders, with the purpose to enable users to estimate the gross direct and indirect economic and environmental impacts of a portfolio of investments in developing markets in a single year, and to track changes in these impacts over time. TCX uses an external input-output model to estimate certain impact figures of the underlying transactions that the Fund hedges. TCX's metrics are aligned with the three key impact indicators of the JIM.

04

OUR PROPOSAL

4.1. Motivations
4.2. Proposal Summary
4.3. Theory of Change
4.4. IMP/IRIS Framework for Financial Impact
4.5. IMP/IRIS Framework for Education Impact

Motivations

THREE CHALLENGES HIGHLIGHTED BY KEY STAKEHOLDERS

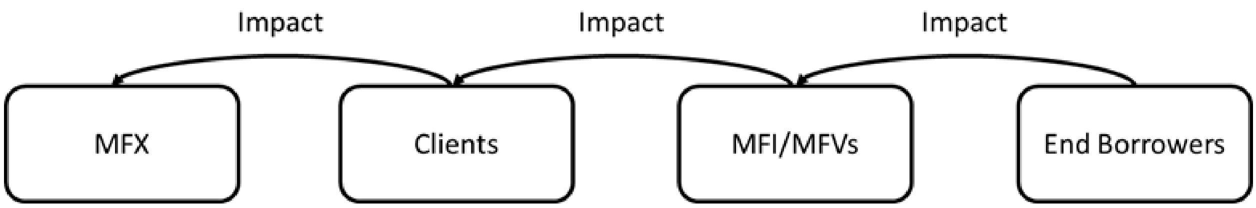
Through targeted interviews with stakeholders who interact with MFX regularly in the microfinance ecosystem, the SIPA team has identified limitations to the approach of having MFX claim full or partial credit for the impact created by its clients and clients' MFI/MFV partners, for the following three reasons highlighted by key stakeholders.

THE ORIGINAL MANDATE

The SIPA team is keenly aware of the initial mandate from MFX, which hopes to distinguish the impact it has from that of other players in the value chain in order to reflect the unique credit intermediary role MFX plays in the micro-finance ecosystem. More specifically, MFX tasked the SIPA team with highlighting:

(1) The impact from collateral saved through transactions with MFX

(2) MFX's ESG impacts on a more granular level – with an emphasis on gender



The Attribution Model (Figure 4.1)

(1) A COMPLEX PROCESS NECESSITATING MULTIPLE PARTIES

In conducting interviews and performing research, the SIPA team has come to appreciate the complexity of the impact investing process. We have recognized that every player on the value chain, whether upstream or downstream, be it a counterparty, a sponsor, a client or a shareholder, plays an indispensable role in contributing to the final impact on end borrowers. As a result, we have determined that it would not be feasible for MFX to claim direct credit to the entirety or part of the final impact, considering the challenge in quantifying each player's share of impact in a given investment. This conclusion is informed by feedback from from both MFX clients and shareholders.

CLIENT

Global Partnerships (GP), both a client and co-founder (1.2% stake) of MFX, expressed their reservations in the interview: “There are so many factors that contribute to the success of a deal. MFX is just one step of the transaction…”. GP has suggested that even they cannot claim exclusive credit for the good that results from their investment.

SHAREHOLDER

The attitude of **Accion**, a shareholder of MFX (8.63% stake), mirrors GP’s concerns. It also stated that “we are all working toward the same goal”, but it is “hard to split hairs.”

The Omidyar Network, MFX’s largest shareholder (36% stake), shares a similar view. Omidyar insists that they alone would not claim credit for impact resulting from their investments, because such investments are part of a complex process that involves many other players.

GUARANTOR

FinDev Canada believed that attribution of the same impact to various levels of the value chain is “difficult and subjective”, because “the impact is not clear-cut, and not only is it indirect, but there's a cascading effect as well.”

DFC shared GP’s view and reiterated that “if you take one party out, nothing happens in many cases”, and therefore “this [distinguishing MFX impact on the end borrowers] is not a rigorous way to really pull apart the impact”. Furthermore, DFC suggested that maybe it is “better to be clear in the impact report that MFX is not solely responsible for any impact, but rather that it is a market-maker that has impact through its clients in every case”.

RATING AGENCY

Luminis is a third-party rating agency that offers credit due diligence services to MFX and also a co-founder of MFX. Luminis recognized MFX’s impact and unique position by affirming that “MFX makes a huge difference in facilitating and guaranteeing smaller outfits that are specialized to do what they do, where the market wouldn't allow it.” However, Luminis also admitted that “MFX could not exist if it didn't have the guarantees that the development institutions are giving.” In other words, as Luminis explained, MFX is a “link that is absolutely necessary”, but it is also “part of the value chain”. This makes the exclusive claim of certain credit troublesome, as - following such logic - each step of the value chain could claim that it is responsible for a unique share of impact.

(2) MFX NOT THE ONLY OPTION

Through the interviews, the SIPA team has also identified constraints/challenges to MFX's value proposition. For example, **GP** mentioned that some of its clients chose the alternative of engaging in a back-to-back structure with the local bank as a means to manage the foreign exchange risk involved in the lending process. This alternative, according to **GP**'s clients, was cheaper than what MFX hedges would have cost.

Since it would be difficult to evaluate the alternative options retroactively, it is unrealistic to determine in hindsight whether a loan would or would not have happened without MFX's involvement. By extension, it is even more unrealistic to quantify the significance of MFX in each committed loan.

SIPA TEAM'S PROPOSAL

Therefore, the SIPA team has realized that full/partial attribution of end impact to MFX as its unique impact is challenging given its intermediary role in the value chain. We will discuss a possible system for such a direct measurement approach in **Part VI: Conclusion & Opportunities for Future Work**, detailing necessary protocols MFX needs to establish with its partners.

In the meantime, the SIPA team has developed a methodology that could uncover impacts that are not directly related to the end borrowers, but are unique to MFX. We believe that MFX should be proud and confident about the impact we will demonstrate in the following sections.

(3) LIMITED DATA AVAILABILITY

The Attribution Model implies that the MFI/MFVs would collect impact data on end borrowers in order to pass it along to the impact investors (MFX clients), who would then report to MFX. However, in reality, there exist many obstacles to such information flow.

1 Internal Capcity of MFI/MFVS

According to **GP**, MFI/MFVs have varied, if not limited, internal capacity to collect such data. As a result, the impact data collected varies in quality and format – requiring more time and human capital for standardization. Accion concurred that the difficulty in data collection lies in the fact that "clients do not report a standard set of metrics".

2 Confidentiality

GP raised the fact that impact investors may have Non-Disclosure Agreements (NDAs) with downstream MFI/MFV partners. In this case, impact investors, who are MFX clients, are legally prohibited

Both limitations were emphasized by **Luminis**. When **Luminis** was studying MFX's impact to compose the first impact report for MFX, it has also discovered that the data on the end borrower/beneficiary, such as the local entrepreneur, is "the most valuable" for demonstrating impact. However, there is also, according to **Luminis**, "little access" to such borrower-level granular information. **Luminis**'s first-hand experience confirmed that confidentiality was a major hurdle. Meanwhile, during the data collection process, **Luminis** also claimed that it encountered stronger push-back from MFX partners when more granular details were requested: "if we ask them for much more detail, it just becomes so cumbersome and so difficult for them, such that they start to push back."

Proposal Summary

TAKEAWAYS

Our team proposes an approach to impact measurement for MFX that starts with an explicit Theory of Change to outline how MFX achieves social impact. We then identify a set of key metrics to allow MFX to better report its impact.

1

Theory of Change

An explicit Thoery of Change (ToC) is essential for an organization like MFX becauase its activities are several steps removed from its downstream impact. It is important to verify that all priorities and potential impact is included to inform the development of metrics.

We have developed a ToC document that you can find on the following page. You may choose to adapt and adopt this as you see fit, but we recommend maintaining one. We have identified key inputs; short-, medium-, and long-term outputs; and impact.

2

Metrics Aligned with IMP's Five Dimensions of Impact

We used the Theory of Change document to propose a set of metrics in two categories: financial impact and education impact. These categories are distinct enough to warrant separate data collection streams and a separate set of metrics.

We then worked within the IRIS+ system and IMP's five dimensions of impact - What, Who, How Much, Contribution and Risk - to develop a set of metrics within each category. These can provide guidance in determining the exact data MFX should collect and report on.

3

Measurement

With the broad metrics defined, we move in later parts of the report to measurement.

In *Part V* we produce a quantitative demonstration of how to calculate and visualize metrics within the financial impact category and discuss data limitations.

In Part VI we discuss approaches to address data limitations for both the financial impact and educational impact area to produce a more robust report of MFX's impact.

Theory of Change

Impact	Financial systems in developing markets will develop to the extent that local actors will have better access to funding, improving livelihoods SMEs in developing markets will be able to access capital to scale up as conditions allow		
Long-term Outcomes	Deepening of financial markets in developing markets	Loans enabled by MFX hedges beget loans hedged by other actors	Financial expertise among developing market SMEs increases
Intermediate Outcomes	Impact investors are able to afford hedges in illiquid currencies and save on collateral	Impact capital is deployed that would not have been otherwise	Developing market SMEs obtain access to hedging products not locally available
Outputs	Currency risk hedging agreements with impact investing organizations and local small and medium enterprises (SMEs) Training and advisory sessions to help SMEs understand and manage their currency risk		
Inputs	Guarantees from government development institutions	Investment by impact investing institutions	Currency risk hedging agreements with partner banks and TCX

IMP/IRIS Framework for Financial Impact

Following the IMP/IRIS framework, below are the detailed metrics and approach that the SIPA team plans to employ in order to demonstrate MFX's unique financial impact in the ecosystem

IRIS Measurement Dimension	FX Risk in Local-CCY Loans Discouraging Impact Capital	Lack of Liquidity in EM Currency Hedges	High Collateral Requirement/Cost of Hedging
What What Problem Are We Addressing	MFX facilitates and enables impact capital into areas with volatile or illiquid currencies, by providing low-cost, minimum-collateral hedging solutions to impact investors, who are then able to provide local-currency funding to local microfinance institutions/vehicles	MFX deepens the market of hedging products in EM currencies by sourcing risks from its clients while offloading the risks to its counterparties, such as TCX	With the good graces of its guarantors (DFC, FinDev), MFX allows its clients to hedge small notional of volatile or illiquid currencies with minimum to no collateral
Who Who Will Benefit	Impact investors, local microfinance institutions/vehicles, end borrowers MFX hedging volume by income group and fragility Gender aspect could be extrapolated by money-lives, lives-gender ratio conversion		
How Much How Wide-Reaching Is the Impact	The number of transactions, sum of the notional hedged through MFX products by currency and geography Gender aspect could be furthered measured by IRIS recommended metrics (see sample extrapolation in part V)		Number of clients who self-reported as having reduced their collateral burden through MFX
Contribution What Is the MFX Difference	How many/What percentage of the clients are making a local-currency loan in that geography for the first time?	How many/What percentage of the clients are accessing a hedging product in that local currency for the first time?	The amount of collateral saved per $10k by MFX clients
Risk How Is MFX Addressing Risks	Overestimated/underestimated FX volatility that prices the hedges either too high or too low, eroding the margin of MFX or its clients	Systemic (macro/political) risks that drain the liquidity in EM currencies and makes counterparties unwilling to engage MFX	Dropoff risks from the guarantors who may suddenly stop sponsoring MFX

IMP/IRIS Framework for Education Impact

IRIS Measurement Dimension	Lack of Financial Knowledge Among Micro-SME Bankers	Lack of Interconnectedness among Micro-SME Bankers
What What Problem Are We Addressing	MFX increases the ability of micro-SME bankers to manage market risk and understand currency risk hedging products	MFX fosters connections among local bankers
Who Who Will Benefit	Microfinance institutions/vehicles, local SMEs, end borrowers	
How Much How Wide-Reaching Is the Impact	The number of training sessions held by year and/or month The number of trainees reached by year and/or month	The number of new connections between trainees
Contribution What Is the MFX Difference	What was the geographical breakdown and the gender balance of the trainees and/or their organizations' leadership? How many trainees were reached that would not have had access to advanced risk hedging information without MFX?	What was the geographical breakdown and the gender balance of the trainees and/or their organizations' leadership? What percentage of trainees had not previously attended a similar training?
Risk How is MFX Addressing Risks?	Overestimated/underestimated degree to which clients and individuals were reached who would not have otherwise received such training.	Difficult to measure substantive connections that improve the ability of clients to serve their end users.

05

QUANTITATIVE DEMONSTRATION

5.1. Summary
5.2. Quantitative Demonstration: Data
5.3. Quantitative Demonstration: Sample Output

SUMMARY

TOTAL HEDGING VOLUME **$4.7 Billion**	**CURRENCY HEDGED** **64**	**GEOGRAPHIES** **78**
CLIENTS **135**	**LOANS TO LOW INCOME COUNTRIES** **95%**	**AVERAGE TRADE SIZE** **$938,000**

EXECUTIVE SUMMARY

The previous two sections outlined widely used impact measurement and management frameworks and the recommended approach for MFX, given the data limitations and the challenge of differentiating the role of various stakeholders, which are collectively responsible for stimulating microfinance lending.

This section gives a more detailed demonstration of how to implement the recommended impact measurement and management framework. Each impact indicator under the three broad pillars of MFX's impact has been elaborated in terms of giving a brief description, the relevant data for its quantification, and finally the rating scale to ascertain the impact.

Our Parters

DFC	Guarantee - $168m
FMO	Guarantee - $20m
Omidyar Network Fund	Investment - $5.3m

Quantitative Demonstration: Data

1

NUMBER OF CLIENTS BY GEOGRAPHIES

This metric measures the total number of non-bank clients hedged with MFX by their original geographies since 2009. An increasing number would suggest the wide-reaching scope of MFX's hedging services and the ability to serve a portfolio of diversified clients from different geographic regions. The data can be collected from MFX's internal trade database.

2

NUMBER OF CURRENCIES HEDGED BY YEAR

This metric measures the total number of local currencies hedged with MFX by year. An increasing number would suggest a broader reach to emerging markets by MFX and diversification of the hedging portfolio to mitigate potential FX risks. The data can be collected by the distinct number of *LCY* each year from MFX's internal trade database.

3

TOTAL HEDGING VOLUME BY GEOGRAPHIES

Total hedging volume is the notional volume of MFX's hedging transactions with non-bank clients by geographies. It can be measured by Production USD and Country of Risk from MFX's internal trade database since 2009.

Impact Rating

(% Country production out of total hedging volume)

No single geography concentration is higher than (excluding zero exposure)

- Low Impact: 20% and above

- Medium Impact: 10-20%

- High Impact: 0-10%

4

% OF CLIENTS WITH FIRST-TIME ACCESS

This metric calculates the percentage of non-bank clients (impact investors) that make a local-currency loan in that geography for the first time. This measures MFX's level of contribution to enable impact capitals into areas with higher FX volatility and low FX liquidity. The data can be collected and updated from MFX's clients on an annual basis. Responses can be recorded as "yes" or "no".

Impact Rating

- Low Impact: 0-15%

- Medium Impact: 15-30%

- High Impact: 30% and above

5

% OF HEDGING VOLUME IN FRAGILE MARKETS BY YEAR

This metric calculates the percentage of total hedging volume which goes to fragile markets by year. The indicators of fragile states are developed by the United States think tank Fund of Peace, which include the aspects of cohesion, political, economic, social, and external intervention. Fragile countries are typically associated with low government capacities and governance, sharp economic decline, poverty, and high political volatility. A higher percentage of hedging in fragile markets suggests MFX's ability to serve risker and volatile geographies, which is one of MFX's core comparative advantages. The data can be collected by fragility from MFX's internal trade database.

Impact Rating

(% of hedging volume in fragile markets by year)

- Low Impact: 0-10%

- Medium Impact: 10-15%

- High Impact: 15% and above

6

% OF HEDGING VOLUME IN COUNTRIES WITH A LOWER INCOME LEVEL BY YEAR

This metric calculates the percentage of total hedging volume which goes to geographies with lower income levels by year. Countries with lower income levels are identified as eligible to receive official development assistance (ODA), which include least developed countries, low income countries, lower middle income countries, and upper middle income countries. A high percentage suggests MFX's impacts on the reach of less developed territories which ultimately contribute to poverty alleviation. The data can be collected from the Income Group from MFX's internal trade database as well as the complete DAC List of ODA Recipients by OECD.

Impact Rating

(Combined % of hedging volume in Least Developed and Other Low Income countries)
- Low Impact: 0-10%
- Medium Impact: 10-20%
- High Impact: 20% and above

(% of hedging volume in Lower Middle Income Countries)
- Low Impact: 0-20%
- Medium Impact: 20-50%
- High Impact: 50% and above

(% of hedging volume in Upper Middle Income Countries)
- Low Impact: 0-10%
- Medium Impact: 10-25%
- High Impact: 25% and above

7

% OF HEDGING VOLUME IN COUNTRIES WITH LIMITED ACCESS TO FINANCING SERVICES

This metric calculates the percentage of total hedging volume which goes to geographies with a weaker and less sophisticated financial market. It can be measured by the average country rank of "Financial market development" between 2009 to 2017, which is one of the twelve pillars of the World Economic Forum Global Competitiveness Index. Since the average country rank ranges from 1-140, countries with an average ranking higher than 70 (the median) are considered to have limited access to financing services.

A higher score indicates a financial market with less protection on investors, more difficulty to access loans, and an untrustworthy and less transparent banking sector. A greater proportion of hedging volume in these countries suggests MFX's contribution to facilitate and deepen the local markets by providing liquidity and access to loans in local currencies.

“

Impact Rating

- Low Impact: 0-20%

- Medium Impact: 20-35%

- High Impact: 35% and above

8

COLLATERAL SAVED

This indicator measures the reduction/elimination of required collateral for MFX's clients.

“

How to calculate:

collateral required by competitors

“

Impact Rating

% of Transactions requiring collateral of 15% and above of the transaction would be scaled to the rating of 0 – 10. Score of 0 reflects the lowest rating and zero transactions in that category, while a score of 10 means these transactions represent 100% of MFX portfolio.

9

OPPORTUNITY COST OF COLLATERAL

The elimination of collateral requirement results in deployment of additional capital towards the core business activities by the MFI, thereby resulting in additional profits—another source of impact for MFX. This metric measures the weighted average opportunity cost of the collateral saved.

How to calculate:

Σ Transaction Amount/Total Portfolio * Collateral required by competitors * Average Return On Capital in the microfinance industry in the country * Transaction Amount / Profit of MFI

Impact Rating

Overall portfolio:

- Low Impact: 0 - 10%
- Medium Impact: 10% - 20%
- High Impact: 20% and above

10

COST OF FUNDING DIFFERENCE

Cost of funding difference measures the impact of MFX in terms of lowering the borrowing cost for the MFI by enabling the flow of hard currency capital in comparison to the local currency alternatives.

How to calculate:

Σ Transaction Amount/Total Portfolio*|Borrowing cost of hard currency loan + Cost of MFX's hedge - Average lending rates in the local market| / Average lending rates in the local market

Impact Rating

Overall portfolio:

- Low Impact: 0 - 10%
- Medium Impact: 10% - 20%
- High Impact: 20% and above

11

COST OF COLLATERAL MANAGEMENT

This indicator requires complex daily exercise of ascertaining the required margins and exchange of funds to fulfill those requirements. MFX has a significant impact by requiring no collateral, thereby allowing clients to avoid the requirement of having cash available to fulfill margin requirements.

How to calculate:

Σ Country Exposure/Total Exposure * Average resource costs of collateral management function in a country/total resource cost of the MFI

Impact Rating

Overall portfolio:

- Low Impact: 0 - 10%
- Medium Impact: 10% - 20%
- High Impact: 20% and above

Below table is aligned with the three categories discussed in Part IV

CATEGORY	METRIC	AVAILABILITY
FX Risk in Local-CCY Loans Discouraging Impact Capital	Total hedging volume by geographies	Yes
	Number of clients by geographies	Yes
	% of clients with first time access	No
	Number of currencies hedged with	Yes
Lack of Liquidity in EM Currency Hedges	% of hedging volume in fragile markets by year	Yes
	% of hedging volume in countries with a lower income level by year	Yes
	% of hedging volume in countries with limited access to financing services	Yes
High Collateral Requirement/Cost of Hedging	Collateral saved	No
	Opportunity Cost of Collateral	No
	Cost of funding difference	No
	Cost of Collateral Management	No

Quantitative Demonstration: Sample Output

SHEER GEOGRAPHICAL PRESENCE

This section helps visualize the scope of MFX's impact by focussing on the breadth of its operations in terms of geographical presence, which are further divided according to the country risk and income level, number of currencies hedged in each year, average transaction size in top 15 currencies, and the number of non-bank clients by geography.

Figure 1: Hedging Transaction by Geography (2009-2021)

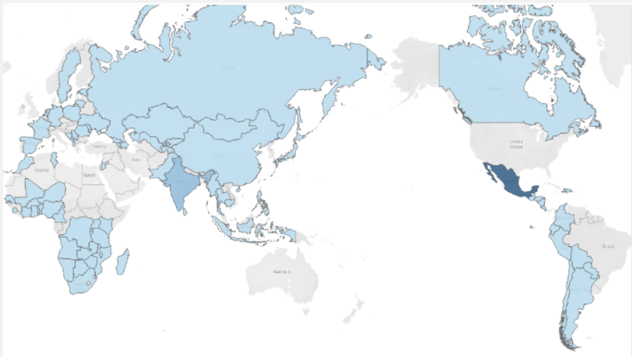


Figure 2: Hedging Transaction by Geography (excl,Mexico and India)

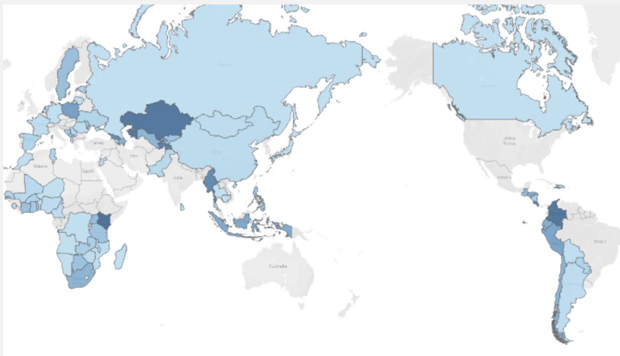


Figure 1 and Figure 2 give a birds-eye view of MFX's business, where it shows the geographical presence, the total hedging transactions conducted from 2009 to 2021, the classification of countries on the fragility index and the income group it represents. This infographic provides a view of MFX's presence across the globe and the concentration of its activity in middle- and low-income countries.

Figure 3: Number of Non-bank Clients by Geography

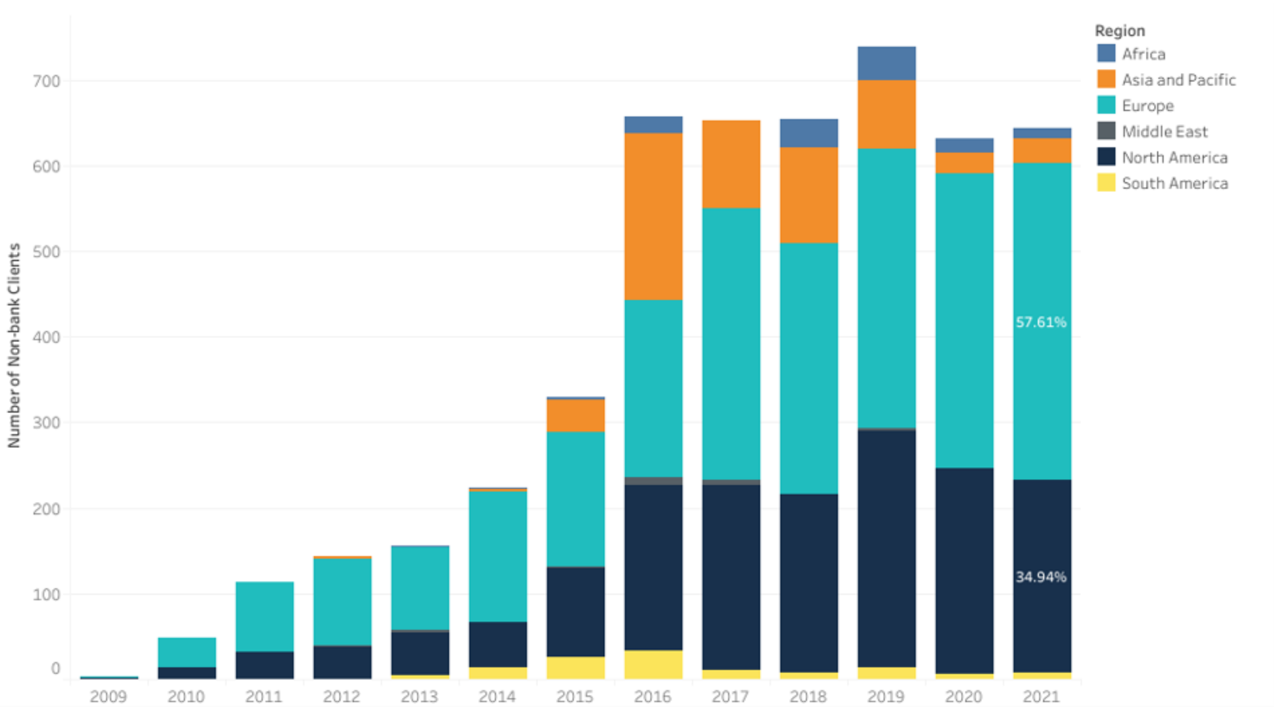
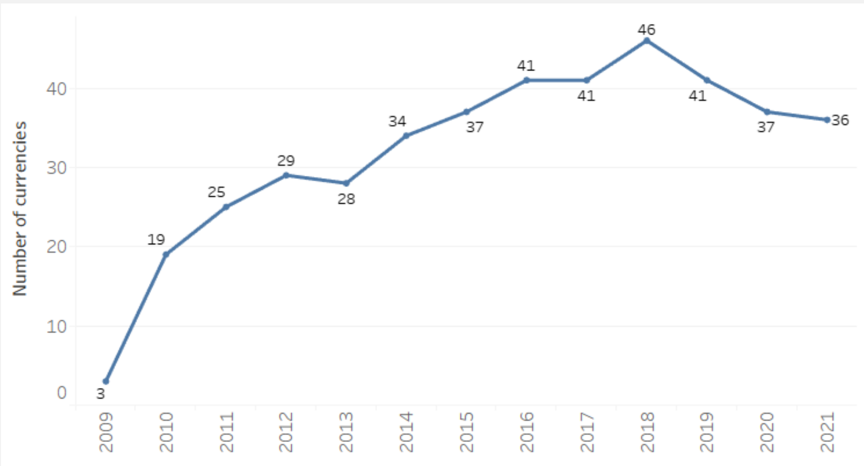


Figure 3 provides additional powerful evidence of MFX's impact through dual roles: 1) Engaging with participants in big developed markets with surplus liquidity and serving as a gateway to the high risk frontier and emerging markets where higher returns can be achieved, and 2) Creating a substantial source of capital for the emerging market MFIs to scale up their operations, thereby creating opportunities to expand social impact.

The graph clearly shows the intent of MFX in terms of expanding its client base in the biggest markets for impact capital, where the company has massively expanded from only 2 clients in 2009 to about 650 clients in 2016 – a commendable achievement given the relatively small number of key players in the impact investing

Figure 4: Number of Currencies Hedged



A big challenge faced by impact investors is wild swings in developing market currency exchange rates due to the highly volatile domestic economic and political conditions. The reluctance of major financial institutions to warehouse these massive currency risks further complicates the channeling of international capital towards these high impact projects.

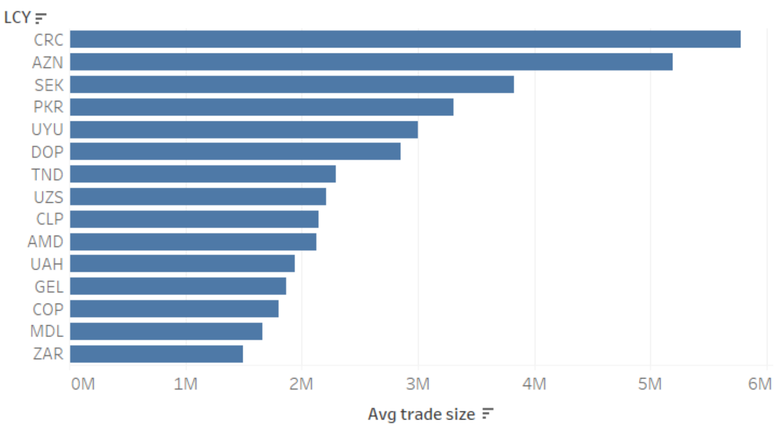
This is where MFX brings in its unique proposition of providing liquidity in a wide range of exotic currencies, thereby catalyzing the inflow of impact capital. Figure 4 illustrates the vital role of MFX in the microfinance space, where it started off its operations in 2009 by providing hedging solutions in three currencies, scaling it up to 46 currencies in 2018.

MFX has the capability to provide hedges in sixty four currencies--a testament to MFX's impact in terms of providing crucial liquidity to the market and enabling access to hard currency loans.

"

Figure 5 takes a deeper dive into the geographical footprint of MFX, and emphasizes MFX's core value in the impact investing space, where all but one currency in the top 15 currencies by average trade size represent countries in medium to low income countries, with Costa Rican Peso, Azerbaijani Manat, Swedish Krona, Pakistani Rupee and Uruguayan Peso taking the top five spots.

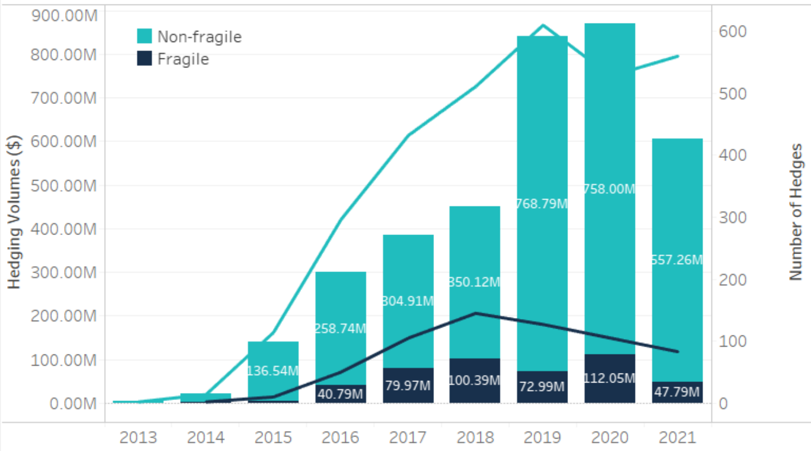
Figure 5: Average Trade Size by Currencies (Year: All)



DEEPENING THE MARKET IN VOLATILE CURRENCIES

This section focuses on highlighting MFX's crucial role in providing vital liquidity in highly volatile exotic currencies of frontier and emerging economies. The classification of MFX's hedging portfolio by country fragility group, income group and country financial development index helps visualize the extent of MFX's impact in providing much-needed depth in illiquid currencies, thereby catalyzing the flow of capital towards these economies.

Figure 6: Hedging Volume ($) by Country Fragility

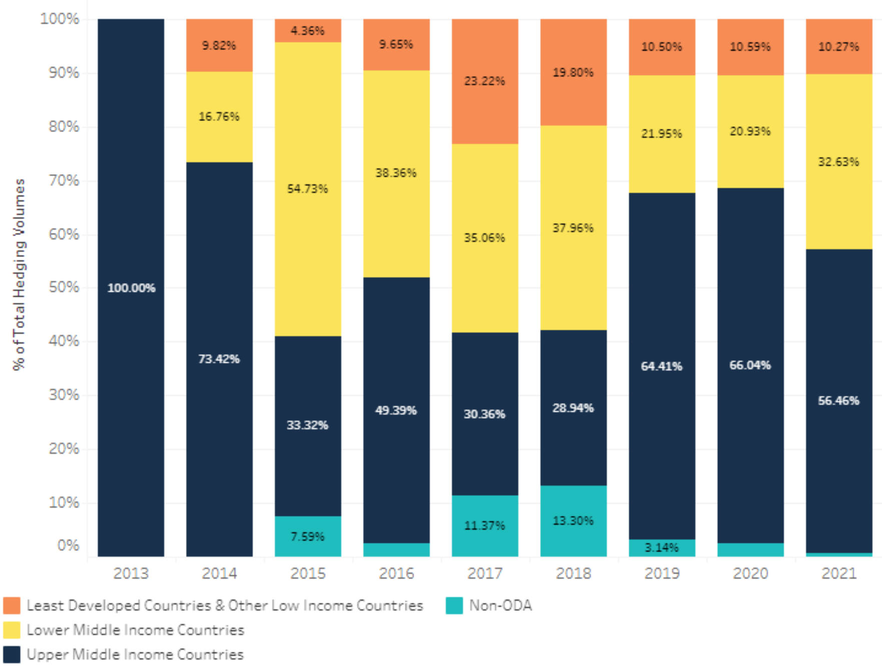


One of the key indicators for MFX's impact in terms of enabling access to a bigger pool of international capital for MFIs is MFX's capability to provide hedges in about 60 currencies. The breath of the impact can be ascertained in this graph, where MFX's hedging transactions have been bifurcated into Fragile and Non-Fragile countries for each of the years from 2013 – 2021.

Note: Figure 6 analyzes MFX's hedging trends by country fragility, which is guided by the recommendations of Luminis report. It reflects the most updated overview of the breadth of reach of MFX.

Figure 6 demonstrates that the breadth of MFX's impact—measured by the presence in fragile countries—has progressively increased up to 2018, where the proportion of fragile countries in total transactions went up from ~3% in 2013 to ~22% in 2018. Post-2018, we can observe a mixed trend where the ratio has dipped in 2018 to ~9%, rose again in 2020 to ~14%, finally settling in at 9% in 2021.

Figure 7: Hedging Volume ($) by Country Income Group

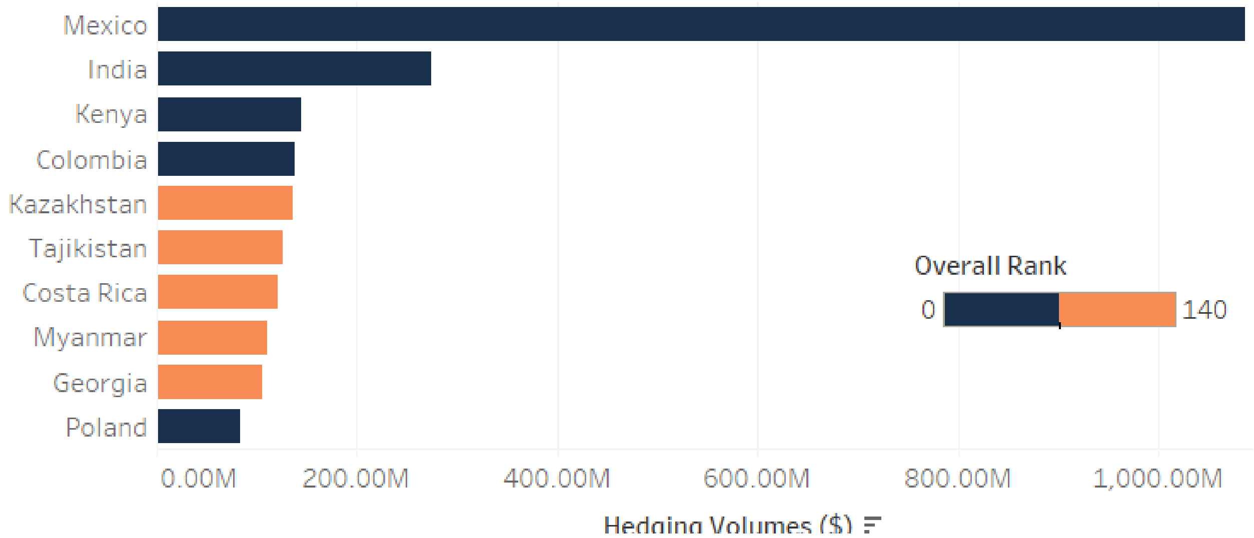


Note: Figure 7 serves as the DAC ODA country exposure analysis guided by the recommendations of the Luminis report. It reflects the most updated overview of the depth of reach of MFX.

Another indicator that explains MFX's impact in terms of enabling access to capital — complementing the proportion of fragile countries in the overall portfolio — is to analyze the breakup of MFX's portfolio by country's classification by the income level. Figure 7 shows the DAC ODA country exposure analysis, in line with Luminis report, which entails breaking the portfolio in four categories: Least Developed Countries & Other Low-Income Countries, Lower Middle-Income Countries, and Upper Middle-Income Countries, and finally non-ODA countries. The data used for this graph includes transactions conducted within the 2013-2021 period.

Analyzing the graph reveals that the combined proportion of the first two categories, which can be understood taken as a proxy for the breadth of MFX's impact, commanded the dominant share in the overall MFX portfolio from 2015-2018. Furthermore, the share hasn't gone below 25% in any of the years except for 2013, with the latest estimate for 2021 indicating ~33% share of these two categories—a strong evidence of MFX's impact.

Figure 8: Top 10 Hedging Recipient Countries (Year: All)



Note: Avg. rank is the country rank of "Financial market development" by the Global Competitiveness Index (2009-2017). A higher rank suggests a weaker and less sophisticated domestic financial market (i.e. difficult to access to loan, less protection on investors) Countries with a rank higher than 70 are marked in orange.

Classifying MFX's portfolio's geographical presence according to Financial Market Development ranking in the Global Competitive Index is another way of explaining MFX's outreach efforts in countries, which have a weaker and less sophisticated domestic financial market (i.e. difficulty to access to loan, less protection on investors). A higher ranking indicates that the country has a weaker domestic financial market and vice versa. Figure 8 shows the top 10 countries by transaction size over the 2013-2021 period and their corresponding average ranking for the period 2009-2017.

If we list down the top 10 countries based on total transaction amount for MFX, Mexico sits on the top spot, which has a relatively high ranking of 65. The lowest ranking in the top 10 countries is 30 for India and the highest ranking is 140, Myanmar. Five of the top 10 countries have rankings higher than 70, while the average ranking of the top 10 countries is 76.6. Further dissecting the data in ranges for rankings of 0-50, 50-100, and above 100 gives the following results:

Range: 0 – 50: $502.34 million | 50 – 100: $1.452.66 million | Above 100: $374.34 million

The above trifurcation of the top 10 countries clearly shows that MFX's is heavily involved in regions where domestic financial markets are relatively less developed, thereby supporting the MFX's value proposition of stimulating the microfinance sector by enabling the access to much larger pool of hard-currency capital without FX risk.

DIVERSIFIED PRODUCT OFFERING

This section emphasizes MFX's primary objective to provide a one-stop solution to its clients by offering a suite of hedging solutions for adequate tenors across the globe--a vital prerequisite for efficient functioning of financial markets.

Figure 9: Type pf Hedging Solution by Region (Year: All)

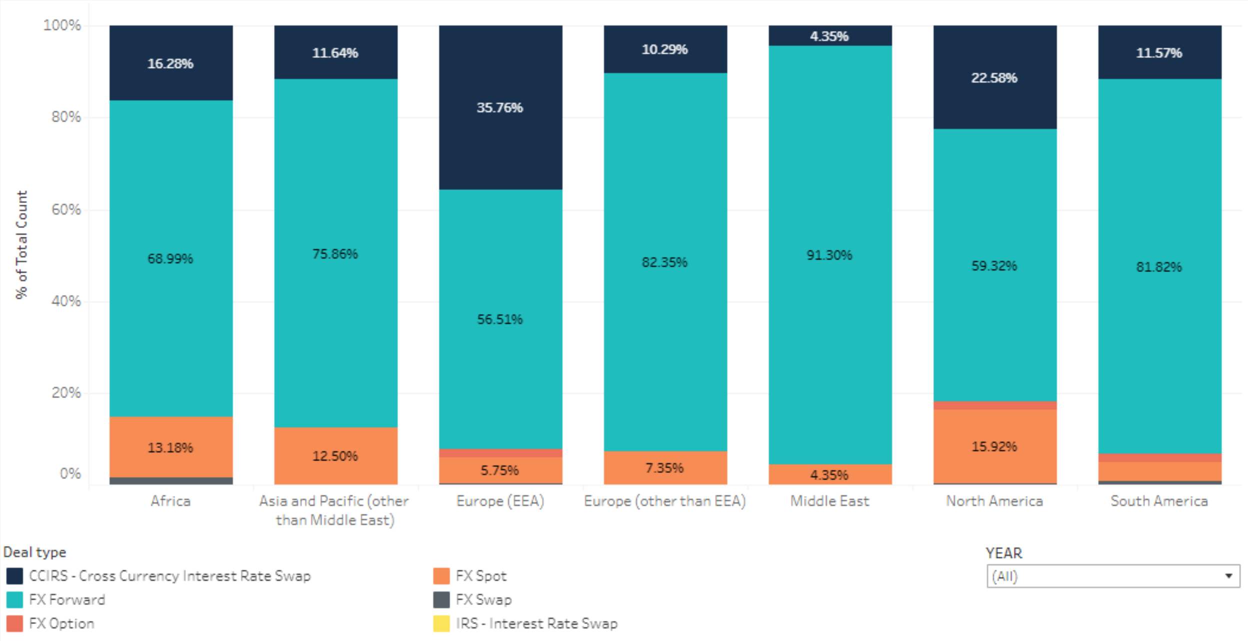
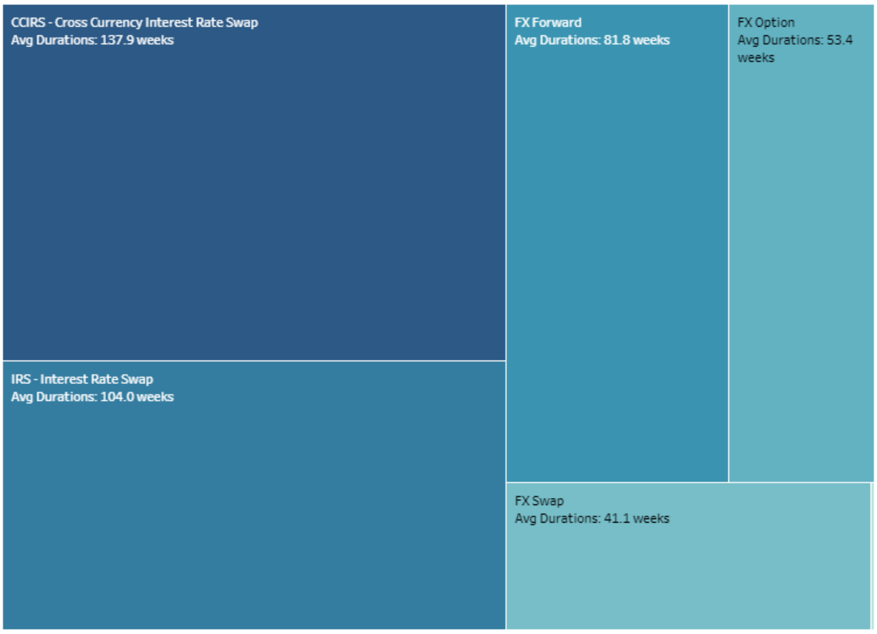


Figure 9 shows the classification of hedging transactions of MFX from 2009-2021 by regions and type of hedging solution. Analyzing the data reveals that, while MFX's portfolio primarily consists of FX Forwards, there is a healthy mix of other products as well in the portfolio across the region--an indication of MFX's role in addressing a wide array of complex client needs across different geographies.

Another indicator of MFX's impact is the provision of relatively long term liquidity in highly volatile exotic currencies in addition to providing solutions in a substantial number of currencies. As shown in Figure 10, the average duration for the three biggest contributors to the MFX's portfolio is over one year: i) FX Forwards, 82 weeks, ii) CCIRS product, 138 weeks, and FX Options, 53 weeks. The lowest duration is for FX Swaps, which is ~41 weeks. This data helps explain MFX's crucial role in market deepening and fulfillment of complex client needs in the impact space.

Figure 10: Avg. Duration by Type of Hedging Solution (Year: All)



06

CONCLUDING REMARKS & FUTURE WORK

Preceding sections of this report have outlined an approach to understanding MFX's unique position in the market and what metrics can be used to measure its impact. Throughout we have identified key challenges to identifying and measuring the impact that can be attributed directly or indirectly to MFX's activities. Many of the challenges stem from a lack of data that can be used to create valid measures of MFX's impact.

With an eye toward improving the ability of MFX to report on its impact to key investors, clients, and the public, this section contains recommendations on: 1) collecting additional data while minimizing administrative burden, 2) creating a more robust database of internally available data that can be used to better tell MFX's story, and 3) taking additional steps to bolster its impact reporting efforts.

This section is divided into recommendations that can be acted upon in the short term (within a year), the medium term (in between 5-10 years), and the long term (10+ years).

Short Term

In our interviews and research, we found that a lack of sufficiently granular data is a primary obstacle for MFX as it seeks to report on its impact in a more robust way that fully accounts for its unique place in the industry.

This section details proposals that can be implemented in the near term, theoretically within a year of initiation. We view these as relatively straightforward steps that can be taken to lay the groundwork for reporting on the more robust set of metrics related to impact that investors and guarantors are interested in.

Collect Data on Education Initiatives

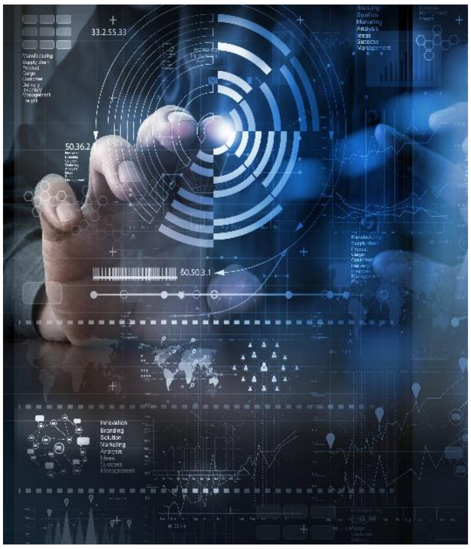
We propose that MFX formalize the collection of detailed data on education initiatives in the near term for two reasons. First, our secondary research efforts indicate that peer organizations that conduct financial training programs similar to those offered by MFX generally include data on these initiatives in their impact reporting. Second, it would be straightforward for MFX to collect this data and it could be built into impact reports in the very near term.

Based upon research and interviews, we propose creating a database to store data on several target impact metrics in the area of financial education, including number of trainings held and number of individuals impacted. It would be advisable to collect information such as geographical breakdown and demographic information (particularly gender) of the participants in all cases where it is feasible.

Build a Database for Future Analysis

We propose that MFX incorporate low-burden impact data collection as a part of its hedge initiation process going forward in order to facilitate the creation of an impact dataset that complements the rich database of financial information already on hand.

Two insights emerged from interviews that can guide an approach to collecting data in a way that minimizes the burden on clients. First, Frederic de Mariz, a professor at Columbia University and Executive Director at UBS, recommends collecting impact data by inserting a few additional boxes onto your term sheets, thus seamlessly incorporating data collection into business activity. Second, Omidyar only collects data that MFIs already report to their board, which is an approach we recommend taking to ensure that clients will not need to spend additional time or money to gather the data they report to MFX.



Build a Database for Future Analysis (Continued)

The information thus gathered will feed into a new dataset that will allow MFX to create robust reports that include the sort of on-the-ground impact data that investors often expect to see in addition to impact that can be directly calculated or extrapolated from existing financial data.

This proposal is bolstered by findings from our interviews, in which several clients, guarantors, and investors indicated that it would be acceptable (in the case of clients) and desirable (in the case of guarantors and investors) to build a streamlined reporting process to pass data on impact back to MFX from where it is occurring on the ground.

Engagement with Impact Management Project

The Impact Management Project's (IMP) dimensions of impact informed our approach to developing this proposal to measure MFX's impact. IMP's guidance was created in partnership with major organizations in the impact investing field such as the GIIN and the IFC in addition to MFX partners like Omidyar, FMO, and Global Partnerships.

In order to continue to improve impact reporting, it is advisable to engage with IMP's Practitioner Community, which is a group of over 2000 organizations that have worked within the IMP consensus in developing their impact reporting capacity.

A small step toward engagement would be to submit MFX to be recognized on IMP's website as a part of the Practitioner Community, which can be done at this link. The IMP's LinkedIn page (link) and that of Bridges Fund Management Ltd. (link) - the organization behind the IMP initiative - are also useful resources to use to build connections with organizations seeking to harmonize their impact measurement with widely-recognized standards.

GENDER-SPECIFIC METRICS

Gender-related impacts can be assessed through the depth and breadth of projects that empower women entrepreneurs and women-led business in recipient countries. Specifically, sample metrics include job and revenue increases for women, access to financial services, gender ratio of promotion, women leadership ratio, and gender wage equity. In this way the direct financial impact by currency hedging can be quantified with an indirect impact on gender, which ultimately have a profound contribution to the SDG goals of both End Poverty and Gender Equality.

Medium Term

After bolstering data collection efforts in the short run, in the medium term it would be prudent to continue to refine these efforts by 1) providing regular reports to guarantors and collaborating with them to ensure the right metrics are being used, 2) seeking feedback from clients on whether data reporting asked of them is easy to comply with, 3) revising your business model with impact in mind, and 4) vetting your impact model with an international authority. These efforts will ensure that the approach taken to gather data and make revisions to impact reports is as efficient as possible.

Validate MFX Impact Report with Guarantors and Investors

We recommend that the revised impact reporting framework be validated in two steps. First, we recommend that a draft report be created and circulated informally to contacts at key stakeholder organizations, particularly including FinDev Canada and TCX, whose contacts proved very helpful to our project. This will ensure that the new report has buy-in from stakeholders who will be key consumers of impact data from MFX in the future.

Second, once the initial feedback is incorporated, data-gathering efforts are put in place, and a first formal report is created, a system should be created to collect feedback as the report is released. It would be ideal to have a survey sent out with the report allowing consumers to make comments on individual metrics, and to hold short meetings with FinDev, TCX, and other key stakeholders. This will ensure that MFX can continue to hone its reporting to best represent itself to partners.

Verify that Impact Reporting is not Burdensome to Clients

In crafting the above proposal, we saw it as essential that the burden of reporting not be increased substantially, as this would strain limited resources in terms of the ability of MFX to compile and process data collected and the ability of client MFIs and SMEs to comply.

This consideration and the results of our client interviews led us to conclude that it was best to include the data collection step as a part of the process of entering into a hedging transaction, ensuring that this step is seen as an additional step in a pre-existing process rather than an additional burden being imposed separately.

After it implements a seamless system of collecting targeted impact data from clients, MFX should identify trusted client contacts to collaborate with in seeking feedback and ensuring that the process of reporting impact data is as streamlined as possible.

Revise Business Model to Incentivize Specific Impact

In developing a robust impact model, there is an opportunity for MFX to modify its business model to create a more direct impact in targeted areas which you have identified as important to key stakeholders.

One of the approaches could be the explicit inclusion of impact imperatives in your core business through incentives. For example, it may be possible to reduce fees for clients where underlying loans would be directed towards specific social issues of concern to MFX and its key partners.

A concrete example of this approach would be to reduce hedging costs for MFIs/MIVs which utilize a certain minimum proportion of the proceeds of their hard currency loans to lend to women-led businesses. In this case, MFX's incentive would demonstrate a clear intention to contribute to progress in an area of interest, and would generate impact data that could readily be reported upon.

Validate Impact Model with an International Authority

Preceding recommendations relate to either making internal changes or collaborating with close partners in order to do the same. Once these steps are complete and a robust impact model is in place, we recommend that you consider going a step further by validating your approach with an international organization.

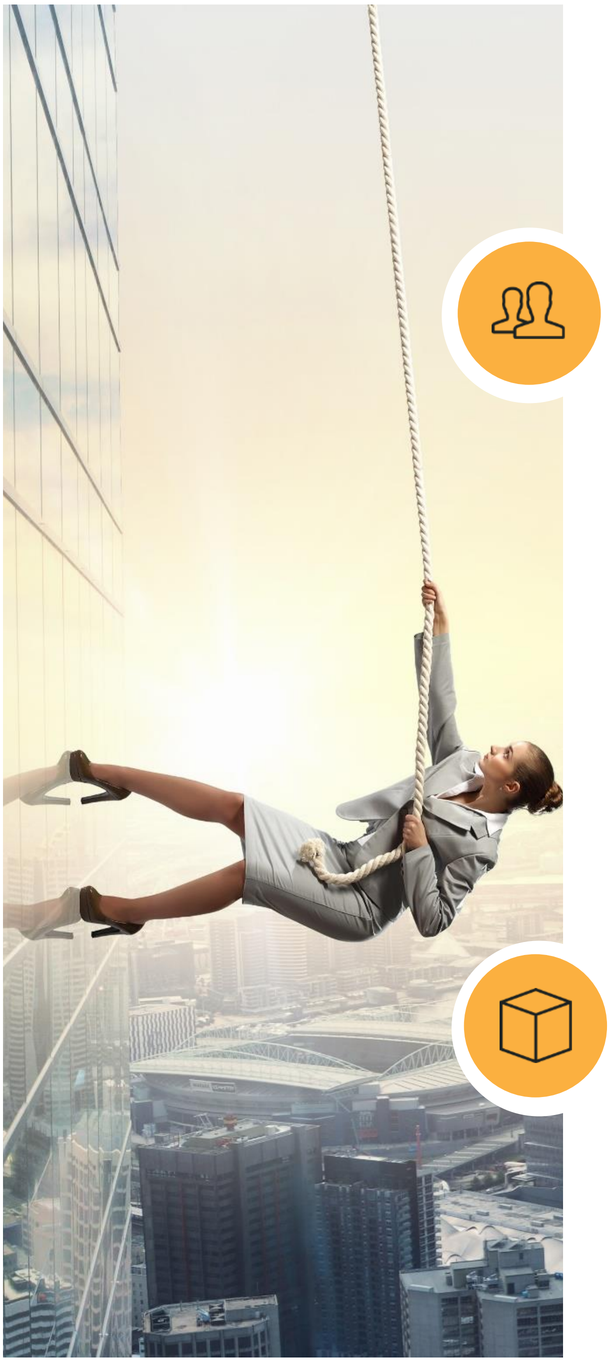
An internationally-recognized way to demonstrate that your organization has a robust impact model in place and is taking steps to improve impact is to become a signatory to the Operating Principles for Impact Management. This is a set of principles promulgated by the IFC; third-party organizations verify that potential signatories are abiding by the principles.

As this step requires an annual disclosure, we recommend completing this step only when a robust system is in place to gather and report on data in a way that does not burden your staff. Details on the signatory process can be found here.

Long Term

As Global Partnerships suggests, the acquisition of robust impact measurement data requires a fundamental revamp of the relationship between MFX, impact investors, and local microfinance institutions. It necessitates brand new protocols that stipulate in detail what data should be collected and how it should be collected. A longer time horizon would render such adjustments possible - hence giving MFX access beyond readily available data that is currently collected by its clients.

The SIPA team recommends that MFX verify its unique impact through both experimental and observational methods.



EXPERIMENTAL METHOD

Omidyar confirms that a randomized control trial is the “gold standard” for obtaining impact data. This view is also shared by Global Partnerships. For example, MFX could reach an agreement with its clients to design controlled experiments in order to distinguish the impact of MFX on specific metrics. For example, MFX could first establish a hypothesis such as that “the presence of MFX hedging solutions enables an impact investor to improve female literacy rate in region X”. To verify this hypothesis, MFX could target a client with two identical funds investing in two separate projects within the same geography, providing one fund with hedging solutions and not the other. The client should then report quantitative or lean (survey) data from these two projects on metrics MFX is interested in (e.x. female literacy rates). By comparing quantitative outcomes from the control group and treatment group, MFX could formulate a robust conclusion through hypothesis testing on its impact on female literacy.

OBSERVATIONAL METHOD

Observational methods, on the other hand, require less operational adjustment on the client’s end, but still entail rigorous data monitoring and statistical computations. Building on Omidyar’s recommendation, the SIPA team proposes that MFX could also work with its clients to establish a new monitoring and reporting system of data, which could then be used for statistical analysis in order to distinguish MFX’s unique impact in specific areas. For instance, if the hypothesis is that “the presence of MFX facilitates impact capital inflow into geography X”, MFX could request portfolio growth numbers over a 10-year horizon from the clients operating in that region. With MFX presence as a dummy variable of either 0 (MFX not present) or 1 (MFX is present), a regression analysis with portfolio growth as dependent variable (as well as other control variables) could determine whether the coefficient on the MFX dummy variable is statistically significant at a preset confidence level. A statistically significant coefficient on the MFX dummy implies that MFX could rightfully claim credit to the impact metric analyzed in this observational study.

07

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08

APPENDIX

8.1. Interview Transcripts
8.2. Interview Timeline

Interview Transcripts

CLIENT

Purpose of Meeting		Understand and isolate MFX's impact in the entire value chain		
Name		**Global Partnerships**	**Triodos**	**ResponsAbility**
Relationship	**Could you walk us through how the money flows from you to the end beneficiaries?**	- GP does exclusively swaps with MFX, occasionally does forward contracts as a hedging mechanism. Most of the work is non-deliverable, executing hedge with MFX. - GP sends dollars to the banks for its partners. Its partners receive and pay back the same amount of local currencies. Through the local currency agreement with MFX, GP receives the same amount of dollars back at the maturity of the loan.	- He focuses on financial inclusion. Those are the funds that make use of MFX services. Social inclusion funds also use MFX hedges. - Funds: operate in emerging markets through 4 funds, first two have same investment theses: financial inclusion, started on microfinance, now fintech institutions, also have fund investment (to open up new fields, i.e. for fintech invest in funds indirectly through funds first then invest directly; doing the same now for social institutions)	ResponsAbility has three broad sectors through which it invests capital: - **Financial Inclusion** Started as an arm to finance small group lending/non bank microfinance cooperatives, which have developed into multi-million dollar institutions, where some of them have transformed into mobile banking. **- Sustainable Food** Invest in small businesses, which address the issue of sustainable agriculture through loans and other investments. - **Climate Finance** Provide green loans to financial institutions, which finance green projects or lend to SMEs involved in this space.

	What percentage of your debt portfolio is hedged through MFX?	MFX being the only practical supplier for 2 reasons: - Other global banks only hedge in developed countries. - Not a lot of options for us.	Total hedged through MFX is 122, fairshare is 370, 450/60, and the other is 70/75, so a bit more than 10/15% of fund's NAV is being hedged by MFX	- For the funds with cash management functions, MFX represents 10-20% of the hedged portfolio (3-6% of the total portfolio). - For closed-end structures, MFX has the majority share due to its unique proposition of no collateral requirement, which serves best for these funds, which don't hold any cash.
	Are you a client with MFX first or a shareholder of MFX first? Why did you choose to invest in MFX?	- GP is one of the founding members of MFX. In 2008, when GP got together with other founding members to create MFX, they thought about whether they could create a mechanism that doesn't require collateral. - We were a shareholder first, but only for the purpose of being a client. It is a shareholder so that it allows GP to do transactions.	Methodology: has to fit impact story: financial inclusion, microfinance, responsible lending (rates within certain range), then start talking about pricing	- Not sure as it happened before he joined.
	As a client, why do you hedge with MFX?	- GP cannot say if it weren't for MFX, it wouldn't have done the transaction, because GP might be able to talk the partner into doing this back-to-back structure. The difficult part is how do you know which loans would have happened even without MFX and which ones wouldn't.	There are often other options on the market, part of the reasoning for using MFX is inertia	- MFX is a gateway to a wide array of highly exotic as well as liquid currencies by giving access to the hedging counterparties without the need of collateral requirement and structuring requirements. - Collateral management is a complex exercise, which requires a dedicated team to

				fulfill the daily margin monitoring and maintenance. - For some of their closed-end investment structures that they offer, which don't have any asset-liability management concerns, they keep zero cash in those funds. MFX has hedged 100% of the transaction. - One of the structures that they are in the process of finalizing the ramp up of $180 mn high impact fund with Swedish International Development Cooperation Agency, SEDA, which aims to invest in water, agriculture, and sanitation projects, and this transaction has been exclusively hedged with MFX.
	What would the level of collateral required if you hedge with someone else, assuming there is someone to hedge with?	- If hedging with someone else, typically it's 100-125% of the possible negative exposure calculated by the bank, which is way bigger than the access fee to be deposited with MFX. - For MFX, a new fund of GP just has to deposit a small sum of funds, which would be returned at the end of the fund lifecycle. $150k deposit allows GP to do $10mm notional of transactions.	-	**Initial Margin:** Ranges between 0% - 5%. 70% of the hedged portfolio is at 0% requirement. Rest is relatively low level. **Variation Margin:** It is dependent on the MTM of the derivative, as well as the structure: duration, interest rate, volatility etc.

Impact Investing Standard	**Does MFX impact your lending standards/decisions?**	No. GP has a set of impact strategy, criteria, metrics, underwriting tools that it uses, and this is independent of its relationship with MFX.	No	No
Data	**Do you have an impact model? What are the key parameters you look at? How do you gather the data?**	1) Investment Initiative: research into the opportunity/investment areas (i.e. microfinance, solar lights, health clinics), evaluate before making decisions into companies: what product/aspect of a specific sector has the greatest impact on people living in poverty? - This helps create a set of criteria for how to best aim the investments at creating impact 2) Data Collection: - Who is being served (gender, geography)? - What products/services are delivered (into the details)? - How does the organization manage social performance ("do no harm")? (I.e. client protection principles, pesticide use, IFC performance standards) 3) Follow-up: - Monitoring on known risks - Annual data request (year-to-year patterns) - Support more in-depth impact studies (working with 60 decibels)	Triodos does have an impact model with the following characteristics: - Frequency is quarterly - Excel-based model where clients fill in certain data - For some loans, may need to track additional indicators Financial inclusion is the most standardized area: - Quantitative on their portfolio, captured on yearly basis - They have something called the sustainability tool - Capturing data on: policies, investment theses, governance, sustainable practices - Quarterly basis: quantitative indicators: number of clients, number of clients in rural areas, % female clients, green loans, educational loans, type of products they offer	- Referred to the impact team

	Can we assume that you also acquire your impact data from the microfinance institutions you partner with?	Data Source: - always reliant on partners (micro-finance institutions) - in most cases, in the form of excel (excel template provided by GP vs. internal impact report made by partner) Data Type: - Data already in the system that doesn't have to be collected from the clients, such as average loan size, percentage of female clients - Data collected by third-party data firm 60 decibels in the form of PDF report with an excel behind it Challenges: - Getting standardized data across different sectors GP invests in - Working with different partners that have different internal capacity and quality of data - GP would have an NDA with downstream partners. GP is unable to share data with outsiders without consent from partners. MFX needs to think about what they could feasibly collect. How to Acquire Outcome Metrics (quantitative impact data): - Randomized controlled trials: - Lean data (those from 60 decibels)	-	ResponsAbility does send requests to its borrowing MFIs for substantial impact related data and generally the clients comply and provide the data. This exercise is done on an annual basis.
Separation of MFX Impact	**What percentage (from 0 to 100) of your impact would you attribute to MFX**	- MFX is asking the wrong question. There are so many factors that contribute to the success of the deal. MFX	Two approaches: - Go and ask this at a granular level from, earmark loans	(Question was framed differently to ResponsAbility: What do you think are the major

	(hedges, low collateral, etc.)?	is one step of the transaction. - GP would do transactions even if the pricing from MFX does not meet the client's needs. GP would take a hit in that case to get the transaction done. The impact of that MFX capital actually results in a higher cost. - GP does not feel comfortable attributing non-financial impact to MFX hedges, because there are so many factors that contribute to the success of the deal. MFX is one step of the transaction. - MFX impact is that "x% of the loans from # impact investors involve MFX. MFX helps enable $x million dollars of impact capital to organizations in different geographies".	- By having hedge percent of total NAV and by having access to fund level impact data, you could use that.	impacts of MFX in the ecosystem? What perspectives will you look at? - It plays a very important role in terms of enabling specific structures like SIDA. - By bringing in the public guarantees in these structures, which helps mobilize the private capital, thanks to the MFX's zero collateral hedging solution, - ResponsAbility has been able to get into sectors, which are otherwise too risky. - An example could be funds lent to a hospital in Vietnam for the very first time through this structure.

COUNTERPARTY

Purpose of Meeting		- Determine how counterparties approach differentiating their impact from that of MFX - Determine the degree to which MFX helps counterparties expand impact through pooling and other methods - Determine how working with MFX is a part of counterparties' efforts to burnish their impact credentials in emerging markets	
Name		**Standard Chartered**	**TCX**
Relationship	**Why do you work with MFX?**	- Standard Chartered wants to improve their social responsibility reputation and facilitate their business in specific regions: Africa/Central America - Impact should be the ultimate goal	- TCX focuses on social impact - TCX was founded in 2007 and MFX was founded a few years later. - TCX was from price and fund-making (housing risk) and MFX was from a broker position
	What is your relationship?	- The 13-year relationship began with the mission where they are adding value. - MFX served as a currency risk manager for investors. The team has strong risk management expertise.	- TCX has its own client but would steer some potential clients to MFX when they won't be able to work with them (i.e., the client could not afford the collateral). OPIC and DFC allow them to offer those advantages. - Some clients go directly to MFX as they offer lower collateral and very little equity.
Impact Investing	**How does MFX fit into your social responsibility initiative?**	-	- The framework is very tailored toward TCX. They work within substantial constraints on data: only have financial data and do not gather any traditional impact investing data from impact investors. We have information on financing: investment amounts, the currency being hedged, and also ask them to disclose sectors.
	How to divide the offloaded risk from you and MFX?	-	- MFX absorbs credit risk, TCX absorbs currency risk - Risk for MFX is like 60-70% on their balance sheet
Data	**How do you gather the data that**	-	We have very rich financial data:

	informs your impact report?		- Volume - Tenor - Underlying currency - Sector - MFI, Fin Dev, renewable energy, manufacturing
	How much collateral do you request from MFX?	-	- Risk guidelines: using the internal rating model to determine the rating for all clients - Available margin for all our counterparties - How they are rated determines what counterparties are charged - We need to ask MFX for specific details of the collateral they need to put up
Impact Model	**How do you measure the impact in a translatable and standardizable way?**	- Comp analysis: each investor will divide out impact in their measurements - KYC process (Know Your Customer)	Given the constraint, we developed a 3-pillar framework - Core business: De-risk development finance by unloading currency risk. Metrics: hedging volumes, which countries and in which sectors - Actively off sell risk from balance sheet: Usually selling to investors that are interested in getting exposure to off-shore market risk - Outside of hedging - advocacy: talk to local banks, policymakers
	Does the impact vary by region/sector?	-	- To reduce financial volatility and protect borrowers is the main goal. We have one model to measure that but there are different impacts that vary by region and sector, which are not a part of the core model.

RATING AGENCY

Purpose of Meeting		- Luminis is more familiar with MFX's clients at a more granular level than others we are meeting with; they may have insights on how we could collect a standard set of data from clients without straining their relationship with MFX - Luminis should have a better idea of MFX's preliminary efforts to measure their impact; we can ask how they have thought to approach distinguishing the impact of MFX from that of their clients
Name		**Luminis Advisors**
Relationship	**How did you start partnering with MFX?**	- "We used to run a rating agency, and we participated in discussions with the development institutions and the backers of MFX to create MFX." - Hedging outfits could help microfinance institutions and funds to hedge exotic currencies that are very expensive or difficult to get.
Impact Report	**How did the report start? For which kind of purpose?**	- To see how MFX contributed to the social goals and whether it would align with FinDev values and goals. - Luminis had all the data to go through a series of questions and analysis to determine if this was in line with what they were looking for.
	Is the report a one-time request or on a regular basis?	One-time and constrained report. - Important to follow up, especially when measures are not standardized or universally accepted. - Get a baseline of where an effect stands.
	How did you come up with this framework?	- Borrower level: The counterparties do transactions with their clients—but little access to that information, which would be the most valuable to see what's happening. - Much more money goes to these countries that have exotic currencies than ever before because institutions are protected from the volatility of the currency. - MFX——give the ability to be able to do this in a cost-effective way——lower cost.
	Why didn't you evaluate this outcome?	- Don't have the information on the details of the entrepreneur that the microfinance institution borrowed led to.

		- When they ask for information from their clients, they ask for it as a portfolio.
	Why didn't you include ESG metrics into these outcomes?	FinDev did not make it a priority to look at typical SDG indicators or ESG indicators.
	What were the greatest challenges? Were they resolved?	- The methodology to rate MFX's counterparties did not include the social aspect. (More on the financial performance risk, operational or credit risk, and governance) → Very difficult that after 10 years later to ask what was our social impact. - Ask for information: If we ask them for much more detail, it just becomes so cumbersome and so difficult for them that they start to push back. - Confidentiality: The more granular the information becomes the more useful for analysis, but the more difficult to get.
Data	**Did you apply the IRIS system when rating your clients?**	It's somewhat useful. When people take IRIS, they will be adjusted to their own needs.
	Are you asking the funds to score their business or certain outcomes?	- Most funds have an internal rating system where they will classify their investments. (high, medium, low risk, or a numerical standard) - Use their internal system and compare it to our data. (Use the most conservative one)
	What is the typical format of the data you gather from MFX's client when performing risk scoring analysis?	- Send them an excel spreadsheet with five or six tabs. They fill the spreadsheets out. The first couple of times are very standard financial statements, essentially balance sheet income statements. - The tab on asset-liability management for exchange and interest rate risk; Specific tabs on the portfolio; Risk reports that they produce; Due diligence rating committees.
Impact of MFX	**How do you separate MFX impact from its counterparties, clients, and guarantors?**	- Where MFX makes a huge difference in facilitating and guaranteeing smaller outfits that are specialized to do what they do, where the market wouldn't allow it. - MFX could not exist if it didn't have the guarantees that the development institutions are giving. So that's where they are filling in the gaps. - It's part of the value chain, but it's a link that is absolutely necessary.

	How do you think MFX is unique in this position and different from the other clients?	MFX is very unique. They are the only client of the hedging outfit that we work with. All of these types of assignments are very much tailored to the needs of MFX or MFX's investors.

GUARANTOR

Purpose of Meeting		- Figure out the impact of the guarantee provided by guarantors in the ecosystem - Determine how these institutions measure impact and how they collect the data from their various partners	
Name		**FinDev Canada**	**DFC**
Why do you provide a credit guarantee for MFX?	**What is the nature of your relationship with MFX?**	- It is aligned with our overall mission that provides support to emerging markets. More specifically, local currency exposure and developing finance institutions, multilateral. - It is an issue that is faced by not only the investment vehicles that they support or the MFIs they support, but even individual companies in the emerging markets of Latin America and sub-Saharan Africa.	-MFX was founded as a way to invest in TCX by these microfinance investors to serve as a bridge to hedging capacity. - MFX itself couldn't present itself as a creditworthy entity; TCX only worked with creditworthy investors. OPIC was able to supply a liquidity guarantee so that MFX could work with TCX despite not having a credit guarantee.
	Does MFX have a special status? Are there similar relationships?	This is the only deal that we're looking at that has this type of support. We're actually providing a product that is better positioned and effective not only right now, but for their future endeavors because of the limitations that the guarantee offers were giving them access to the collateral facility.	- What was unique was the use of the guarantee: it was not used to provide loans as was traditional; had to invent agreement. MFX taking credit risk with the microfinance investors. - Microrate was used to provide this rating of funds
	Any cost for MFX to get the guarantee?	We were trying to keep it simple knowing that we're already complicating things by coming in and trying to achieve the same type of support with a different product, an existing product. And	Guarantee fee. They have to allocate certain capital against guarantee. Pledged shares in TCX as capital.

		we didn't want to create new restrictions or requirements for MFX.	
Impact Investing	**Do you have a specific mandate or any geographical/industrial preference for the use of the guarantees?**	- Reporting requirements. - Collect a lot of data: opportunity to try to get access to the data that they already have available, or to shape their policies in an attempt to collect different data. It is something particular is gender-segregated data.	- No geographic or industrial preferences - Over a certain threshold amount, there needs to be approval from DFC (very high amount)
Data Collection	**Do you have any recommendations for the data sources of gender?**	- Client level: how many women work there? How many women and leadership with the women ownership level? Try to encourage those organizations to start collecting that data from their clients as well, and feeding it back up. - How to do that? It was, the strategy was the approach, and then how we actually implemented it. And they have to provide governance. There are reporting requirements that they have to provide to us on an annual basis.	-
	Is the generation requirement a new requirement or for a long time?	MFX currently doesn't. What we've included right now, as a requirement, are things that they can do. What we're going to work with them towards and what they've committed to doing is taking a step further and getting us more data and more granular data.	-
Impact Model	**What do you think are the major impacts of MFX in the ecosystem?**	How can we capture the impact and who reports it, who will accurately attribute the impacts? Part of working with MFX will be to figure out at what point we want to develop our own methodology. Because this is unique. And there is the indirect	- Enable companies and funds and SMEs to have hedging capacity to do local currency financing that would not have otherwise been possible

		impact which we have a methodology for.	- Creating a market is a key priority for TCX and MFX
	How might you go about separating MFX impact from its counterparties, clients, and guarantors?	The impact is not clear-cut. Not only is it indirect, but there's a cascading effect as well. It's indirect at many levels. To measure the attribution of that impact, the various levels become very difficult and subjective.	- Not the right question: if you take one party out, nothing happens in many cases, no rigorous way to really pull apart the impact - May be better to be clear in impact report that MFX is not solely responsible for any impact; it is a market maker that has impact through its clients in every case - The original objective: channel more capital to emerging markets with challenging local currency environments

INVESTOR

Purpose of Meeting		**- Determine how MFX shareholders view the MFX impact**	
Name		**Omidyar**	**Accion**
Relationship	**Why did you invest in MFX? How does MFX fit in with your business strategy ?**	- Educate and train the microfinance sector on foreign exchange risk management - to raise more awareness among MFI/MIVs about how to go about mitigating these risks. - At the time of MFX investment, there was no easy alternative. Most lenders require collateral that MFI or MFI borrowers may not have. - MFX would like to expand into new sectors such as energy asset projects, especially renewables (solar power farms). Thinking about where currency hedging could be used in these areas.	- They try to leverage balance sheets to be a catalyst, give financial services sector in developing economies a lift - Interested in helping to facilitate investing in illiquid currencies in small denominations - See MFX as an enabler of financial inclusion, which is at the heart of Accion's mission. Extra layer of security that the other side of the hedging contract would like to have.

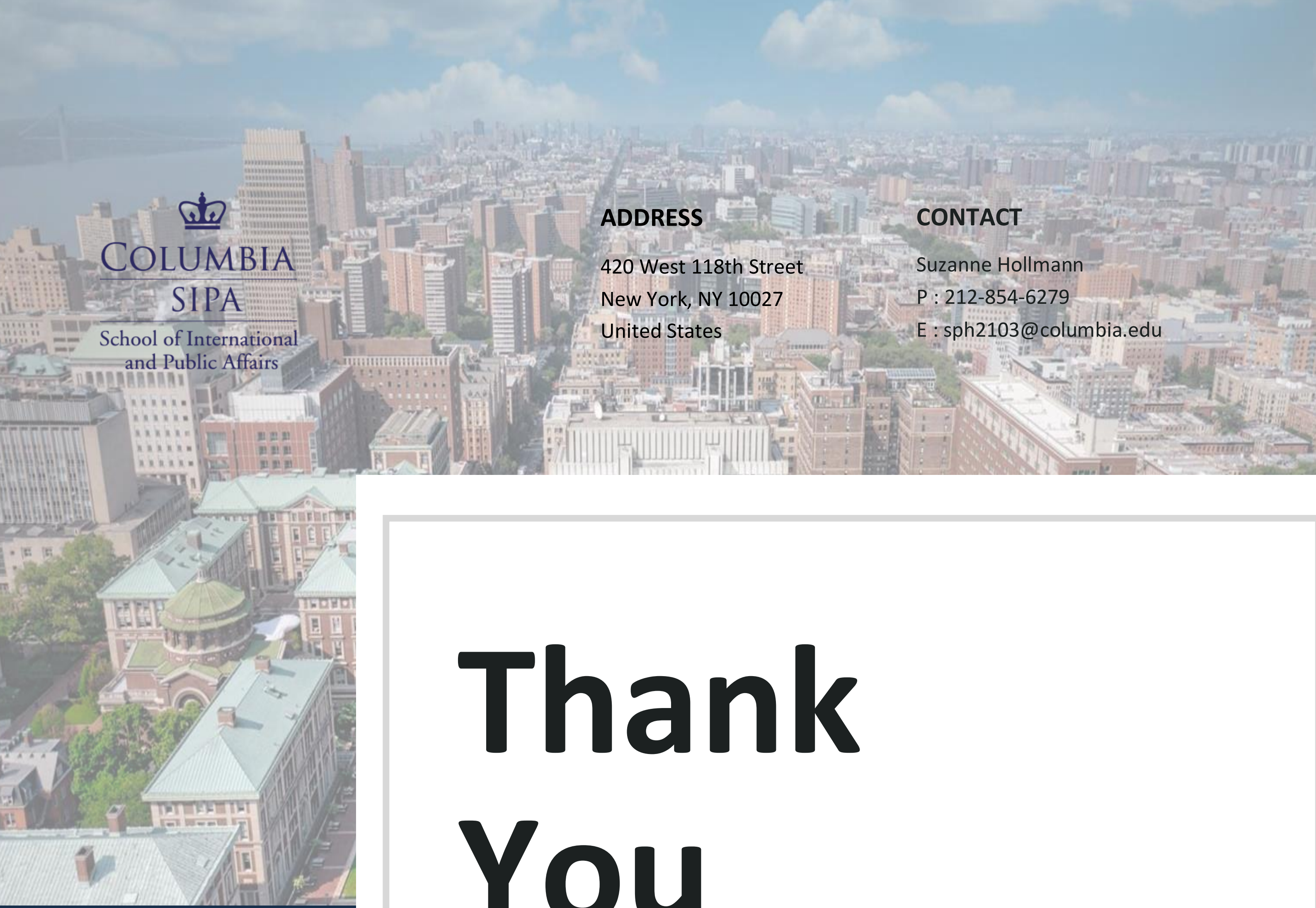
Impact Investing	**In what way do you think MFX makes a unique, distinguishable impact?**	- Enable microfinance through hedging. If MFX had not existed, would the same amount of capital flow?" - It's such a complex process. But it can say it "contributed" to something. "MFX contributes to the living standards of country X, because it enables..."	-
	Have you already evaluated the MFX impact with your impact measurement model?	Omidyar has data (total size of hedge portfolio & target geographies) reported annually from MFX. It's a loose model that uses data aggregated from many organizations. Omidyar doesn't require MFX to report data every time there is a new transaction.	-
	Do you have a specific mandate for MFX? In other words, what impact factors/metrics do you put value to (i.e. gender, sector, etc.)?	At the time of the first investment, Omidyar wanted: - At least $30mm in the hedge portfolio in the microfinance sector - 30% of that portfolio in Africa and Asia - Presentations at 2 international conferences promoting FX risk management in the microfinance sector - Formal collaboration with at least 1 leading organization in the provision of education on risk management - encouraging sector development - At least $20mm capital raised for MFX (including Omidyar investment) In 2012 (after offering the letter of credit to MFX), Omidyar updated the mandate: - Serving 20% of all microfinance investment vehicles offering debt capital to provide consulting and education services (along the lines of sector development)	-

		- 50% of the hedge portfolio in Africa and Asia - Sustainability of business (operating return on equity > 0%)	
Data	**How do you acquire the data that you need to vindicate the value of your investment?**	Randomized control trials are the gold standard for getting that data. But there are other ways of getting that data, that are not as robust but are worth seeing.	- Difficulty is that clients do not report a standard set of metrics. You can collect data to say this particular MFI collected this much money and impacted this many people. - It may be better to focus on a specific set of MFIs to get solid impact measurements. - MFX should have some sort of reporting from clients that will tell MFX that for x million in loans, we will impact y people.
	MFX is two steps removed from impact; do you have any ideas on how to help MFX get that data?	-	- Difficult to get this data. The level one impact is what you were discussing regarding how much an additional dollar of hedging enables in terms of capital inflows. - Go one level deeper: what impact did the end borrower have that benefited from the loans enabled by MFX's hedges? This data could be retrieved either from the borrower or the lender. Which is better depends on which level it is easier to gather data from.
	Response to the suggestion by clients that we should stick only to financial inclusion?	-	We are all working toward the same goal. Hard to split hairs because DFIs have more skin in the game but because of the risk lenders are not willing to take MFX also plays a role.

Impact Model	**Do you have any advice on specific impact measurement models/principles that we should use?**	- Omidyar tries to target things as quantitative as possible on the reach metrics. - Omidyar has established protocols for MFIs to report data. Omidyar usually asks about easily accessible Data MFIs already reporting to their board. - With the Data available, Omidyar extrapolates the rest.	-
	What metrics do you prefer to quantify MFX's impact?	-	- Hard currency loans that were not flowing in before that are now flowing in as a result of MFX being in the market - MFIs have a pretty narrow range of impact metrics - We can leverage x dollars to serve x thousand SMEs across this rural area.

Interview Timeline

No.	Company Name	Type	Interview Date
1	TCX	Counterparty	2021.10.20
2	Standard Chartered Bank	Counterparty	2021.10.21
3	Global Partnerships	Investor/Client	2021.10.18
4	Triodos	Investor/Client	2021.11.11
5	ResponsAbility	Investor/Client	2021.11.24
6	Omidyar	Investor	2021.10.29
7	Accion	Investor	2021.11.16
8	Luminis	Rating Agency	2021.11.04
9	DFC	Guarantor	2021.11.09
10	FinDev Canada	Guarantor	2021.11.19



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MFX CURRENCY RISK SOLUTIONS