
THE FINANCIAL PERFORMANCE OF IMPACT INVESTING THROUGH PRIVATE DEBT

2nd edition

2019

The objective of this study is to establish evidence on the financial performance of private debt impact funds and its underlying drivers, and analyze it through the lens of different investment strategies and sectors. Symbiotics initially launched this research in collaboration with the Global Impact Investing Network (GIIN) to fulfill a market data gap on the return patterns of private debt, the prime asset class in impact investing today in terms of volume.

For this second edition, we have enlarged the study sample from 50 to 92 private debt impact funds. We retrieved all data from publicly available financial statements in order to compute the financial performance of each fund.

We have summarized in this report the main findings of our research. For supplemental data points and information about the methodology, we encourage readers to visit our latest and interactive online benchmark at funds.syminvest.com where you can access and download a whole set of indicators for free.

We hope that this report and associated benchmark will enhance impact investments' awareness and contribute towards an expansion of the industry.

LEGAL DISCLAIMER

This report contains only general information. Symbiotics is by no means of this paper rendering professional advice or services. The content of this paper is meant for research purposes, with an aim to broaden and deepen the understanding of Private Debt Impact Funds. On a few occasions, this paper refers to specific asset managers and collective investment schemes. Such references are made for research purposes only and are not intended as a solicitation or recommendation to buy or sell any specific investment product or services. Similarly, the information and opinions expressed in the text were obtained from audited or unaudited financial statements in addition to self-reporting sources believed to be reliable and reporting in good faith, reflecting the view of the authors on the state of the industry, but no representation or warranty, expressed or implied, is made as to their accuracy or completeness. Before making any decision or taking any action that may affect your finances or your business, you should consult a qualified professional adviser. Symbiotics shall not be responsible for any loss whatsoever sustained by any person who relies on this paper. The paper is also meant for distribution only under such circumstances as may be permitted by applicable law.

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KEY STUDY FINDINGS

■ SAMPLE COMPOSITION

The sample includes 92 Private Debt Impact Funds, across:

6 Investment Sectors

Financial Services (incl. Microfinance) funds representing the most mature sector with 47 funds, 13 Multi-sector funds, 10 Small Business Finance funds, 8 Energy & Infrastructure funds, 7 Food & Agriculture funds, 4 Education & Culture funds and 3 Housing & Healthcare funds;

3 Fund Strategies

Leveraging, hedging in terms of investments and share classes, and the investee type (direct projects & companies vs. financial intermediaries).

■ SIZE

With a cumulative asset size of USD 17.2 billion for the 92 funds, the average fund size was USD 261 million in 2017 compared to a median of USD 117 million, revealing the presence of a few large and several small players. The largest funds being the Energy & Infrastructure funds (USD 686 million) and the smallest ones the Food & Agriculture funds (USD 76 million).

■ GROWTH

A constant sample of 43 funds over the last five years witnessed a steady average growth of 14.5%. In terms of sectors, Small Business Finance and Food & Agriculture funds registered the highest growth (44.1% for the former and 25.6% for the latter), both starting from a low base.

■ NET RETURNS (5-year average)

Full sample

On average, Private Debt Impact Funds generated a yearly return of 1.9%, over the period 2013-2017. A recent increase in share class hedging costs against the USD has penalized the returns of funds offering multi-currency share classes to investors. Consequently, Private Debt Impact Funds having only USD share classes witnessed higher yearly net returns on average at 2.7%.

By Hedging Strategy

Fully unhedged funds tended to generate higher returns than fully hedged funds, respectively 3.5% and 2.1%. However, the annual volatility in returns for the former was much higher (5.5%) than for fully hedged funds (0.7%).

By Leveraging Strategy

The use of leverage is up, both in terms of number of funds and in terms of volumes. Returns were higher for levered funds, respectively 2.6% versus 1.4% for unlevered funds. In terms of risk, levered funds showed a slightly higher annual volatility of 0.9% compared to 0.7% for unlevered funds.

1. MOTIVATION & BACKGROUND

According to the latest estimates from the Global Impact Investing Network (GIIN), the impact investing industry sizes at USD 239 billion as of end of 2018.¹ For-profit and not-for-profit fund managers account for one of the largest share of this volume (37%), and as such represent a prime gateway for many investors willing to channel capital with the intention to generate positive, measurable social and environmental impact alongside a financial return.

In broad terms, specialized asset management firms will pool investor money into independent investment structures, each differentiated by their own business models. A growing number of such impact funds exist in the market and offer viable impact investing opportunities in the private debt asset class, today by far the largest instrument of use in impact investing, accounting for 41% of total allocation.¹

Bringing more transparency on return patterns of this asset class, on a yearly basis, is a key market intelligence tool to help the private sector to engage in financing many areas of the Sustainable Development Goals.² Initiated in 2017 as a partnership research endeavor between Symbiotics and the GIIN, this report, in its second edition, aims to do just that, i.e. expand the base of evidence regarding the financial performance of impact investing through private debt.³

1.1. METHODOLOGY

1.1.1. Sample

For this 2019 edition, Symbiotics was able to enlarge the sample size to 92 private debt impact funds (PDIFs). Most of these funds are for-profit, investing in developed and/or emerging markets. Given the heterogeneity of our study sample, we present financial performance results in clusters, namely by funds' main investment sectors, leveraging and currency hedging strategies. For confidentiality reason, averages with less than three observations are not shown.

1.1.2. Inclusion Criteria

The PDIFs that compose our sample are independent investment vehicles, open to multiple investors, with impact intentionality, available audited or unaudited financial statements and at least 85% of non-cash assets in debt investments (Table 1).

Table 1: Inclusion Criteria

CRITERIA	INCLUDED	EXCLUDED
Impact	Intention/mission to generate social and/or environmental impact alongside a financial return.	No clear intention/mission to generate social or environmental impact alongside a financial return.
Status	Independent Investment Vehicles	Holding companies; Peer-to-peer lending platforms; Other Investment Intermediaries
Investors	Open to multiple investors	Open to single investor
Fixed Income Investments	≥85% of non cash-assets on a 5-year average	>15% of equity investments; Fund of funds
Audited or Unaudited Financial Statements	Available	Not available

1 GIIN. 2019. Annual Impact Investor Survey.

2 The Sustainable Development Goals address the global challenges, including those related to poverty, inequality, climate, environmental degradation, prosperity and peace and justice. For more information, visit <https://www.un.org/sustainabledevelopment/>

3 Symbiotics & GIIN. 2018. The Financial Performance of Impact Investing Through Private Debt.

1.1.3. Source

Symbiotics' Research Team extracted information from each fund's financial statements in order to calculate the net returns to investors, both shareholders and noteholders. PDIFs were identified through various networks and databases, including GIIN's ImpactBase database, ImpactAssets 50, the Toniic Diirectory, Luxflag, Fundpeak, and the Symbiotics databases of microfinance and small and medium enterprise (SME) funds.

1.1.4. Data Accuracy

- **Extrapolation:** While most funds end their fiscal years on December 31, others operate on a different cycle. To enable performance comparison between PDIFs, their data was extrapolated accordingly as of December 31.
- **Currency and exchange rates:** Most metrics, including growth calculations, were determined by converting PDIFs' accounting currencies into USD using end-of-year exchange rates.
- **Outliers:** Outliers were defined as values amounting to three standard deviations above or below the mean of a particular metric. All results and figures include outliers. However, where relevant, the main text contextualizes the results including and excluding outliers.
- **Valuation methods:** Given the studied time frame of six years, the report presents no review of different funds' accounting methods, such as historical cost versus fair value, since these do not greatly impact the final performance figures.

1.1.5. Performance calculation

The Research Team computed fund performance based on the growth of Net Asset Value (NAV) per share, that is, net assets (assets net of liabilities) divided by the number of shares outstanding. This methodology gives the most accurate results in terms of fund performance, from the perspective of a shareholder (i.e. investor who contributed to the equity portion of a fund's capital). However, NAV per share information is not always available in funds' financial statements because most regulators do not require reporting on this metric. In such cases where critical NAV per share information was missing for a given fund, the Research Team approximated its NAV per share growth by using primary financial statement data. Results based on this latter methodology will slightly differ from the NAV per share growth methodology, namely because information on the timing of cash flows related to share subscriptions and redemptions is not available in funds' financial statements. The figures for return volatility shown in the report were calculated by considering the volatility of each respective sub-sample's (e.g., sector, hedging strategy) weighted performance.

1.1.6. Investment Sectors

The breakdown by investment sector is derived from the GIIN's recognized definitions, and adjusted based on the funds' business models and sample size (Table 2). In this respect, an important adjustment has been the separation of Small Business Finance funds from traditional Financial Services (incl. Microfinance) PDIFs. The Research Team found no available financial performance evidence of PDIFs targeting Information and Communication Technologies (ICT) or Water, Sanitation and Hygiene (WASH) as their main investment sector.

Table 2: Classification of Investment Sectors

GIIN	Symbiotics' 2019 PDIF study
1. Education	1. Education & Culture
2. Energy	2. Energy & Infrastructure
3. Financial Services (incl. Microfinance)	3. Financial Services (incl. Microfinance)
4. Food & Agriculture	4. Food & Agriculture
5. Healthcare	5. Housing & Healthcare
6. Housing	6. Small Business Finance
7. Information and Communication Technologies (ICT)	7. Multi-sector
8. Water, Sanitation and Hygiene (WASH)	
9. Multi-sector	

2. PRIVATE DEBT IMPACT FUNDS



















2.1. IMPACT INVESTING AND THE SDGs

Much has changed since the terminology impact investing was first coined during a convening hosted by the Rockefeller Foundation in 2007. Not only has it evolved to become an asset class of its own, the impact investing model has increasingly been understood as a critical tool to bridge the financing gap needed to meet the 2030 Sustainable Development Goals (SDGs) of the United Nations. Today, an increasing number of investors indeed use the SDGs as a framework to measure the effectiveness of their impact investing activities.⁴

The majority of PDIFs from our sample are involved in Financial Services (incl. Microfinance), but some also focus on Small Business Finance, Food & Agriculture, Energy & Infrastructure, Education & Culture, Housing & Healthcare, or a combination of those (Multi-sector funds). Many SDGs are addressed within these investment sectors and increasingly form an integrated part of PDIFs' investment process (Table 3).

But this remains one axis of the multiple bottom-line approaches of impact investing, the other major one being the generation of a sustainable financial return. Hence, understanding financial performance patterns associated with different types of PDIFs that compose the impact investing ecosystem is a key transparency boost for the industry to attract necessary capital, generate global progress, and ultimately meet the SDGs.

Table 3: Contribution of PDIFs to the SDGs

Fund Strategies	LEVERAGE VS. NO LEVERAGE FULL HEDGING VS. PARTIAL OR NO HEDGING FINANCIAL INTERMEDIARIES VS. DIRECT INVESTMENTS						
	Investment Sectors	Financial Services (incl. Microfinance)	Small Business Finance	Food & Agriculture	Energy & Infrastructure	Education & Culture	Housing & Healthcare
	Top 3 Sustainable Development Goals (SDGs)						
							
							

⁴ GIIN 2018, Annual Impact Investor Survey.

2.2. SAMPLE SNAPSHOT

Similar to this survey's first edition, most of the analyzed PDIFs are active in the Financial Services (incl. Microfinance) sector – 47 out of 92 (Table 4). The Research Team managed to expand the analysis to other sectors, including Small Business Finance (10), Energy & Infrastructure (8), Food & Agriculture (7), Education & Culture (4) and Housing & Healthcare (3). Most of funds (66) invest through financial intermediaries rather than in direct projects (26), although this proportion varies considerably when looking at each investment sector separately.

In terms of leveraging or currency hedging strategies, the sample includes respectively 55 unlevered and 55 fully hedged funds.

Table 4: PDIFs Sample Clusters

Investment Sector	No. of PDIFs	Financial Intermediaries	Direct Investments	Leveraging Strategy	No. of PDIFs	Currency Hedging Strategy	No. of PDIFs
Education & Culture	4	1	3	Levered	37	Fully hedged	55
Energy & Infrastructure	8	2	6	Unlevered	55	Fully unhedged	18
Financial Services (incl. Microfinance)	47	47	0			Partially hedged	19
Food & Agriculture	7	2	5				
Housing & Healthcare	3	2	1				
Small Business Finance	10	4	6				
Multi-sector	13	8	5				

2.3. ASSET SIZE AND COMPOSITION

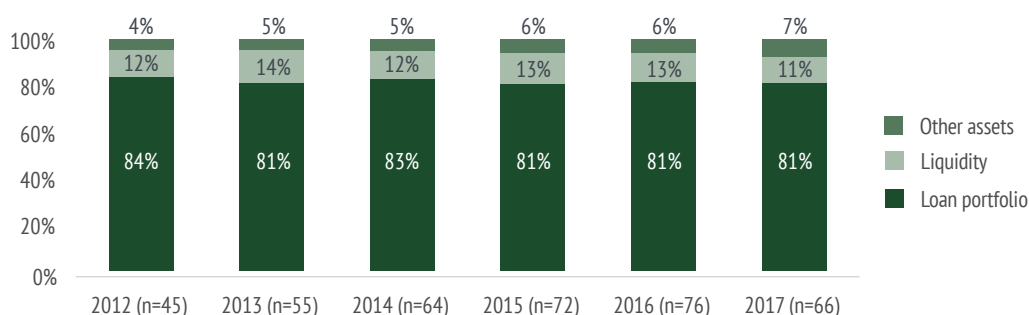
2.3.1. Total Assets

By end 2017, the funds included in the study represented total assets under management of USD 17.2 billion and a loan portfolio of USD 14.5 billion. The average asset size was USD 261 million per fund, compared to a median size of USD 117 million, hence revealing the presence of many small players (Fig. 1). A constant sample of 43 funds over the last 5 years shows a compound yearly growth rate of 14.5% in total asset volume. Liquidity levels have fluctuated between 11% and 14% of total assets, whereas the loan portfolio has amounted to a corresponding average of 82% of total assets (Fig. 2).

Figure 1: Asset Under Management, Distribution of Sample



Figure 2: Asset Composition

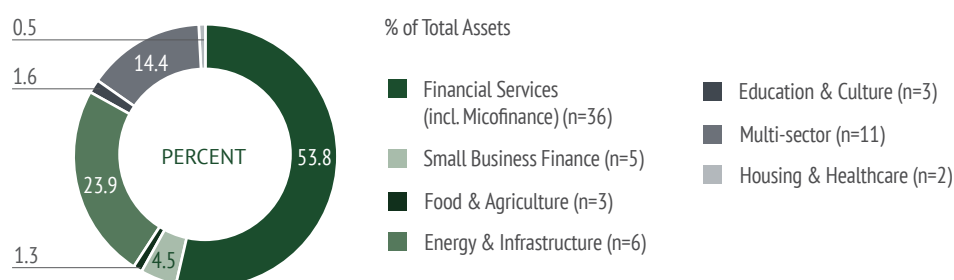


2.3.2. By Main Investment Sector

In 2017, Financial Services (incl. Microfinance) remained the most represented sector in the sample (54% of AuM), followed by Energy & Infrastructure (24%) and Multi-sector funds (14%), i.e. funds with no single theme representing more than 50% of their loan portfolio (Fig. 3).

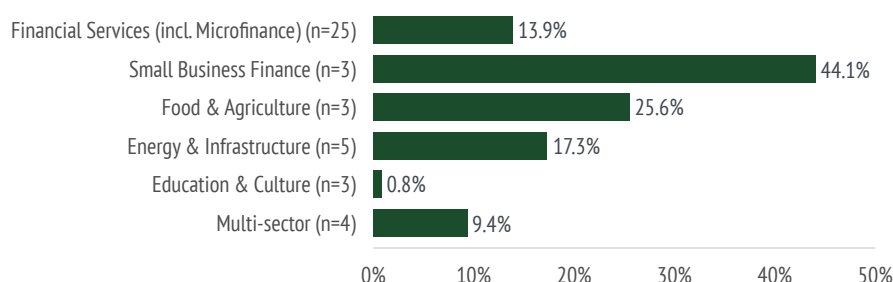
All the PDIFs targeting Financial Services (incl. Microfinance) partnered with financial intermediaries. Regarding the other sectors, about two-thirds of funds principally invested through project finance, whereas the remaining portion partnered with financial intermediaries providing thematic loans to their clients.

Figure 3: Total Assets by Investment Sector (2017)



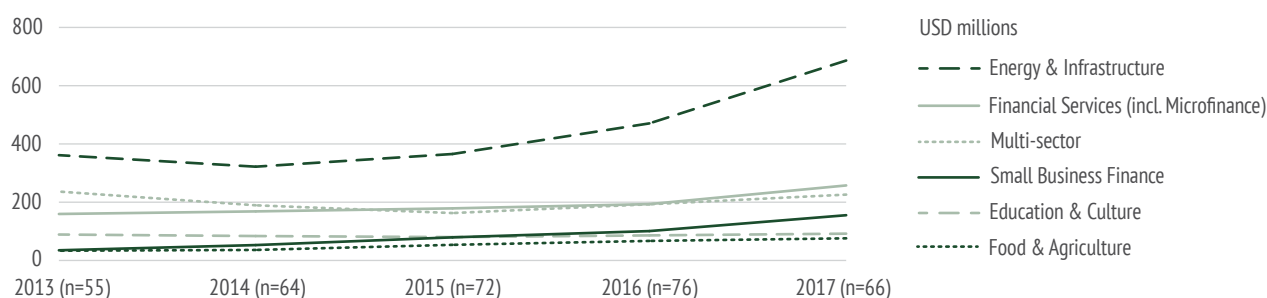
In terms of assets, Small Business Finance funds have grown the most, at an average rate of 44.1% per year (Fig. 4). Yet, Energy & Infrastructure funds are by far the largest, with an average size of more than USD 680 million, a value that gets down to USD 75 million for Food & Agriculture funds (Fig. 5).

Figure 4: Compound Annual Growth Rate by Investment Sector⁵



⁵ Compound annual growth rate was calculated using a constant sample. Due to a lack of constant sample data, base year is 2014 for Food & Agriculture, 2015 for Small Business Finance, and 2013 for all other sectors.

Figure 5: Average Assets Under Management by Investment Sector



2.3.3. By Leveraging Strategy

Leverage is an increasingly popular strategy among PDIFs (Fig. 6 & 7). First, with regards to their number, the proportion of levered funds has increased from one third to almost half of the sample since 2012. Secondly, using a constant sample of 20 funds, the average leverage increased from 26% in 2012 to 45% of their total assets in 2017. On a 5-year average, the notes issued to investors financed about 36% of their assets.

Figure 6: Total Assets by Leveraging Strategy (2017)

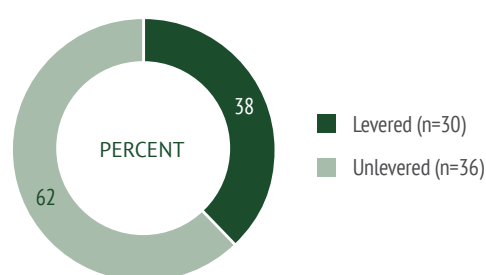
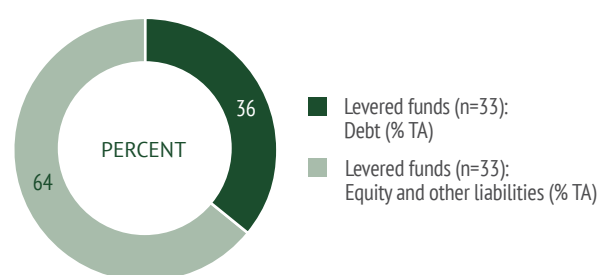


Figure 7: Share of Leverage (5 year average)



2.3.4. By Hedging Strategy

The majority of funds hedged at least part of their investments against currency fluctuations (Fig. 8). The share of fully unhedged funds is, however, growing rapidly, both in number and size (Fig. 9). In fact, whereas partially and fully hedged funds remained larger in their average asset size at the end of 2017, unhedged funds have recorded a much higher growth since 2012 (34% growth yearly compared to 14% for partially hedged funds and 8% for fully hedged funds).

Figure 8: Total Assets by Hedging Strategy (2017)

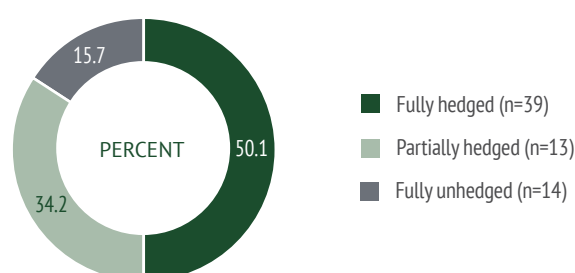
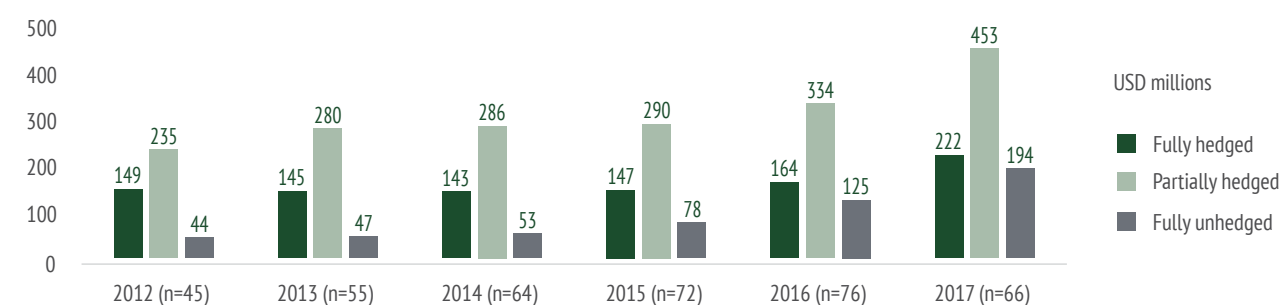


Figure 9: Average Assets Under Management by Hedging Strategy

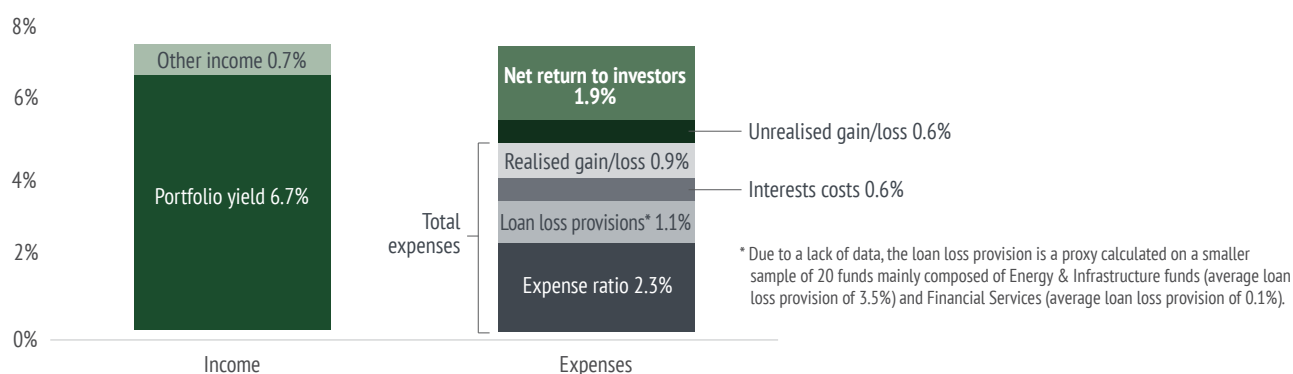


3. FINANCIAL PERFORMANCE

3.1. FINANCIAL PERFORMANCE BREAKDOWN

From the perspective of an equity investor forming part of the shareholding structure of PDIFs, net returns depend on several factors.⁶ Broadly speaking, net returns primarily relate to the level of income generated by PDIFs' core lending business (the portfolio yield) and their total expense level (Fig. 10).

Figure 10: Return Components (5-year average)

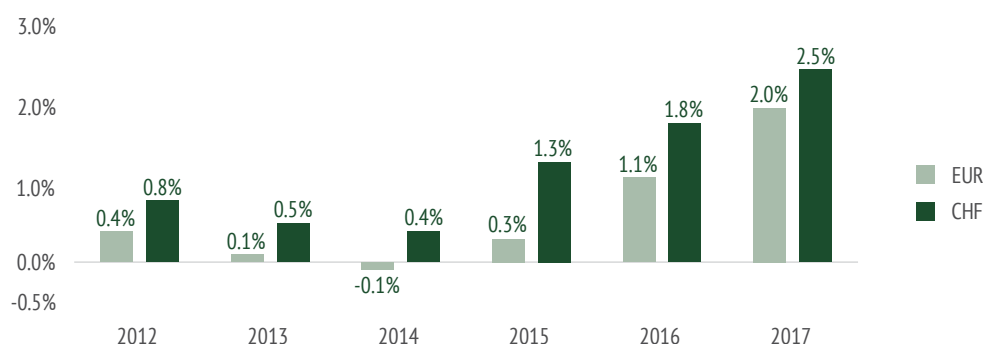


When looking at the full sample (including share classes in different currencies, among others, EUR & CHF), returns to equity holders averaged 1.9% over the last 5 years. However, it is important to contextualize this “global” return against different fund structures with different accounting currencies and offering different share class currencies to investors.

As such, USD-denominated PDIFs that only offer USD share classes (25% of the sample in terms of AuM) have witnessed the highest net returns to equity holders. Their 5-year average return amounted to 2.7% with 3.3% for the 2017 fiscal year.⁷

In comparison, the overall return of funds offering share classes in various currencies (most notably USD, EUR & CHF) was negatively impacted by a recent surge in share class hedging costs against the USD (Fig. 11). These funds generated lower returns of 1.2% on a 5-year average and 0.9% for the 2017 fiscal year.

Figure 11: Share Class Hedging Costs against USD⁸



As the study sample is composed of funds with varying funding structures and investment strategies, their financial performance needs to be assessed accordingly within similar clusters. The following sections thus assess the main drivers of PDIFs' performance - i.e. the portfolio yield and expense levels – by investment sector, currency hedging and leveraging strategies, as shown in table 4.

⁶ Symbiotics & GIIN. 2018. The Financial Performance of Impact Investing Through Private Debt.

⁷ 50% of the sample in terms of AuM consists of PDIFs denominated in non-USD currencies (mostly EUR), 25% consists of PDIFs denominated in USD with only USD classes, and the remaining 25% consists of USD denominated PDIFs with multiple currency classes (among others, EUR, CHF, SEK, NOK).

⁸ The hedging costs have been calculated on a reduced sample composed of the 4 largest multiple currency funds in the sample representing 20 % of total assets under management in the sample in 2017.

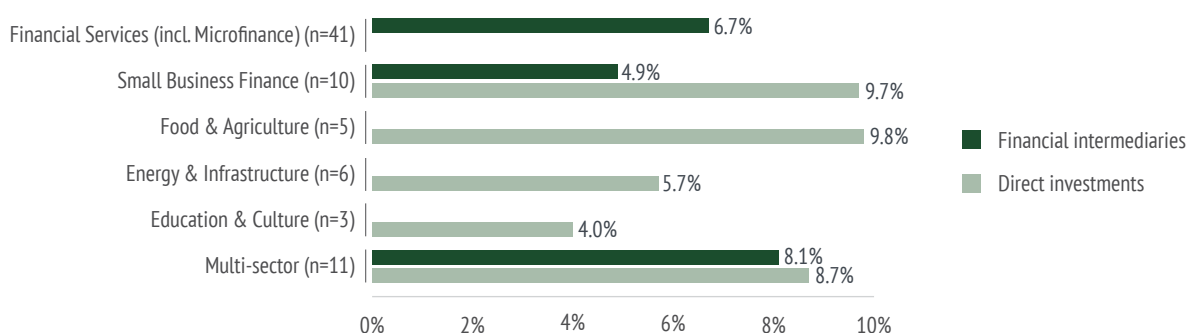
3.2. BY MAIN INVESTMENT SECTOR

3.2.1. Portfolio Yields

Portfolio yields are highly variable depending on the investment sector (Fig. 12). On a 5-year average, yields were the highest in Food & Agriculture and Small Business Finance. They were the lowest in Education & Culture. In the two former sectors, many of the funds surveyed made direct investments, which is a riskier strategy that can lead to higher yields.

However, when we only consider funds that principally invest through financial intermediaries, yields for Small Business Finance funds are much lower (Fig. 12). Portfolio yields have been relatively stable across all sectors since 2012.

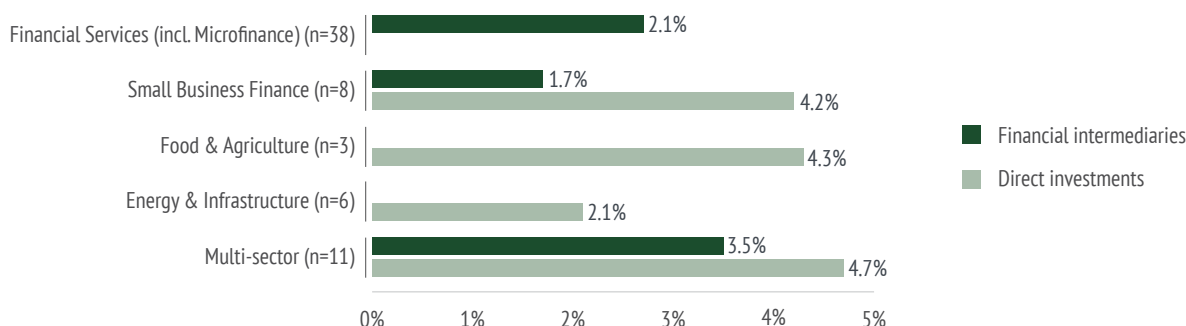
Figure 12: Portfolio Yield by Investment Sector (5-year average)



3.2.2. Expense Ratio

Expenses were the highest for Food & Agriculture funds (4.3% of assets vs. 2.3% for the full sample). Higher structural costs (different business model for each crop preventing economies of scale in terms of analysis and due diligence) explain this, as do the smaller average volumes and shorter maturities specific to trade finance. Financial Services (incl. Microfinance) and Energy & Infrastructure funds, thanks to a business model entirely based on financial intermediaries for the former, allowing for economies of scale, and the larger asset sizes for the latter, logically have the lowest expenses (2.1% and 2.0% respectively). Similar to portfolio yields, total expenses are relatively higher for funds making direct investments in comparison to those lending to financial intermediaries (Fig. 13). Interest costs, specific to levered funds, are also higher for funds investing directly in projects or companies (3.5% versus 2.5% for funds investing through financial intermediaries).

Figure 13: Expense Ratio by Investment Sector (5-year average)

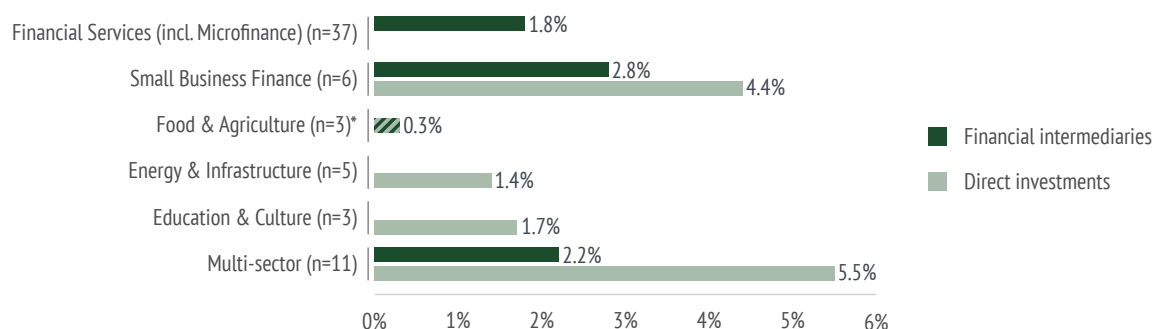


3.2.3. Net Returns

The funds investing in Small Business Finance recorded the highest performance on average (4%) followed by Multi-sector funds (2.4%). When looking only at funds with a majority of direct investment in their portfolio, Multi-sector funds recorded the highest returns (5.5%), compared to 4.4% for Small Business Finance, 1.7% for Education & Culture and 1.4% for Energy & Infrastructure funds (Fig.14).

The ranking changes for funds investing through financial intermediaries: the highest performance was registered by Small Business Finance funds (2.8%), followed by Multi-sector funds (2.2%). On average, Financial Services (incl. Microfinance) funds had a 1.8% return, but this value raises to 2.6% when looking at funds having only USD classes.

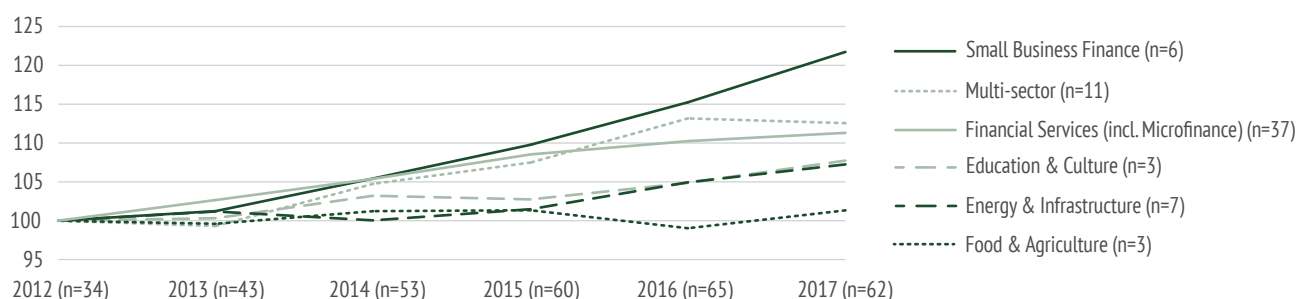
Figure 14: Net Returns by Investment Sector (5-year average)



* Due to insufficient data, "Direct investments" and "Financial intermediaries" categories were merged for PDIFs investing in Food & Agriculture.

Since 2012, Small Business Finance funds recorded a cumulative return of 21.8%, with Multi-sector (12.6%) and Financial Services (incl. Microfinance) (11.3%) funds completing the podium (Fig. 15).

Figure 15: Cumulative Returns by Investment Sector



3.3. BY LEVERAGING STRATEGY

The portfolio yield and total expenses of levered and unlevered funds are similar (Fig. 16 & 17).

Figure 16: Portfolio Yield by Leveraging Strategy
(5-year average)⁹

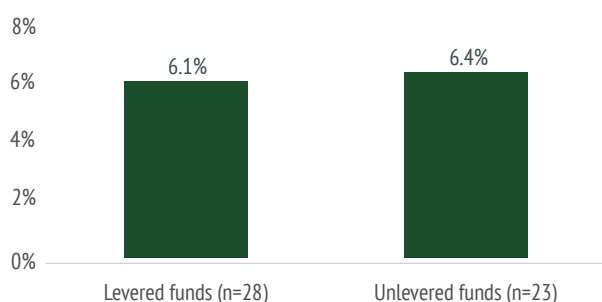
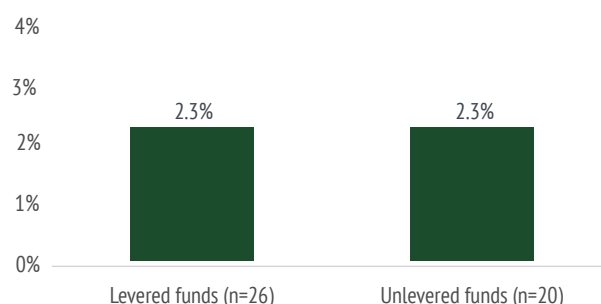


Figure 17: Expense Ratio by Leveraging Strategy
(5-year average)⁹



However, using leverage enhances portfolio performance if the underlying portfolio return exceeds the cost of debt and associated expenses (Fig.18). As this condition was met most of the time, levered funds showed higher net returns than unlevered ones in every year except 2014, with a 5-year average net return of 2.6% compared to 1.4% for unlevered funds (Fig. 19).

Figure 18: Leverage Gains

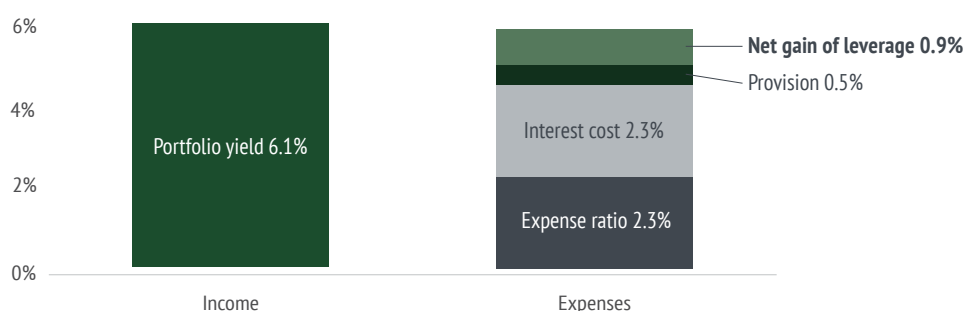
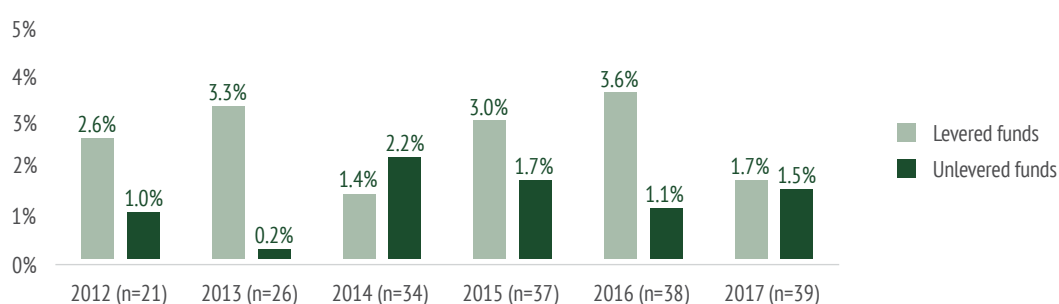


Figure 19: Net Returns by Leveraging Strategy¹⁰



⁹ For comparison purposes, only fully hedged funds have been taken into account for this calculation.

¹⁰ For comparison purposes, only fully hedged funds have been taken into account for this calculation.

3.4. BY HEDGING STRATEGY

Fully unhedged funds experienced (in USD equivalent) a higher 5-year average yield of 7.9% compared to 6.2% for fully hedged funds, whose high hedging costs diminished yields in USD equivalent (Fig. 20). There is no significant difference in the expense ratio between the two strategies (Fig. 21); however, among funds raising debt to leverage their portfolio, the interest rate was higher on average for the unhedged funds than for the fully hedged funds (5.2% versus 2.2% respectively).

Figure 20: Portfolio Yield by Hedging Strategy

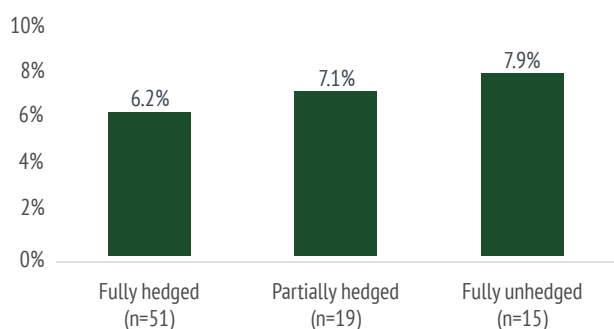
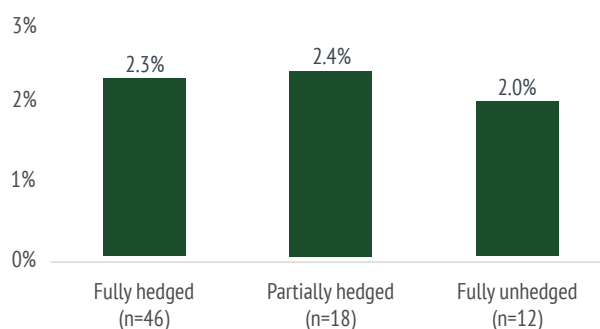
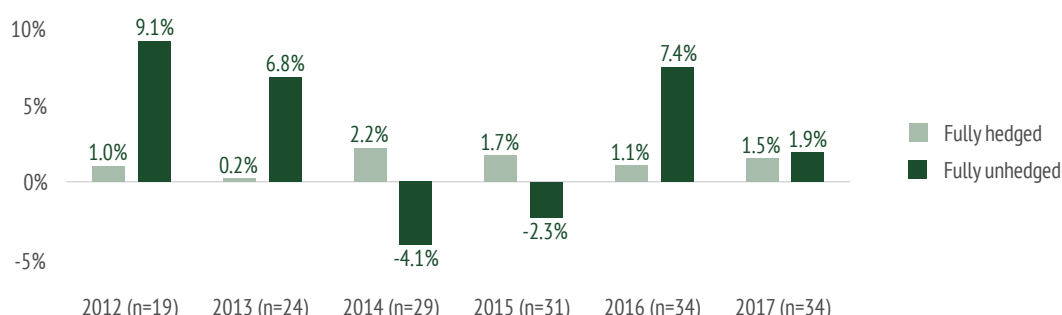


Figure 21: Expense Ratio by Hedging Strategy (5-year average)



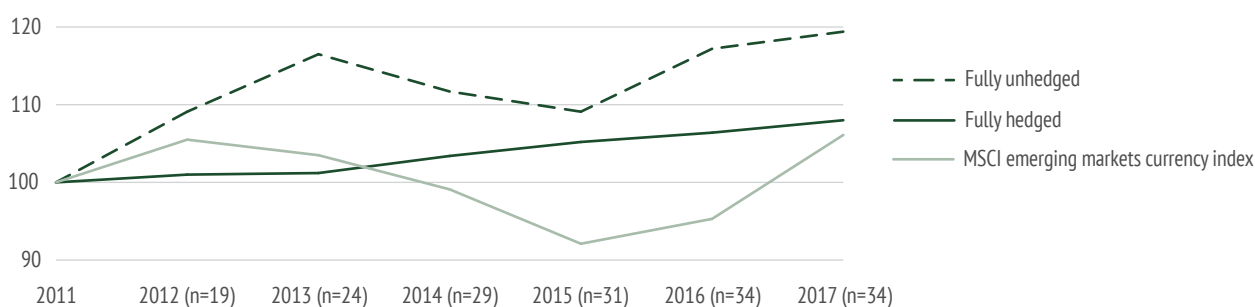
The fully unhedged funds had higher returns than fully hedged ones, with a 5-year average of 3.5% compared to 2.1% for fully hedged funds (Fig. 22), but experienced a higher volatility as well (5.5% for the former compared to 0.7% for the latter).

Figure 22: Net Returns by Hedging Strategy¹¹



When comparing hedged and unhedged fund returns with a global emerging market currency index, we observe that the yearly returns of unhedged funds strongly correlate with currency fluctuations (Fig. 23).

Figure 23: Hedging Strategies and Emerging Currency Index – Cumulative Returns¹¹



¹¹ For comparison purposes, only unlevered funds have been taken into account for this calculation.

3.5. COMPARISON WITH OTHER ASSET CLASSES

Compared to other asset classes, PDIFs registered relatively lower, but more stable returns (Table 5). They outperformed the three-month LIBOR USD five-fold, while exhibiting annualized volatility (0.4%) trailing only three-month LIBOR USD (0.1%).¹² As a result, they have the highest Sharpe ratio (5.17) among the different asset classes.¹³ While these findings are based on a limited number of observations (six periods of annual data), they are supported by the SMX-MIV Debt Index of Microfinance Private Debt Funds, which is similar in key characteristics and based on 72 monthly observations for the same time period. The SMX-MIV Debt USD Index has a correlation with developed-market bonds of only 0.04 and even lower or negative correlations with all other asset classes displayed.

Table 5: Returns, Volatility, and Correlation by Asset Class (2012-2017)¹⁴

	Private Debt Impact Investing (USD classes only)	Microfinance Private Debt	Developed Markets Bonds	Emerging Markets Bonds	World Stocks	US Stocks	Alternatives	Cash
Return	2.72%	2.79%	3.23%	6.08%	12.33%	15.09%	2.35%	0.55%
Ann. Volatility	0.42%	0.45%	2.96%	6.63%	10.33%	9.59%	3.34%	0.11%
Risk-free Rate	0.55%	0.55%	0.55%	0.55%	0.55%	0.55%	0.55%	0.55%
Sharpe Ratio	5.17	5.02	0.91	0.83	1.14	1.52	0.54	–

Correlation Table¹⁵								
Private Debt Impact Investing (USD classes only)	1.00	0.29	0.51	0.67	-0.06	-0.17	0.06	0.75
Microfinance Private Debt		1.00	0.04	0.01	-0.07	-0.11	-0.18	-0.07
Developed Markets Bonds			1.00	0.38	-0.17	-0.18	-0.12	-0.09
Emerging Markets Bonds				1.00	0.56	0.43	0.43	0.06
World Stocks					1.00	0.95	0.85	0.07
US Stocks						1.00	0.82	0.04
Alternatives							1.00	0.14
Cash								1.00

12 LIBOR (integrated link: <https://www.global-rates.com/interest-rates/libor/libor-information.aspx>) is the London Interbank Offered Rate the rate of interest at which banks offer to lend money to one another in the wholesale money markets in London.

13 The Sharpe Ratio is the average return earned in excess of the risk-free rate per unit of volatility or total risk. The risk-free rate used to compute the Sharpe Ratio is the six-year return of the three-month LIBOR USD.

14 All results from the table (Returns, Volatility, Correlation and Sharpe Ratio) for Private Debt Impact Funds are calculated using six annual observation points (2012-2017) whereas results for all other asset classes are calculated using 72 monthly observation points (Jan.2012 – Dec. 2017). Returns and volatility for other asset classes were calculated using the following market indices:

- For Microfinance Private Debt, 'SMX-MIV Debt USD';
- For Developed Markets Bonds, 'JPM Hedged USD GBI Global';
- For Emerging Markets Bonds, 'JPM EMBI Global';
- For World Stocks, 'MSCI World Index';
- For U.S. Stocks, 'S&P 500';
- For Alternatives, 'HFRX Global Hedge Fund Index';
- For Cash, 'Three-Month LIBOR USD'.

15 0 implies no existing correlation, while 1 implies perfect correlation.

PDIFs INCLUDED IN THE SAMPLE

Actiam Institutional Microfinance Fund III	Incofin CVSO
Actiam-FMO SME Finance Fund I	Incofin Fairtrade Access Fund
African Local Currency Bond Fund	India Infradebt Ltd.
AgDevCo Ltd.	JAIDA
agRIF Fund	Jordan Loan Guarantee Corp.
AHL Growth Fund	KCD Mikrofinanzfonds (FIS) I - Global
Alterfin CVBA	KCD Mikrofinanzfonds - III
ASN-Novib Microcredit Fund	Kolibri Kapital ASA
BlueOrchard Microfinance Fund	Living Cities Catalyst Fund
BRS Microfinance Coop	Locfund II L.P.
Calvert Impact Capital, Inc.	Luxembourg Microfinance and Development Fund
Capital for Communities Fund	MCE Social Capital
Caspian Impact Investments Pvt. Ltd.	Medical Credit Fund
Community Investment Management Enterprise Loan Fund	MicroBuild Fund
CoopEst	Habitat Micro Build India Housing Finance Co. Pvt. Ltd.
Cordaid Private Sector Development	Microfinance Enhancement Facility
Cresud SpA	MicroVest + Plus
Dual Return Fund - Vision Microfinance Local Currency	MicroVest Local Credit Fund
Dual Return Fund - Vision Microfinance	MicroVest Short Duration Fund
Emerging Africa Infrastructure Fund	Norsad Finance Ltd.
Emerging Impact Bond Fund	Oikocredit
EMF Microfinance Fund	Partners for the Common Good
Enterprise Community Loan Fund	Philea
Envest Microfinance Fund	Regional MSME Investment Fund for Sub-Saharan Africa
European Fund for Southeast Europe	responsAbility Fair Agriculture Fund
FEFISOL	responsAbility Micro and SME Finance Fund
Finethic Microfinance	responsAbility Financial Inclusion Fund
Finethic Microfinance II	responsAbility Micro and SME Finance Debt Fund
FMO Privium Impact Fund	responsAbility Micro and SME Finance Leaders
Fonds pour l'Inclusion Financière en RDC	Root Capital
FIS Ameris	RSF Capital Management, PBC.
Global Climate Partnership Fund	RSF Social Investment Fund, Inc.
Global Partnerships Social Investment Fund 2010	SEB Microfinance Life
Global Partnerships Social Investment Fund 5.0	SEB Microfinance Fund
Global Partnerships Social Investment Fund 6.0	SEB Microfinance Fund II
Global Partnerships Microfinance Fund 2008	SEB Microfinance Fund III
GLS Alternative Investments - Mikrofinanzfonds	SEB Microfinance Fund IV
Grameen Credit Agricole Microfinance Foundation	SEB Microfinance Fund V
Green for Growth Fund	SITAWI Finance for Good
GroFin SGB Fund	SME Finance - Loans for Growth Fund
GuarantCo Ltd.	SocialAlpha Investment Fund
High Yield Frontier Impact Fund	The Small Enterprise Impact Investing Fund
Higher Education Finance Fund	TriLinc Global Impact Fund
ICF Debt Pool LLP	Triodos Cultuurfonds
IDFC Infrastructure Finance Ltd.	Triodos Groenfonds
IIV Mikrofinanzfonds	Wallberg Global Microfinance Fund

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