CASE STUDY

DEUTSCHE BANK GLOBAL COMMERCIAL MICROFINANCE CONSORTIUM 1

November 2013

ORGANIZATION HEADQUARTERS	New York City, U.S.
YEAR FOUNDED / LAUNCHED	2005
LEADERSHIP	Asad Mahmood, Managing Director
DESCRIPTION OF PRIMARY ASSET CLASS	Direct loans (ranging from $500,000 to $4,500,000 in USD, Euros or local currency); loan guarantees; interest, currency and credit swaps
FUND SIZE	$80,600,000
GEOGRAPHIC FOCUS	Global emerging markets (22 countries)
SECTOR FOCUS	Microfinance
SUMMARY OF IMPACT AREAS	Poverty reduction via the provision of financial services to the poor
FINANCIAL PERFORMANCE	Targets met for all investors (3 - 7% IRR) in 2010, except Class B Equity (3.5% IRR, met in 2012, below 12% IRR target)
SOCIAL PERFORMANCE	Active Clients Served by Investees: 2.6 million Estimated Number of Loans to Entrepreneurs: 732,146

Ben Thornley and Daniel Brett were the lead authors of this case. This case study is part of The Impact Investor, a research partnership between InSight at Pacific Community Ventures, CASE at Duke University and ImpactAssets from 2012-2013. The Impact Investor project team was co-led by Cathy Clark, Jed Emerson and Ben Thornley. More in-depth impact investing fund case studies, practitioner blogs, videos from expert convenings, as well as project reports, are available at: http://bit.ly/impinv and at the twitter hashtag #impinv2.

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INTRODUCTION

Ten years ago, a number of financial institutions recognized that the microfinance sector had fundamentally changed. A diversity of high-performing Microfinance Institutions (MFIs), bolstered by the emergence of standardized and readily available data, enabled the development of new structured financial products.

Deutsche Bank was among these financial institutions, led by a tenacious Managing Director, Asad Mahmood. In 2004, with one part-time colleague, Michael Rauenhorst, Mahmood set about creating a fund he was determined would prove that a microfinance investment could attract fiduciary capital.

> "I learned that this kind of investment can work. Even though we hit the biggest financial crisis of our lifetimes, probably, and certainly some of these microfinance institutions were in trouble, all the investors - the big debt holders, the big banks, right down to the initial seed investors – earned a return. This is pretty amazing to me."
>
> – DEEPAK KAMRA, GENERAL PARTNER, CANAAN PARTNERS

Leveraging Deutsche Bank's institutional muscle – including no or reduced cost services from the firm's trustee department and swaps desk, external legal counsel, and some choice introductions to prospective investors – Mahmood launched the Global Commercial Microfinance Consortium 1 ("the Consortium") in November 2005, with $80.6 million.

The fund represented a breakthrough for the microfinance sector on a couple of fronts. Most importantly, with subordination of just 40 percent, considerably less than the 80 to 100 percent credit guarantees provided to similar funds at the time, the Consortium exposed institutional investors to the true risks of microfinance for the first time, forcing them to begin the process of developing their own internal impact investing capabilities, according to Mahmood. The fund also made loans in local currency, which was unusual in 2005.

To be sure, the Consortium had already changed the game for microfinance with its launch. Thirteen institutions signed on as noteholders, including State Street Bank and Trust, AXA Financial, and the General Board of Pension and Health of the United Methodist Church, U.S.

The fund's subsequent performance revealed the power of structured products to respond to the diverse needs and priorities of limited partners. Even as several MFIs were unable to meet their obligations to the Consortium as scheduled – due to the Great Recession's impact on MFI delinquency rates, a few cases of fraud, and regional microfinance crises – all but the most risk tolerant investors received their promised financial return: LIBOR plus 1.25 percent for senior note holders representing $60 million of the capital, and a seven percent net IRR for Class A equity investors representing $9.7 million. Only Class B equity investors, with $6.5 million, have underperformed, receiving a 3.5 percent IRR against a goal of 12 percent. However this group is generally pleased with their return as they were investing with a primarily philanthropic goal in mind.

There have been numerous lessons for Deutsche Bank from the creation of the Consortium. For starters, the Bank came to know well the motivations of institutional and philanthropic investors alike through an 18-month period of fund formation and capital raising. Investors usually committed because the fund's tiered structure allowed Deutsche Bank to satisfy their specific financial and social impact requirements, ranging from institutional investors seeking safe investments to bolster their Corporate Social Responsibility (CSR) initiatives to high net worth individuals committed to demonstrating that the microfinance sector represented

a viable, commercial investment opportunity. Second, the Bank learned that, in the case of institutional investors, commitments were typically made because of an overarching, C-level interest in microfinance, despite the bemusement of CSR units unfamiliar with investment, and investment units suspicious of anything socially-motivated. Third, Deutsche Bank made great strides in its underwriting and portfolio management processes through the life of the fund, which represented a rare opportunity for hands-on experience. Lastly, social impacts that were taken for granted in the Consortium are now being more thoroughly and rigorously tracked by Deutsche Bank's subsequent microfinance investment funds, particularly following the upheaval in the market caused by the 2007 IPO of Compartamos in Mexico.

For the field of impact investing, Global Commercial Microfinance Consortium 1 stands as a testament to the critical role of "intrapreneurship." Without Mahmood's relentless effort to push through "hundreds of no's," the fund would not have been created. And yet it was Deutsche Bank's reputation, relationships, and institutional capabilities that made the Consortium possible.

ORIGINS

Deutsche Bank launched its first microfinance fund in 1997: the Microcredit Development Fund (MDF), created as a U.S. nonprofit organization, with $4 million of proprietary and client capital. MDF provided catalytic debt financing to early-stage MFIs with a proven commitment to serving their clients fairly and sustainably.

Loans provided through MDF served as collateral for MFIs to leverage additional funding (typically 2:1) from commercial banks in their respective communities. In this way, Deutsche Bank supported the growth of MFIs while assisting them in establishing relationships with traditional financial institutions in their areas. MDF was the first investment vehicle designed for the microfinance sector by a global financial institution. The fund constituted a new model that has since been adopted by other financial institutions to provide capital for MFIs.

In 2004, when Deutsche began considering a second fund, the microfinance market had changed fundamentally. Microfinance, which had grown about 12 percent annually and served 94 million customers, had matured from an emerging sector into an increasingly formalized industry.[1] Many industry intermediaries were launched in the late 1990s and early 2000s, including several MFI rating agencies (such as MicroRate and M-CRIL), and the MIX Market, which collects financial performance data on thousands of MFIs globally. These intermediaries addressed a pressing need to improve the availability and flow of information between MFIs and other industry stakeholders, which reduced the information asymmetry in the market for capital. The existence of intermediaries increased commercial funders' investment appetite and lead to a shift in MFIs' financing sources from predominantly donor or concessionary funding to commercial capital.[2] As commercial funding became more abundant and grant funding became scarcer, a greater number of for-profit MFIs were launched, and many MFIs changed from nonprofit (or "NGO") to for-profit legal structures to access more capital. Roughly 50 percent of MFIs were NGOs in 1997, which was reduced to 24 percent by 2004. The industry's profitability increased over this time period, with 44 percent of clients served by MFIs able to cover operational costs with revenue in 2004.

[1] Gonzalez, Rosenberg. "The State of Microcredit – Outreach, Profitability, and Poverty." http://www.microfinancegateway.org/gm/document-1.9.26787/25.pdf

[2] Share Microfin Ltd.'s experience highlights this trend: 90 percent of its gross loan portfolio was financed from subsidized sources in 1999; in 2004, 98 percent of its portfolio was financed from commercial sources. Industry-wide data on trends in funding sources is not available.

Yet Deutsche Bank's capacity in microfinance remained relatively limited, as Asad Mahmood, albeit with considerable experience, was the only dedicated employee. Mahmood had joined the Bank in 1999 and served as General Manager of the Deutsche Bank MDF prior to the launch of Consortium 1. Mahmood brought to the Bank his experience as Director of Fixed Income Trading Compliance for Bankers Trust's Fixed Income U.S. businesses. He also contributed knowledge in lending policies and practices from his position as an International Bank Examiner at the Federal Reserve. As of 2013, Mahmood acts as Managing Director of Global Social Investment Funds at Deutsche Bank, with $500 million in loans and investments under management, and serves as a Board member of the Microfinance Information Exchange along with several other prominent social finance organizations.

Michael Rauenhorst joined forces with Mahmood to create Consortium 1, essentially on a volunteer basis. At the time he was working as a part-time Senior Consultant to the MDF. Prior to his involvement with MDF, he held the position of Chief Operations Officer for Deutsche Bank's emerging markets hedge fund, New World Fund. Rauenhorst brought legal expertise to the Consortium, having previously worked as a corporate attorney specializing in international banking and insurance issues. He was also familiar with microfinance, on the ground, having served as Burma Program Coordinator for the International Rescue Committee in Thailand. Between 1989 and 1992, Rauenhorst implemented a successful microcredit program among a population of Burmese refugees. Like Mahmood, he serves on several Boards as of 2013, including the Opus West Corporation and the Institute for Nonprofit Management at the University of St. Thomas. He is also a founding member of Micro Credit Ltd., an MFI in Jamaica.

THE HOME FRONT: WINNING INTERNAL SUPPORT

Mahmood and Rauenhorst's first task was to convince senior executives within Deutsche Bank to provide introductions to key potential partners, especially to several of the bank's departments. Mahmood believed it was essential that the Consortium leverage Deutsche Bank's significant transaction expertise and resources, and through introductions from seniors at the bank, particularly within Deutsche Bank's credit, compliance, and legal divisions, was able to persuade several departments to provide services for free, at a reduced cost, or to even provide services at all.

Deutsche Bank's trustee department, which held notes that represented the fund's investors, created a reserve pool that the Consortium used to make interest payments. Deutsche Bank's derivatives group provided interest rate and currency swaps, and took the unusual steps of accepting the fund's portfolio as collateral and lowering the small 'spread' they charged to cover costs. These derivatives allowed the Consortium to mitigate the currency risk associated with providing local currency loans, and to hedge against the risk of issuing floating rate notes while providing fixed rate loan.[3] Letters of Credit were provided to the Consortium for free. The Consortium was also able to access Deutsche Bank's resource infrastructure in the fields of HR, credit control, and legal. The largest subsidy that the Consortium received was not internal, but instead from one of its service providers: White and Case, the Consortium's external legal counsel, offered a 66 percent discount on its services, which amounted to significant savings over the life of the fund – equivalent to over 15 percent of the total management fees collected.

Deutsche Bank made an investment in Class B shares, of $1 million, through the Deutsche Bank Americas Foundation. Gary Hattem, the Foundation's president and Chairman of the Consortium

[3] Most fiduciary investors preferred floating rate notes (e.g. LIBOR + 1.25 percent) while most MFIs wanted fixed rate loans. The Consortium sought to hedge against the risk of increases in LIBOR through the purchase of derivatives. LIBOR, or the London Interbank Offered Rate, is the average interest rate estimated by leading banks in London that they would be charged if borrowing from other banks, and is the primary benchmark for interest rates on short term loans around the world. LIBOR ultimately fluctuated dramatically over the life of the fund.

Board reflects on the Foundation's decision to provide seed funding for the Consortium 1. "The Consortium represented an important milestone in Deutsche Bank's commitment to aligning similarly motivated investor capital toward the goal of helping the microfinance sector not only grow but reach maturity as a responsible and client-focused industry."

FUNDRAISING: A DIFFERENTIATED APPROACH

Mahmood had a clear idea of the financial structure needed to attract mainstream investors and, as a first port of call in raising the necessary funds, approached some of the major development finance institutions and aid agencies, including the International Finance Corporation, U.S. Agency for International Development (USAID), and the UK Department for International Development (DFID). USAID agreed to provide a guarantee of $10 million, or 25 percent of the value of an anticipated $40 million in senior notes. DFID provided a grant of $1.5 million.

Deutsche Bank then began approaching other investors. The process was complicated, but as a general rule the Class B shareholders came in first, followed by Class A shareholders, and finally the noteholders.

Class A and B investors were attracted to the Consortium's commercial approach to financing the microfinance sector, which they believed would allow them to earn a return while generating a financially sustainable positive impact.

"I'm with a family foundation, and I was interested in using our principal to accomplish our mission in addition to using the typical five percent a year [of a foundation's capital that must be used for grant making]," notes Tim Geisse, a Class A investor.

"I gave a microfinance organization a large check, and a few years later that money was gone. My money kept disappearing. I quickly learned that this was probably not the right model for a business where people are supposed to repay their loans," reflects Deepak Kamra, a venture capitalist and Class B investor who chaired the Consortium's investment committee. "Asad and I shared the same vision for using commercial capital to scale successful MFIs rather than build them up, and I liked the tiered fund structure that would allow us to lower risks for, and attract commercial investors."

Institutional investors presented a special challenge. According to Mahmood, there was no silo within fiduciary investors that understood or could appreciate what Deutsche Bank was trying to accomplish. Investment units had no meaningful, conventional track record of performance with which to assess the Consortium's prospects. CSR units had no experience of investment. Ultimately Mahmood's strategy was to approach the Chief Executive Officer, who typically enlisted the support of the CSR division in making arrangements; this was an indicator of the social lens through which even the most financially-driven investors were deploying capital.

Jonas Ahlen, an investment manager at Storebrand, a large pension fund in Norway, notes that his firm's initial motivation to invest in the Consortium stemmed from a desire to engage in responsible investments that had a financial upside. "This was our first investment in the microfinance sector. The motivation to invest initially came from the 'CSR side,' as there was interest in profiling our company as a social investor. We had a sense that this could be a decent [financial] investment as well; although we didn't have a good understanding of the underlying sector, we took comfort in the structure and DB's investment process. It was an experiment to some extent."

Investors' concerns were varied, but mostly stemmed from their immaterial experience in microfinance. "The question at the time was, 'do we feel comfortable that we will get our

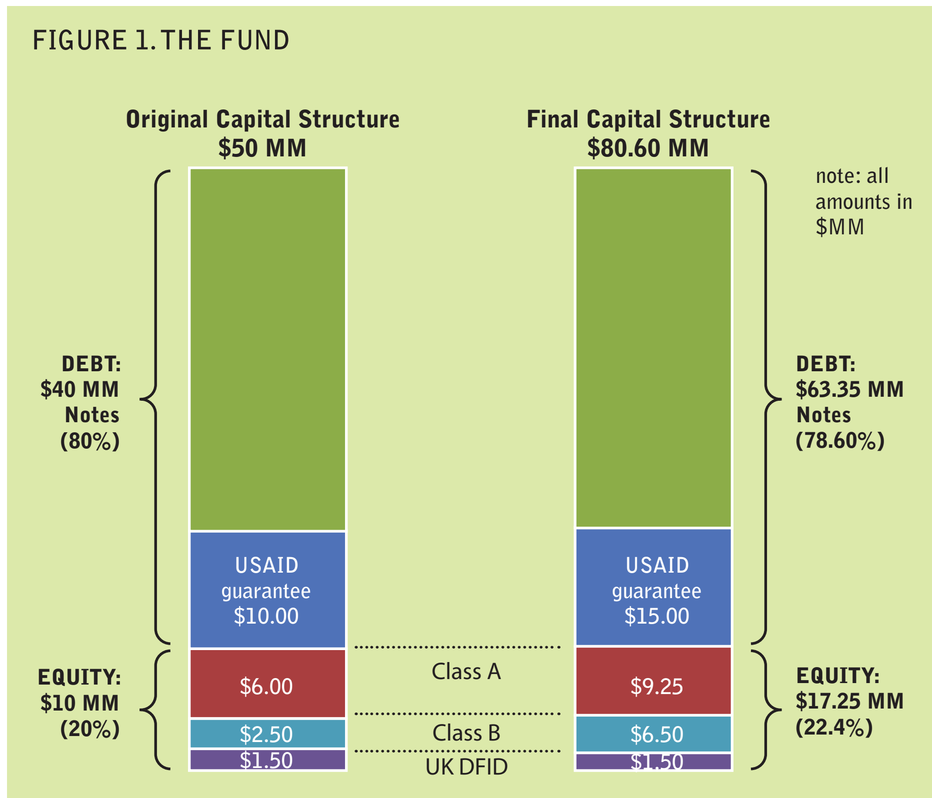
money back?' And do we think Deutsche Bank will deliver the social impact they promised? Microfinance was still an unproven asset class," recalls Stuart Coe of the Co-Operative Bank of Manchester, a senior noteholder.

On the positive side, institutions were eager to benefit from the knowledge of social markets they would gain through exposure to the Consortium. Some have gone on to build dedicated units, including the Co-Operative Bank, which has subsequently created a microfinance specialist team within its social banking division that launched a £25 million microfinance loan fund, and Storebrand Life Insurance of Norway, which in 2008 was instrumental in launching and funding the Norwegian Microfinance Initiative, a public-private partnership that manages $100 million through three microfinance investment vehicles.

THE FUND

The Consortium had just one close and was oversubscribed by more than 50 percent over the original capital structure proposed in its Private Placement Memorandum (PPM). The fund closed on November 1, 2005 with $80.60 million, comprised of $63.35 million in senior notes, $9.5 million in class A equity, $6.5 million in class B equity, and a $1.5 million pool of grant funding from DFID (see Figure 1).

FIGURE 1. THE FUND



Source: Deutsche Bank Global Commercial Microfinance Consortium PPM

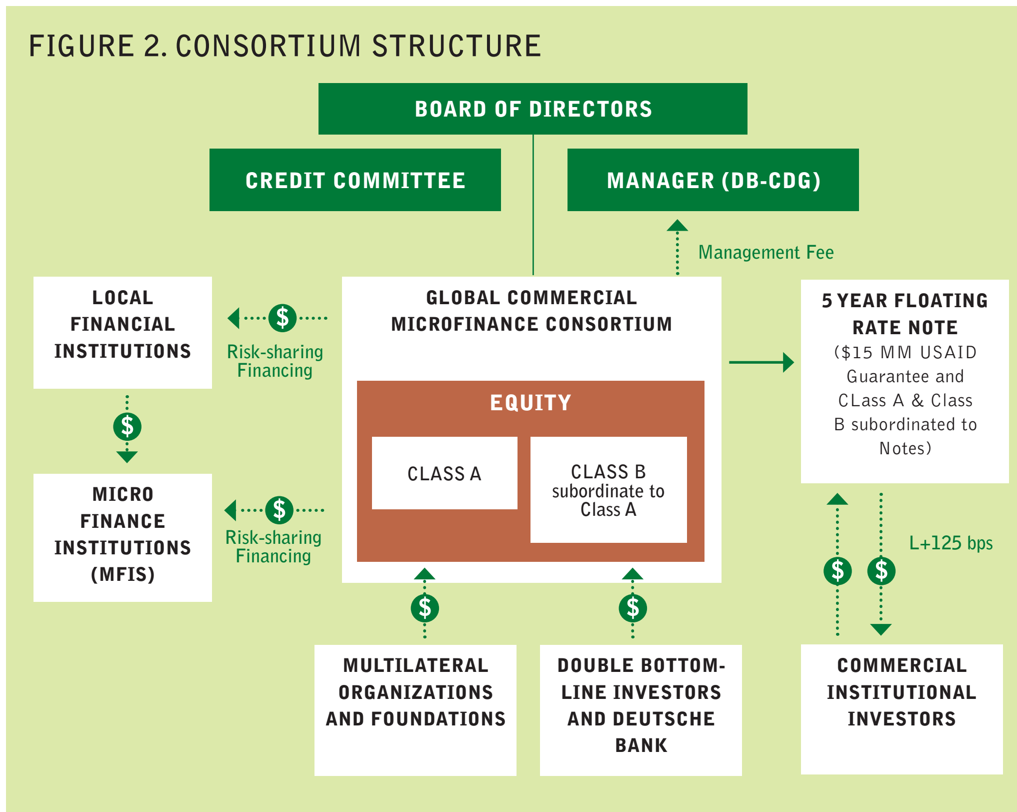
To maintain the 40 percent level of subordination for noteholders envisioned under the original capital structure, USAID agreed to increase its guarantee from $10 to $15 million. This meant that even if the fund lost up to $32.25 million, noteholders would still be returned their principal. In a total loss scenario, the $15 million guarantee protection would allow noteholders to receive nearly 25 percent of their initial investment.

The USAID guarantee made the Consortium more attractive to commercial investors not only because it reduced investment risks, but because the guarantee protection allowed Deutsche Bank to offer noteholders an increased estimated risk-adjusted return. If noteholders' entire $63.35 million were at risk, the Bank estimated noteholder return at a 6.6 percent IRR based on estimated pricing of LIBOR +1.25 percent. Since only $48.35 million of noteholders' capital was actually at risk because of the USAID guarantee, however, Deutsche Bank offered noteholders an estimated 16 percent risk-adjusted IRR.

The goal of the fund was to provide institutional investors with the opportunity to capitalize on the profits in global microfinance, and to concurrently provide social benefits by creating linkages among key players in the microfinance sector, the local banking sector and international capital markets.

CONSORTIUM OVERVIEW: STRUCTURAL INNOVATION IN IMPACT INVESTING

The Consortium's structure (see Figure 2) was most similar to those used by Collateralized Loan Obligation (CLO) funds, which also employed a tiered structure that offered several classes of investors different levels of risk and returns. The CLO team at Deutsche Bank even helped the team structure subsequent tiered funds that were launched after the Consortium in 2007. The key structural difference between The Consortium and CLO funds was that the Consortium's portfolio was illiquid, as microfinance was then an unproven asset class. The contrast in the outcomes generated by the Consortium and mortgage-backed CLO funds illustrates that financial engineering intended to bring liquidity to markets can create either positive or negative outcomes, largely dependent on the degree to which investors understand the risk of the underlying assets.



Source: Deutsche Bank Global Commercial Microfinance Consortium PPM

The strategy of the fund was to exploit the increasing appetite for commercial debt capital in the microfinance market by partnering with local financial institutions and sharing their risk. Sharing or passing on foreign exchange risk to local commercial banks was especially important to the strategy, since the Consortium managed a U.S. dollar-denominated fund but sought to provide MFIs with local currency loans whenever possible. Engaging these local financial institutions also gave the Consortium access to more deal flow and local knowledge on lending prospects. Mahmood believed that Deutsche Bank's global footprint would provide the Consortium a competitive advantage in building alliances with local financial institutions.

The Consortium intended to offer several types of risk-reducing and credit-enhancing products to encourage the involvement of local financial institutions as well as provide direct loans to MFIs. These products, not all of which were ultimately used by the Consortium, included the following:

1. **CO-LENDING MECHANISMS:** the Consortium intended to purchase 30 to 80 percent of local currency loans to MFIs from local commercial banks. To incentivize local bank participation, the Consortium intended to partially or fully subordinate some of its loans, such that it would take losses on an accelerated basis (e.g. 60 percent of losses are taken by the Consortium and 40 percent are taken by the local bank on 10 percent of the loan amount, and at a pro rata basis thereafter).
2. **DEPOSIT STRUCTURES:** the Consortium would make dollar loans to MFIs that were deposited into local financial institutions to be used as collateral for local currency loans from local commercial banks.

3. **GUARANTEES AND STANDBY LETTERS OF CREDIT:** the Consortium would provide cash deposits to an intermediary bank which would issue a standby letter of credit to a local commercial bank, guaranteeing 30 to 80 percent of a loan provided to an MFI. The only difference between guarantees and letters of credit are that letters of credit are more liquid, as banks can request to draw on these while they cannot draw upon guarantees.

4. **DIRECT LOANS:** the Consortium would provide loans directly to MFIs when co-lending with a local bank was not possible.

COSTS: A COMMERCIAL VENTURE LEVERAGING INSTITUTIONAL RESOURCES

Unlike the Consortium's predecessor, the Deutsche Bank MDF, the Consortium was structured as a commercial venture rather than as a nonprofit. Along with making larger loans with materially different terms and conditions from MDF's portfolio loans, the Consortium charged significant expenses to cover its operating costs. These included reserves for repayment of the principal and payment of interest on notes, payment of return to Class A and B shareholders, performance fees to managers, and legal, auditing, and travel expenses. Costs are outlined in Figure 3.

FIGURE 3. CONSORTIUM FEES AND COSTS

FEES	
Origination Fee	1%
Average Fee to Borrowers	L + 0.5%
COSTS	
Start-up / Organizational	$300,000
Management Fee (1.25%)	$1,047,800
Professional	$100,000
Loan Coupon	L +0.125%
Guarantee Origination	0.50%
Guarantee Usage Fee (annual)	0.155%
Loan Loss Reserve	1.00%

The fund's costs were very low compared to industry standards, in an effort to lower risk for investors and prove a commitment to its social mission. This low-cost structure was made possible by the subsidized services provided Deutsche Bank, as outlined above, and because Mahmood ran a "lean group." Unable to hire an operations executive with its limited budget, his team of five "did everything," ranging from underwriting loans, reporting to investors, managing cash, and managing relationships with internal and external partners.

Social performance for the fund was considered, at the time of formation, to be something of a fait accompli. In its PPM, Deutsche Bank gives a detailed overview of the microfinance sector, stating that "microfinance has been proven to be successful at lifting people out of poverty," but did not identify metrics to track the fund's non-financial performance. The fund did track the average loan size as a percentage of average GDP per capita for each MFI, which served as a proxy for the likelihood that the MFI was providing loans to the poor, along with the number of female and rural borrowers, and reported on these indicators to its investors annually. However the firm now acknowledges that this did not go far enough and has been a strong proponent of stronger accountabilities in the microfinance sector, particularly since 2007, as described in the postscript.

The fund's investors were a diverse mix of banks, insurance companies, pension funds, social investment firms, multilateral organizations, development agencies, foundations and high net worth individuals, as the registry in Table A illustrates:

TABLE A: REGISTRY OF SHAREHOLDERS

COMMON EQUITY (CLASS B)	**NOTEHOLDERS**
Arbeit Investment Limited Partnership	**L+125 bps**
Deepak Kamra	AXA Financial
Deutsche Bank Americas Foundation	Calvert Social Investment Foundation
Budd Family Partnership	CNP Assurances
Kaminer Foundation	Church Pension Fund
Elizabeth Funk	Hewlett Packard Company
Janet McKinley	MMA Community Development
Left Hand Foundation	Merrill Lynch Community Dev. Co. LLC
Omidyar Network Fund LLC	SWIFT Foundation
Soros Economic Development Fund	Standard Life Assurance Co.
University of Denver	State Street Bank and Trust Co.
University of St Thomas	Storebrand Life Insurance
	The Co-operative Bank PLC
COMMON EQUITY (CLASS A)	
Bnp Paribas Securities Services / Matignon Alternatif	**5.05%**
Andele Limited	General Board of Pension and Health of the United Methodist Church
John F & Mary A Geisse Foundation	
Gray Ghost Microfinance Fund	**L+85 bps**
	MEAG MUNICH ERGO AssetManagement GmbH
SUBORDINATED DEBT	
Agence Française de Développement	

While each investor had its own motivations, a common thread was clearly an interest in the fund as a pilot: "Elizabeth Funk genuinely saw the effort as an important step in what I'll call "mainstreaming investment in microfinance," notes Maya Chorengel, who was the initial Managing Director of Mrs. Funk's Dignity Fund and who, as of 2013, is a Managing Director of Elevar Equity, an impact investing firm that has invested extensively in microfinance. "Elizabeth was a big supporter of initiatives [like the Consortium] that intended to develop a track record that would serve as an example to mainstream commercial capital players."

For Class B equity investors in particular, the benefit of the fund's demonstration effect was a key goal for their investment.

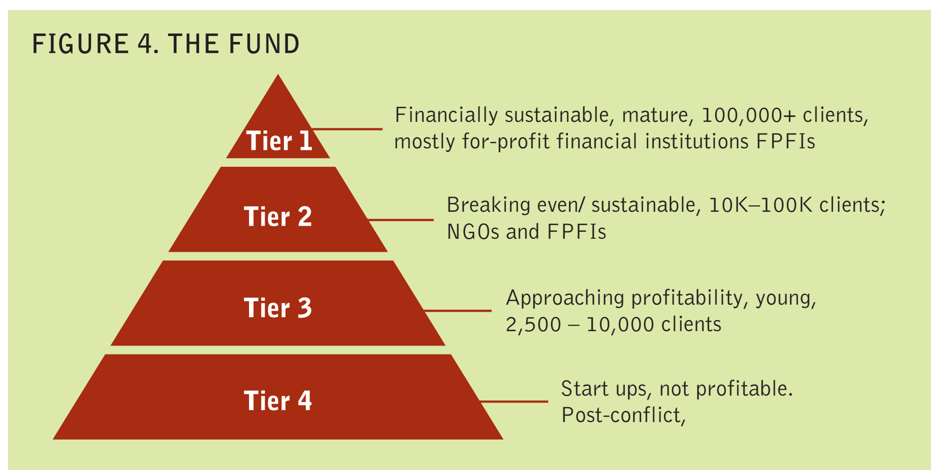
Deepak Kamra's experience with the Consortium was transformative: "I fully expected to completely lose my investment because that had been my experience in microfinance. With the Consortium, at least I felt the money would be handled professionally, and even if it was lost, ultimately you could get a few cycles of repayment and reinvestment out of it, so you could help start a few businesses even if the money was never returned. But the Consortium Fund changed my thinking on the whole industry because I learned that this kind of investment can work. Even though we hit the biggest financial crisis of our lifetimes, probably, and certainly some of these microfinance institutions were in trouble, all the investors - the big debt holders, the big banks, right down to the initial seed investors – earned a return. This is pretty amazing to me. When people come to me for grants, in almost any charity, not just in the microfinance industry, I tell them to find a way to make it sustainable, and then come back to me."

The Consortium has also been notable for its commitment to transparency and, as a related characteristic, the close involvement of its investors in supporting the fund, particularly in its early years. Though some opted out, all of the investors were offered seats on the Board, regardless of the size of their contribution. Deutsche Bank also established a separate investment committee, along with a finance and auditing committee, for its investors to oversee, which they did with great enthusiasm.

Mark Narron, senior manager of the Consortium's operations, explains, "With most equity funds, the GP-LP structure is simpler. This fund was more complicated," as different priorities and risk appetites had to be accommodated within the structure. Narron exemplifies the close relationship between the Consortium and its investors, as he was a program officer at the Soros Economic Development Fund, a Class B Shareholder, prior to joining Deutsche Bank. He says that management's insistence on transparency, and offering every investor a voice on the Board, went a long way to easing concerns about the fund's complex and unfamiliar structure.

INVESTMENTS

The Consortium sought to invest in early-stage, intermediate, and mature MFIs, and paid particularly close attention to "Tier 2" institutions rather than the largest and most profitable MFIs. The Bank did not want to invest in Tier 1 MFIs because they could more readily obtain funding elsewhere, and more importantly, "there was a social mission to serve promising, earlier stage institutions and help build their credibility as bankable," says Narron. See Figure 4 for an overview of the tiers of MFIs.



Source: Weiss, 2010. ShoreBank International.

Whether a startup or mature organization, each MFI had to meet Deutsche Bank's high credit standards to receive financing. One of the most important financial ratios the Consortium initially used to scrutinize asset quality was Portfolio At Risk over 90 days (PAR>90), which is the portion of an MFI's loans which had at least one installment of principal past due for more than 90 days. To qualify for investment, MFIs needed to have a PAR>90 days below 1.5 percent, which was the average for the microfinance industry in 2002.

While the availability of investable MFIs was a concern to some potential institutional investors in the fund, all of the Consortium's capital was allocated by mid-2007, six months earlier than its target. Deutsche Bank attributes this success in part to the microfinance sector's maturity and growing infrastructure, especially the MIX's database containing extensive MFI performance data. "We would look at the MIX, see which MFIs had the profile we were looking for, call them up, and try to structure a financing solution based on their capital needs," reflects Narron.

The Consortium invested in a relatively even mix of early-, mid-, and late-stage MFIs, deploying $22 million in 13 start-up or early stage MFIs, $31 million in 17 intermediates, and $39.5 million in 11 mature institutions. Since the microfinance sector was still in its early stages of commercialization, the reason most MFIs took funding from Deutsche Bank was not that the Consortium provided the most attractive terms – it was that they were one of the few international lenders providing financing to MFIs at all. Deutsche Bank was the first international lender to most of the MFIs in the Consortium's portfolio.

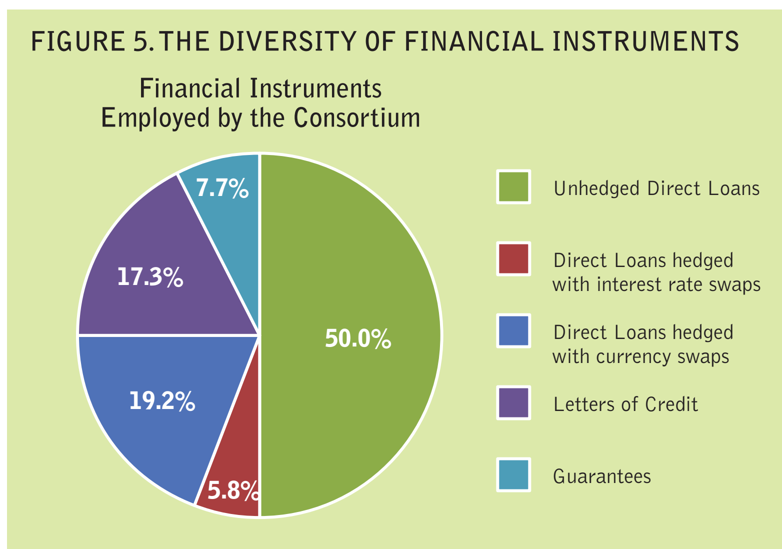
While most MFIs received investment from Deutsche Bank because they needed working capital, some borrowed money from the Consortium primarily to establish a relationship with the Bank. FIE in Bolivia, for example, took a loan from the Consortium primarily to develop a relationship with Deutsche Bank, which resulted in their opening a correspondent bank account in the U.S. through Deutsche Bank.

The Consortium's ability to offer loans in local currency was attractive to MFIs because it mitigated the risk that a devaluing local currency or appreciating dollar would increase the effective interest rate of a loan denominated in dollars. "This was a key innovation of the fund," argues Narron. "Local currency lending was unusual then, and today [2013] it is an industry standard in microfinance."

The Consortium did not provide technical assistance to MFIs, since these services could not be covered by the Consortium's fee structure. It was important to Mahmood that the Consortium's fees cover its operating costs, since the Consortium was a commercial debt fund, and not a nonprofit like the Consortium's predecessor that could rely on philanthropic capital.

Most of the Consortium's investments had very different structures and conditions to meet the differing needs of MFIs because portfolio companies were operating in a range of countries with different macroeconomic risks and regulatory environments. Diversity in the maturity of countries' local commercial banking sector and appetite for co-investment made it impossible for the Consortium to take a "one size fits all" approach to building its portfolio.

Appendix A outlines all of the Consortium's 52 investments, made into 43 MFIs based in 22 countries.



Interestingly, most of the Consortium's investments were unhedged direct loans to MFIs that did not leverage local commercial bank capital, despite the Consortium's stated intention in its PPM to predominately co-lend with local commercial banks and use derivatives to mitigate currency risks associated with making local currency loans. "There simply wasn't appetite for co-investment," says Narron, "which was precisely why the Consortium was created – to fill a gap in the market for commercial financing in microfinance." Out of 52 investments made into 43 MFIs, 39 were direct loans (three of which used interest rate swaps and 10 of which used currency swaps), nine were letters of credit, and four were guarantees. 48 percent of loans were made in local currency, exemplifying the Consortium's goal to mitigate currency risk for MFIs. Nine MFIs received additional commitments using capital recycled from principal and interest payments to the fund, bringing the total capital allocated to $89 million. See Figure 5 for the diversity of financial instruments employed by the Consortium.

RESULTS

Noteholders expected to receive principal plus their negotiated interest rates in 2010, ranging from LIBOR + .85 - 1.25 percent to a 5.25 fixed percentage; Class A Investors would receive a seven percent IRR; and Class B Investors would receive 12 percent IRR. In the end all investors received their expected returns except for Class B equity holders, who received their final repayment two years later than anticipated, in 2012, and an IRR of 3.5 percent. As Table B outlines, Class B Investors' underperformance is attributable primarily to: a) several restructured loans which led the team to extend the life of the fund from five to seven years; b) realized losses of $3.8 million on four loans; and c) the lack of follow-on investment opportunities coming out of the recession in 2009 and 2010, which led the Consortium to hold cash on hand that earned limited interest.

TABLE B. THE THREE PRIMARY CAUSES OF CLASS B INVESTOR UNDERPERFORMANCE

CLASS B INVESTOR UNDERPERFORMANCE: THREE PRIMARY CAUSES	Amount returned, $ millions (principal + returns)	Years to Receive Returns	IRR
Expected Financial Performance	11.01	5	12%
Actual Financial Performance	7.95	7	3.5%
Hypothetical Outcomes:			
Scenario A: Actual Principal + Returns Received in 5 years	7.95	5	4.93%
Scenario B: No Write-Offs ($3.8 M)	11.75	7	9.44%
Scenario C: All cash held at end of 2009 'recycled' into loans generating average portfolio-wide returns (interest income / loan dollar)	8.54	7	4.56%
Scenario A + B	11.75	5	13.46%
Scenario A + C	8.54	5	6.45%
Scenario B + C	12.34	7	10.21%
Scenario A + B + C	12.34	5	14.58%

Table B demonstrates that portfolio losses were far and away the largest cause of underperformance, that the extension of the life of the fund was the second most important cause, and that the fund's inability to recycle capital after the crisis was the least important factor. Interestingly, even if all defaulted loans had been recovered in 2012, and the Consortium had been able to recycle all of its cash on hand at the end of 2009 into loans generating average portfolio-wide returns, Class B Investors' 12 percent target IRR would not have been met. While extending the life of the fund from five to seven years allowed the Consortium to return more capital to investors, it necessitated that Class B Investors would not reach a 12 percent IRR because IRR is negatively correlated with the length of the investment period. This speaks to the challenge that providers of patient capital face in generating returns when investees require more time to repay lenders and investors.

FIGURE 6. PORTFOLIO QUALITY BENCHMARKED TO MICROFINANCE INDUSTRY AVERAGES

The Consortium's portfolio quality decreased over the life of the fund, paralleling trends in the global microfinance industry. While industry averages for Portfolio At Risk 30 (collected from the MIX Market database) are lower than the PAR30 average for the Consortium's portfolio, the Consortium's MFIs had better portfolio quality (other than in 2009) than the average MFI, excluding very large organizations with loan portfolios exceeding $330 million.[4] This reflects the fact that the Consortium invested in a number of Tier 2 MFIs, many of which were just approaching operational self-sufficiency and had lower portfolio quality than Tier 1 MFIs. The largest MFI in the Consortium's portfolio had $330 million in outstanding loans, while the average MFI had $44 million in outstanding loans.

[4] The Consortium initially planned to use PAR90 to track performance, but switched to PAR30 after launching the fund because this emerged as an industry-wide performance metric. PAR30 is a more useful metric than PAR90 because, while delinquencies are less prevalent in microfinance than other lending sectors, bad loans tend to go bad quickly, e.g. loans that have principal payments more than 30 days overdue are more likely to never be repaid than identical delinquent loans to larger businesses. This change of performance metrics to an industry standard reflects the ongoing "professionalization" of the MF sector during the life of the Consortium Fund.

Out of 43 MFIs in the portfolio, the Consortium had to restructure or partially charge off four loans and one guarantee provided to five MFIs: Microinvest (Moldova), RWMN (Russia), Normicro (Azerbaijan), ACODEP (Nicaragua), and Banex (Nicaragua). These MFIs' challenges, all of which appeared in 2009, stemmed from diverse internal issues which were magnified by local microfinance crises and the Great Recession. These challenges are outlined in Appendix B.

THE DOWNSIDE OF HEDGING

The performance of the Consortium could have been better had it not hedged against interest rates: rates decreased from around three percent to 0.3 percent over the life of the fund, and a majority of notes were benchmarked to interest rates while the Consortium primarily made fixed rate loans. "We weren't in a position to speculate on changes in interest rates, so we hedged our fixed rate loans using interest swaps. If we hadn't hedged, of course, we would have made a killing," notes Narron.

Changes in LIBOR did prevent one MFI in Mongolia, XAC, from pre-paying its loan. Since the Consortium made a fixed interest loan and "swapped" it, the Consortium would have had to pay a large fee to 'break' the swap early due to the decline in interest rates, and would have passed significant fees on to XAC. The Mongolian MFI, unsurprisingly, declined this option.

KEEP IT SIMPLE: DIRECT LOANS TRUMP GUARANTEES AND LETTERS OF CREDIT

Reflecting on the performance of the fund, Narron notes that loans were more financially successful than guarantees or letters of credit for two reasons. First, loans gave the Consortium more control over their investments. While the Consortium directly lent to MFIs and developed close relationships with senior management, the Consortium's guarantees and letters of credit were provided to local banks, such that the Consortium had no relationship with the MFI that the local bank funded after receiving a guarantee or letter of credit. This made it more challenging for the Consortium to restructure loans if problems arose, as happened in the case of a letter of credit to a Russian bank which guaranteed a loan to a local MFI. The Consortium wanted the bank to restructure its loan to the struggling MFI, but since the Great Recession hit Russia's economy hard in 2009, the local bank was unreceptive, as it had many other more pressing financial issues to address than an underperforming MFI. Relatedly, local banks had the ability to draw on a letter of credit without providing proof that the associated loan to an MFI was underperforming, which further reduced the Consortium's control of the investment and increased portfolio risk. No letters of credit were drawn by local banks, however.

Second, guarantees and letters of credit became unprofitable over the life of the fund due to a decrease in borrowing costs after the global recession. In 2005, Deutsche Bank would charge banks two to three percent on its guarantees, and would earn LIBOR-equivalent interest rates on the guarantee's collateral, which was at the time equivalent to roughly three percent. Since LIBOR dropped from three percent to 0.3 percent over the life of the fund, the Bank would have needed to increase the cost of the guarantee to five to six percent to generate its targeted revenues for this product. Guarantees costing six percent would not have been attractive to banks, however, as they could obtain loans at this rate or lower. Loans are generally more desirable to local banks than guarantees if they have the same cost because loans increase liquidity immediately, while guarantees only pay banks in the case of default.

DEVELOPING A ROBUST DUE DILIGENCE AND PORTFOLIO MANAGEMENT APPROACH

When the Consortium closed in 2005, few commercial investors had entered the microfinance sector and no standardized due diligence procedures existed to evaluate MFI risk and financial performance. The discovery of fraud at portfolio MFI ACODEP in 2008 (see Appendix B for details) was a wakeup call to the Consortium, and led the team to review and improve its underwriting

process. The biggest changes that the Consortium made were improving its understanding of MFIs' underwriting processes and improving its onsite due diligence. The Consortium initially created a 15-page credit memo which it built upon over the life of the fund, which grew to a 40-page credit memorandum by 2009. The Consortium initially had no standardized onsite due diligence procedure; after 2008, it developed a 30-page questionnaire to understand MFIs' internal control mechanisms and their underwriting and write-off processes. The Consortium even pulled loan documents to assess the quality of an MFI's portfolio.

Assessing whether the MFI had good governance also became a more important component of underwriting, as a lack of good governance was an identified weakness at many of the problem credits in the Consortium portfolio. According to Narron, "Many board members in those early years were academics, especially on nonprofit MFI boards, and while they were good-intentioned, didn't have sufficient oversight over the organization's activities. Now we direct a lot of scrutiny to governance."

The Consortium also improved its portfolio management systems over the life of the fund. To better monitor investments, the team developed a standardized excel-based system to track the quarterly performance of the portfolio, using 70+ financial ratios to determine the safety and soundness of financial institutions. This aggregated approach was far more efficient than monitoring the performance of the fund's portfolio of 42 MFIs on an entirely individualized basis.

CONCLUSION

By 2005, the Deutsche Bank Microfinance Consortium was one of a number of larger investors in microfinance. Even at that time the amount of foreign direct investment into the sector exceeded $2.5 billion, and grew to $4.4 billion in 2006. Whether the fund made a big difference to the fortunes of its borrowers is therefore difficult to know.

What is unmistakable, however, is the fund's influence on the field. Here was a large institution, with a big brand, posing an important question that few other organizations could have asked: will you join us in this experiment to understand and manage the real risks in microfinance?

Over a dozen institutions answered the call and, as a result, the fund was a success and stands as an important example of the way in which innovation can unlock new sources of capital for impact investing.

The innovative structure of the fund made these institutional investments possible. Even in the face of the Great Recession, the fund generated returns for all investors, thanks in part to Deutsche Bank's internal resources and capacities. With the benefit of hindsight, it is clear that the fund's design ensured that it would be successful for its most risk-averse supporters, even under the toughest market conditions, albeit that the Consortium needed to deploy its capital carefully.

What is arguably most interesting about the Consortium, however, is that the fund's anticipated, field-level impact was successfully communicated to investors a priori. The prospect of participating in an innovation of this kind was precisely what motivated investors, which required a marketing strategy targeted to two very specific audiences: CEOs of fiduciary investors, and those seeking to prove to these CEOs that money and positive impact could be made in the microfinance sector (DFIs, foundations, and wealthy individuals).

For this type of communication to occur, it is clear that measures of individual persistence and institutional presence were essential complements, making the fund an example of the power of intrapreneurship.

POSTSCRIPT

The microfinance industry has changed significantly since Deutsche Bank created the Consortium, with a significant decline in asset growth and profitability after the financial crisis in 2007. Despite these problems, microfinance has continued to grow and remains a profitable industry, at least in the global aggregate.

Among these developments, the most important to influence Deutsche Bank's thinking was the IPO of the Mexican MFI, Compartamos. In April 2007, the newly-privatized organization dedicated to providing small business loans to Mexico's poor became a publically traded company – and its profits skyrocketed. Compartamos, whose name translates to "let's share," sold $468 million of shares on the Mexican stock market and is one of Mexico's most profitable banks as of 2013.

"The amount of money they made was an alarm bell for everyone," says Narron of the microlender's top management. He adds that many people began to worry, "Maybe MFIs are not serving the poor for the right reasons." Compartamos also motivated Deutsche Bank to look more closely at questionable lending practices beginning to surface across the microfinance market, including high interest rates and inadequate controls to prevent over-indebting clients.

After investigating these dangerous market trends, Deutsche Bank took action to introduce regulation for MFIs and their suppliers of capital. In April of 2008, Mahmood convened a group of 25 leading MFI network CEOs in Pocantico, New York, to discuss ways to improve transparency and end exploitative microlending practices. The major product of the conference was the Pocantico Declaration, an agreement reaffirming that the sector's primary goal is to provide the maximum benefit to impoverished populations in a sustainable way.

The Declaration was a catalyst for the Smart Campaign, a worldwide initiative aimed at establishing a set of seven "do no harm" principles ensuring client protection in the microfinance market. Mahmood and his colleagues at Deutsche Bank have been at the center of this initiative since its founding. In fact, the Bank partially funded an assessment to verify compliance by all MFIs that have endorsed the principles –over 1,200 worldwide as of 2013.[5]

Deutsche Bank made changes internally as well, adopting a standardized social scorecard in 2010 to assess the ethics and effectiveness of the MFIs it supports through its social investment funds. They shared the scorecard widely, and it has since been replicated by other capital providers to MFIs. The adoption of these metrics marked a renewed sector-wide commitment to ensuring that mission is not undermined by the push for profitability.

The Bank is applying its experience as a pioneer in microfinance to less mature, undercapitalized social finance segments. In the fall of 2012, Deutsche Bank announced the launch of the Essential Capital Consortium (ECC), which intends to provide "first loss" loans to social enterprises and impact investors, in order to catalyze the participation of socially motivated, risk-averse, capital providers.

"There are many investors that have pent up demand and are waiting for the right opportunities to deploy capital into impact investing," notes Narron, comparing ECC to the MF Consortium Fund I. "What is preventing them from doing this is the unavailability of another party who takes the first step to provide risk capital. Our thought was that we could be that provider."

[5] http://smartcampaign.org/about-the-campaign/campaign-endorsers/campaign-by-numbers

APPENDIX A: THE CONSORTIUM'S INVESTMENTS

MFI NAME	COUNTRY	PERIOD INVESTED	$ AMOUNT	INSTRUMENT	FOLLOW-UP INVESTMENT PERIOD	FOLLOW-UP INVESTMENT $ AMOUNT	FOLLOW-UP INSTRUMENT
Microfinance Bank of Azerbaijan	Azerbaijan	Q1 2006	$4 MM	Direct Loan			
ESPOIR	Ecuador	Q1 2006	$1.6 MM	Direct Loan			
ACODEP	Nicaragua	Q1 2006	$3 MM	Direct Loan			
FAMA	Nicaragua	Q1 2006	$1 MM	Direct Loan with interest rate SWAP			
EDYFICAR	Peru	Q1 2006	$2 MM	Letter of Credit, guaranteeing a Nuevos Soles loan	Q1 2009; Q2 2009	$0.4 MM; $1.0 MM	Additional Guarantees, securing a PEN loan
Kosovo Enterprise Program	Kosovo	Q2 2006	$1 MM	Direct Loan	Q2 2009	$1 MM	Renewed Commitment via cross currency SWAP
Socremo	Mozambique	Q2 2006	$3 MM	Letter of Credit leveraged 1.5X by Standard Bank			
FINDESA / Banex	Nicaragua	Q2 2006	$3 MM	Direct Loan			
AgroInvest Fund	Serbia	Q2 2006	$1 MM	Direct Loan via cross currency SWAP			
FMM Popayan	Colombia	Q3 2006	$4 MM	Participation and currency SWAP with Bancolombia			
Banco Solidario	Ecuador	Q3 2006	$4 MM	Direct Loan with interest rate SWAP			
Crystal Fund	Georgia	Q3 2006	$2 MM	Direct Loan			
Constanta Foundation	Georgia	Q3 2006	$4 MM	Direct Loan			
ODEF	Honduras	Q3 2006	$1.5 MM	Letter of Credit, guaranteeing a Lempira loan			
MicroInvest	Moldova	Q3 2006	$0.75 MM	Direct Loan via cross currency SWAP	Q4 2007; Q4 2008	$2.0MM; $0.4 MM	Direct Loan
XAC	Mongolia	Q3 2006	$4 MM	Direct Loan in Mongolian Togrogs	Q4 2008	$0.5 MM	Direct Loan via interest rate swap
Confianza	Peru	Q3 2006	$1 MM	Letter of Credit, guaranteeing a Nuevos Soles loan			
LOK Mikro	Bosnia	Q4 2006	$1.5 MM	Direct Loan via cross currency SWAP			
Prizma	Bosnia	Q4 2006	$1 MM	Direct Loan via cross currency SWAP			
Zena ze Zena	Bosnia	Q4 2006	$1 MM	Direct Loan via cross currency SWAP			
PRASAC	Cambodia	Q4 2006	$2 MM	Direct Loan			
Asasah	Pakistan	Q4 2006	$1 MM	Letter of Credit, guaranteeing a Pakistani Rupee loan from DB Karachi			
TSKI	Philippines	Q4 2006	$4.5 MM	Letter of Credit, guaranteeing a Philippine Peso loan from DB Manila			
RWMN- NDCO	Russia	Q4 2006	$3 MM	Guarantee, securing a loan in Rubles from DB Moscow			
FINCA	Russia	Q4 2006	$4 MM	Guarantee, securing a loan in Rubles from DB Moscow			
Normicro	Azerbaijan	Q1 2007	$0.5 MM	Direct Loan	Q4 2007	$0.5 MM	Direct Loan
PRIDE	Uganda	Q1 2007	$2.0 MM	Letter of Credit securing a Ugandan shillings loan			
Cambodian Entrepreneur Building	Cambodia	Q1 2007	$3.0 MM	Direct Loan	Q4 2008	$0.5 MM	Direct Loan
AMRET	Cambodia	Q1 2007	$0.2 MM	Direct Loan			
MKO Sinergija	Bosnia	Q1 2007	$0.34 MM	Direct Loan via cross currency SWAP			
Kenya Women's Finance Trust	Kenya	Q2 2007	$1.0 MM	Direct Loan via cross currency SWAP	Q4 2009	$1.5 MM	Direct Loan
CREDO	Georgia	Q2 2007	$0.5 MM	Direct Loan			
Apoyo Integral	El Salvador	Q2 2007	$2.5 MM	Direct Loan	Q4 2008	$0.5 MM	Direct Loan
Pro Mujer Mexico	Mexico	Q2 2007	$0.5 MM	Letter of Credit securing a Mexican peso loan			
Uganda Finance Trust	Uganda	Q4 2007	$0.5 MM	Letter of Credit securing a Ugandan shillings loan			
Bank Eskhata	Tajikistan	Q4 2007	2.0 MM	Direct Loan			
First Microfinance Bank of Tajikistan	Tajikistan	Q4 2007	1.5 MM	Direct Loan	Q4 2008	$0.5 MM	Direct Loan
Kompanion	Kyrgyzstan	Q1 2008	1.5 MM	Direct Loan			
Lazika Capital	Georgia	Q3 2008	0.8MM	Direct Loan			
VisionFund	Cambodia	Q2 2009	2.0 MM	Direct Loan			
FFP FIE	Bolivia	Q2 2009	1.7 MM	Direct Loan			

APPENDIX B: THREE PRIMARY CAUSES OF THE CONSORTIUM'S UNDERPERFORMING LOANS

THE GREAT RECESSION: The global economic downturn did not spare the microfinance industry, especially in Eastern Europe, where many economies strongly relied on remittances and demand for exports. This led to the deterioration of several funded MFIs' portfolios, especially in the Balkans and Central Asia in 2009. But because Deutsche Bank managed its portfolio closely – even reminding MFIs two years in advance to financially plan for making bullet repayments – all but two of these MFIs were able to comply with their financial covenants.[6]

FRAUD: Two MFIs experienced significant financial losses due to poor management. At Normicro (Azerbaijan), a $2.3 million fraud was uncovered in April 2009 which implicated both employees and managers. An investigation and portfolio audit identified weaknesses in internal audit and controls. At ACODEP, a renegade ex-Chairman illegally took control of the organization and appropriated $4 million of the organization's assets.

Deutsche Bank and other creditors took multiple actions to protect and recover their assets, including replacing management, debt restructuring and forgiveness, and creating an escrow account into which the MFI made payments to prevent debtors from making a run on the institution. In the case of ACODEP, the Bank lobbied development agency partners and embassies and even made their case to contacts in the Nicaraguan government to force out the ex-Chairman.

LOCAL MICROFINANCE CRISES: The Consortium's portfolio in Nicaragua was under siege by the "No Pay Movement," which was started by a local politician in 2008 who believed that local MFIs were charging usurious rates to borrowers, and which forced many MFIs to close and shrunk the sector by over 50 percent from 2008 to 2013. An economic rather than politically-originated downturn in the microfinance sector occurred in Bosnia in 2009, which according to CGAP was caused by a very saturated, competitive market, MFI beneficiaries' multiple borrowings which caused over-indebtedness, overstretched MFI systems and controls, and an erosion of MFI lending discipline. This lead to losses for all but one of the country's largest 20 MFIs in 2009.

[6] Bullet or interest only loans require the borrower to pay the interest on the loan throughout its life and repay the loan principal in a "bullet" at the end of the loan term. Bullet loans were frequently used in the microfinance industry in 2005, and allowed the Consortium to avoid having to recycle more capital since a larger percentage of the fund's capital was deployed over the life of the fund. As of 2013, this practice is changing in the industry as funds are offering amortizing loans and loans whose term ends before the end of the funds' life, precisely so that investors can avoid the challenges that funds like the Consortium faced in 2009 to collect principal repayments from struggling MFIs.