

# RISK MANAGEMENT IN MICROFINANCE

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A Practitioner's Perspective

# Outline

- I. What is Microfinance
- II. Microfinance Investments
  - A. Concept and definitions
  - B. The funding landscape
  - C. The economics of investing in microfinance (MF)
  - D. The MF investment value proposition
- III. Risk Management in Microfinance
  - A. Risk Management
  - B. Operational aspects - Procedures

# CASE STUDY

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Impact Investing – Acumen

# Case Study:

## Ziqitza Healthcare Ltd.

- The Investment Opportunity
  - 4 Indian business professionals come to you with a proposal to grow their ambulance company in Mumbai
  - Their goal is to create an affordable, high-quality and reliable emergency medical service (EMS) provider for all income levels
  - Capital would be used to purchase new ambulances, augment its marketing campaign and supplement working capital needs



# Case Study: Ziqitza Healthcare Ltd.

- Impact
  - 850+ ambulances in operation today
  - More than 1 million calls answered
  - Successfully scaling thanks to government support. ZHL executed its first government contract to expand to Bihar in 2009. The company now operates in 6 different states and has secured several millions of dollars in government contracts
  - Company is now profitable
  - Provided breakthrough lessons about how private innovations can scale through government support



# Case Study: About Acumen

- The Fund
  - Inc. April 1<sup>st</sup> 2001. Jacqueline Novogratz is the founder and CEO
  - Investing in low-income emerging markets in game-changing companies
  - Presence on the ground for sourcing and evaluating deals
  - Investing in social enterprises that change the way the world tackles poverty
  - To-date fund has invested \$84 million in 73 companies
  - Investments range from \$300,000 to \$2,500,000
  - Investment instruments - “Patient capital”
    - Debt/Loan Guarantees
    - Equity
    - Grants
- Investment Criteria:
  - Create access to critical goods and services (education, health, energy, water, etc)
  - Strong Leadership – Operating expertise and commitment to serving low-income communities
  - Potential for significant social impact
  - Financial Sustainability (or prospect)
  - Scale – Outreach or expansion through imitators

I.

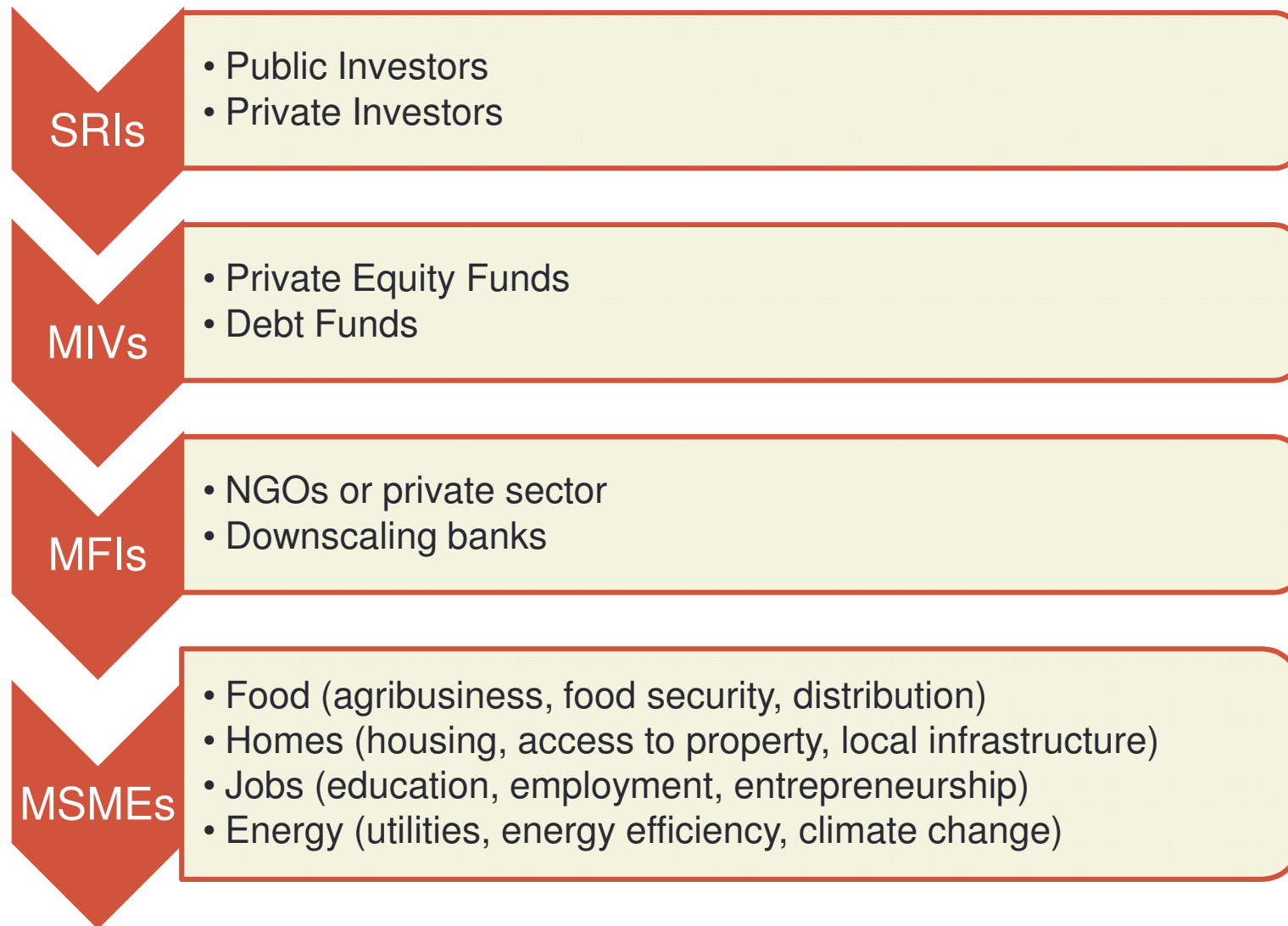
# WHAT IS MICROFINANCE

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Definitions, Value-Chain, Market size

# I. Microfinance:

## Investors, Intermediaries and microborrowers





# I. Microfinance:

## Market size

### Micro and small enterprises (MSMEs)

- 40% of the world population (2.8 billion people) lives with less than USD 2 a day
- 80% of the world population (5.6 billion people) lives with less than USD 10 a day
- The vast majority of them are economically active, either self-employed or working in micro-, small and medium enterprises
- As the rest of the world population, they seek value creation through employment and entrepreneurship to sustain their lives
- Their annual financing needs varies largely from USD 50 to 50k  
Today microfinance serves the needs of about 150 million micro- and small enterprises

# I. Microfinance:

## Market size

### Microfinance Institutions (MFIs)

- Microfinance institutions worldwide cumulate assets of approx. USD 68 billion
- There is about 50 full fledged banks specialized in microfinance
- There is about 500 non bank financial institutions dedicated to microfinance
- There is possibly 5,000 cooperatives and non profit organizations providing microfinance
- There is a growing number of commercial banks downscaling into microfinance
- Leading MFIs grew by 20% per annum in the past five years, by 50-60% before 2008 and by 20-25% since then

# I. Microfinance:

## Market size

### Microfinance Investment Vehicles (MIVs)

- 100 MIVs with aggregated assets of about USD 13 billion
- There is 83 private placement funds, 11 public placement funds, 11 structured fixed income products, 10 peer to peer lending websites and another 10 non profit and miscellaneous vehicles
- The rest of the foreign investment world is represented mostly by public sector agencies
- Together, they represent a total off-shore market of about USD 20 billion
- Over 50% of all MIVs are registered in Luxembourg, which is well-suited for qualified investors. Luxembourg-registered MIVs have grown steadily at a pace of 20% per annum

# I. Microfinance:

## Market size

### Socially Responsible Investors (SRI)

- In Europe, the total SRI assets under management have increased from EUR 2.7 trillion end 2007 to EUR 5 trillion end 2012. In the US, they have reached USD 3 trillion in 2012.
- In Europe, the SRI market remains largely driven by institutional investors representing 92% of the total assets under management.
- Bonds are now the favored asset class among SRI investors, representing 53% of total SRI assets, while equities have dropped down to 33%.
- Microfinance is the leading investment theme in impact investments for institutional investors. The industry nevertheless remains underserved as investment instruments are rarely adapted to the technical needs of institutional investors.

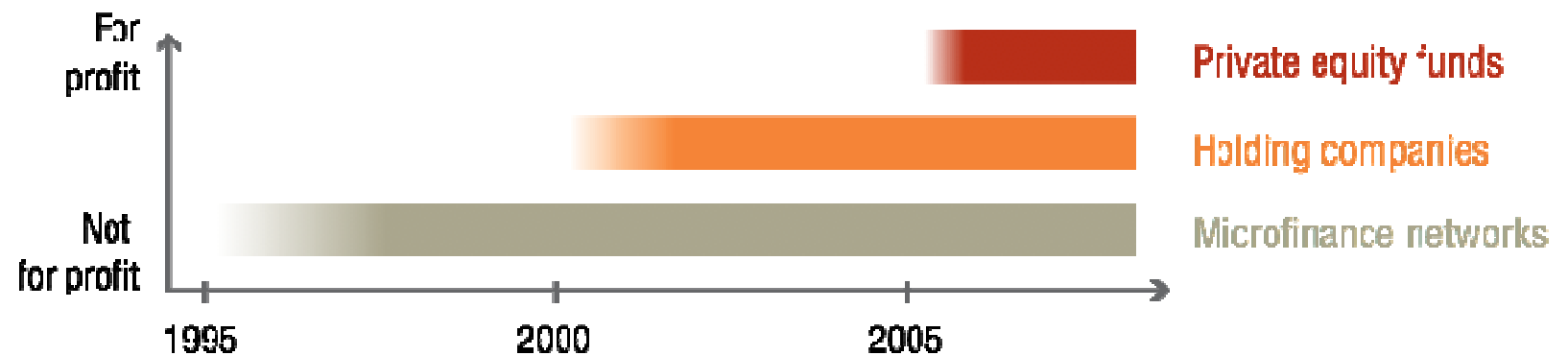
# II. MICROFINANCE INVESTMENTS

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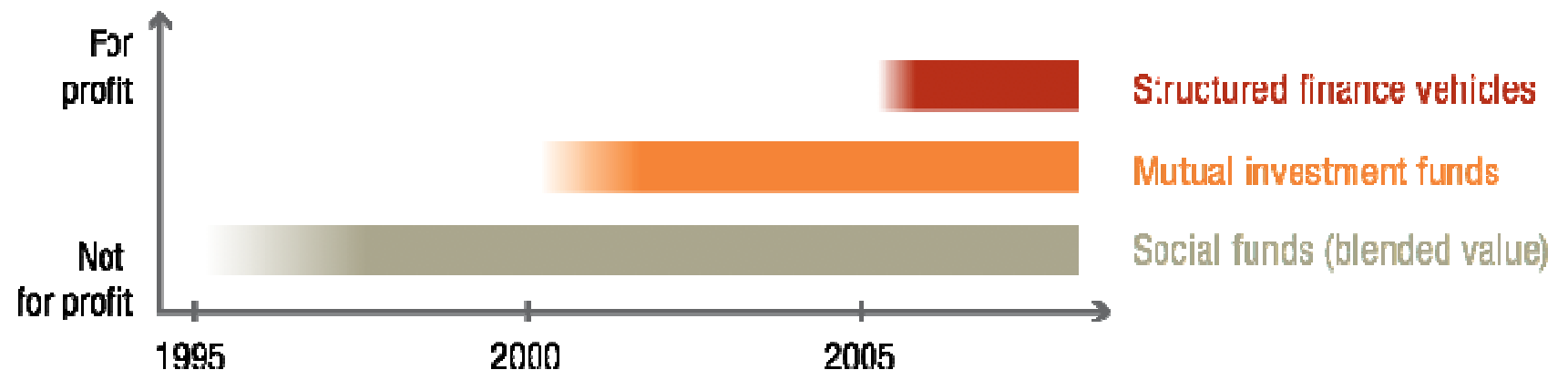
Definitions, Funding, Value Proposition

## II. Microfinance Investments: Concept and definitions

### Equity



### Debt



## II. Microfinance Investments: The economics of investing in microfinance

MSMEs	MFIs	MIVs	SRI
<ul style="list-style-type: none"><li>• 2-3% interest per month</li></ul>	<ul style="list-style-type: none"><li>• 30% portfolio yield</li><li>• 15% Operating expense</li><li>• 10% cost of borrowing</li><li>• 5% net profits</li><li>• 4.0x leverage</li><li>• 20% return on equity</li></ul>	<ul style="list-style-type: none"><li>• FX hedging costs</li><li>• 6-8% coupons in U.S. dollar terms</li><li>• 2-3% total expense ratio</li><li>• no yield on cash portion</li><li>• provision costs for bad loans</li></ul>	<ul style="list-style-type: none"><li>• 3-6% net return per annum</li></ul>

## II. Microfinance Investments: The MF investment value proposition

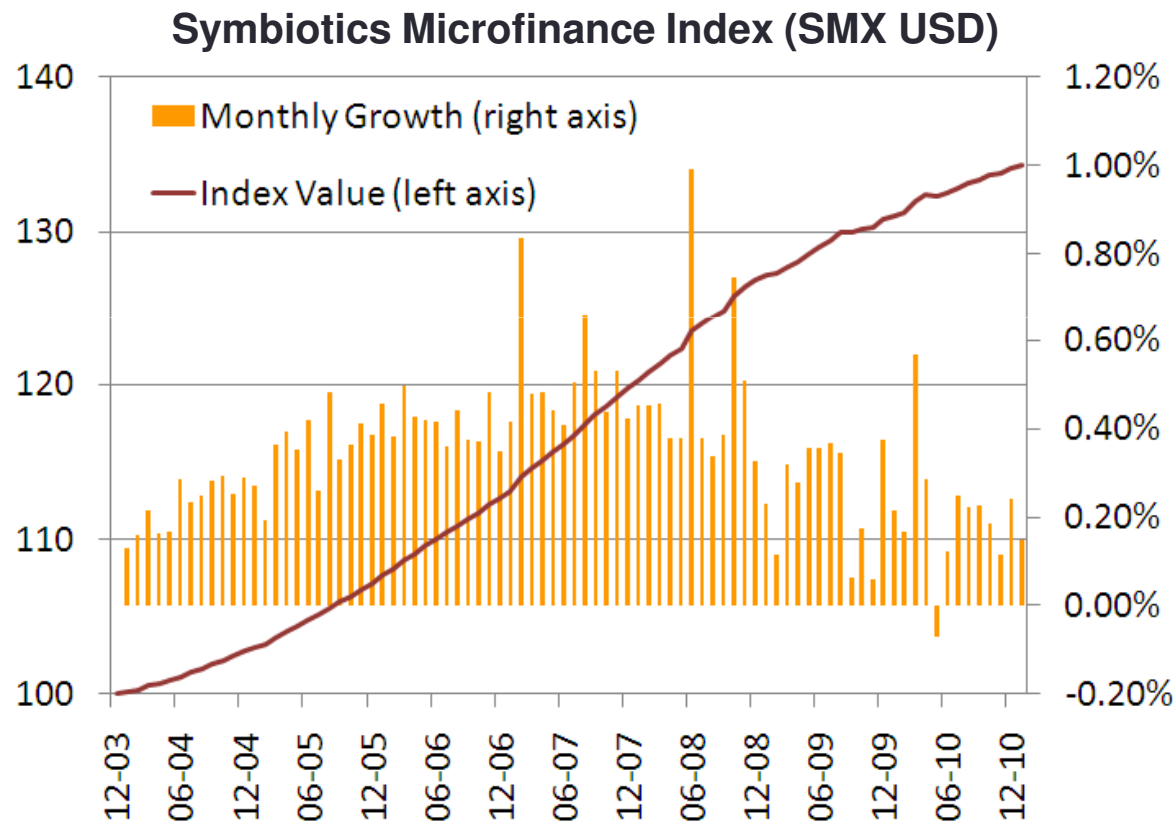
- **Diversification into High Growth Economies**
- **Low Volatility**
- **Low Correlation**
- **Social and Financial Return**



## II. Microfinance Investments: The MF investment value proposition

### Low Volatility

Microfinance investments are not traded on capital markets, finance primary needs, with very granular underlying portfolios, proven to be resilient and stable, including during crisis times



### SMX USD - Risk/Return

Year	Yield	Volatility
2010	2.55%	0.57%
2009	3.08%	0.54%
2008	5.95%	0.52%
2007	6.33%	0.46%
2006	5.09%	0.35%
2005	4.30%	0.32%
2004	2.75%	0.20%

## II. Microfinance Investments: The MF investment value proposition

### Low Correlation

SMX USD vs. Other asset classes (Dec. 2006 = 100)



# III. RISK MANAGEMENT IN MICROFINANCE

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RM in practice, Operational Aspects

# III. Risk Management in Microfinance:

## RM in practice

- Types of risk
- Identification
- Measurement
- Monitoring and management
- Limits

# III. Risk Management in Microfinance:

## RM in practice

### Credit Risk

	Investee Level	Transaction Level	Portfolio Level
<b>Identification</b>	Involency or illiquidity	Weak legal or financial structure	Large losses due to single event
<b>Prevention</b>	Due diligence selection criteria (internal rating)	Legal terms. Repayment structure.	Limit portfolio concentration
<b>Monitoring</b>	Financial indicators	Contractual obligations	Limits for single country, MFI etc
<b>Management</b>	Policies for impairment, and workouts	Address breach of covenants	Addressing cases of passive or active breach

# III. Risk Management in Microfinance:

## RM in practice

### **Credit Risk (cont'd)**

- Investee Level financial covenants
  - Portfolio at risk/Equity
  - Foreign currency exposure
  - Leverage/Capital Adequacy ratio
- Transaction Level legal covenants
  - Pari passu ranking with similar investments (e.g. senior unsecured)
  - Pre-payment options
  - Automatic cross-default clauses
- Portfolio diversification limits
  - Single country exposure
  - Single investee/MFI network exposure

# III. Risk Management in Microfinance:

## RM in practice

### **Liquidity/Duration Risk**

- Identification: Inability to meet cash flow obligations
- Measurement: 30-, 60-, 180-day cash projections
  - Inflows:
    - MFI loan principal + interest repayments
    - Loan prepayments
    - Investor subscriptions
    - Derivative margin calls/settlement
  - Outflows:
    - Redemptions
    - Loan disbursements
    - Divident/interest payments to investors
    - Derivative margin calls/settlement
    - Expenses

# III. Risk Management in Microfinance:

## RM in practice

### Liquidity/Duration Risk (cont'd)

- Monitoring and management
  - Projections vs. realized metrics
  - Redemption notice period
  - Specific redemption dates
  - FM last-resort to suspend subscriptions/redemptions
- Limits:
  - % of Cash projections
  - % of NAV (higher for open-ended funds)
  - Special limits/procedures during periods of extreme volatility (e.g. financial crisis)



# III. Risk Management in Microfinance:

## RM in practice

### Interest Rate Risk

- Identification: Impact on Fund performance due to a change in interest rates over a specific period of time. (Income at risk)
  - Mismatch in w.avg. interest maturity of Assets vs Liabilities
  - Mismatch in underlying reference rates
- Measurement:
  - Base case scenario: Net Income under current Libor rate
  - Libor simulations of positive or negative movements (50, 100, 150bps)
  - Simulations over 30, 90, 180, 360 days)

# III. Risk Management in Microfinance:

## RM in practice

### Interest Rate Risk

- Monitoring

$\Delta$ NII (%)	-50 bps	-100 bps	-50 bps	Base Case	50 bps	100 bps	150 bps
0 days				0			
30 days							
90 days							
180 days							
360 days							

- Management

- Interest rate hedging execution guidelines set by ALCO

- Limits

- Interest rate sensitivity exceeds certain  $\Delta$ NII thresholds (e.g. 5%)

# III. Risk Management in Microfinance:

## RM in practice

### Foreign Currency (FX) Risk

- Identification: Impact on Fund performance due to a change in FX rates.

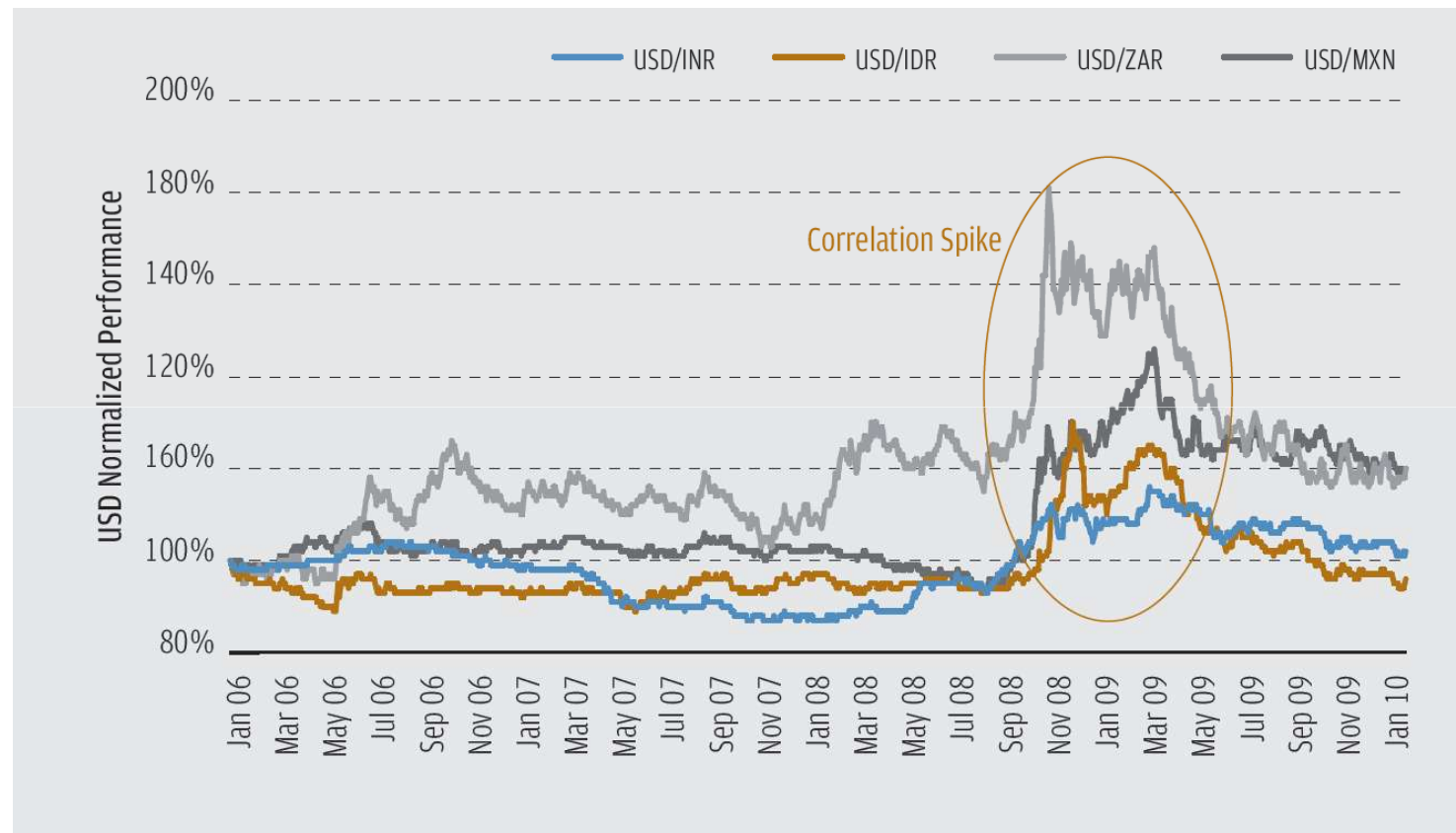
<b>Assets</b>	<b>Liabilities/Equity</b>
Cash (EUR, USD, CHF)	EUR
Investments	USD
EUR, USD, CHF	CHF
Local Currency	

# III. Risk Management in Microfinance: RM in practice

## Foreign Currency (FX) Risk

- Management: Diversification may not be an effective tool

Emerging Markets Currencies vs. USD



# III. Risk Management in Microfinance:

## RM in practice

### Foreign Currency (FX) Risk

- Management
  - HC loans to investees
    - FX Risk eventually transferred to microborrowers  $\Rightarrow$  credit risk
  - LC loans to investees unhedged
    - Illiquid LC positions prevent active FX management
    - Inconsistent with Fund value proposition
  - LC loans to investees hedged + Hedging (Fully or partially)
    - Hedging instruments non-existent or mispriced

- The Currency Exchange Fund (TCX)



- MFX Solutions



- Difficult access to hedging providers

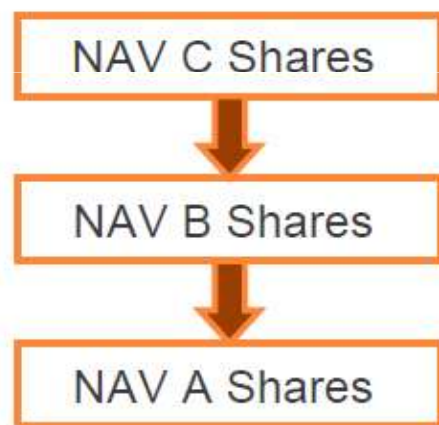
# III. Risk Management in Microfinance:

## RM in practice

### Foreign Currency (FX) Risk

- Management (cont'd)
  - Use capital structure

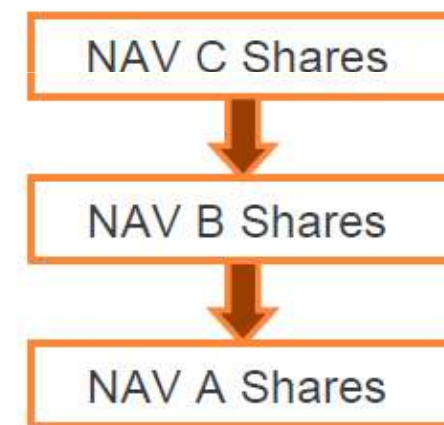
**Capital waterfall**  
= (un)realised gains/losses due to credit quality deterioration or defaults to Investments



**Income waterfall**  
= Interest from investments  
– Op. Expenses  
– Management Fees  
– Interest to Noteholders



**FX waterfall**  
= (un)realised gains/losses due to FX losses on Investments



# III. Risk Management in Microfinance:

## RM in practice

### Foreign Currency (FX) Risk

- Limits
  - Unhedged exposure as % of:
    - Fund NAV
    - C share NAV

# III. Risk Management in Microfinance:

## RM in practice

### **Hedge Counterparty Risk**

- Identification: The risk that a hedge counterparty of the Fund is unwilling or unable to meet the terms of the contract (ISDA Agreement)
- Monitoring and management
  - Credit risk Due Diligence to counterparty
  - ISDA Legal Term negotiation
    - Independent Amount: Upfront collateral amount
    - Threshold: Cushion before posting collateral.
    - Minimum Transfer Amount (MTA): Once the net MTM of Fund positions has exceeded the threshold, Fund must post collateral to the dealer unless the amount due is less than the MTA.
  - Current and potential exposure to counterparty (MTM of positions)
- Limits



# III. Risk Management in Microfinance:

## RM in practice

### **Hedge Counterparty Risk (cont'd)**

- Limits
  - Hedge Counterparty Credit risk rating
  - Single Counterparty exposure
    - Nominal value of loans outstanding hedged with a single counterparty
    - Most recent MTM value of all positions
    - Stress tests in case of extreme volatility

# III. Risk Management in Microfinance:

## RM in practice

### Anti-Money Laundering

- Identification
  - The conversion or transfer of property, knowing that such property is derived from criminal activity or from an act of participation in such activity, for the purpose of concealing or disguising the illicit origin of the property or of assisting any person who is involved in the commission of such activity to evade the legal consequences of his action;
  - The concealment or disguise of the true nature, source, location, disposition, movement, rights with respect to, or ownership of property knowing that such property is derived from criminal activity or from an act of participation in such activity;
  - The acquisition, possession or use of property, knowing, at the time of receipt, that such property was derived from criminal activity or from an act of participation in such activity; or
  - Participation in, association to commit, attempts to commit and aiding, abetting, facilitating and counseling the commission of any of the actions mentioned in the foregoing points.

# III. Risk Management in Microfinance:

## RM in practice

### Anti-Money Laundering

- Monitoring
  - Know Your Client (KYC) checklist on:
    - The entity and its affiliates (Fund investees, banks, sub-contractors etc)
      - Ensure that appropriate AML procedures are in place
    - Beneficial owners
    - Board members (watch for Politically Exposed Persons – PEP)
    - Senior managers
  - Checking consolidated lists
    - United Nations Security Council resolutions issued under Chapter VII of the UN Charter
    - European Union: “Consolidated list of persons, groups and entities”
    - World Bank Listing of Ineligible Firms
    - Watch list of high-risk and non-cooperative jurisdictions of FATF (Financial Action Task Force)

# III. Risk Management in Microfinance:

## RM in practice

### Anti-Money Laundering

- Reporting
  - Document all due diligence
  - Report “suspicious activities”
    - Refusal to provide information concerning business activities;
    - Unusual or suspect identification or business documents;
    - News reports indicating possible criminal, civil or regulatory violations;
    - Acting as an agent for an undisclosed principal;
    - Lack of concern regarding investment risks or transaction costs.
  - Upon discovery of AML breach, refuse to enter into transactions
  - AML Compliance Officer/committee to resolve conflicts
  - Record keeping

# III. Risk Management in Microfinance:

## Operational aspects - Procedures

### **Operational Risk/Governance**

- Principles:
  - Separation of operations and auditing staff
  - Four eyes principle
  - Risk-adjusted pricing
  - Independent mechanism for resolution of conflicts of interest
  - Clear risk appetite metrics – automatic thresholds breach red flags

# RISK MANAGEMENT IN MICROFINANCE

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A Practitioner's Perspective

I.

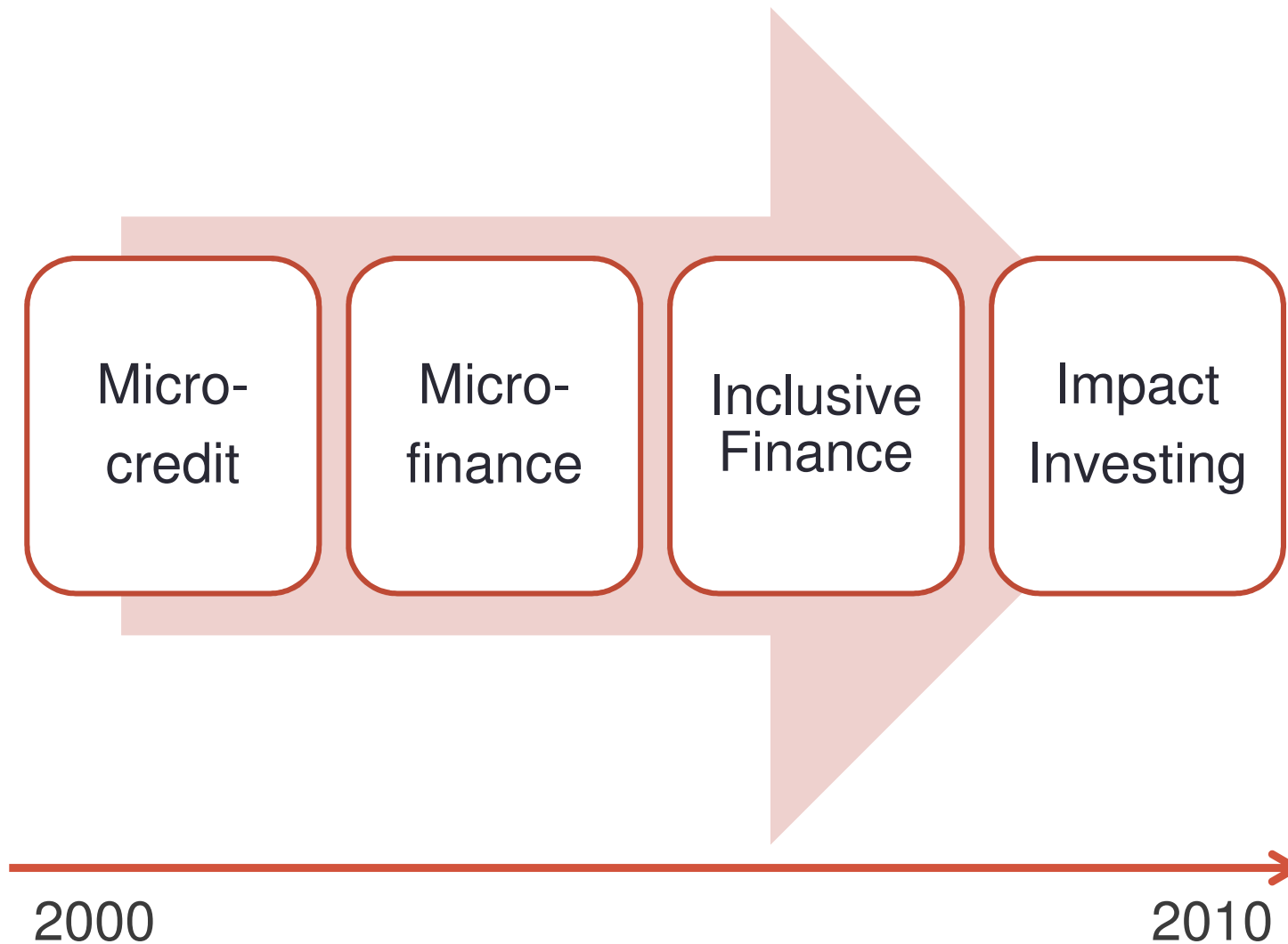
# WHAT IS MICROFINANCE

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Definitions, Value-Chain, Market size

# I. Microfinance:

## Definition and evolution of concept





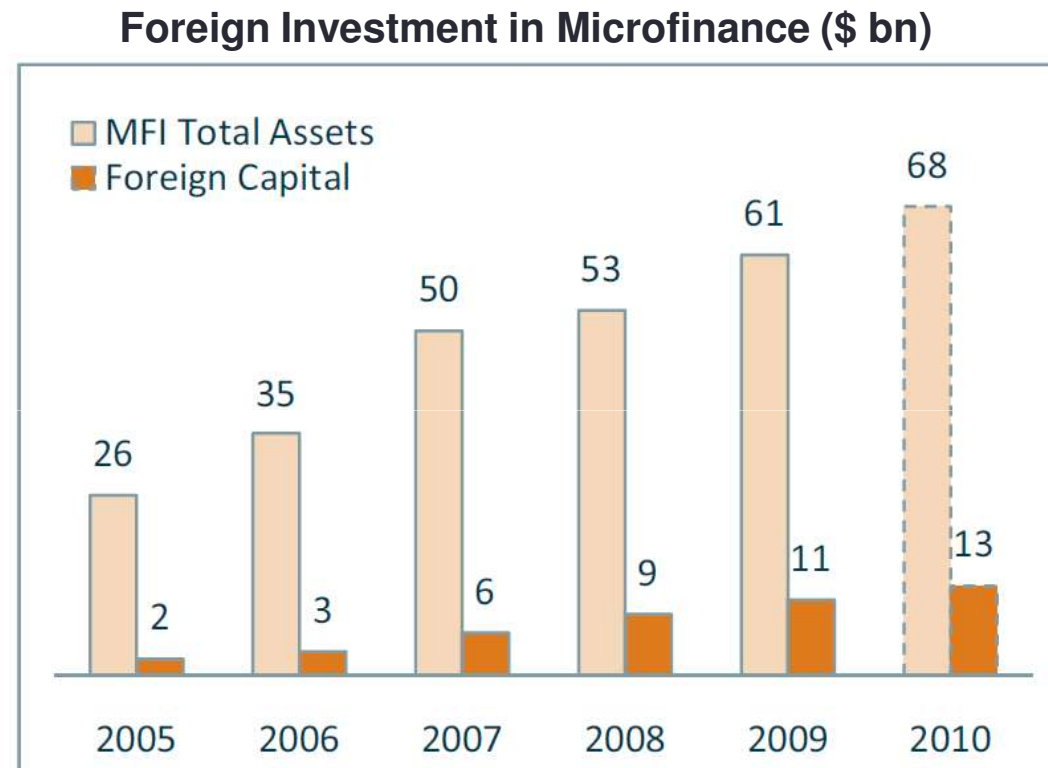
# II. MICROFINANCE INVESTMENTS

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Definitions, Funding, Value Proposition

## II. Microfinance Investments: The funding landscape

- Concentrated, growing industry
  - Despite the financial crisis, in the past four years foreign investment in microfinance, including both debt and equity, has quadrupled to reach US\$13 billion

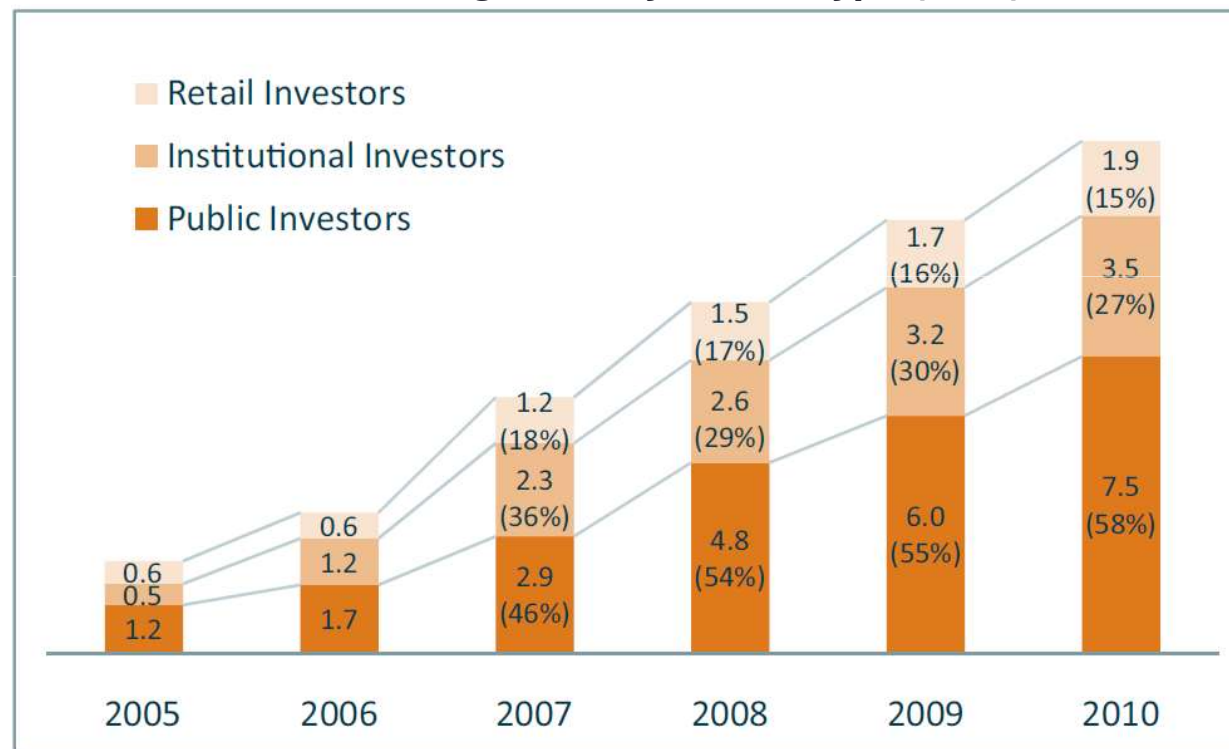


Source: CGAP and MIX, numbers for 2010 are CGAP estimates.

## II. Microfinance Investments: The funding landscape

- Concentrated, growing industry
  - Investors: DFIs provide more than half of all foreign investment. Since 2006, they have increased their outstanding investment in microfinance from US\$1.7 billion in 2006 to US\$7.5 billion in 2010. Five DFIs—AECID, EBRD, IFC, KfW, and OPIC—have driven much of this growth, and today they account for 71 percent of all DFI funding.

Investment growth by funder type (\$ bn)



Source: CGAP Funding Surveys; 2010 data are CGAP estimates.

## II. Microfinance Investments: The funding landscape

- Concentrated, growing industry
  - Investment Vehicles: The top 5 MIVs account for 50 percent of the total MIV assets

**Top 10 MIVs by Microfinance Portfolio**

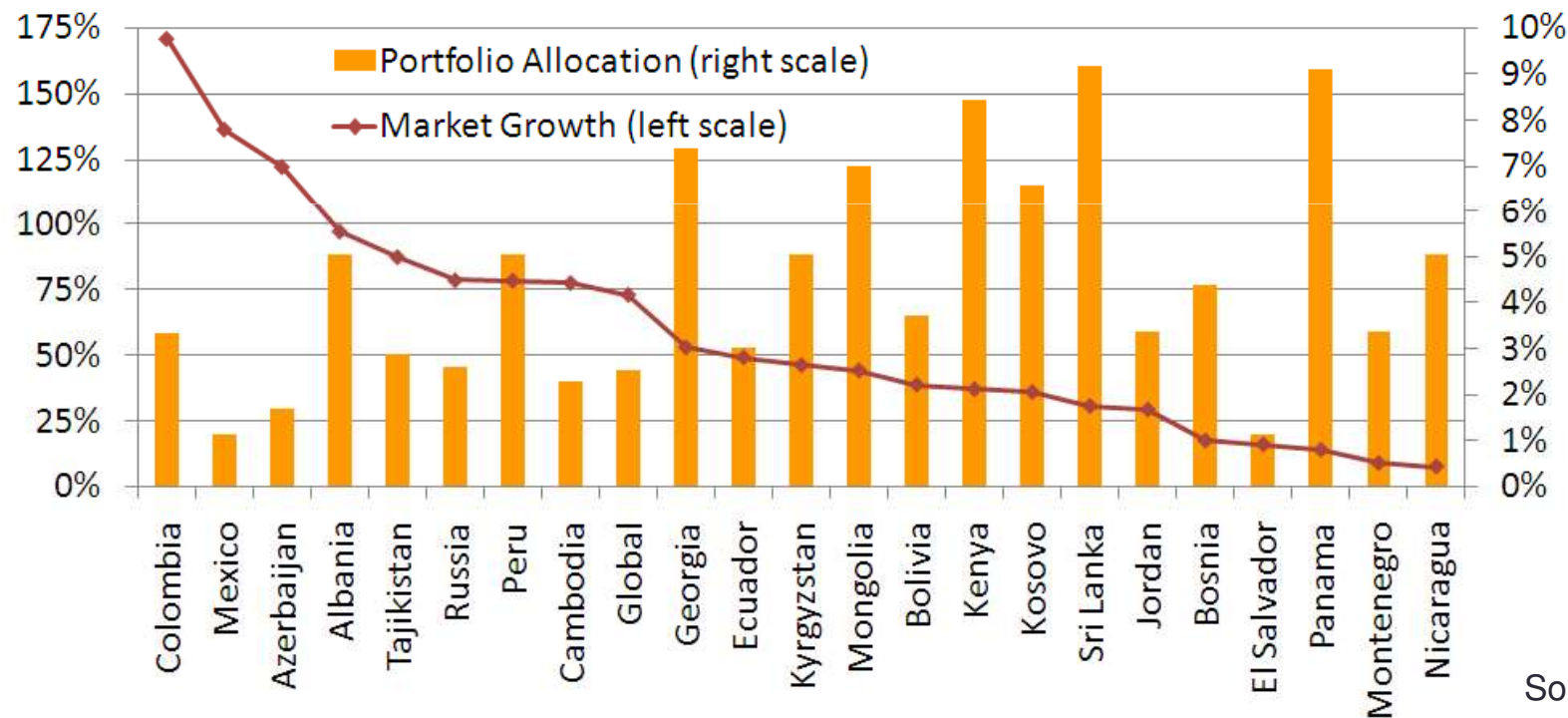
Name	Total Assets in USD (millions)	Year Established
European Fund for Southeast Europe	1,008	2005
Oikocredit	870	1975
responsAbility Global Microfinance Fund	524	2003
Dexia Micro-Credit Fund—BlueOrchard Debt Sub-Fund	394	1998
ASN-Novib Fonds	301	1999
SNS Institutional Microfinance Fund	229	2007
Microfinance Enhancement Facility	222	2009
SNS Institutional Microfinance Fund II	194	2008
responsAbility SICAV (Lux) Mikrofinanz-Fonds	157	2007
Triodos Fair Share Fund	156	2002
	<b>4,055</b>	

## II. Microfinance Investments: The MF investment value proposition

### Diversification into High Growth Economies

Microfinance portfolios invest in a globally diversified baskets of low income economies in new geographies, growing at a rapid scale in large granularity

**Microfinance Fund Portfolio Allocation Example vs. Growth Rates of Micro-Credit Portfolios per Market**



## II. Microfinance Investments: The MF investment value proposition

### A combination of financial and social returns

Microfinance has been recognized as a positive force of globalization for low income households by leading policy circles



Microcredit has been changing people's lives and revitalizing communities since the beginning of trade. The United Nations year of Microcredit 2005 called for building inclusive financial sectors and strengthening the powerful, but often untapped, entrepreneurial spirit existing in communities around the world.



CGAP is an independent policy and research center dedicated to advancing financial access for the world's poor. It is supported by over 30 development agencies and private foundations who share a common mission to alleviate poverty, housed at the World Bank.



## G8

The G8 summit recognizes the importance of microfinance. Overall levels of access to finance are extremely low and this acts as a brake on growth and opportunity.



The Nobel Peace Prize 2006 was awarded jointly to Muhammad Yunus and Grameen Bank *"for their efforts to create economic and social development from below"*.

## II. Microfinance Investments: Latest Trends and Challenges

- Consolidation at FMC level
  - Top five Fund Management firms currently account for 52% of the total assets under management and the concentration ratio continues its upward trend

### Top 5 Microfinance Asset Managers (by total assets under management)

Oppenheim Asset Management Services (EFSE)	\$907
BlueOrchard Finance SA	\$866
Credit Suisse Microfinance Fund Management Company (RespA)	\$801
Oikocredit	\$770
SNS Asset Management NV	\$375

- Rising risk of client over-indebtedness
- Downward pressure on MIV returns and reputational risk
- Increased focus on ESG:
  - E – Environment (Exclusion lists, Carbon emission compensation)
  - S – Social (Client Protection Principles)
  - G – Governance (Staff training and investor reporting on ESG practices)

III.

# RISK MANAGEMENT IN MICROFINANCE

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Funds, RM in practice, Operational Aspects



### III. Risk Management in Microfinance: Key MIV elements

- Structure design
- Governance
- Capital Structure and Investors
- Investment Strategy (Investors, Investees, Instruments, Value Proposition)
- Financial-Social Return objectives/Technical Assistance

# III. Risk Management in Microfinance:

## Key MIV elements

### Structure design

- Key decision drivers
  - Promoter's objectives
  - Underlying portfolio
  - Targeted investors

Type of vehicle	Fund	Holding Company	SPV
Assets	Single Fund	Umbrella Fund	
Risk Class	Single Share Class	Structured Vehicle	
Currency Classes	Single Currency	Multiple Currencies	
Subscription/ Redemption	Open	Closed	
Duration	Open ended	Closed ended	

## III. Risk Management in Microfinance: Key MIV elements

### Governance

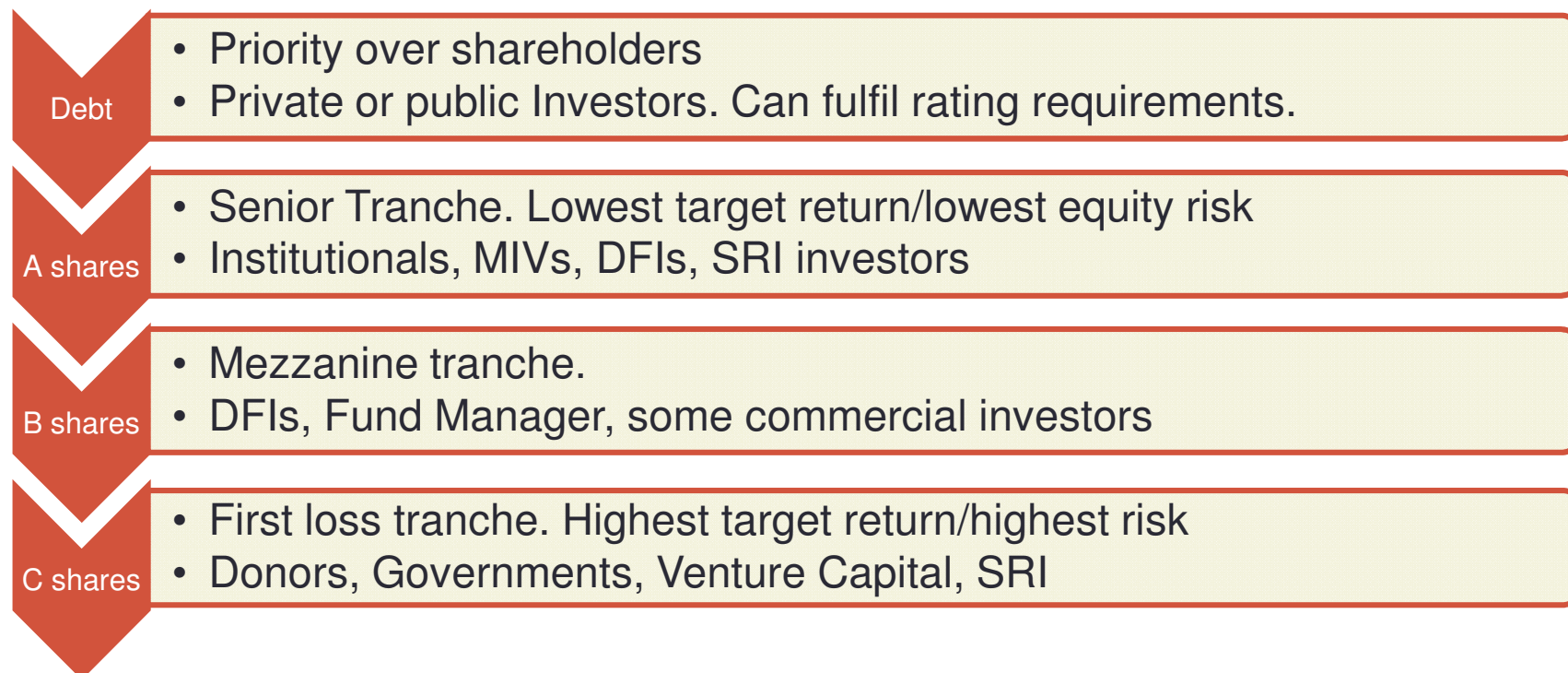
- Key decision driver: Cooperation between initiators and investors

Structure	Control	# (Lux.)
Fonds commun de placement (FCP)	Initiator	2
Société en commandite par actions (SCA)	Initiator	4
Société anonyme (SA) one tier / two tiers	Participation of investors in fund governance	One-tier: 11 Two-tiers: 1
Committees appointed by the board of directors	Participation of investors in fund governance	In most funds

# III. Risk Management in Microfinance: Key MIV elements

## Capital Structure and Investors

- MIV may raise capital by issuing shares and notes
- Classes of shares and waterfall allow differentiated allocation of income and risk between shareholders. For example, net income/losses are allocated as follows:



# III. Risk Management in Microfinance:

## Key MIV elements

Financial-Social Return objectives/Technical Assistance

- Key decision driver: Target investors
  - Governments
  - Donors
  - Social impact-focused investors
- Technical assistance to lower tier MFIs
  - Part of the waterfall structure
  - Priority over first loss tranche
  - Integrated in MIV strategy and outreach (e.g. Kiva, Oikocredit)