



IFC Workshop on Financial Inclusion Indicators
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Mapping the financial sector: microfinance and beyond¹

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¹ This presentation was prepared for the workshop. The views expressed are those of the author and do not necessarily reflect the views of the BIS or the central banks and other institutions represented at the workshop.



Microfinance Information Exchange

Mapping the financial sector

Microfinance and beyond

November 2012

*The Premier Source for Microfinance
Data and Analysis*



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Mapping the financial sector

- Who we are
- Geospatial analysis for financial inclusion
- Long-run trends for data on financial inclusion

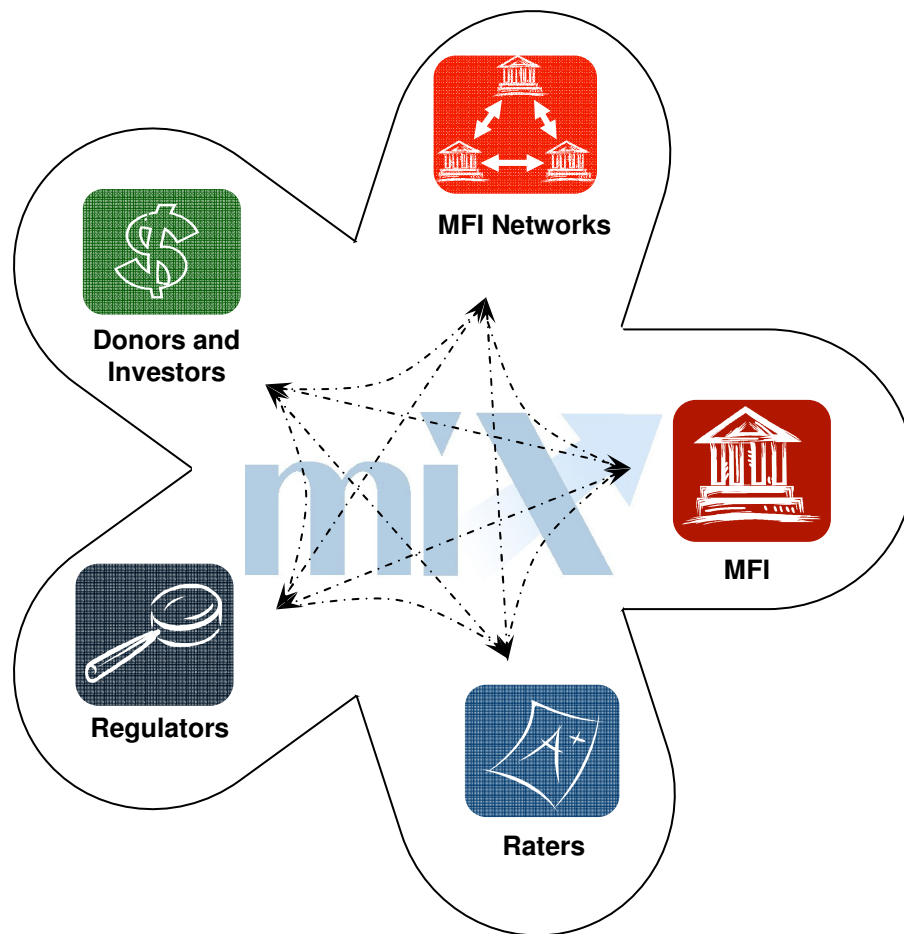
MIX is the premier source for objective, qualified, and relevant microfinance performance data and analysis.

Committed to strengthening financial inclusion and the microfinance sector by promoting transparency, MIX provides information on microfinance institutions (MFIs), funders, networks and service providers dedicated to serving the financial sector needs for low-income clients.

The logo for miX Market, featuring the lowercase letters 'miX' in the same blue, sans-serif font as the main logo, followed by the word 'Market' in a grey, sans-serif font.



2002 - 2012



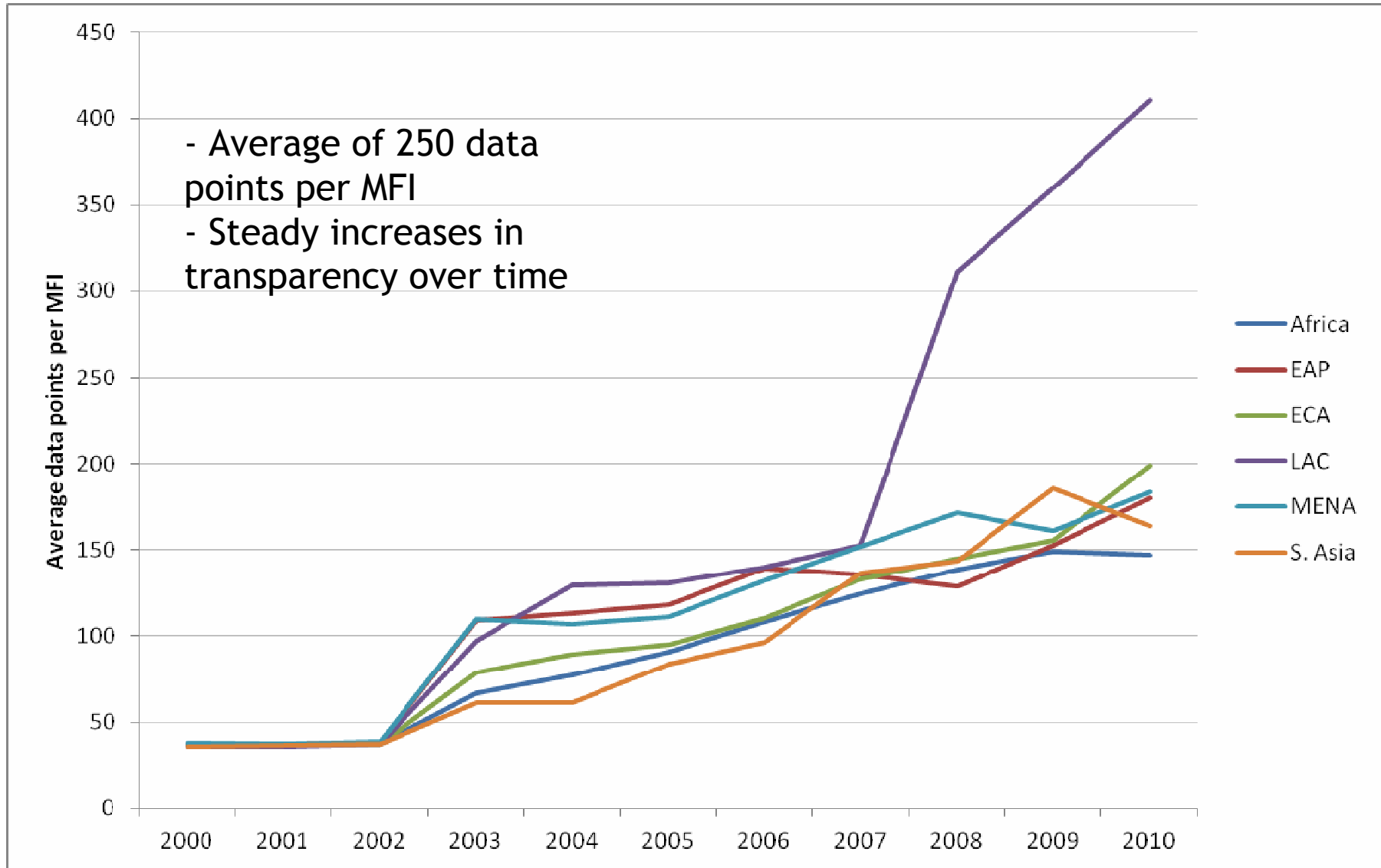
2,100+ MFIs

150 Networks

200 Funders

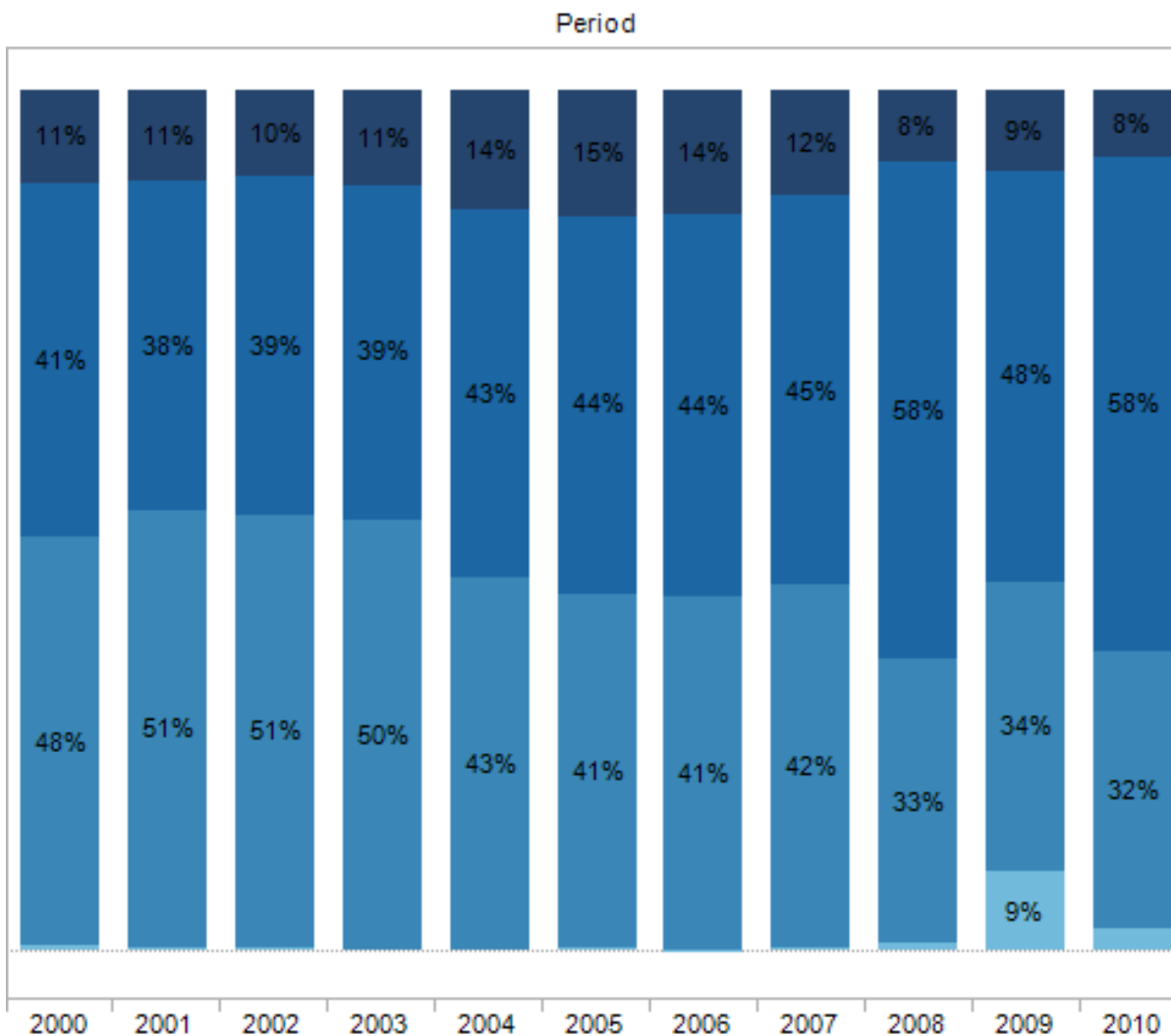
300 Service Providers

How has data on microfinance evolved?





Where does this data come from?



Diamond Score (bin)

- Audits + rating
- Audits
- Unaudited
- Partial

- Majority of data from audits
- Ratings for some (8 - 15%)
- Roughly 1/3 now unaudited (self-reported)





Research: recent publications using MIX data

- Selected papers referencing MIX data from the last year or so (not exhaustive):
- [“Microfinance in evolution: An industry between crisis and advancement”](#) Cédric Lützenkirchen, Christian Weistroffer, Deutsche Bank Research
- [“External Validity and Partner Selection Bias,”](#) Hunt Allcott and Sendhil Mullainathan, NYU/NBER, Harvard
- [“Ownership and technical efficiency of microfinance institutions: Empirical evidence from Latin America,”](#) Roselia Servin, Robert Lensink, Marrit van den Berg, Journal of Banking & Finance
- [“Competition, loan rates and information dispersion in microcredit markets,”](#) Guillermo Baquero, Malika Hamadi, Andréas Heinen, ESMT Research Working Papers
- [“The Profit Orientation of Microfinance Institutions and Effective Interest Rates”](#) Peter W. Roberts, World Development
- [“Do Institutions Matter for Microfinance Profitability? Evidence from Africa”](#) Peter Muriu, University of Birmingham - The Birmingham Business School
- [“Microfinance, Financial Inclusion and Financial Development: An Empirical Investigation with an International Perspective,”](#) Jovi C. Dacanay, Bienvenido Nito and Patricia Buensuceso. University of Asia and the Pacific
- [“Risky Business: An Empirical Analysis of Foreign Exchange Risk Exposure in Microfinance,”](#) Julie Abrams, Microfinance Analytics
- [“Over-indebtedness and Microfinance: Constructing an Early Warning Index,”](#) Vivien Kappel, Annette Krauss, Laura Lontzek* Center for Microfinance, University of Zurich



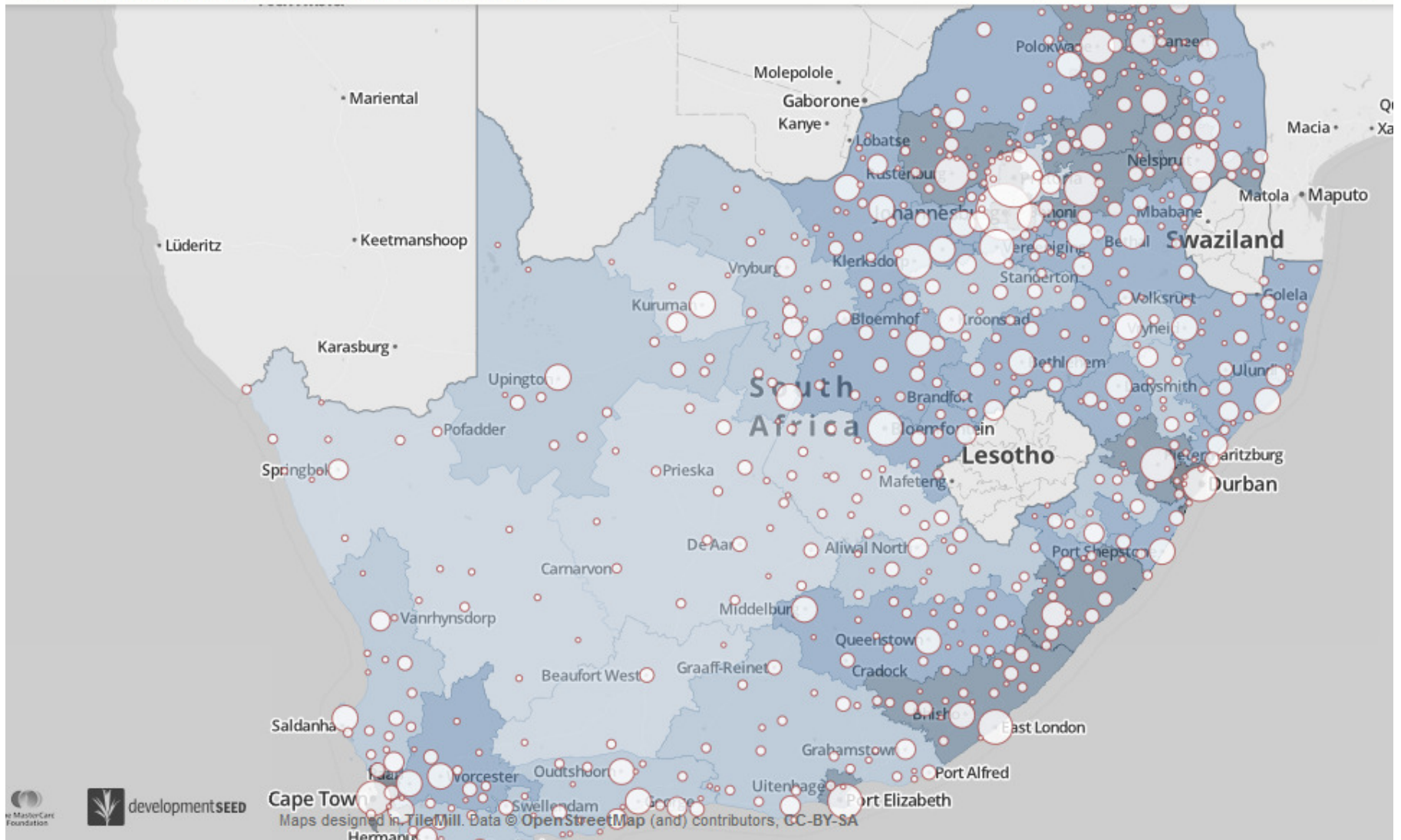
Key questions for geospatial analysis

- Access
 - How many people are within X km of a point of service?
 - What percent of the population is served (by product, by type of institution)?
- Market trends
 - What are trends in access? How has the market grown?
 - Are there hotspots or clusters of activity? Are there areas that are relatively under-served?

- Motivating questions
 - [Financial Sector Charter](#) goals for access based on physical proximity
 - A sales point within 15 km of a qualifying area
 - A service point within 10 km of a qualifying area
 - A transaction point within 5 km of a qualifying area
- How we did it
 - Public data: Branch and PoS listings for customers + regulatory databases
 - Technology: Web scrapers to extract and consolidate data automatically
 - Results: 40K access points mapped to town level

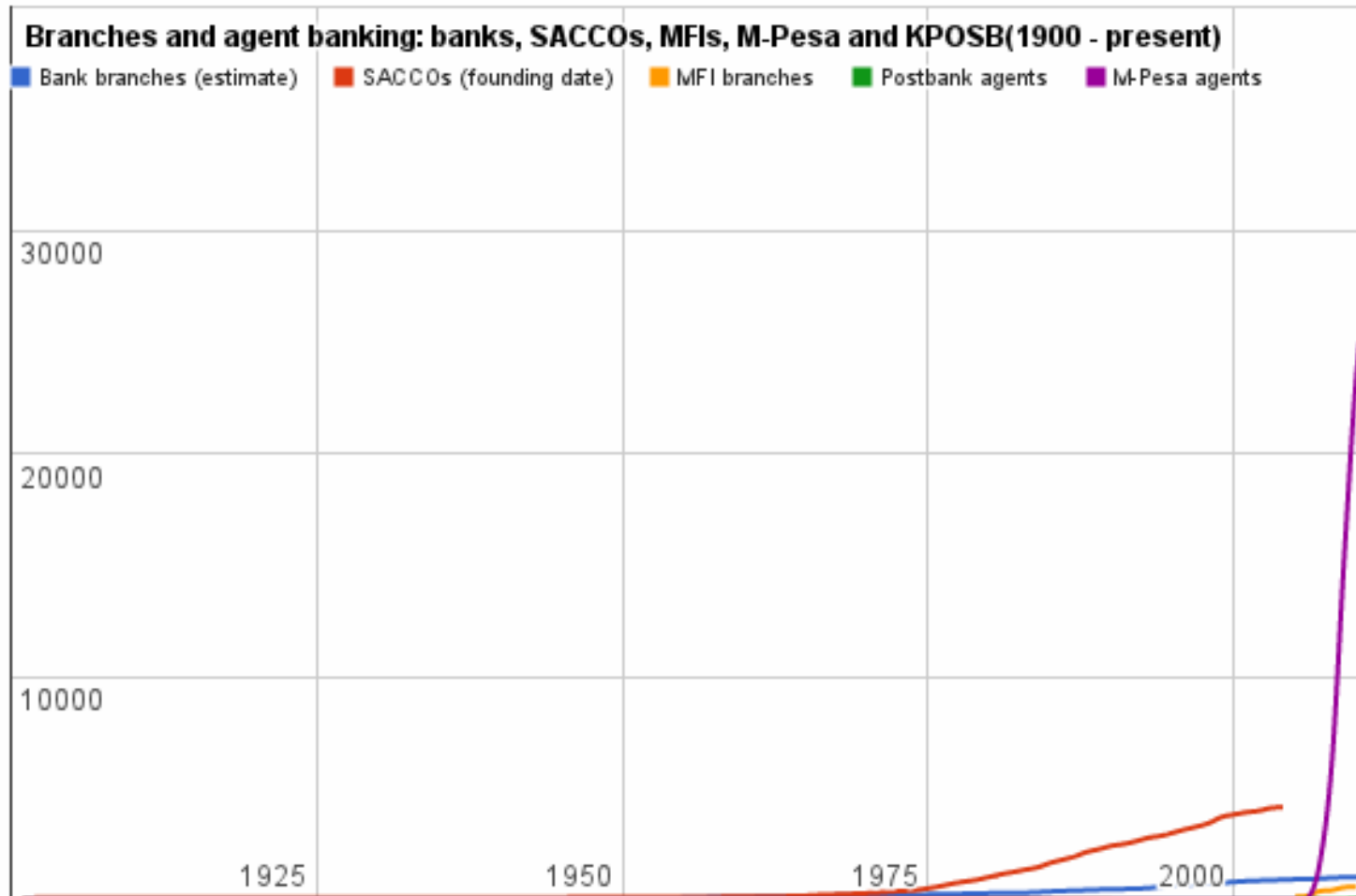
South Africa Map of Financial Inclusion

[DOWNLOAD](#)
[ABOUT THE DATA](#)



Cape Town
 Maps designed in TileMill. Data © OpenStreetMap (and) contributors, CC-BY-SA

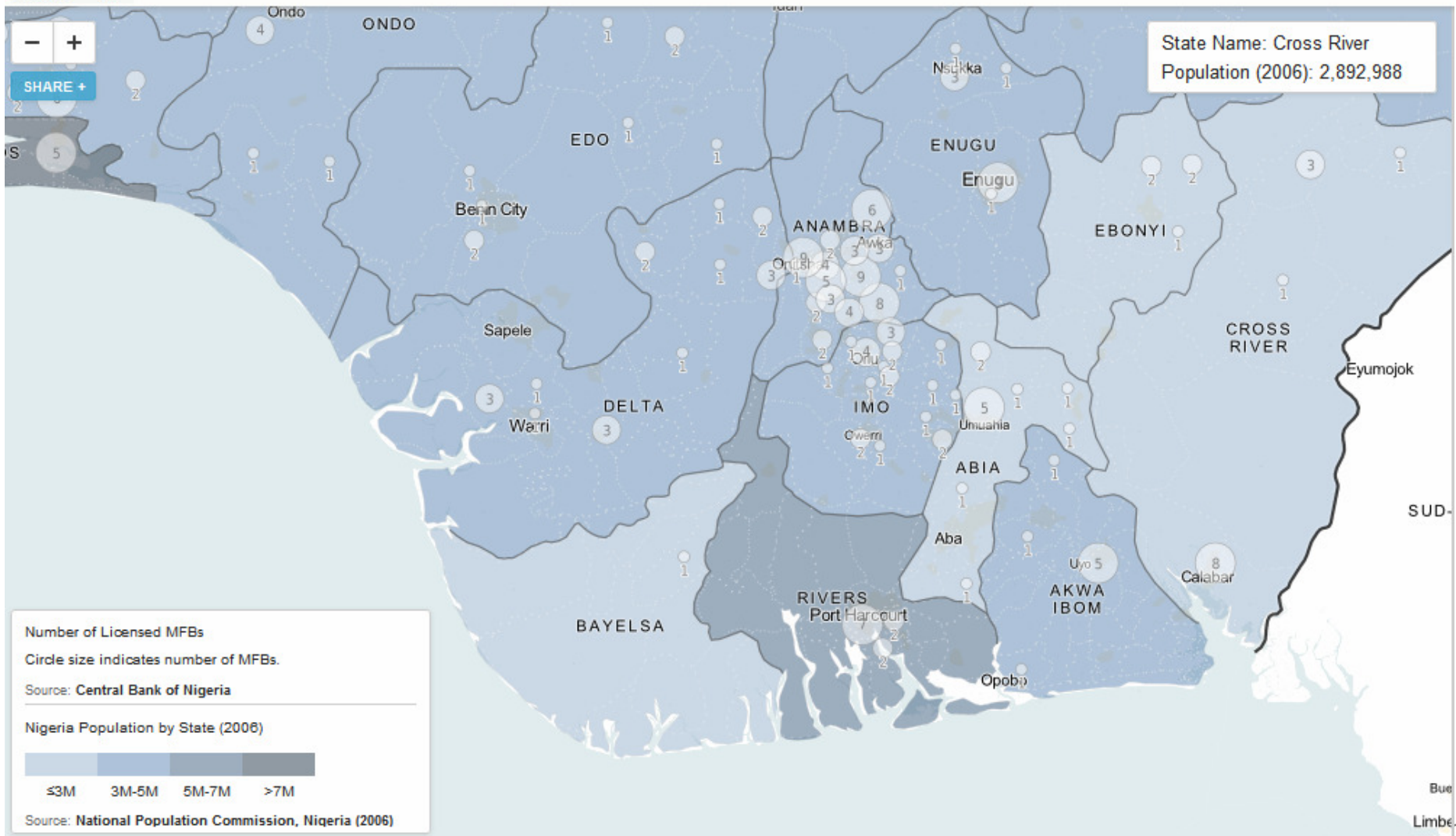
Figure 3: Growth of financial sector infrastructure and agents in Kenya - 1900 - 2011



- Motivating questions
 - Can we monitor proliferation of 900+ banks?
 - Can we track or find patterns in license revocations (200+)?
 - Can we identify supply / demand gaps?
- How we did it
 - Location info from registry of banks posted by CBN
 - Rule-based and manual scrubbing of location info
 - Utilize NIGECS database of demographic data at LGA (admin-2) level; more detailed than census data

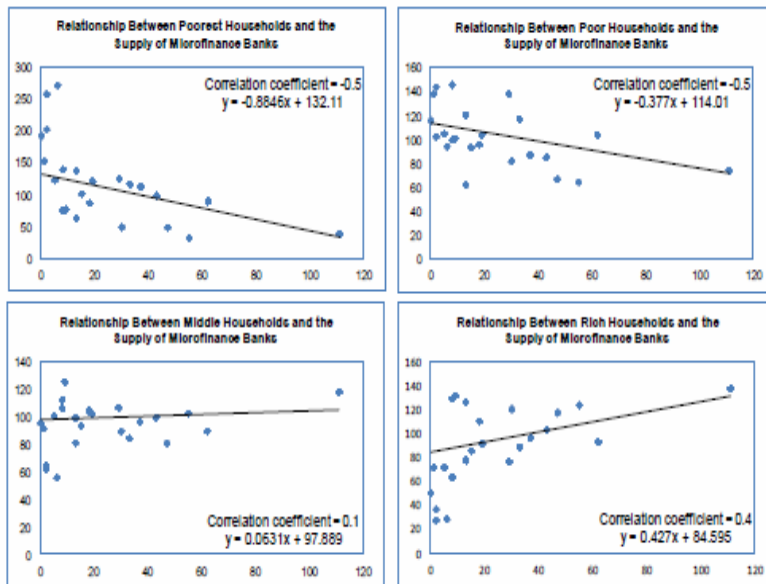


Nigeria: testing microfinance bank locations



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Nigeria



At the district level, a clear inverse relationship between poverty and access to microfinance banks

Database	CGAP (2010)	IMF (2011)	South Africa map data
Bank branches per 1000 km ²	2.22	3.08	4.32
Bank branches per 100,000 adults	8.00	10.7	15.06

Bottom-up aggregation of identified access points finds 50% more bank branches than global surveys indicate

- Motivating questions
 - Could we have foreseen the microcredit crisis using spatial data?
- How we did it
 - Location information a standard disclosure in audits

Microcredit Foundation "Prizma"
Financial statements for the year ended 31 December 2009

Notes to the financial statements (continued)

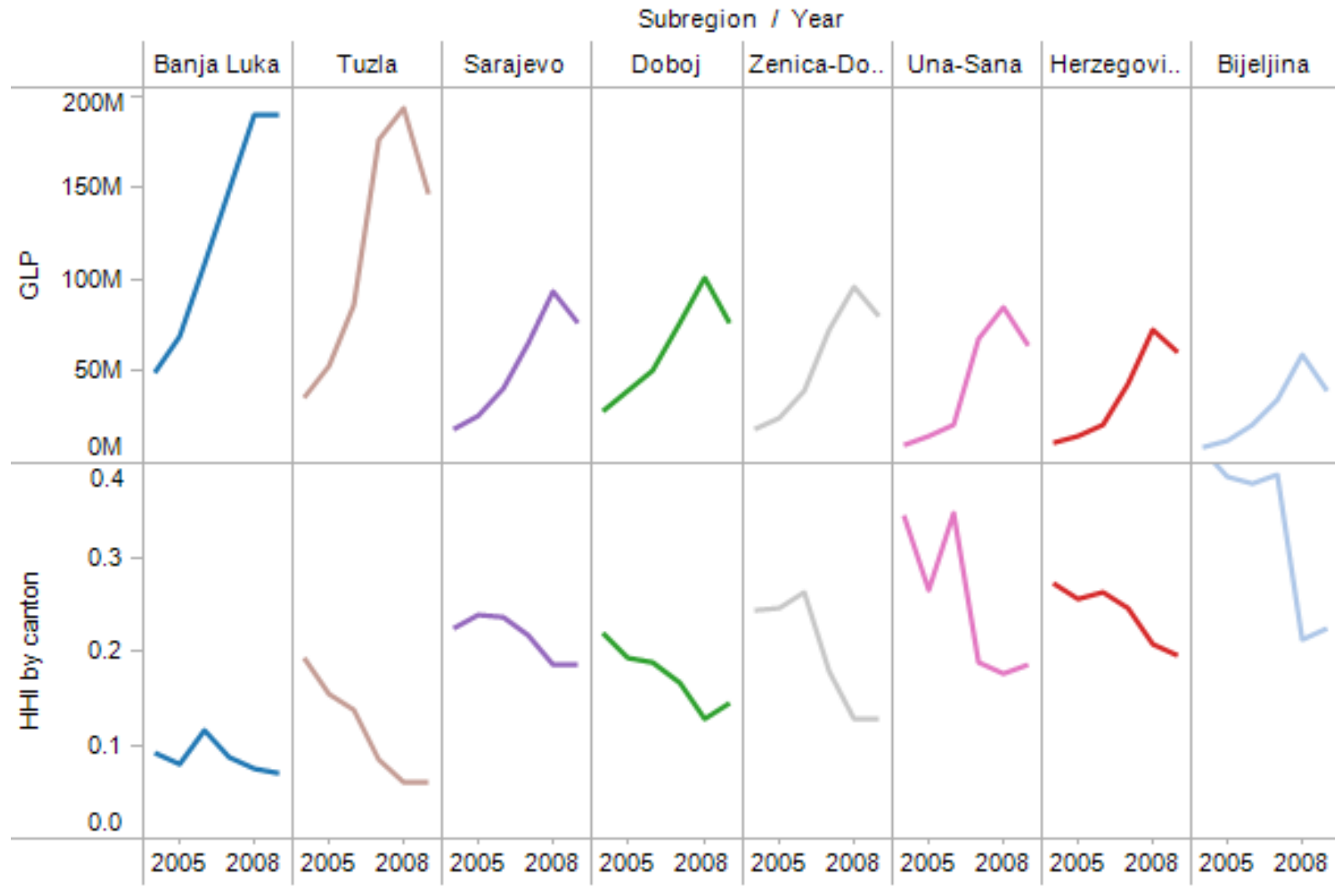
15 Loans and advances to customers (continued)

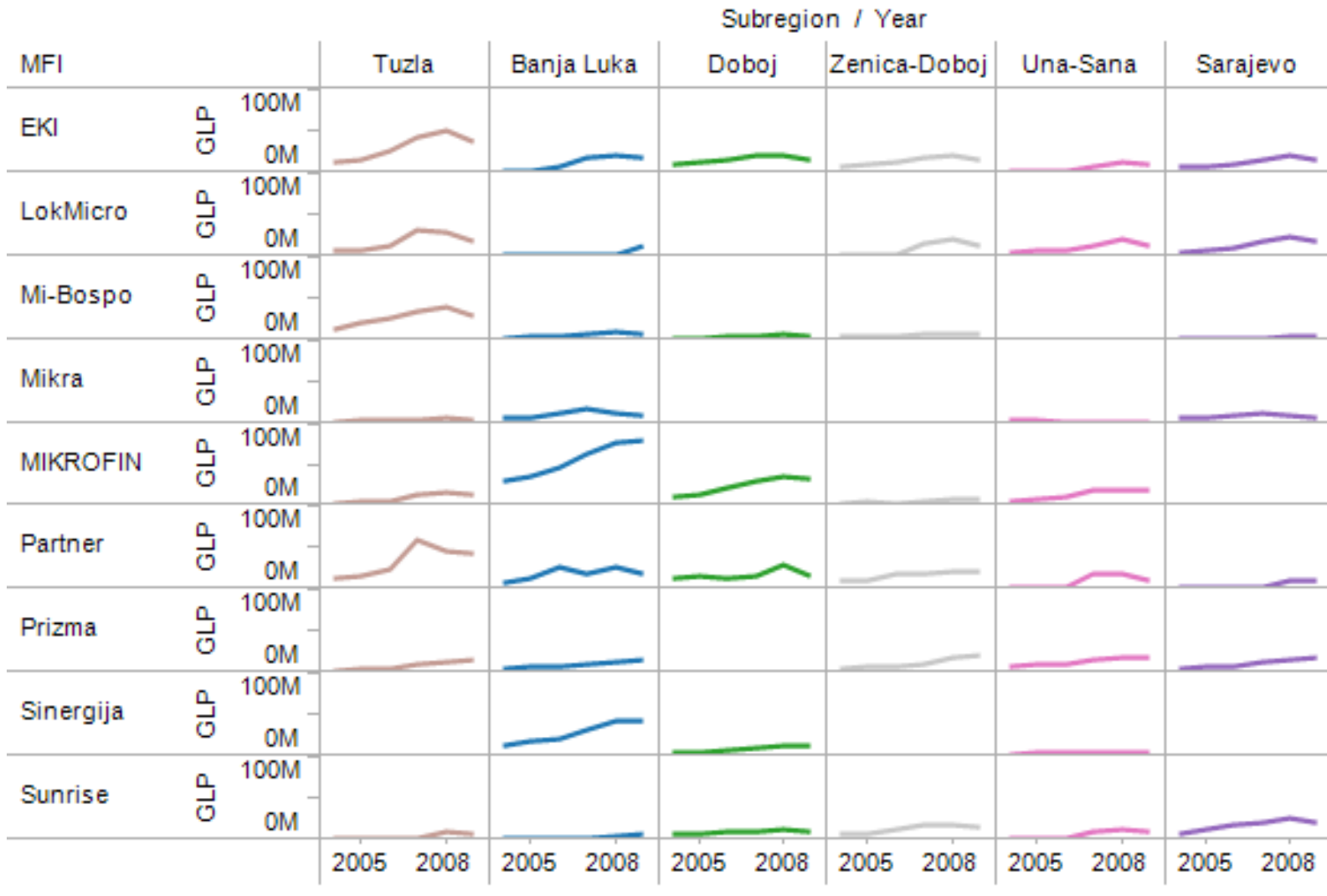
c) Geographic analysis

	2009 BAM'000	2008 BAM'000
Bihac	16,033	14,880
Zenica	17,929	14,555
Sarajevo	15,666	13,207
Mostar	10,303	8,578
Banja Luka	12,667	11,185
Bijeljina	572	-
Tuzla	11,904	10,635

- Calculate market share for individual MFIs and compute HHI (Hirschman-Herfindahl Index) to look at concentration

Bosnia: identifying hotspots for crises





- A growing database on microfinance
- Expanding beyond microfinance to look at key questions using geospatial analysis
 - Access, supply-demand gaps
 - Trends, monitoring and tracking performance
 - Market concentration and early warning systems
- Key principles for data and indicators
 - Use public data whenever possible
 - Use technology for efficiency
 - Make *more* data publicly available



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