What Drives Financial Inclusion at the Bottom of the Pyramid? 
Empirical Evidence from Microfinance Panel Data

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1. The Issue
Cross-country financial inclusion panel data is still not widely available, in particular for the poorest segments of the population. Currently, only two comparable datasets offer relevant information:
- World Bank (WB) Global Findex: demand side household survey data only for 2012, disaggregated by income quantiles
- International Monetary Fund (IMF) Financial Access Survey (FAS): supply side data only for some country-years, disaggregated by type of financial institution (including MFIs)

This lack of adequate data makes it difficult to understand what are the main drivers of financial inclusion at the bottom of the pyramid:
- Which markets are overcrowded, which are underdeveloped?
- Can microfinance development help understanding how other market segments at the bottom of the pyramid could evolve?

2. The Solution
This paper uses microfinance supply data to address this failure:
- Index of Microfinance Market Penetration based on MIX Market information for 120 countries since 1995 (Krauss et al., 2012). Please see Fig 1.

This panel dataset allows to address possible endogeneity concerns better than most of the existing literature
- It also allows to focus on the poorest segments of the population

3. The Data
IMF supply data and WB demand data show important differences attributable to the complexity of the financial system (multiple and cross-borrowing, foreign borrowing, unregulated institutions)

A similar pattern emerges comparing MIX Market supply data and WB demand data (Fig 2):
- Most countries are in a similar position with respect to to the IMF-WB scatterplot
- Some cases may show deviations specific to the MFI market (over-indentification, concentration, non-reported MFIs)

Thus the index developed by Krauss et al. (2012) offers valuable information to understand the drivers of financial inclusion at the bottom of the pyramid.

4. Identification Strategy
It is difficult to disentangle which macroeconomic variables are correlated with microfinance market penetration and which have a causal role in influencing it. Understanding this is important:
- to make sure that policy decisions tackle key variables
- to form correct expectations on microfinance market development across countries that could better guide investments in the industry

This panel dataset allows to use techniques to address potential endogeneity problems and in this way identify causal relations. These techniques are not applicable to cross-sectional data.

5. Next steps and expected results (April 2015)
- Consider and address potential outlier problems in the regression analysis (which will study how microfinance market penetration is influenced by income level, inequality, institutional quality, geographical isolation, formal financial development, macroeconomic environment, microfinance industry characteristics, knowledge, demographic characteristics, and social values)
- Exploit the panel dataset to solve potential endogeneity issues with respect to institutional quality (potential lobby to influence relevant regulation), and formal financial depth (complement/substitution effects)
- Compare predicted penetration indices with observed ones, in order to identify overcrowded and underdeveloped markets, and thus help guiding microfinance investments across countries

References
- Planet Rating (2013). MIMOSA Microfinance Index of Market Outreach and Saturation.

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FIG 1. Interactive Map on Microfinance Market Penetration (2012)

FIG 2. Borrowers as a share of the working age population (2011)