MICROBANKING BULLETIN

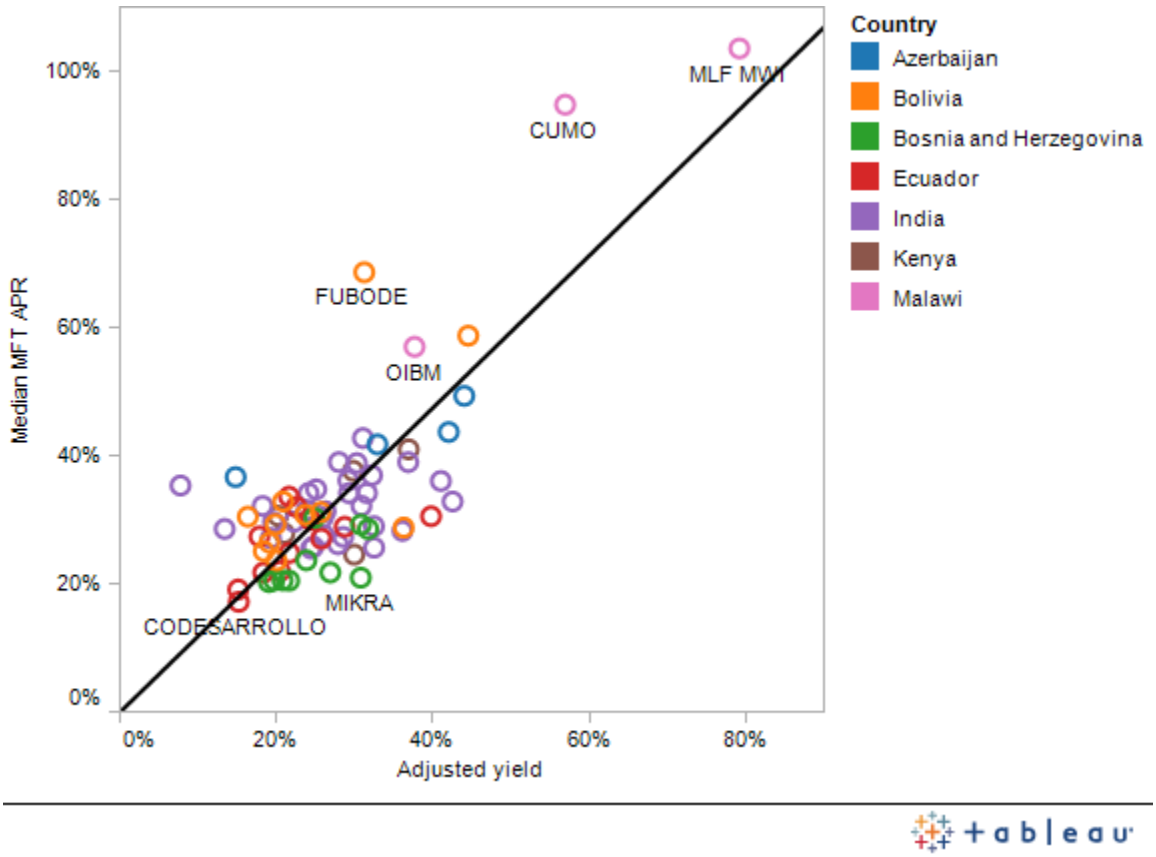
MFTransparency and MIX Market

Scott Gaul, Director of Analysis and Product Development Manager Microfinance Information Exchange

In the past week, both David Roodman and MFTransparency have posted on the relationship between yields and APRs for microfinance institutions. We are happy to see the dialogue deepen on what we really know about what MFIs charge their clients. Both posts shed good insight onto what APR and yield are and are not.

We have been working with MFTransparency to share data for the full range of products and indicators covered in the two datasets (spanning approximately 280 institutions) and, given the other posts, it's worth digging into exactly what this comparison means in practice.

With thanks to David Roodman for paving the way on this (and sharing his graphics), we start with an updated graphic for a simple comparison of yield and APR (using a slightly broader sample of institutions and a different method for adjusting the yield).[1] Overall, this gives us a strong relationship between the two metrics - yield and APR. The median difference in rates is 5 percent, at least with this first pass analysis. If we were to adjust for compounding and other factors the relationship would be even closer.



This is the starting point for our analysis: we know the indicators are similar, but why are they different?

There is one anomaly in the data presented above that is worth exploring. For several MFIs in the sample, the APR is *below* the yield. If the APR covers 'all of the costs the client pays,' how can the yield be higher than the APR? Let's pick one outlier from the graph - Mikra in Bosnia - and dig into their financial statements to learn more. As we will see, the main issue is the notion of picking 'just one' APR.

The nominal yield for Mikra for 2009 is 26 percent, measured in local currency (already higher than the chosen APR). In his post, Roodman adjusts the yield upwards for loan losses and downwards for inflation. Write-off and PAR levels were at historic highs for Mikra in 2009 - roughly 20 and 10 percent respectively - as part of the crisis that affected all Bosnian MFIs in 2008 - 2009.

A gap between APR and yield can flag for us when there might be problems with portfolio quality. We should see a gap between APR and yield for an institution like Mikra, since many loans likely entered non-accrual status during the year. Consequently, the MFI should have earned revenue below its stated interest rates.

If we adjust for delinquency using some approximations, the adjusted yield for Mikra comes to 31 percent, due to the high loan losses during the year. The attempt to bridge the gap between yield and APR has brought the metrics further apart.

Let's look at the MIX and MFTransparency data (login required) for Mikra in Bosnia in more detail though.

First, it's worth pausing to note that Mikra discloses both yield and interest rates in its audits, along with some other key indicators. For yield, they divide by the average net portfolio, which explains the slightly higher yield levels in both years:

1.1 PERFORMANCE INDICATORS

Efficiency Ratios	**2009**	**2008**
Active clients / Number of staff	95	92
Active clients / Number of loan officers	215	204
Net outstanding portfolio / Number of loan officers	273,028	336,577
Operating expenses / Average net portfolio (%)	26.45%	17.74%

Financial Ratios	**2009**	**2008**
	%	**%**
Return on assets: Net operating income / Average total assets	(23.54)	0.26
Return on equity: Net operating income / Average total equity	(56.89)	0.70
Yield on portfolio: Interest and fee income / Average net portfolio	27.55	32.27

Mikra also discloses a breakout for six loan products and gives annualized interest rates in the audits, although again, the terms differ slightly from what is reported through the MFTransparency site (here interest rates are stated between 11.63% and 30% - slightly lower on both ends):

13. LOANS TO CLIENTS

Annualized interest rates for the loans outstanding as of 31 December 2009 range between 11.63% and 30% (2008, 18% and 30.22%).

Average loan maturity is 16 months (2008: 17 months)

Loans products	31.12.2009	31.12.2008
"Flexi" loans	8,518,567	10,845,234
"Housing loans"	1,484,583	3,556,337
"Working Capital"	120,891	3,363,563
"Individual"	1,763,418	2,416,433
"Local Agro Society Loan"	1,388,250	1,306,543
"Seasonal"	-	1,000,611
"Consumer loans"	61,296	153,876
"Gold Seasonal Loan"	-	3,545
	13,337,005	*22,646,142*
Interest receivable for loans to clients	289,199	362,533
Total loans before allowances for possible loan impairment	*13,626,204*	*23,008,675*
Less: Allowances for loan impairment	(1,192,078)	(1,012,190)
Less: Allowance for interest receivable impairment	(147,879)	(119,000)
	12,286,247	**21,877,485**

For Mikra, MFT lists 6 loan products, with rates ranging from 12 – 38 percent, with the approximate number of clients for each loan. The MIX profile has a similar product breakout for number of loans on the MIX site, although here the products are categorized by type to facilitate comparisons:

- Products (credit)					
- Retail loans	–	–	–	13,320	9,692
- Household financing	–	–	–	1,490	908
Consumption	–	–	–	187	56
Mortgage housing	–	–	–	1,303	852
Microenterprise	–	–	–	11,830	8,784

By both accounts, most of their lending (about 90%) is through microenterprise loans, if we include the four business credit loans on the MFT site. The rates on the business loans cover a wide range – from 15% to 38%, with 11 different sample loans. If we look at the loan product with the largest client base, there are three sample loans reported, which also have APRs ranging from 15 to 38 percent - a wide range even for their most 'representative' product. [2] All told, we have 17 different APR values to choose from, across six products, and a wide range even within products.

If we use the client figures and the midpoint APR for each product to come up with a weighted average, we get something close to 28 percent. That is relatively close to our original nominal yield level of 26 percent. However, this figure is fairly sensitive to the choice of the 17 loans in the sample (as well as the time at which they were sampled). If we add or remove a loan, the results can change by several percent. The yield factors in the payments made on all of the roughly 10,000 loans that Mikra had outstanding during the year.

So what are we comparing? There is no single APR for an MFI. MFIs have many products, and each of those products can have different rates. This is the first problem we're trying to solve: how to compare APR and yield. Given the product breakouts, we are looking at ways to disaggregate the MIX data and aggregate the MFT data to get to a point where we feel a reasonable comparison can be made.

In answer to our original question - how is the yield higher than the APR? - the answer appears to be that we are looking at the 'wrong' APR for this MFI (21 percent, in this case). The process of picking the 'right' APR is converging on the same methods we use to derive the yield: weighting and broadening the sample to better represent the overall activities of the MFI.

Both APR and yield have their purpose. We don't expect them to match, although it is reassuring that they do not tell wholly different stories with even rough comparisons. We know that adjustments for factors like loan losses and compulsory savings will bring the results closer together. In the end, we would like to develop a solid understanding of the main reasons that interest rates and yields differ in practice, with the goal of developing a quick means for microfinance practitioners to navigate between the metrics.

Detailed disclosure on interest rates is good for consumers: borrowers should have clear and comparable information on products so they can make educated decisions about where or whether to borrow. (Although there is evidence that other types of disclosure may benefit borrowers more.)

For other uses, we may want a means to understand the average revenue derived by the MFI from clients across all products. This is what yield does well: yield takes into account the current product mix offered by the MFI, all fees and interest paid by all clients over time, and boils this into a single number for the institution.

Ultimately, we want both types of metrics to be available and we are glad to be working with MFTransparency to help further educate practitioners about the uses and differences. Stay tuned for more results from this research in the coming weeks.

RELATED PUBLICATIONS:

- Reviewing the Reserve Bank of India's Microfinance Framework
- Risk vs. return for MFIs
- Myths and Reality: Cost and Profitability of Microfinance

[*1] The careful reader will note that the data here differs slightly from that in David Roodman's original post. One difference is the inclusion of more institutions as we matched some additional names. The other (more significant) difference is in how we adjust for loan losses. We want to adjust the average gross loan portfolio (the denominator in the ratio) downwards by the average balance of delinquent loans during the year. Since delinquent loans remain on the books during the year (and thus are reflected in the denominator), but are non-accruing (and thus have no impact on the numerator), they artificially depress the yield. The most accurate way that we have found to make this adjustment is to consider both write-offs and PAR, since both ratios reflect loans that were delinquent during the reporting period: PAR levels reflect delinquent loans that are still on the books, while write-offs reflect formerly delinquent loans that were removed from the books. To account for variations in timing though, we weight each indicator by 0.5 (as a rough approximation) and include the weighted sum in the denominator of the ratio.*

*So, for example for Mikra in Bosnia – the MIX nominal yield is 26%. Write-offs were 20% and PAR > 30 10% at the end of 2009. If we adjust the denominator as described (so adjusted yield = income from loans / (average gross loan portfolio * (1 - 0.5 * (PAR > 30 + write-off ratio))), we have an adjusted yield of 31% = 0.26 / (1 - 0.5* (0.1 + 0.2)) = 0.26 / 0.85. The initial graph applies this adjustment to all values which reduces the number of outliers somewhat.*

[2] The date collected for the MFTransparency data for this MFI appears to be 10/07/09 for most of the loans, which is close to the 2009 fiscal year-end on the MIX site, so we should be relatively safe in comparing these two points in time, although we cannot tell if pricing, loan terms or product mix has changed since then.