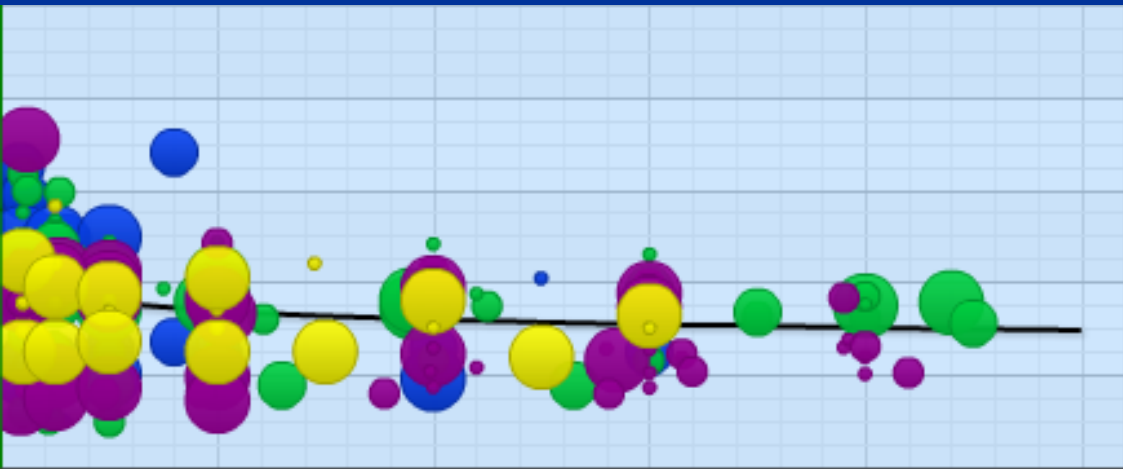


Prices, Costs, Profits, and Responsible Practice

NPM Seminar

Chuck Waterfield
CEO

MicroFinance Transparency
February 2013



Understanding the cost curve for micro-loans

Efficiency: Operating Cost Ratio

The formula for the ratio:

$$\frac{\text{Annual Operational Cost}}{\text{Average Loan Portfolio}}$$

We will analyze at the level of a single loan

- Cost to process and disburse a loan (once per loan)
- Monitoring cost (monthly cost)
- We annualize these cost

a	Original Loan Amount	\$50	\$100	\$200	\$300	\$500	\$750	\$1,000	\$1,500
b	Average Outstanding Balance	\$25	\$50	\$100	\$150	\$250	\$375	\$500	\$750
e	Loan Term	12	12	12	12	12	12	12	12
f	Loans processed/year	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Loan Write-off									
g	Annual Loan Write-off %	2%	2%	2%	2%	2%	2%	2%	2%
h	Annual LL Provision	\$0.5	\$1.0	\$2.0	\$3.0	\$5.0	\$7.5	\$10.0	\$15.0
Financial Cost									
i	Cost of Funds (%)	10%	10%	10%	10%	10%	10%	10%	10%
j	Annual Financial Cost	\$3	\$5	\$10	\$15	\$25	\$38	\$50	\$75

a	Original Loan Amount	\$50	\$100	\$200	\$300	\$500	\$750	\$1,000	\$1,500
b	Average Outstanding Balance	\$25	\$50	\$100	\$150	\$250	\$375	\$500	\$750
e	Loan Term	12	12	12	12	12	12	12	12
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Loan Write-off									
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Financial Cost									
i	Cost of Funds (%)	10%	10%	10%	10%	10%	10%	10%	10%
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	Loan Write-off								
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h	Annual LL Provision	\$0.5	\$1.0	\$2.0	\$3.0	\$5.0	\$7.5	\$10.0	\$15.0
	Financial Cost								
i	Cost of Funds (%)	10%	10%	10%	10%	10%	10%	10%	10%
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a	Original Loan Amount	\$500	\$750	\$1,000	\$1,500	\$2,000	\$3,000
	Operating Cost Calculation						
k	Cost to initiate loan	\$40	\$50	\$50	\$60	\$75	\$100
l	Annual initiation costs	\$40	\$50	\$50	\$60	\$75	\$100
m	Monthly loan monitoring cost	\$4	\$5	\$5	\$5	\$8	\$10
n	Annual monitoring cost	\$48	\$60	\$60	\$60	\$96	\$120
o	Total Annual Operating Costs	\$88	\$110	\$110	\$120	\$171	\$220
p	<i>Average Outstanding Balance</i>	\$250	\$375	\$500	\$750	\$1,000	\$1,500
q	Annual Operating Cost Ratio				16%	17%	15%

a	Original Loan Amount	\$500	\$750	\$1,000	\$1,500	\$2,000	\$3,000
	Operating Cost Calculation						
k	Cost to initiate loan	\$40	\$50	\$50	\$60	\$75	\$100
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q	Annual Operating Cost Ratio				16%	17%	15%

a	Original Loan Amount	\$500	\$750	\$1,000	\$1,500	\$2,000	\$3,000
	Operating Cost Calculation						
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l	Annual initiation costs	\$40	\$50	\$50	\$60	\$75	\$100
m	Monthly loan monitoring cost	\$4	\$5	\$5	\$5	\$8	\$10
n	Annual monitoring cost	\$48	\$60	\$60	\$60	\$96	\$120
o	Total Annual Operating Costs	\$88	\$110	\$110	\$120	\$171	\$220
p	<i>Average Outstanding Balance</i>	\$250	\$375	\$500	\$750	\$1,000	\$1,500
q	Annual Operating Cost Ratio			22%	16%	17%	15%

a	Original Loan Amount	\$500	\$750	\$1,000	\$1,500	\$2,000	\$3,000
	Operating Cost Calculation						
k	Cost to initiate loan	\$40	\$50	\$50	\$60	\$75	\$100
l	Annual initiation costs	\$40	\$50	\$50	\$60	\$75	\$100
m	Monthly loan monitoring cost	\$4	\$5	\$5	\$5	\$8	\$10
n	Annual monitoring cost	\$48	\$60	\$60	\$60	\$96	\$120
o	Total Annual Operating Costs	\$88	\$110	\$110	\$120	\$171	\$220
p	<i>Average Outstanding Balance</i>	\$250	\$375	\$500	\$750	\$1,000	\$1,500
q	Annual Operating Cost Ratio	35%	29%	22%	16%	17%	15%

a	Original Loan Amount	\$50	\$100	\$200	\$300	\$500	\$750	\$1,000
	Operating Cost Calculation							
k	Cost to initiate loan	\$10	\$15	\$25	\$30	\$40	\$50	\$50
l	Annual initiation costs	\$10	\$15	\$25	\$30	\$40	\$50	\$50
m	Monthly loan monitoring cost					\$4	\$5	\$5
n	Annual monitoring cost	\$0	\$0	\$0	\$0	\$48	\$60	\$60
o	Total Annual Operating Costs	\$10	\$15	\$25	\$30	\$88	\$110	\$110
p	<i>Average Outstanding Balance</i>	\$25	\$50	\$100	\$150	\$250	\$375	\$500
q	Annual Operating Cost Ratio					35%	29%	22%

a	Original Loan Amount	\$50	\$100	\$200	\$300	\$500	\$750	\$1,000
	Operating Cost Calculation							
k	Cost to initiate loan	\$10	\$15	\$25	\$30	\$40	\$50	\$50
l	Annual initiation costs	\$10	\$15	\$25	\$30	\$40	\$50	\$50
m	Monthly loan monitoring cost					\$4	\$5	\$5
n	Annual monitoring cost	\$0	\$0	\$0	\$0	\$48	\$60	\$60
o	Total Annual Operating Costs	\$10	\$15	\$25	\$30	\$88	\$110	\$110
p	<i>Average Outstanding Balance</i>	\$25	\$50	\$100	\$150	\$250	\$375	\$500
q	Annual Operating Cost Ratio					35%	29%	22%

a	Original Loan Amount	\$50	\$100	\$200	\$300	\$500	\$750	\$1,000
	Operating Cost Calculation							
k	Cost to initiate loan	\$10	\$15	\$25	\$30	\$40	\$50	\$50
l	Annual initiation costs	\$10	\$15	\$25	\$30	\$40	\$50	\$50
m	Monthly loan monitoring cost	\$2	\$2	\$3	\$3	\$4	\$5	\$5
n	Annual monitoring cost	\$24	\$24	\$36	\$36	\$48	\$60	\$60
o	Total Annual Operating Costs	\$34	\$39	\$61	\$66	\$88	\$110	\$110
p	<i>Average Outstanding Balance</i>	\$25	\$50	\$100	\$150	\$250	\$375	\$500
q	Annual Operating Cost Ratio					35%	29%	22%

a	Original Loan Amount	\$50	\$100	\$200	\$300	\$500	\$750	\$1,000
	Operating Cost Calculation							
k	Cost to initiate loan	\$10	\$15	\$25	\$30	\$40	\$50	\$50
l	Annual initiation costs	\$10	\$15	\$25	\$30	\$40	\$50	\$50
m	Monthly loan monitoring cost	\$2	\$2	\$3	\$3	\$4	\$5	\$5
n	Annual monitoring cost	\$24	\$24	\$36	\$36	\$48	\$60	\$60
o	Total Annual Operating Costs	\$34	\$39	\$61	\$66	\$88	\$110	\$110
p	<i>Average Outstanding Balance</i>	\$25	\$50	\$100	\$150	\$250	\$375	\$500
q	Annual Operating Cost Ratio					35%	29%	22%

a	Original Loan Amount	\$50	\$100	\$200	\$300	\$500	\$750	\$1,000
	Operating Cost Calculation							
k	Cost to initiate loan	\$10	\$15	\$25	\$30	\$40	\$50	\$50
l	Annual initiation costs	\$10	\$15	\$25	\$30	\$40	\$50	\$50
m	Monthly loan monitoring cost	\$2	\$2	\$3	\$3	\$4	\$5	\$5
n	Annual monitoring cost	\$24	\$24	\$36	\$36	\$48	\$60	\$60
o	Total Annual Operating Costs	\$34	\$39	\$61	\$66	\$88	\$110	\$110
p	<i>Average Outstanding Balance</i>	\$25	\$50	\$100	\$150	\$250	\$375	\$500
q	Annual Operating Cost Ratio					35%	29%	22%

a	Original Loan Amount	\$50	\$100	\$200	\$300	\$500	\$750	\$1,000
	Operating Cost Calculation							
k	Cost to initiate loan	\$10	\$15	\$25	\$30	\$40	\$50	\$50
l	Annual initiation costs	\$10	\$15	\$25	\$30	\$40	\$50	\$50
m	Monthly loan monitoring cost	\$2	\$2	\$3	\$3	\$4	\$5	\$5
n	Annual monitoring cost	\$24	\$24	\$36	\$36	\$48	\$60	\$60
o	Total Annual Operating Costs	\$34	\$39	\$61	\$66	\$88	\$110	\$110
p	<i>Average Outstanding Balance</i>	\$25	\$50	\$100	\$150	\$250	\$375	\$500
q	Annual Operating Cost Ratio				44%	35%	29%	22%

a	Original Loan Amount	\$50	\$100	\$200	\$300	\$500	\$750	\$1,000
	Operating Cost Calculation							
k	Cost to initiate loan	\$10	\$15	\$25	\$30	\$40	\$50	\$50
l	Annual initiation costs	\$10	\$15	\$25	\$30	\$40	\$50	\$50
m	Monthly loan monitoring cost	\$2	\$2	\$3	\$3	\$4	\$5	\$5
n	Annual monitoring cost	\$24	\$24	\$36	\$36	\$48	\$60	\$60
o	Total Annual Operating Costs	\$34	\$39	\$61	\$66	\$88	\$110	\$110
p	<i>Average Outstanding Balance</i>	\$25	\$50	\$100	\$150	\$250	\$375	\$500
q	Annual Operating Cost Ratio			61%	44%	35%	29%	22%

a	Original Loan Amount	\$50	\$100	\$200	\$300	\$500	\$750	\$1,000
	Operating Cost Calculation							
k	Cost to initiate loan	\$10	\$15	\$25	\$30	\$40	\$50	\$50
l	Annual initiation costs	\$10	\$15	\$25	\$30	\$40	\$50	\$50
m	Monthly loan monitoring cost	\$2	\$2	\$3	\$3	\$4	\$5	\$5
n	Annual monitoring cost	\$24	\$24	\$36	\$36	\$48	\$60	\$60
o	Total Annual Operating Costs	\$34	\$39	\$61	\$66	\$88	\$110	\$110
p	<i>Average Outstanding Balance</i>	\$25	\$50	\$100	\$150	\$250	\$375	\$500
q	Annual Operating Cost Ratio		78%	61%	44%	35%	29%	22%

a	Original Loan Amount	\$50	\$100	\$200	\$300	\$500	\$750	\$1,000
	Operating Cost Calculation							
k	Cost to initiate loan	\$10	\$15	\$25	\$30	\$40	\$50	\$50
l	Annual initiation costs	\$10	\$15	\$25	\$30	\$40	\$50	\$50
m	Monthly loan monitoring cost	\$2	\$2	\$3	\$3	\$4	\$5	\$5
n	Annual monitoring cost	\$24	\$24	\$36	\$36	\$48	\$60	\$60
o	Total Annual Operating Costs	\$34	\$39	\$61	\$66	\$88	\$110	\$110
p	<i>Average Outstanding Balance</i>	\$25	\$50	\$100	\$150	\$250	\$375	\$500
q	Annual Operating Cost Ratio	136%	78%	61%	44%	35%	29%	22%

	hs	Data included only on Broad Graphs							
a	Original Loan Amount	\$750	\$1,000	\$1,500	\$2,000	\$3,000	\$5,000	\$7,500	\$10,000
	Operating Cost Calculation								
k	Cost to initiate loan	\$50	\$50	\$60	\$75	\$100	\$150	\$250	\$300
l	Annual initiation costs	\$50	\$50	\$60	\$75	\$100	\$100	\$125	\$150
m	Monthly loan monitoring cost	\$5	\$5	\$5	\$8	\$10	\$15	\$20	\$25
n	Annual monitoring cost	\$60	\$60	\$60	\$96	\$120	\$180	\$240	\$300
o	Total Annual Operating Costs	\$110	\$110	\$120	\$171	\$220	\$280	\$365	\$450
p	<i>Average Outstanding Balance</i>	\$375	\$500	\$750	\$1,000	\$1,500	\$2,500	\$3,750	\$5,000
q	Annual Operating Cost Ratio	29%	22%	16%	17%	15%	11%	10%	9%

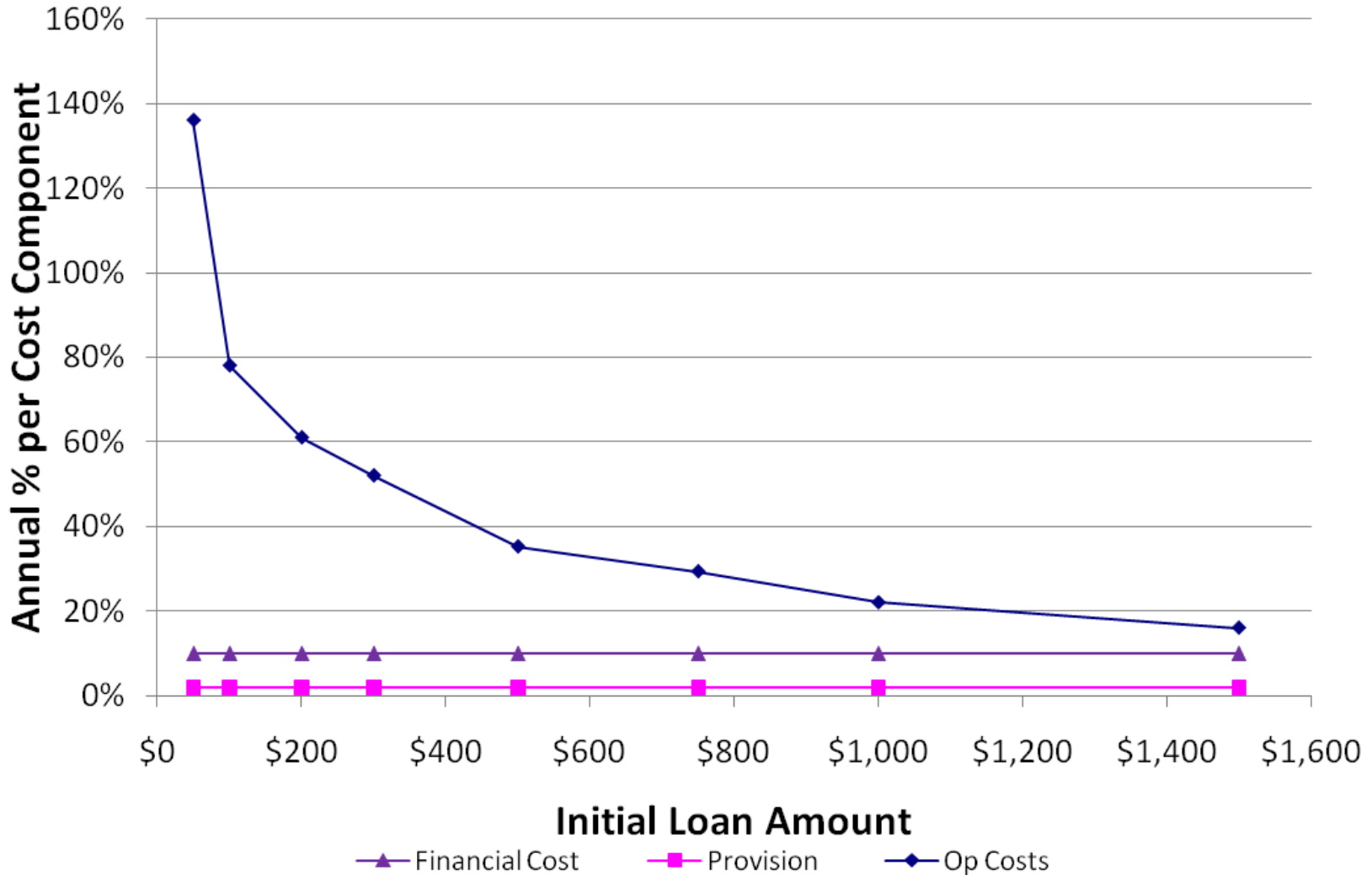
		hs			Data included only on Broad Graphs				
a	Original Loan Amount	\$750	\$1,000	\$1,500	\$2,000	\$3,000	\$5,000	\$7,500	\$10,000
	Operating Cost Calculation								
k	Cost to initiate loan	\$50	\$50	\$60	\$75	\$100	\$150	\$250	\$300
l	Annual initiation costs	\$50	\$50	\$60	\$75	\$100	\$100	\$125	\$150
m	Monthly loan monitoring cost	\$5	\$5	\$5	\$8	\$10	\$15	\$20	\$25
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p	<i>Average Outstanding Balance</i>	\$375	\$500	\$750	\$1,000	\$1,500	\$2,500	\$3,750	\$5,000
q	Annual Operating Cost Ratio	29%	22%	16%	17%	15%	11%	10%	9%

		hs			Data included only on Broad Graphs				
a	Original Loan Amount	\$750	\$1,000	\$1,500	\$2,000	\$3,000	\$5,000	\$7,500	\$10,000
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q	Annual Operating Cost Ratio	29%	22%	16%	17%	15%	11%	10%	9%

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a	Original Loan Amount	\$750	\$1,000	\$1,500	\$2,000	\$3,000	\$5,000	\$7,500	\$10,000
	Operating Cost Calculation								
k	Cost to initiate loan	\$50	\$50	\$60	\$75	\$100	\$150	\$250	\$300
l	Annual initiation costs	\$50	\$50	\$60	\$75	\$100	\$100	\$125	\$150
m	Monthly loan monitoring cost	\$5	\$5	\$5	\$8	\$10	\$15	\$20	\$25
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Cost Structure Relative to Initial Loan Amount

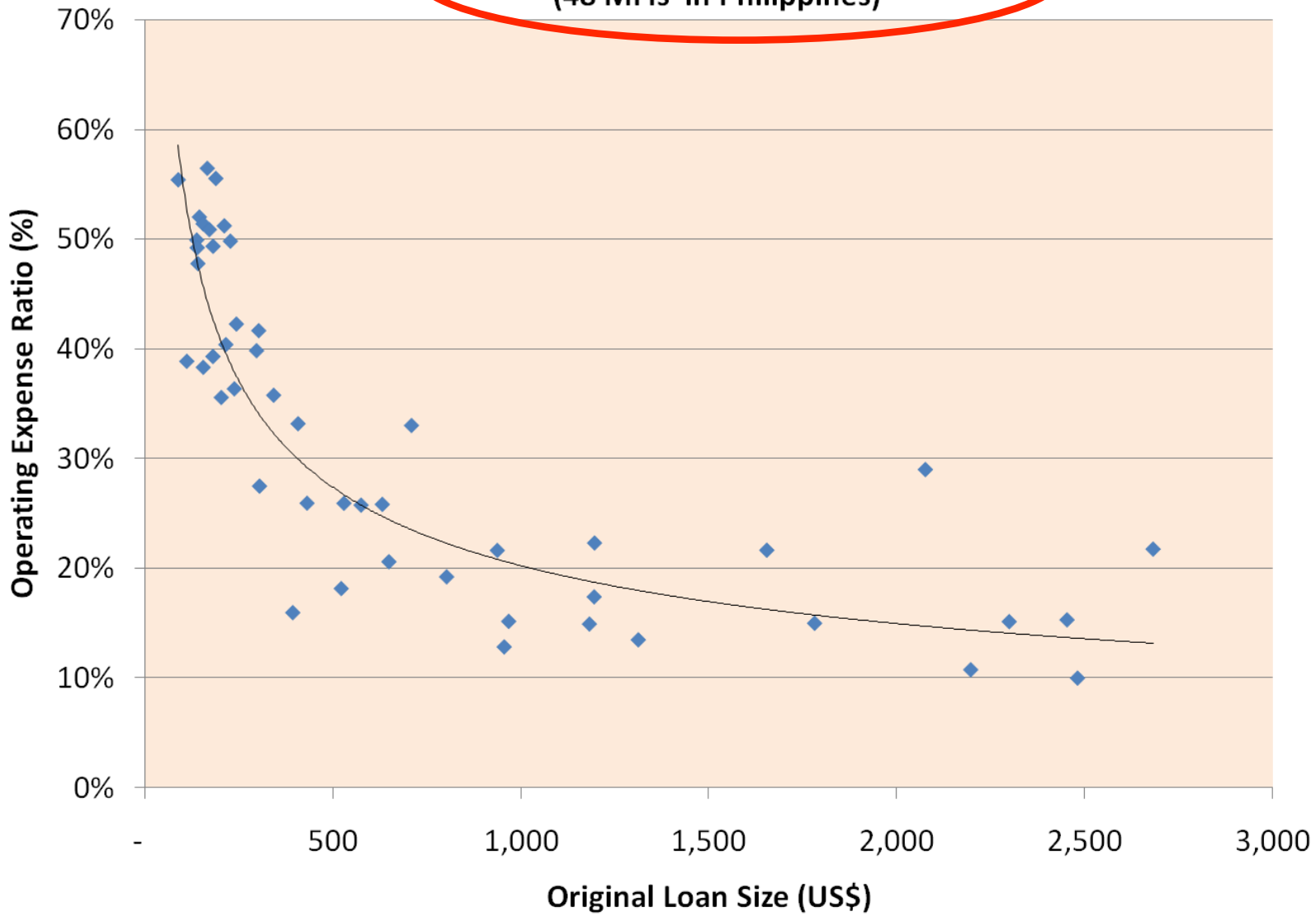
(smaller loans)



Pricing for Different Products

Component	\$100 Loan	\$1000 Loan
Financial Costs	10%	10%
Loan Loss	2%	2%
Operating Costs	50%	15%
Profit	3%	3%
Total Price	65%	30%

Loan Size and Op Exp/Port %
(48 MFIs in Philippines)



Cost Components that Affect Pricing

Component	
Financial Costs	10%
Loan Loss	2%
Operating Costs	20%
Profit	3%
Total Price	35%

Realizing that there is a cost curve

Efficiency	1	2	3
Operating Cost per Loan	\$50		
Loan Size	\$500		
Operating Cost Ratio	10%		

Realizing that there is a cost curve

Efficiency	1	2	3
Operating Cost per Loan	\$50	\$50	
Loan Size	\$500	\$250	
Operating Cost Ratio	10%	20%	

Realizing that there is a cost curve

Efficiency	1	2	3
Operating Cost per Loan	\$50	\$50	\$30
Loan Size	\$500	\$250	\$100
Operating Cost Ratio	10%	20%	30%

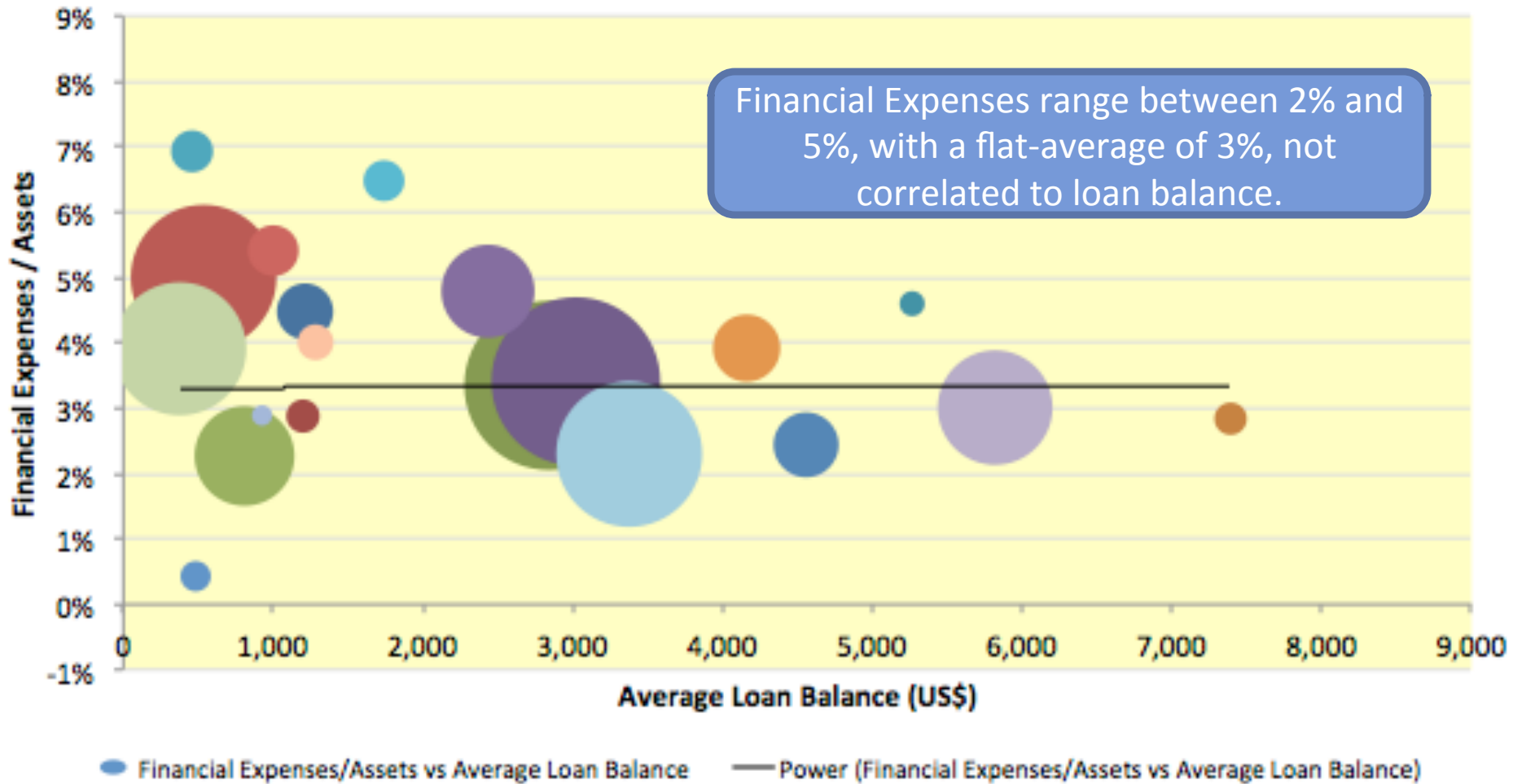
**Are there curves for the other
cost components?**

Cost Components that Affect Pricing

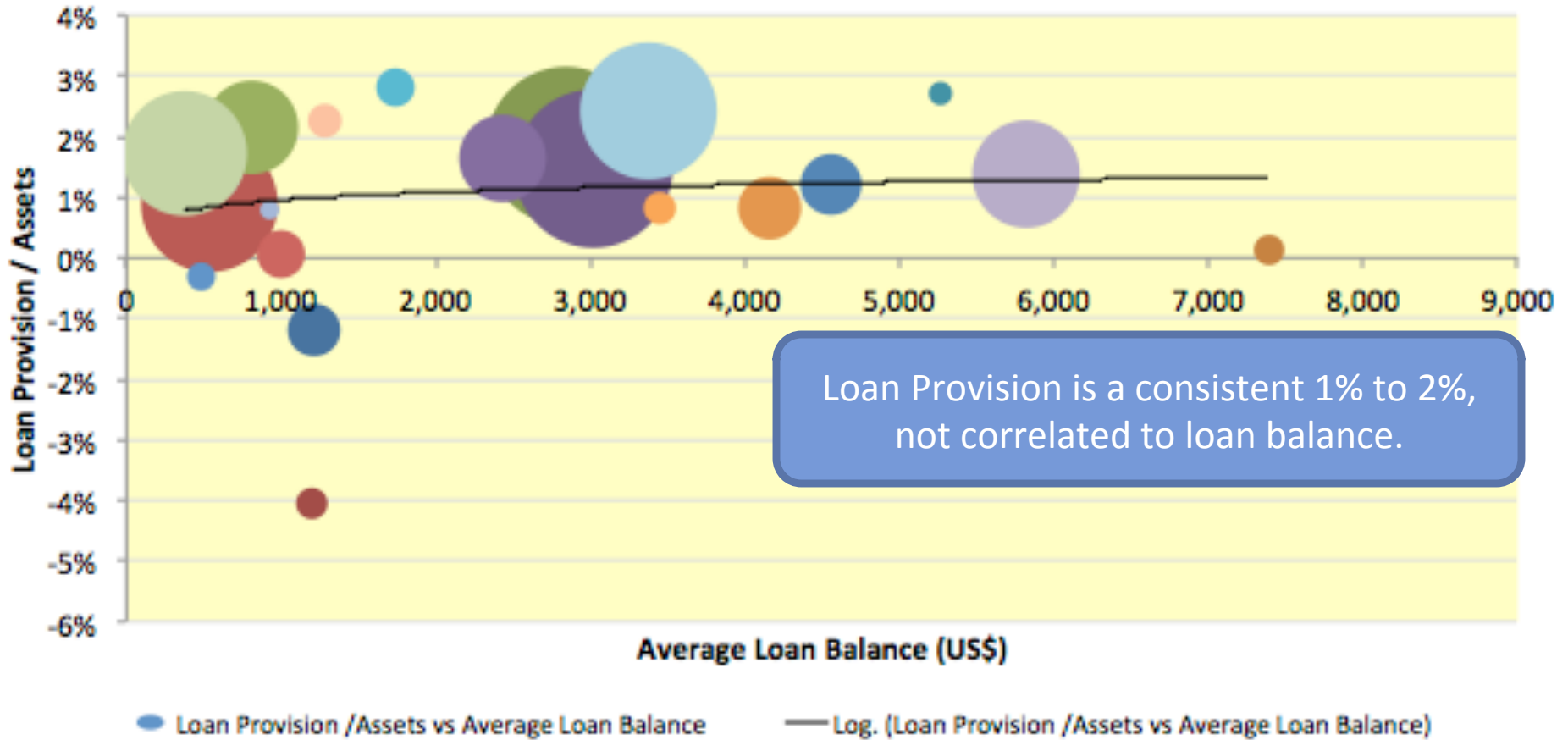
Component	
Financial Costs	10%
Loan Loss	2%
Operating Costs	20%
Profit	3%
Total Price	35%

Let's look at Bolivia

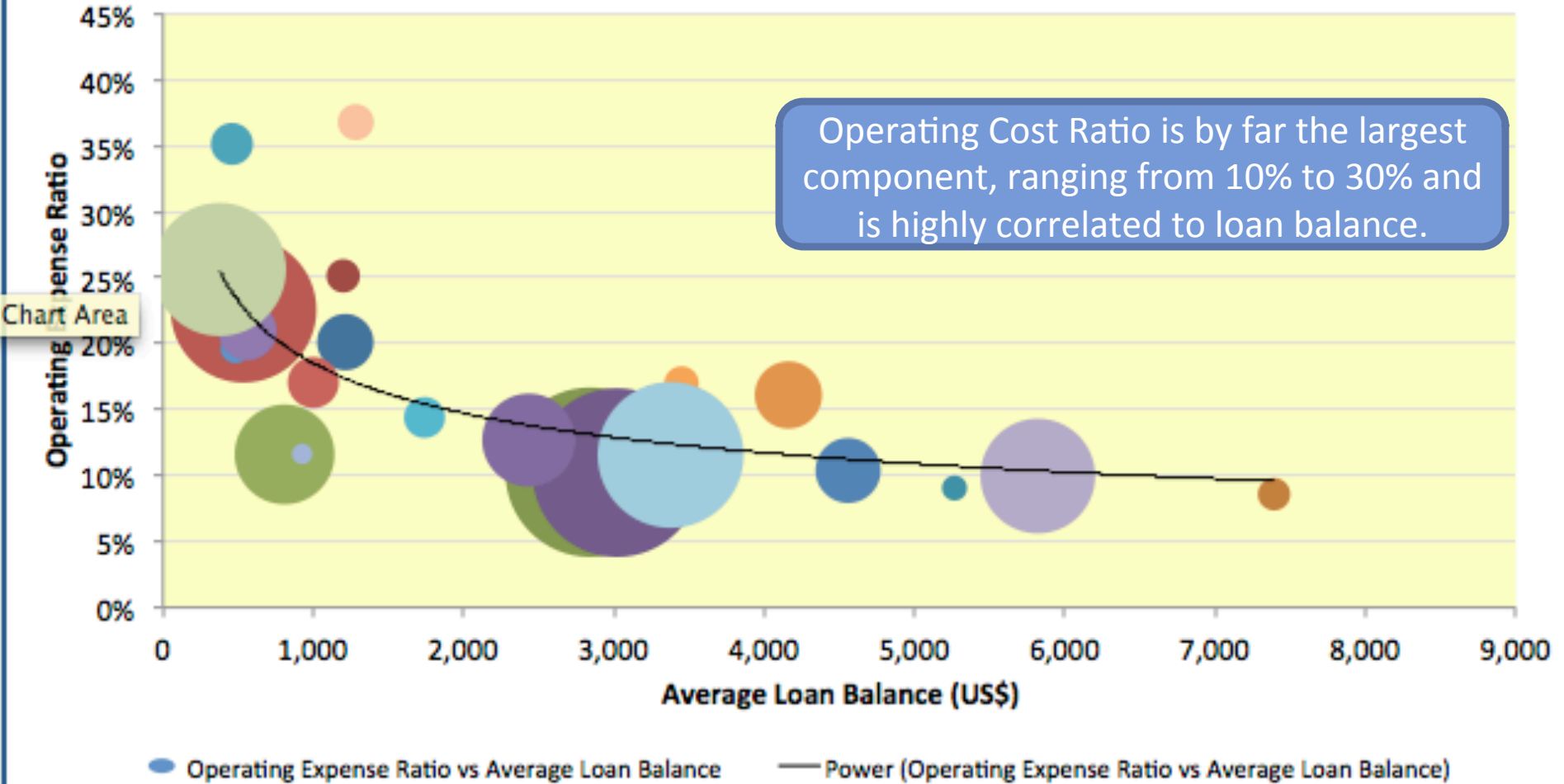
Financial Expenses/Assets vs Average Loan Balance Bolivia, 24 MFIs



Loan Provision /Assets vs Average Loan Balance Bolivia, 24 MFIs

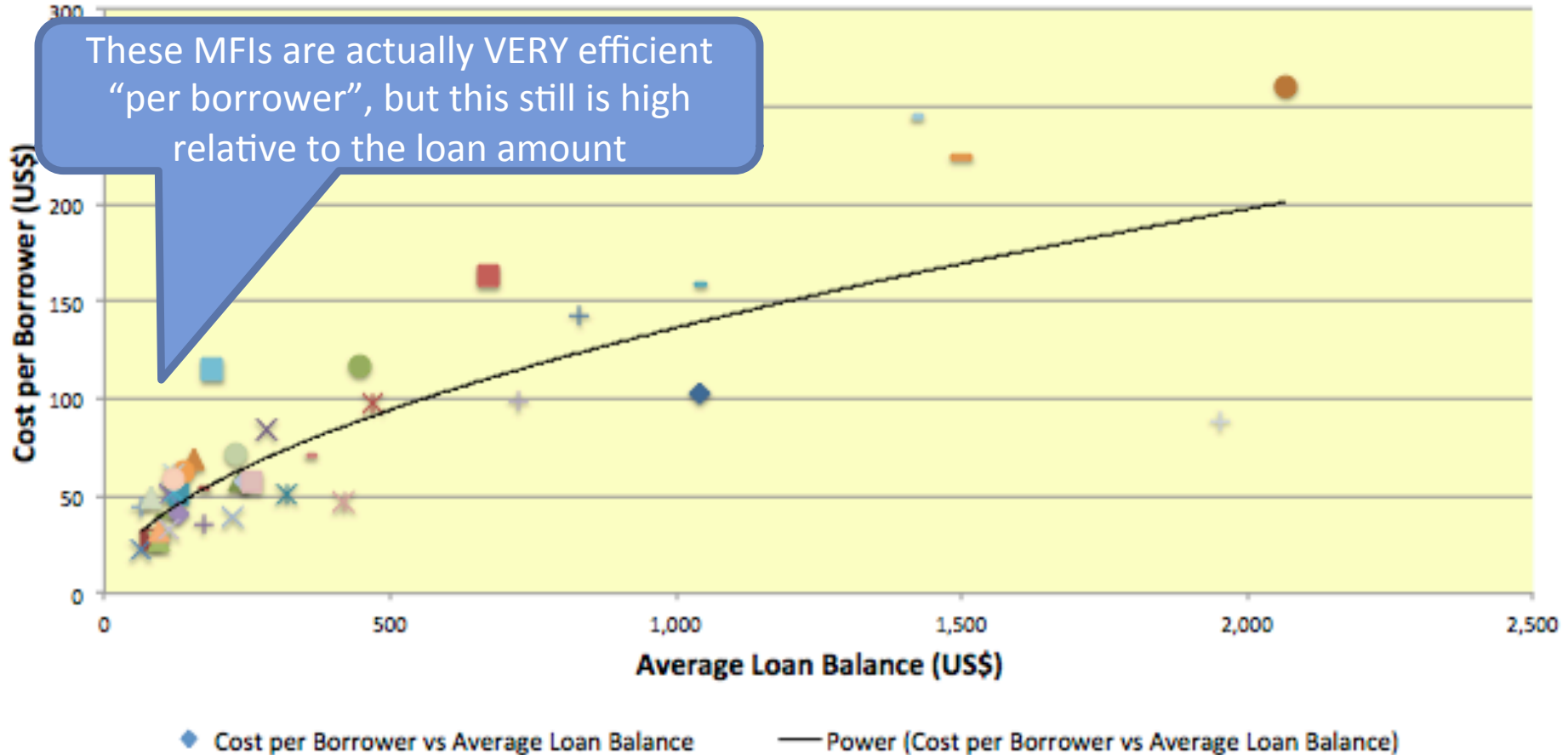


Operating Expense Ratio vs Average Loan Balance Bolivia, 24 MFIs

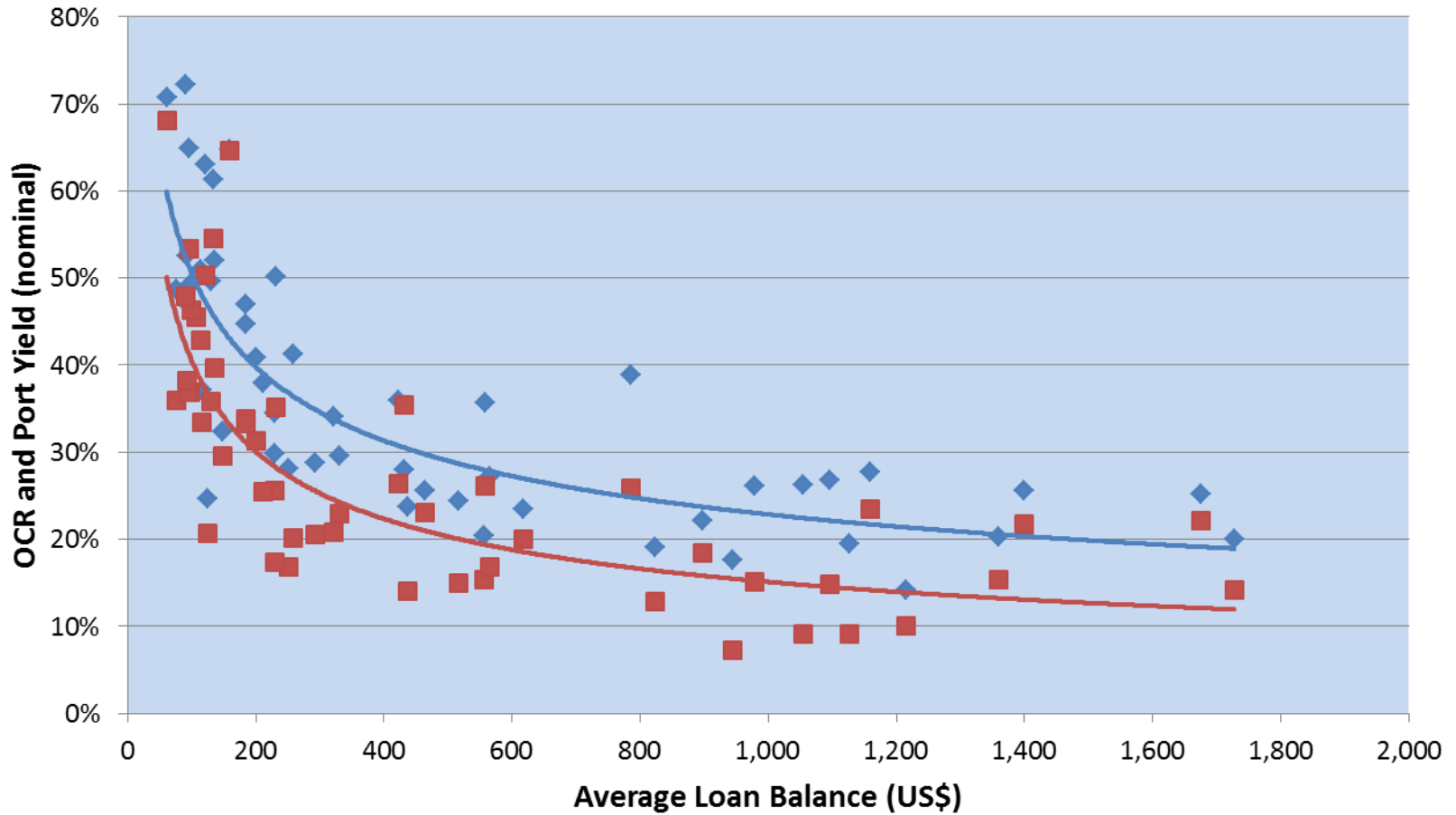


Efficiency - Cost per Borrower

Cost per Borrower vs Average Loan Balance
Philippines, 43 MFIs

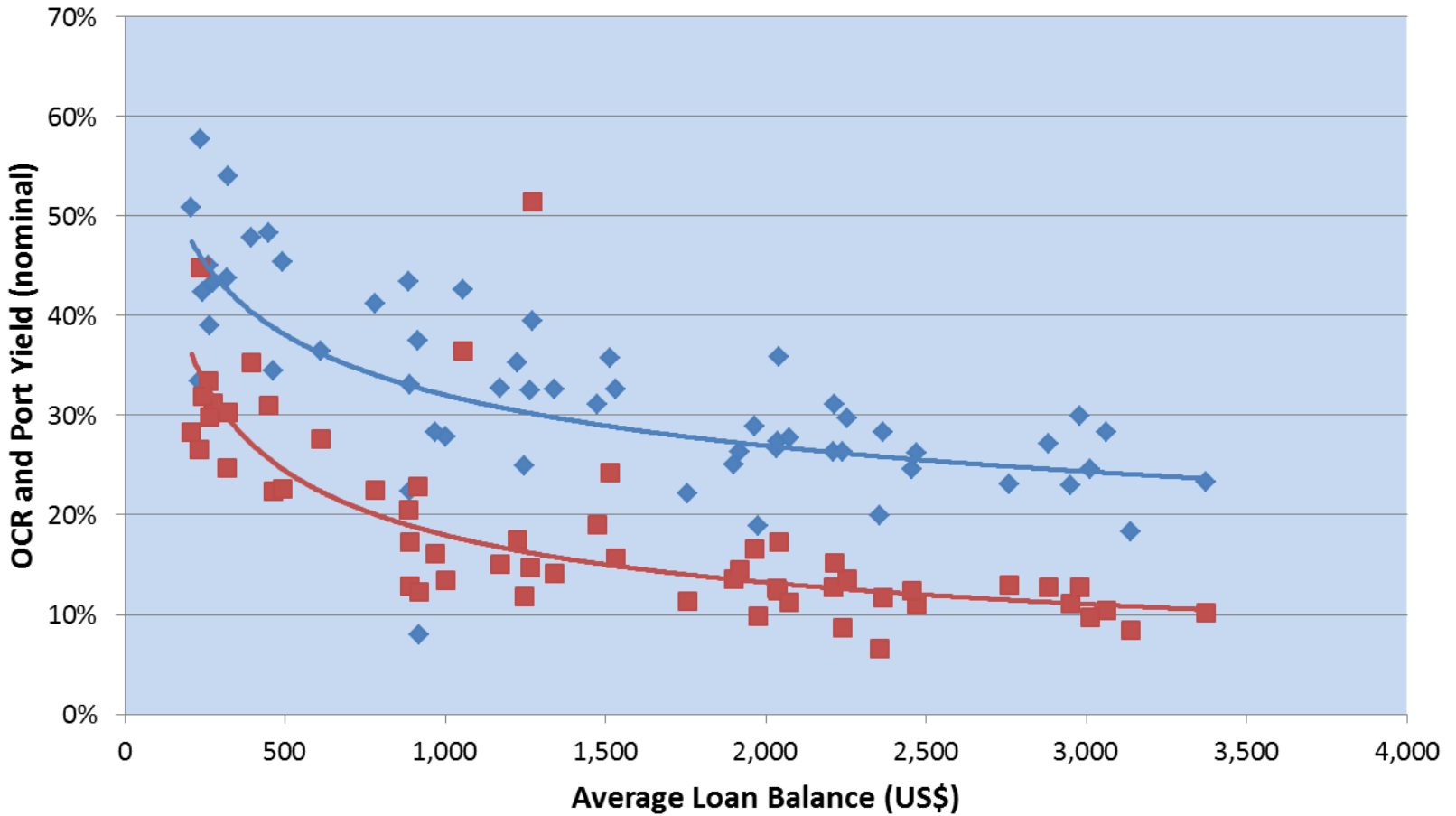


Portfolio Yield & OER vs Average Loan Balance Philippines, 59 MFIs



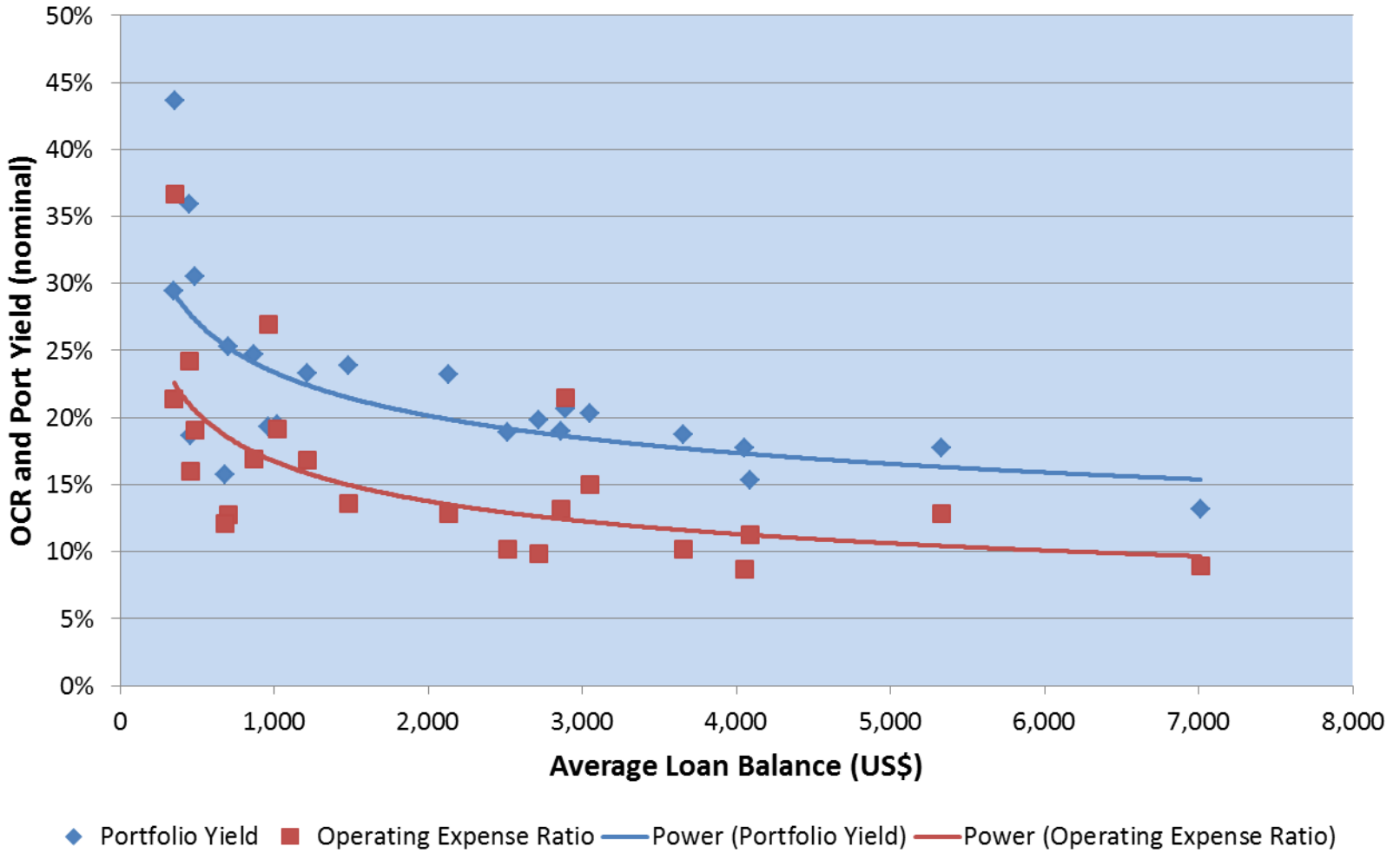
◆ Portfolio Yield ■ Operating Expense Ratio — Power (Portfolio Yield) — Power (Operating Expense Ratio)

Portfolio Yield & OER vs Average Loan Balance Peru, 57 MFIs



◆ Portfolio Yield ■ Operating Expense Ratio — Power (Portfolio Yield) — Power (Operating Expense Ratio)

Portfolio Yield & OER vs Average Loan Balance Bolivia, 23 MFIs



Is there a dramatic curve in every country like we see in the Philippines?

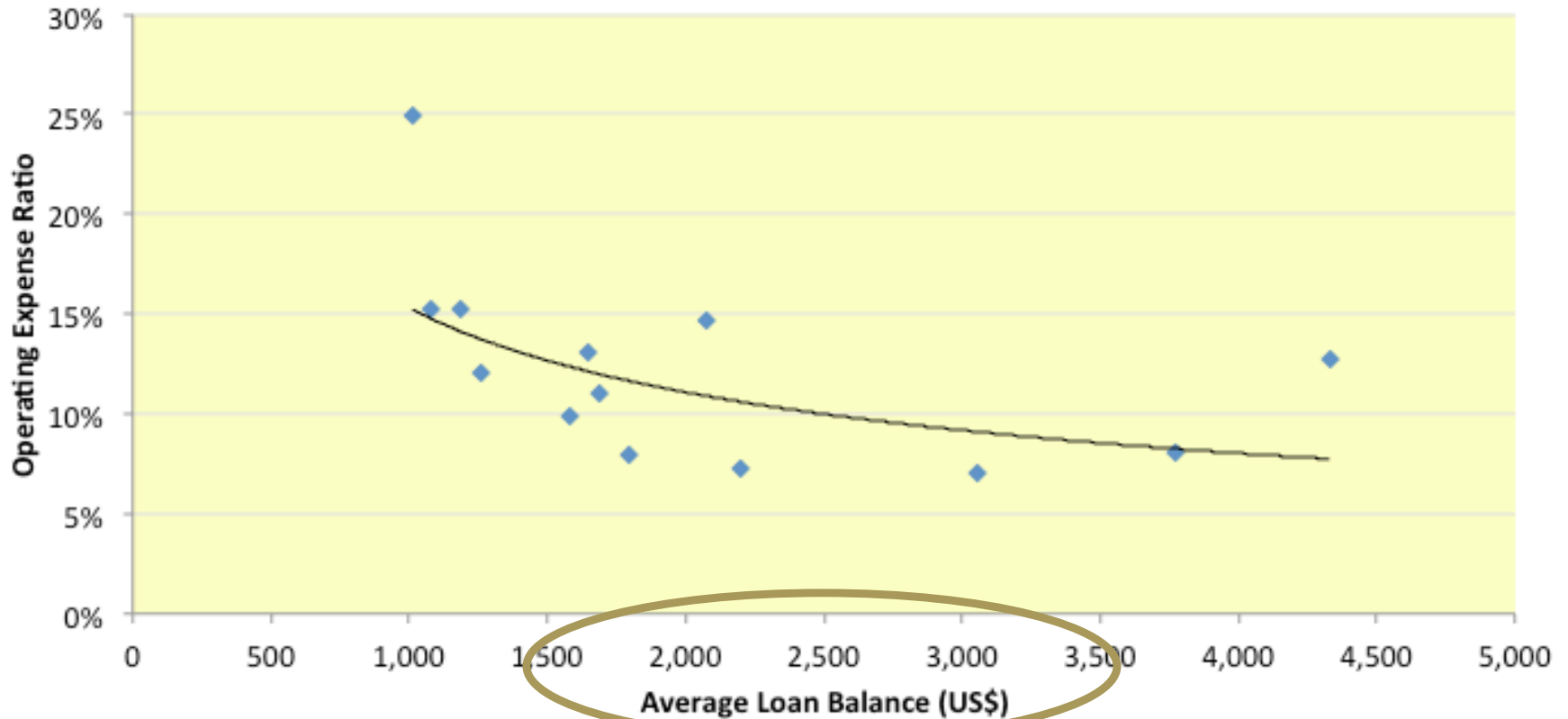
No. Not when we look at the MIX data. Some countries are more like “sloped lines”.



Where do the curves start?

**Let's study the operating cost
curve relative to the economy**

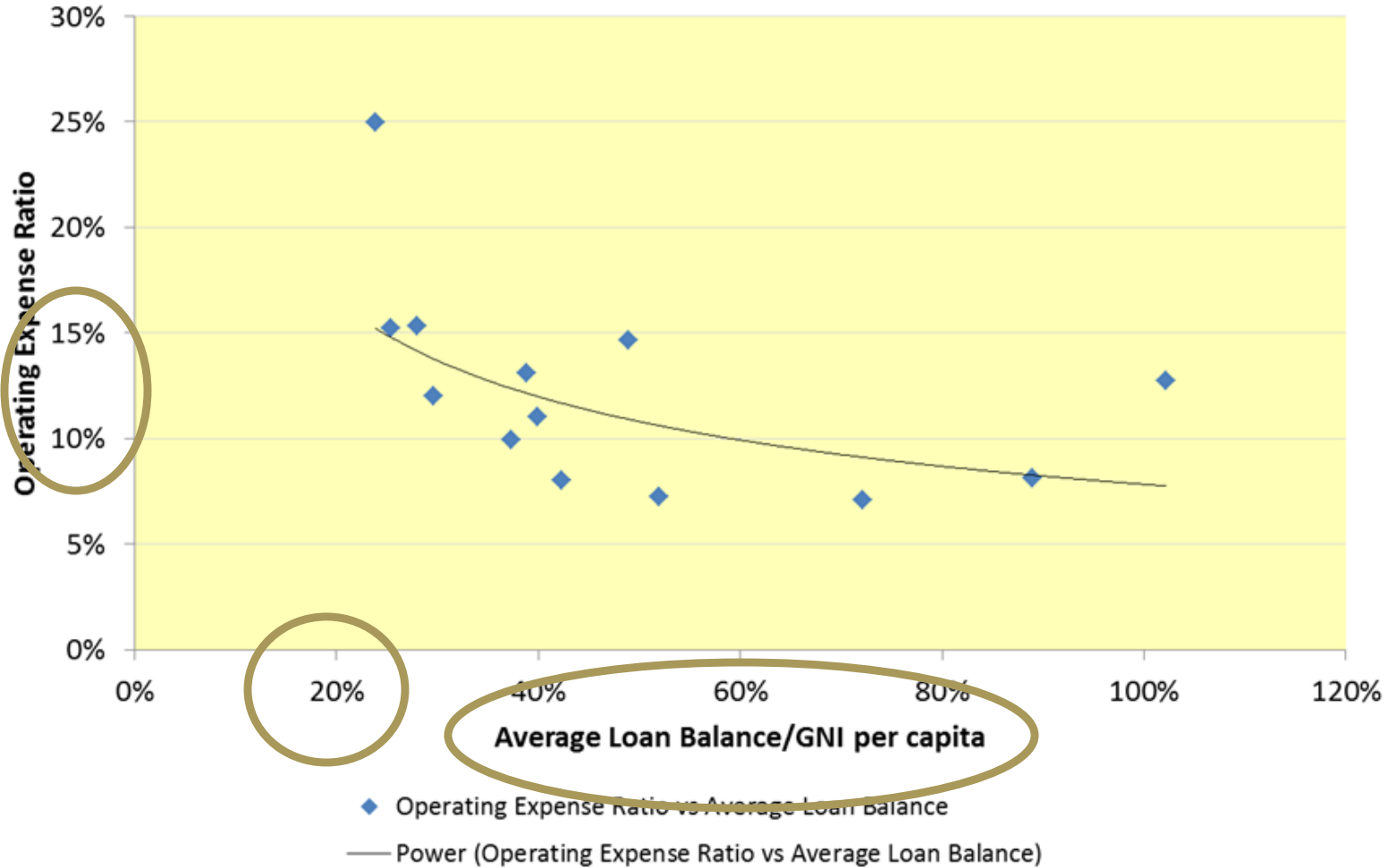
Operating Expense Ratio vs Average Loan Balance Bosnia and Herzegovina, 13 MFIs



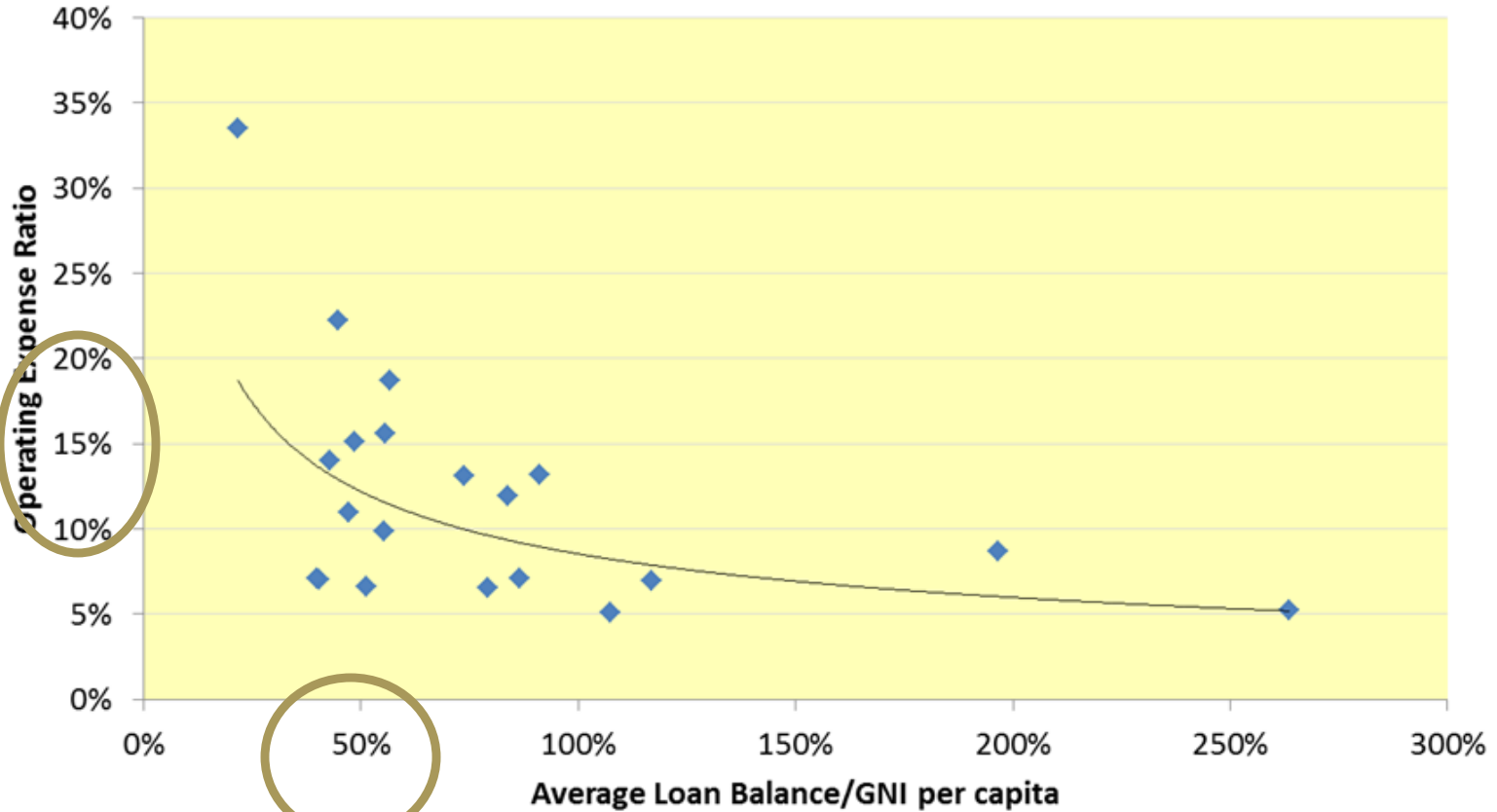
◆ Operating Expense Ratio vs Average Loan Balance

— Power (Operating Expense Ratio vs Average Loan Balance)

Operating Expense Ratio vs Average Loan Balance Bosnia and Herzegovina, 13 MFIs

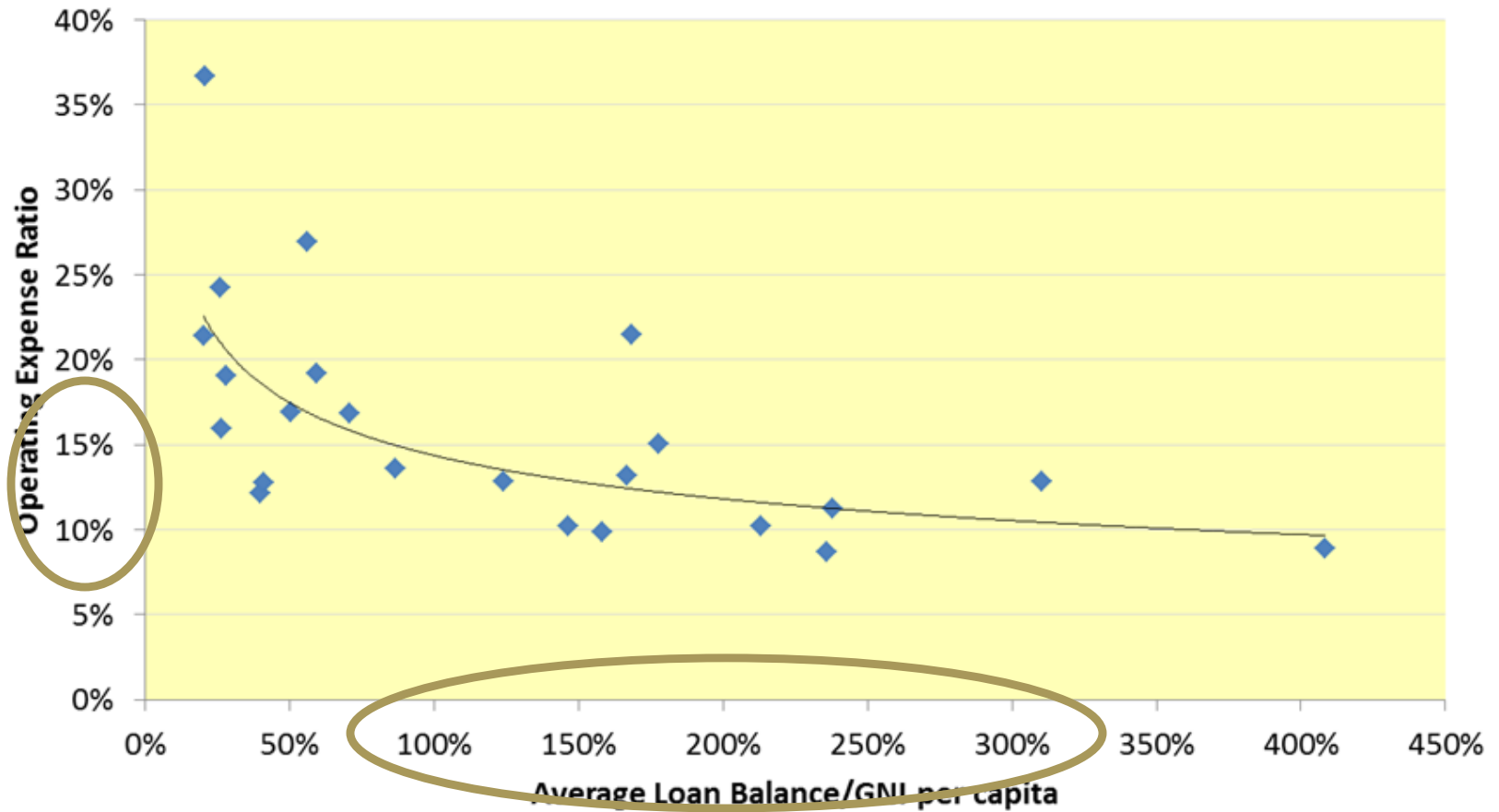


Operating Expense Ratio vs Average Loan Balance Bulgaria, 20 MFIs



- ◆ Operating Expense Ratio vs Average Loan Balance
- Power (Operating Expense Ratio vs Average Loan Balance)

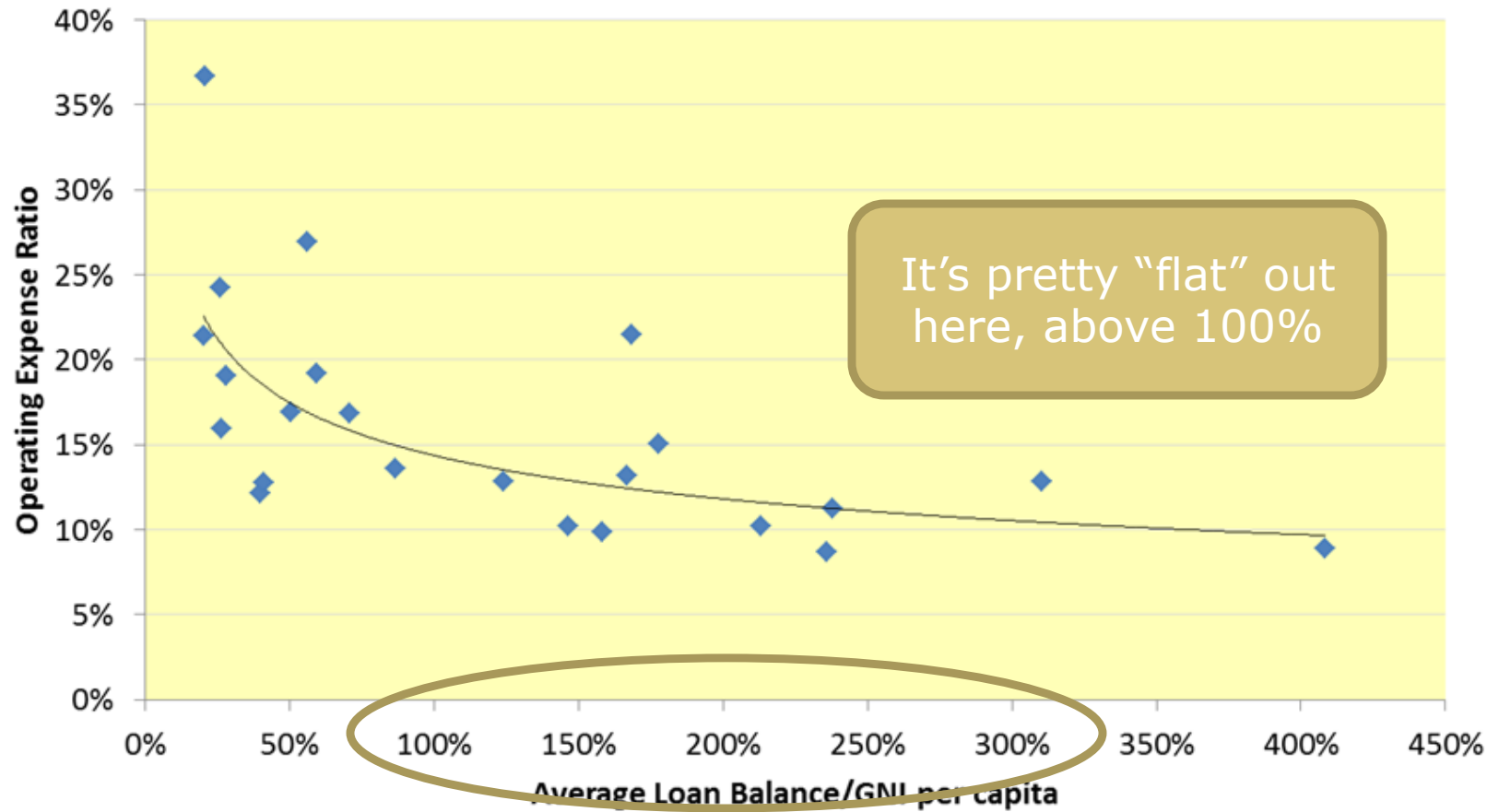
Operating Expense Ratio vs Average Loan Balance Bolivia, 23 MFIs



◆ Operating Expense Ratio vs Average Loan Balance

— Power (Operating Expense Ratio vs Average Loan Balance)

Operating Expense Ratio vs Average Loan Balance Bolivia, 23 MFIs



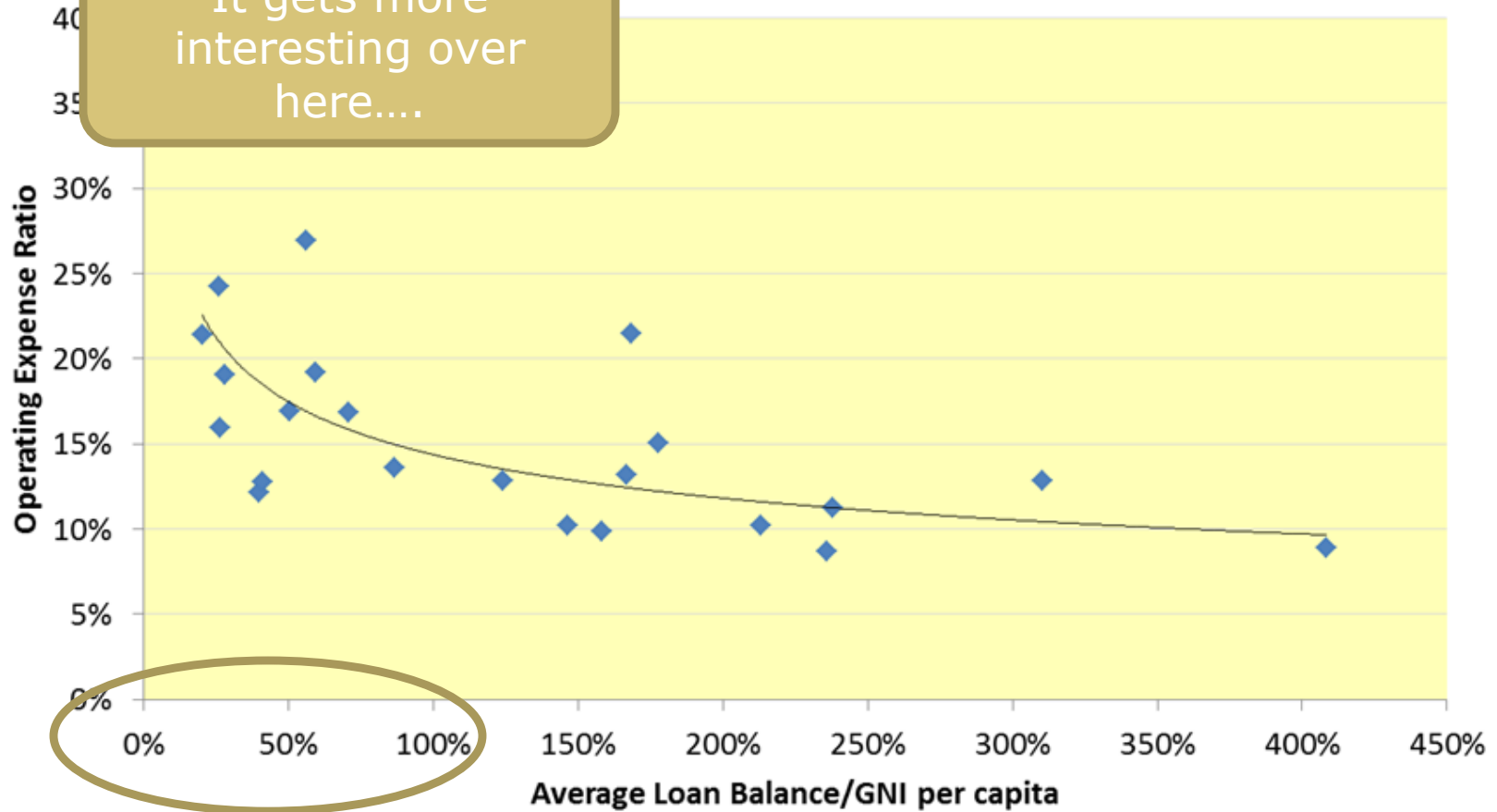
It's pretty "flat" out here, above 100%

- ◆ Operating Expense Ratio vs Average Loan Balance
- Power (Operating Expense Ratio vs Average Loan Balance)

Operating Expense Ratio vs Average Loan Balance

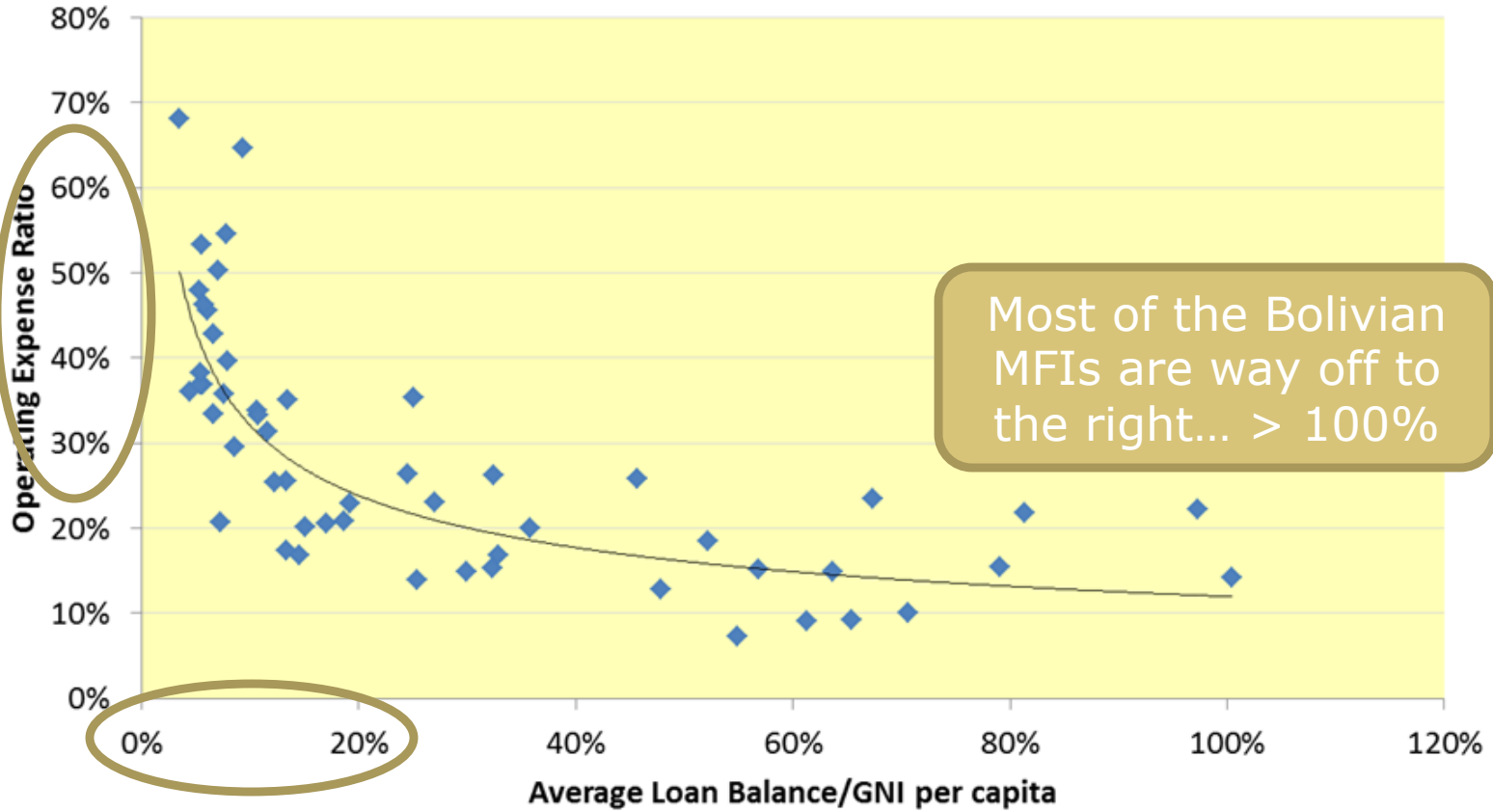
Bolivia, 23 MFIs

It gets more interesting over here....



- ◆ Operating Expense Ratio vs Average Loan Balance
- Power (Operating Expense Ratio vs Average Loan Balance)

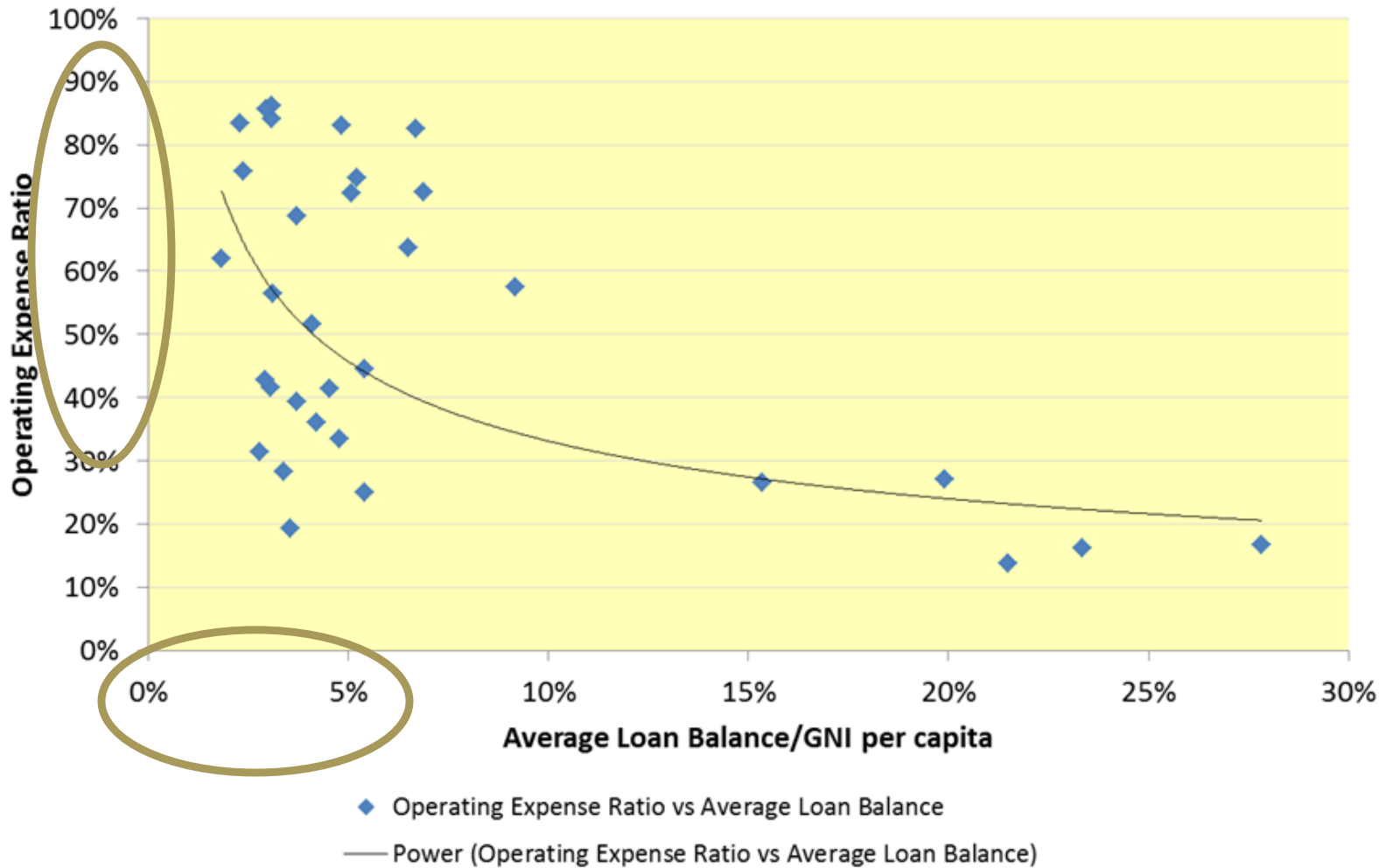
Operating Expense Ratio vs Average Loan Balance Philippines, 59 MFIs



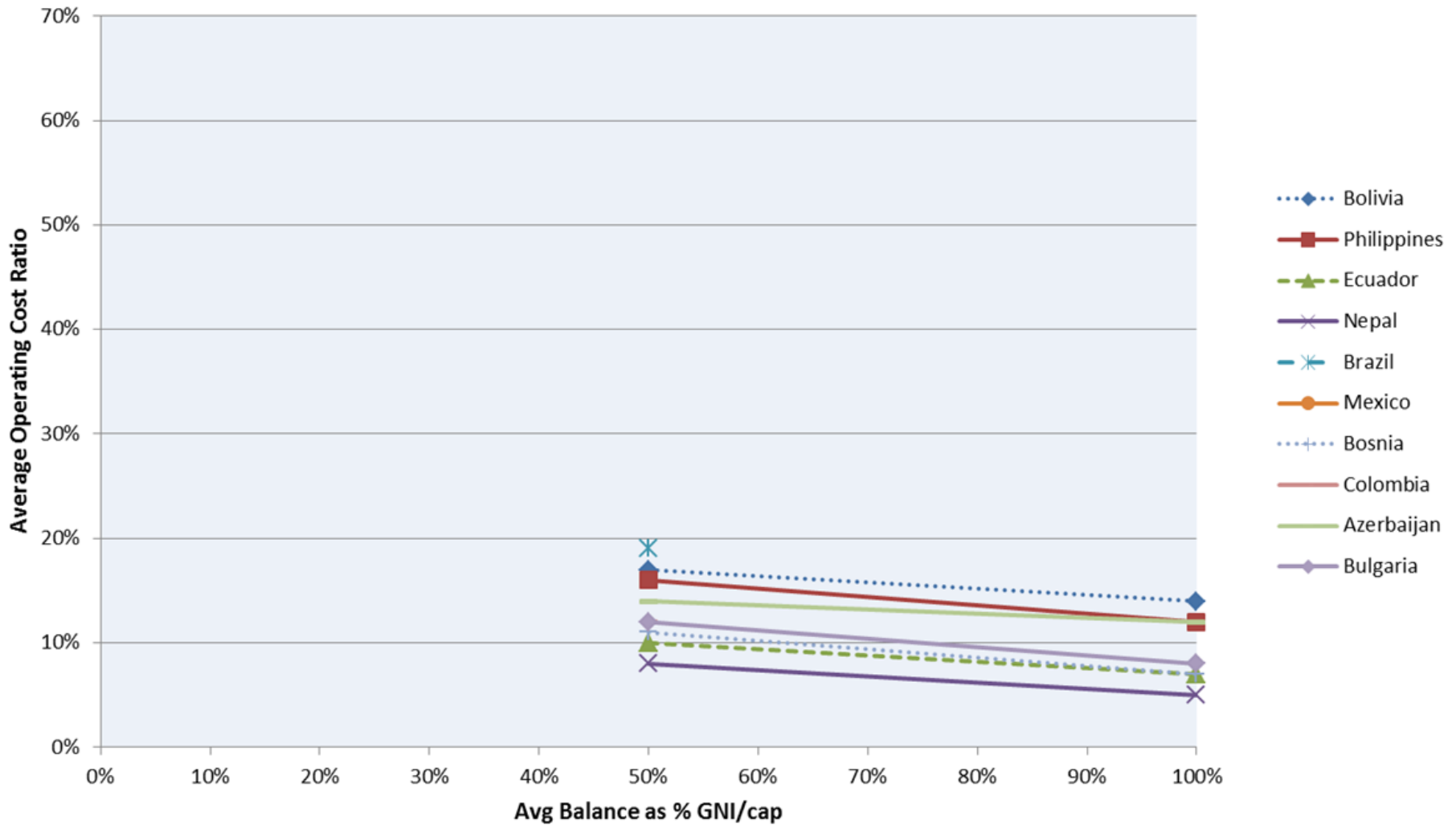
Most of the Bolivian MFIs are way off to the right... > 100%

- ◆ Operating Expense Ratio vs Average Loan Balance
- Power (Operating Expense Ratio vs Average Loan Balance)

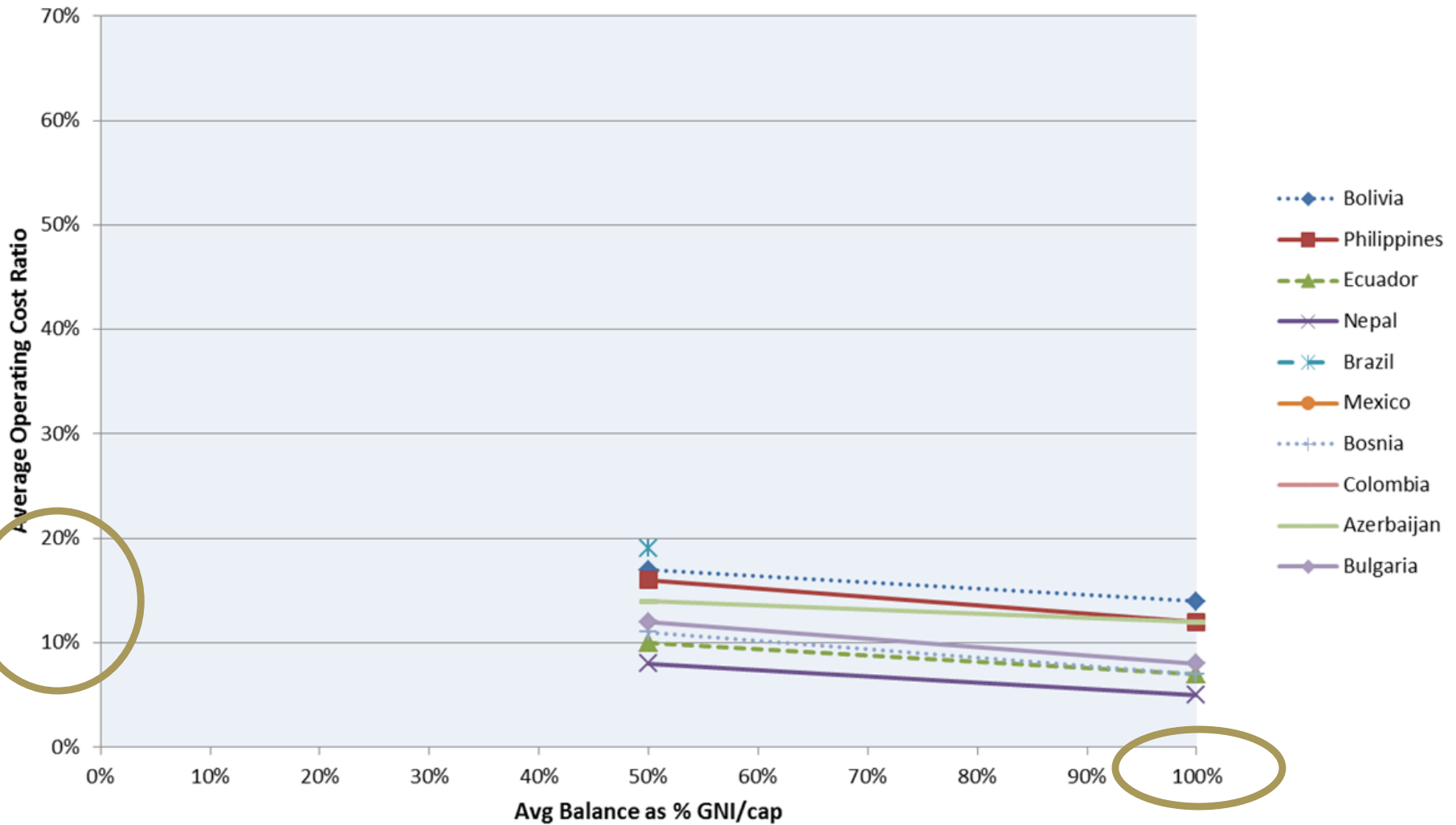
Operating Expense Ratio vs Average Loan Balance Mexico, 32 MFIs



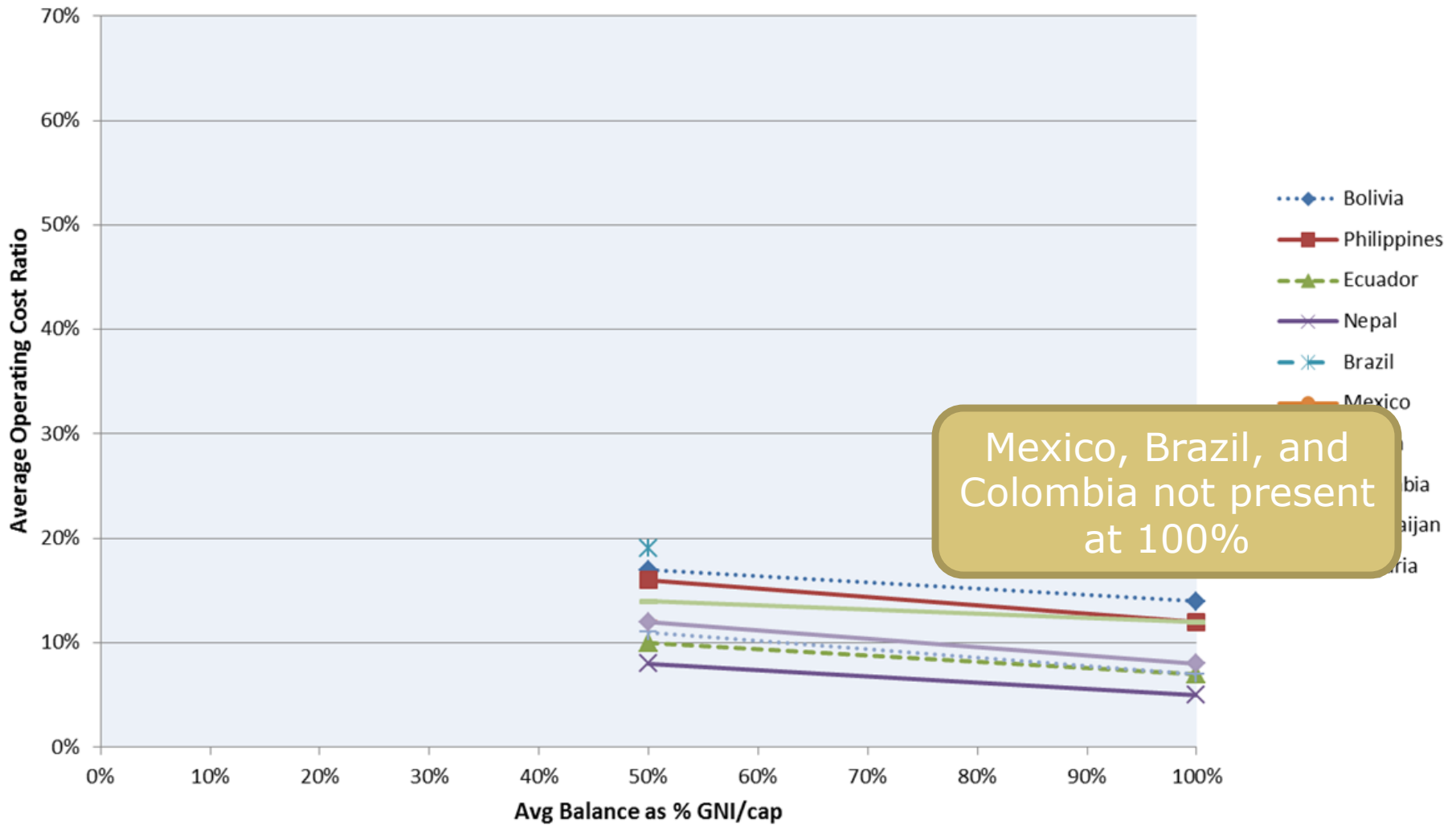
Average Op Cost Ratio by Loan Scale, selected countries



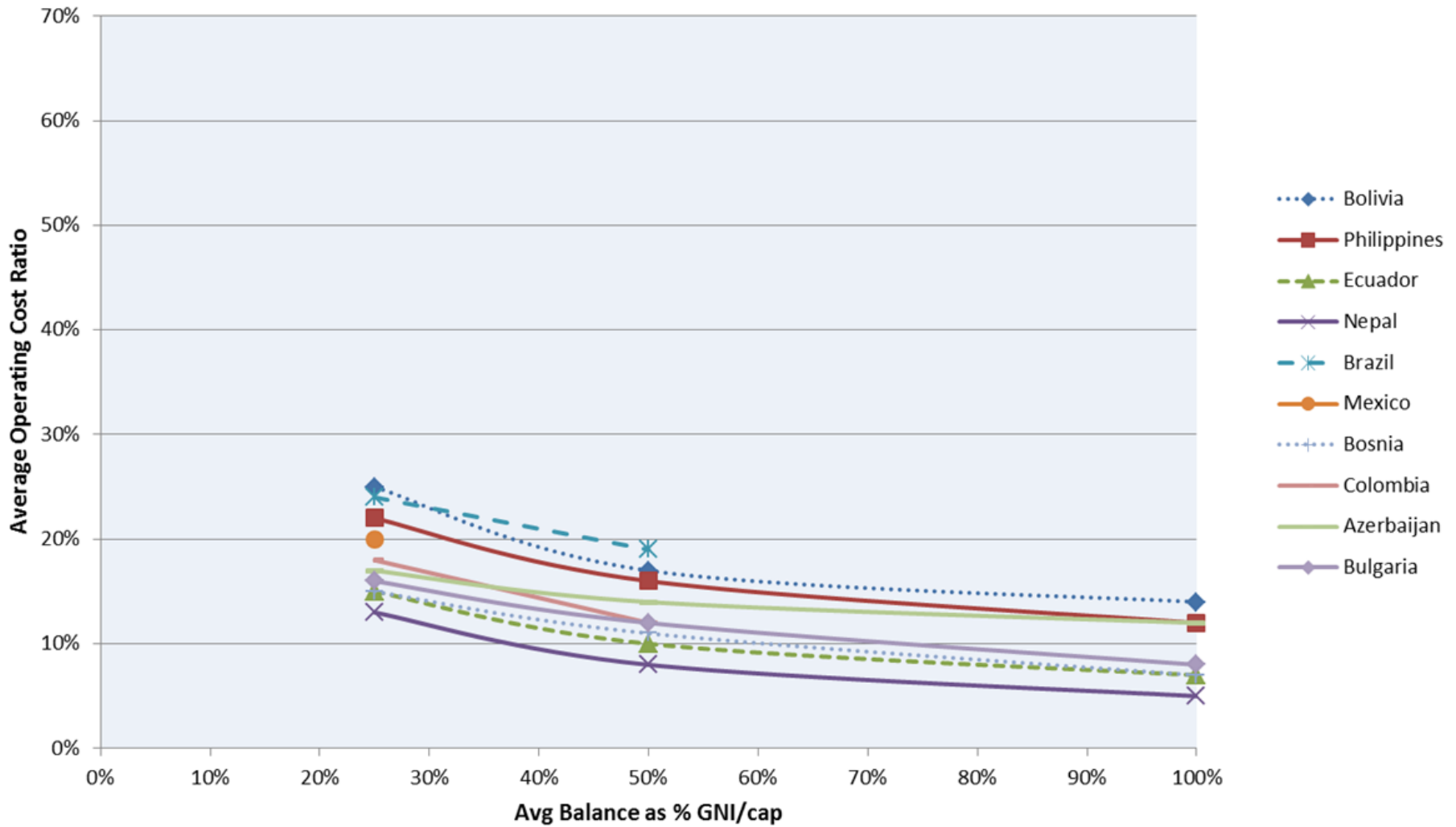
Average Op Cost Ratio by Loan Scale, selected countries



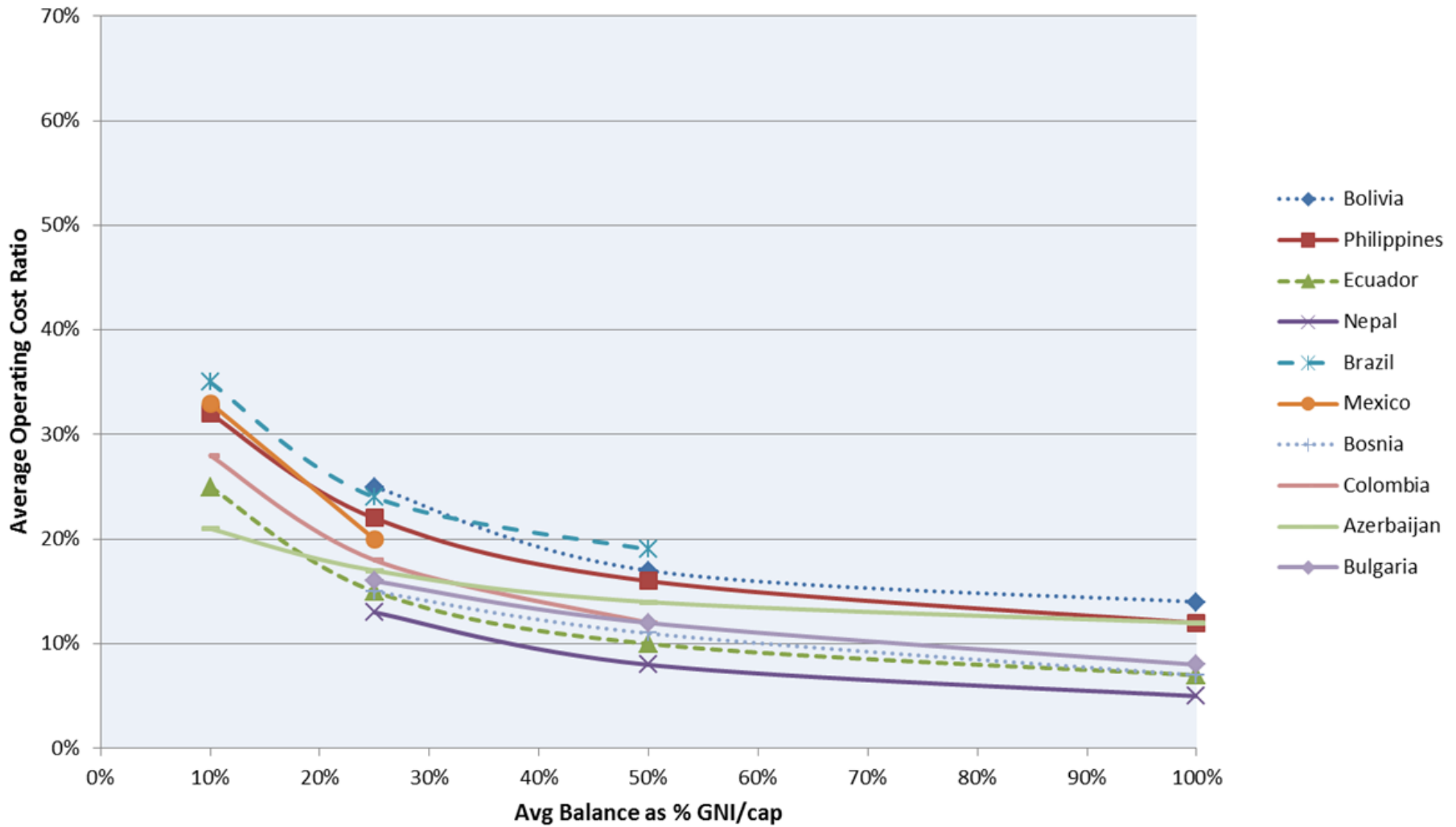
Average Op Cost Ratio by Loan Scale, selected countries



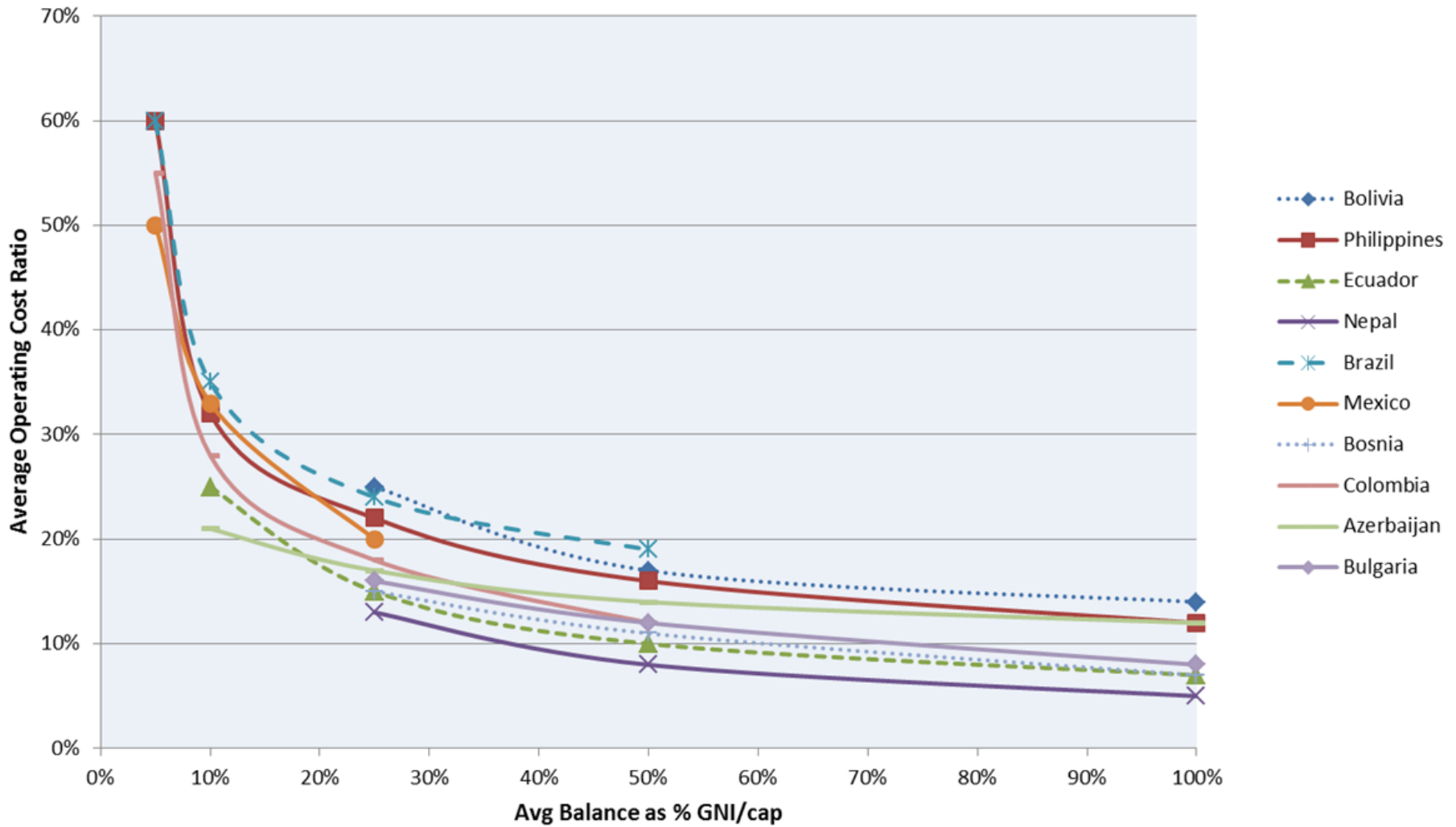
Average Op Cost Ratio by Loan Scale, selected countries



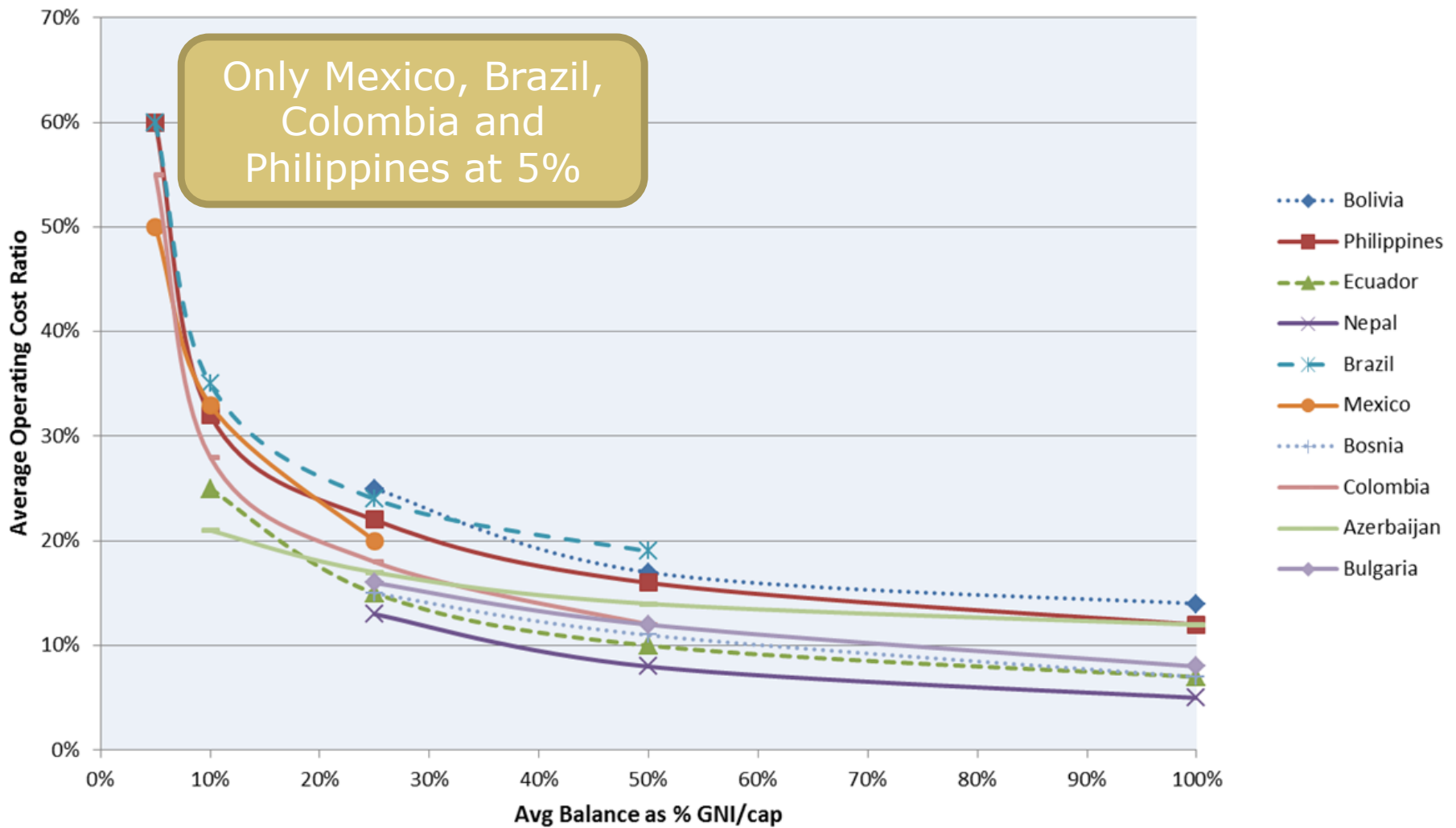
Average Op Cost Ratio by Loan Scale, selected countries



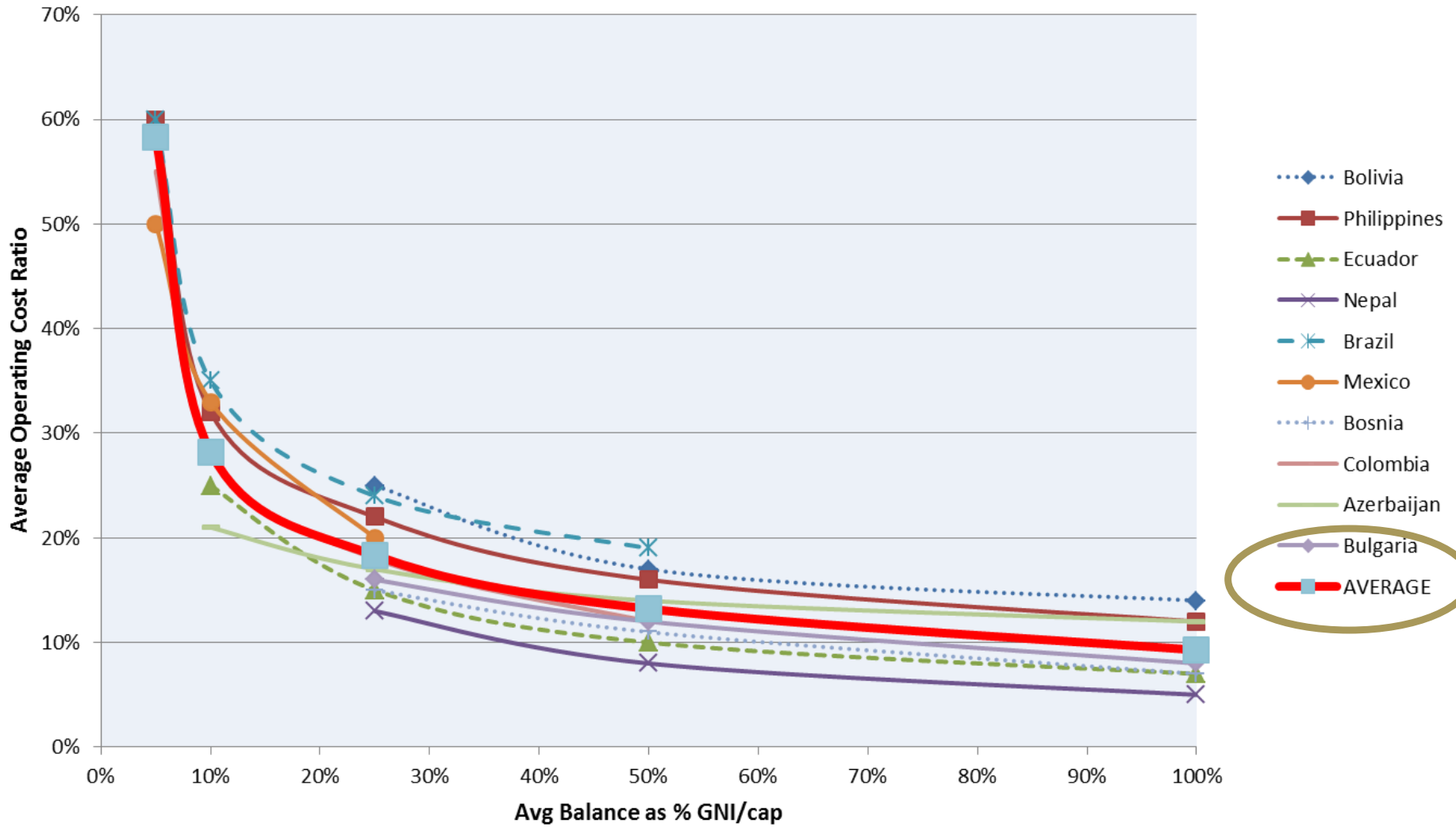
Average Op Cost Ratio by Loan Scale, selected countries



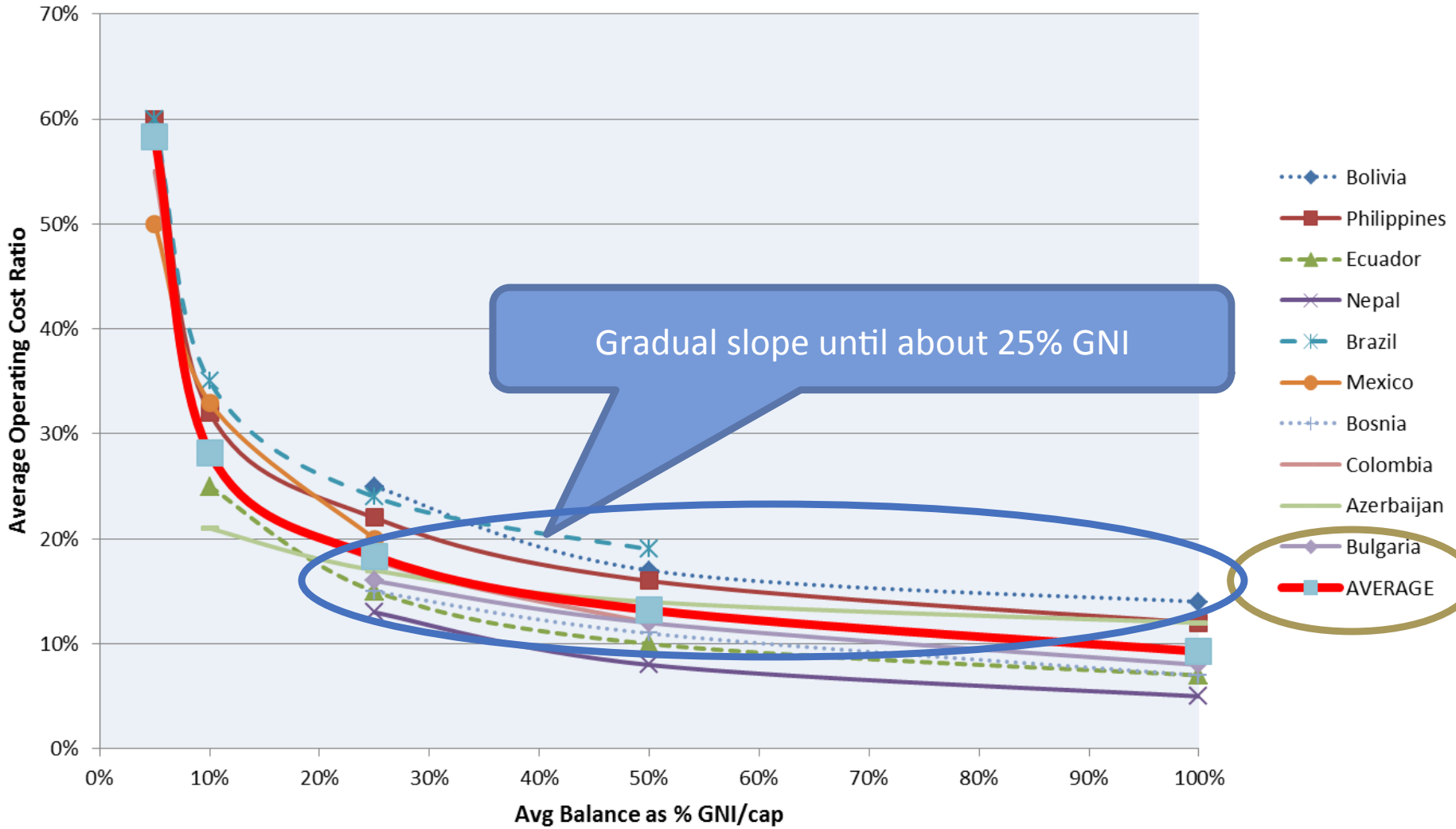
Average Op Cost Ratio by Loan Scale, selected countries



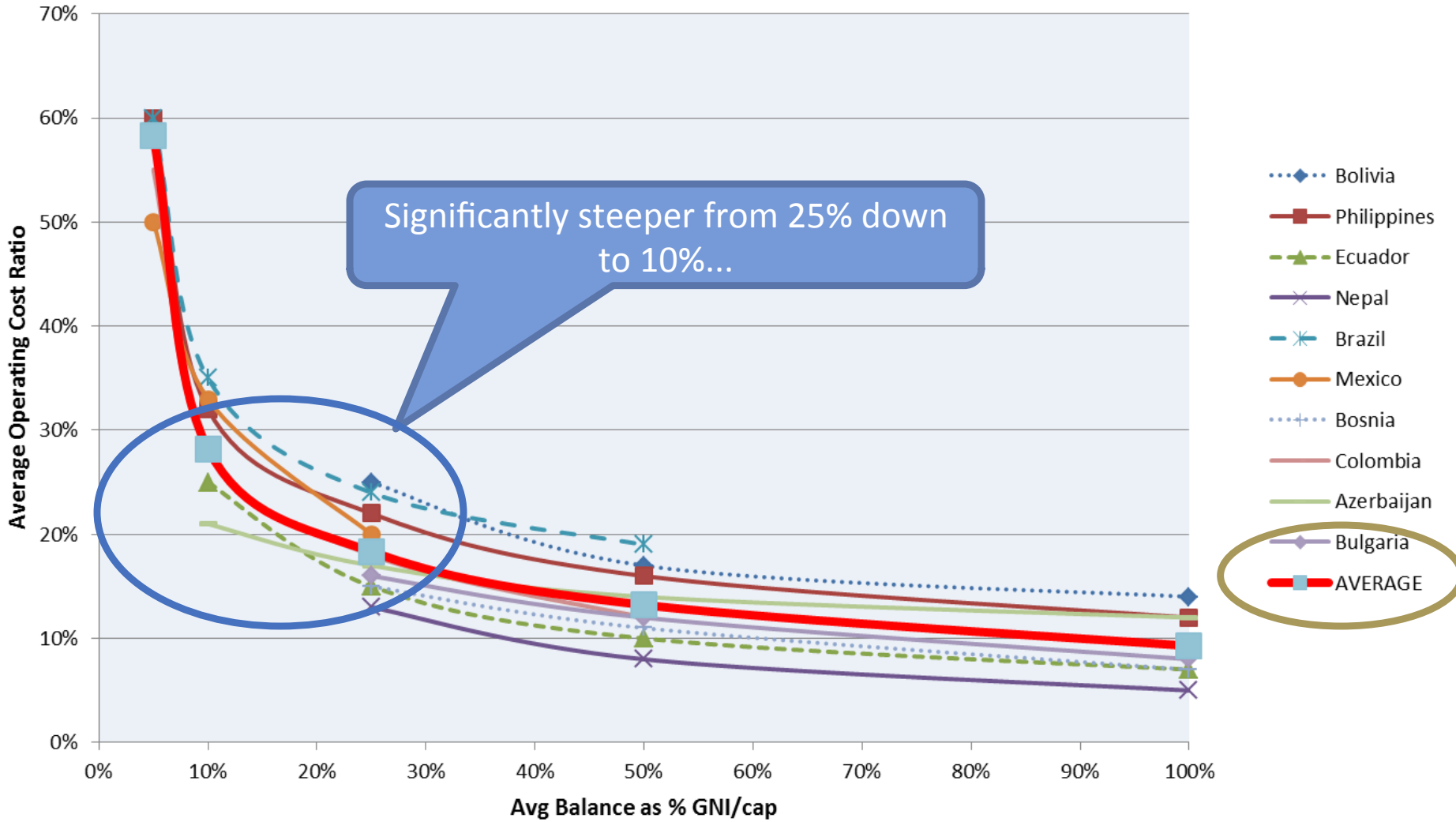
Average Op Cost Ratio by Loan Scale, selected countries



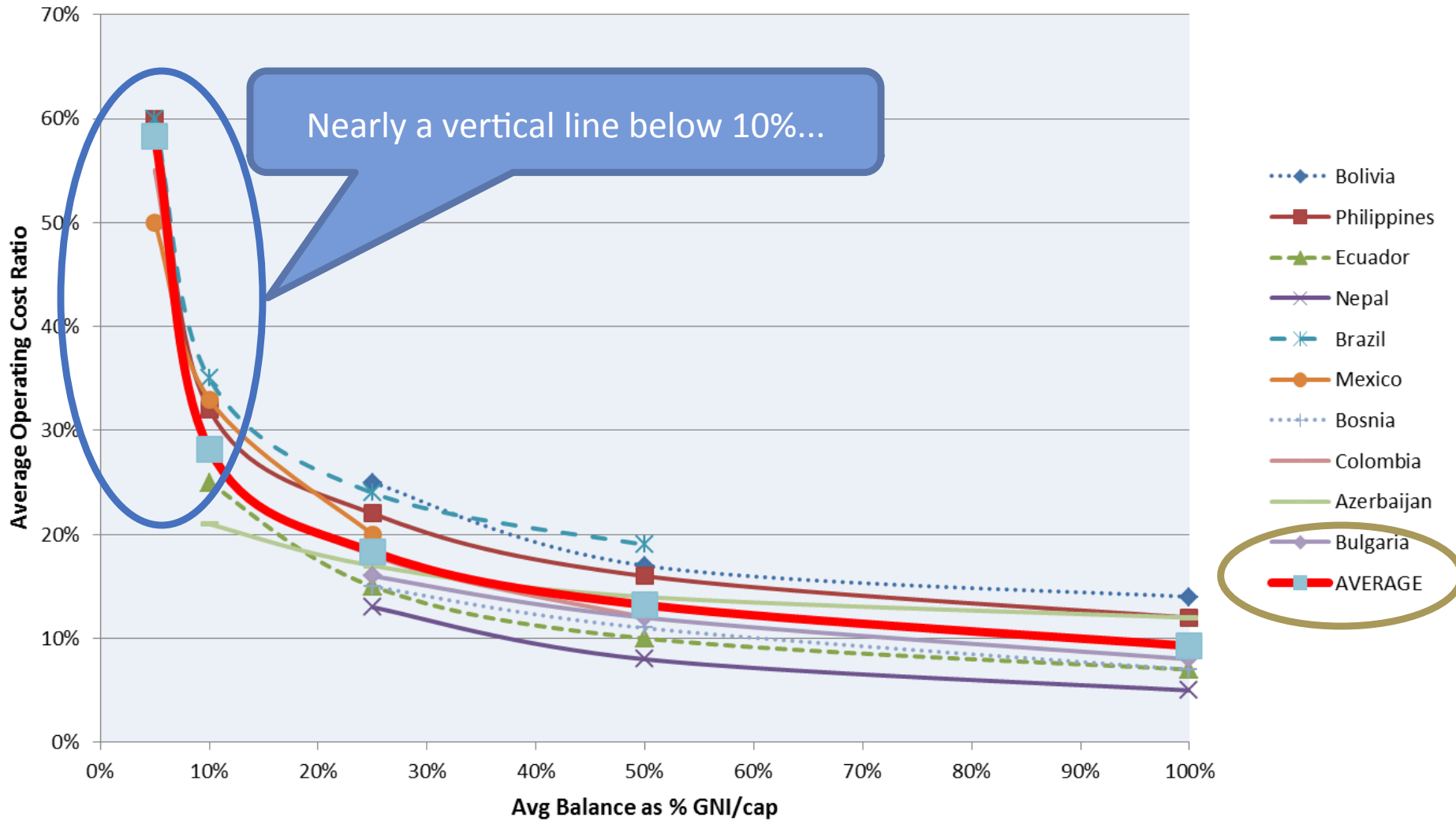
Average Op Cost Ratio by Loan Scale, selected countries



Average Op Cost Ratio by Loan Scale, selected countries

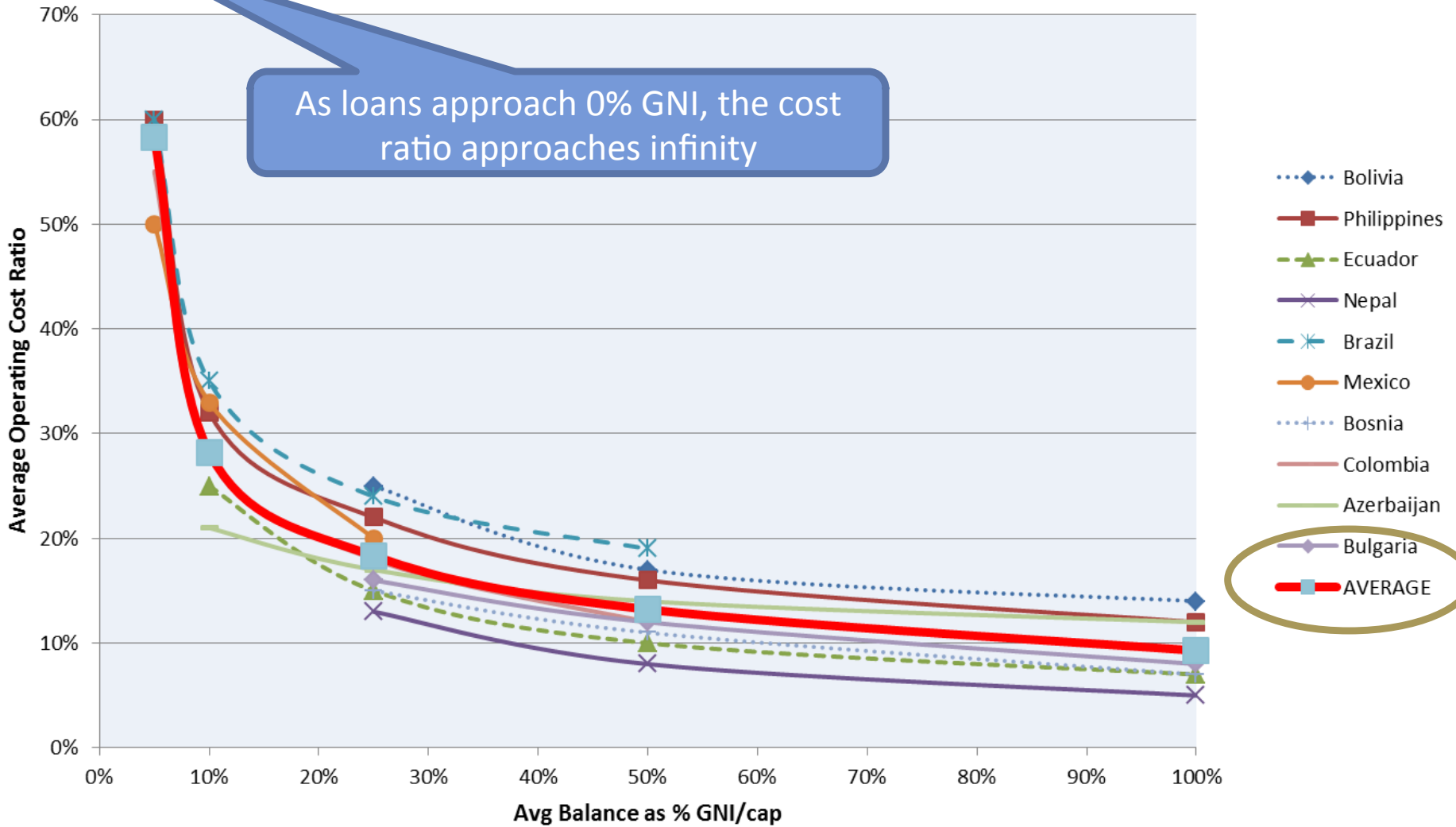


Average Op Cost Ratio by Loan Scale, selected countries

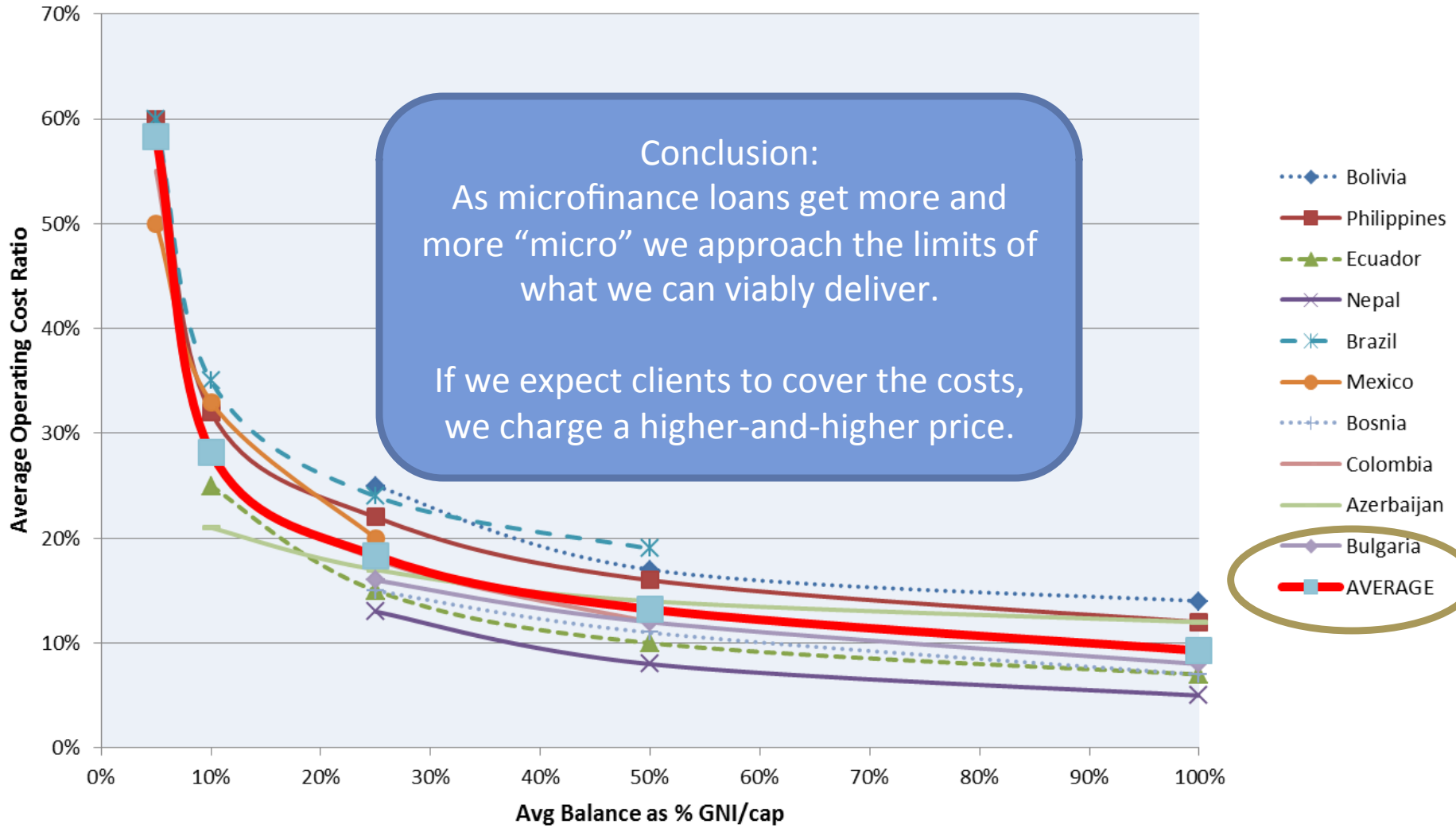


Average Op Cost Ratio by Loan Scale, selected countries

As loans approach 0% GNI, the cost ratio approaches infinity



Average Op Cost Ratio by Loan Scale, selected countries



Why do prices in MFIs come down?

Scale?

Competition?

Mature markets?

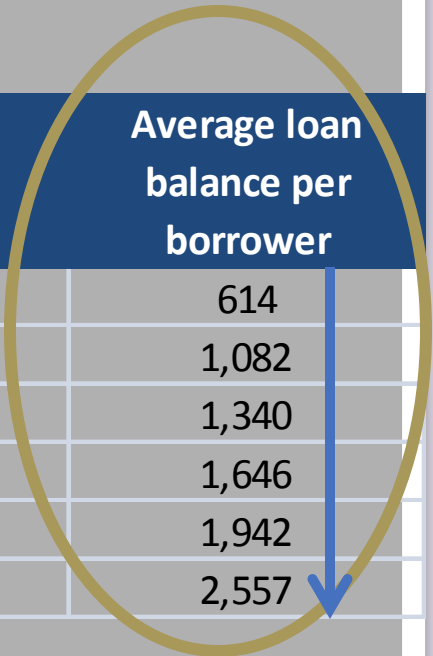
CMAC Sullana (Peru)

Year	Yield on gross portfolio (real)	Operating expense/ loan portfolio	ROA
2003	35.52%	17.01%	4.36%
2004	31.90%	13.99%	5.02%
2005	32.65%	12.85%	5.88%
2006	28.54%	12.58%	5.16%
2007	26.84%	10.85%	5.50%
2008	26.48%	10.97%	4.02%

**Price reductions due to improved efficiencies?
Economies of scale? Increased competition?**

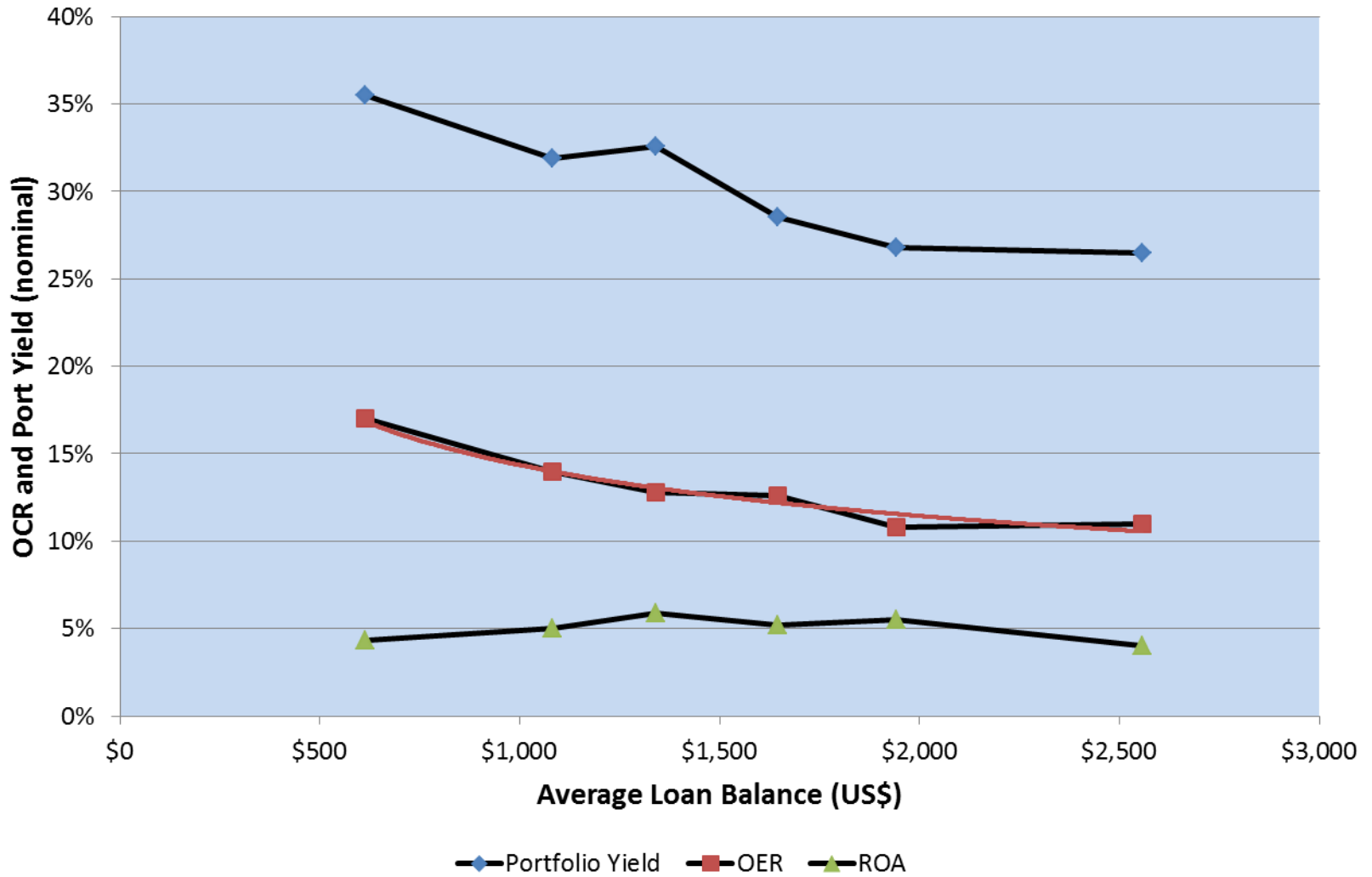
CMAC Sullana (Peru)

Year	Yield on gross portfolio (real)	Operating expense/ loan portfolio	ROA	Average loan balance per borrower
2003	35.52%	17.01%	4.36%	614
2004	31.90%	13.99%	5.02%	1,082
2005	32.65%	12.85%	5.88%	1,340
2006	28.54%	12.58%	5.16%	1,646
2007	26.84%	10.85%	5.50%	1,942
2008	26.48%	10.97%	4.02%	2,557



As we deliberate on what is “responsible pricing”, we must look at other factors, including loan size, loan purpose, loan term, and national market conditions.

Portfolio Yield, OER, and ROA, 2003-2007, CMAC Sullana



Price drops in Peru

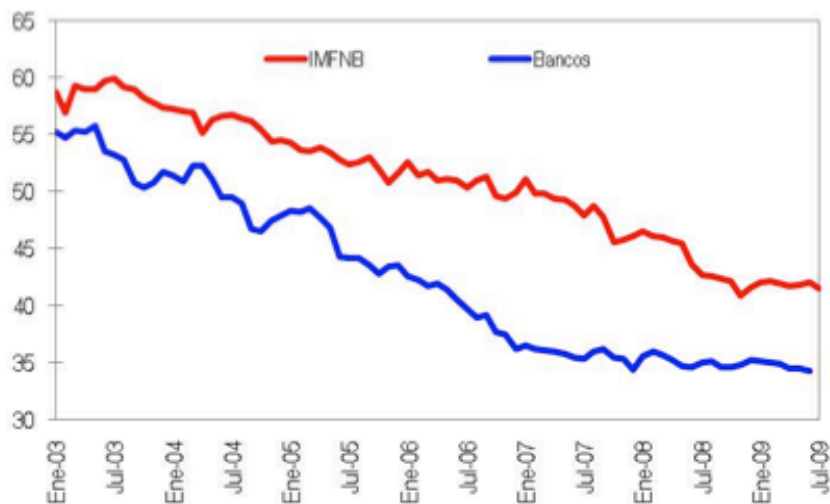


SUPERINTENDENCIA
DE BANCA, SEGUROS Y AFP



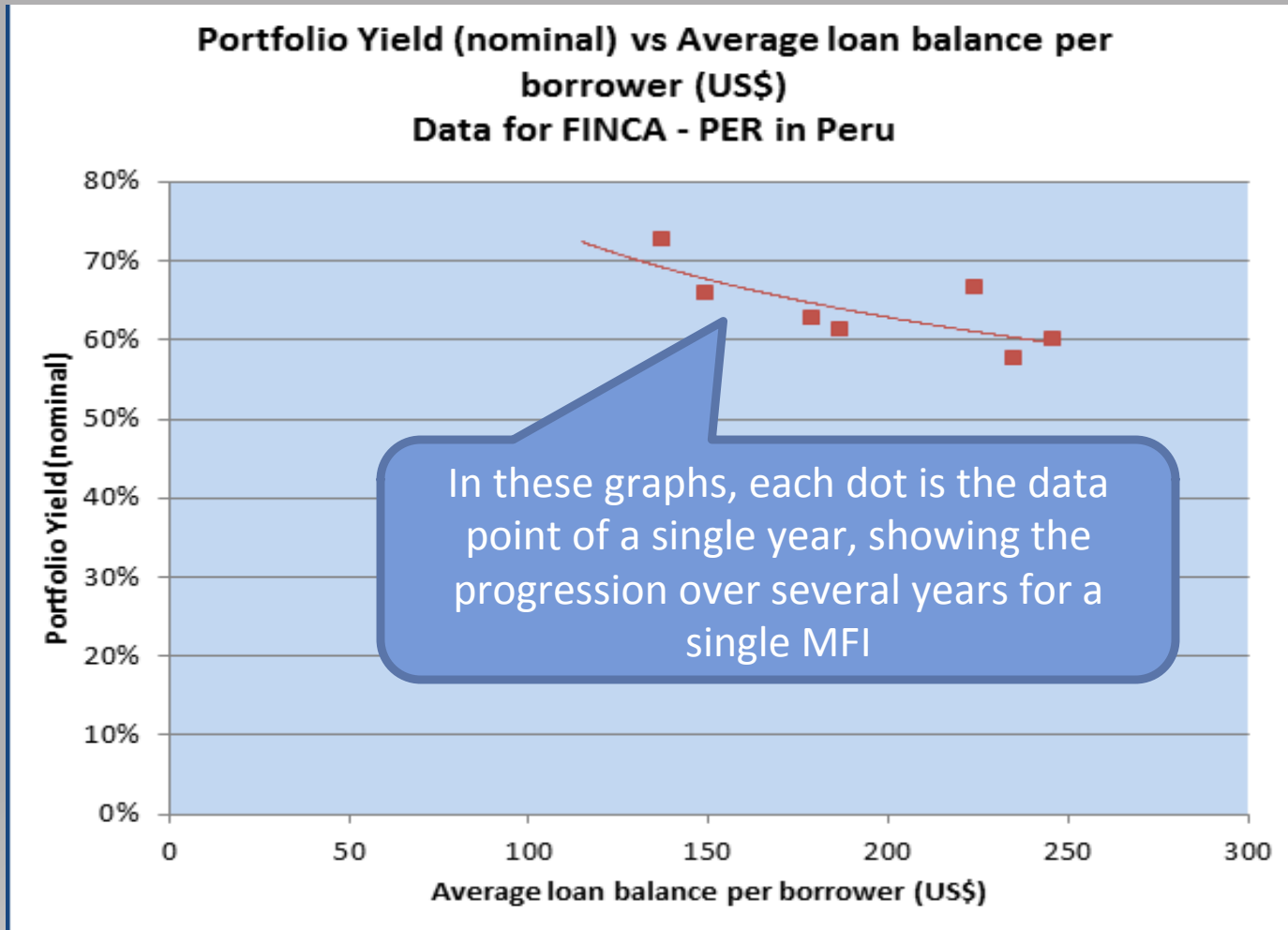
Las tasas de interés de microcréditos muestran una tendencia decreciente

Tasas de Interés para Créditos MES en MN
(En porcentaje)

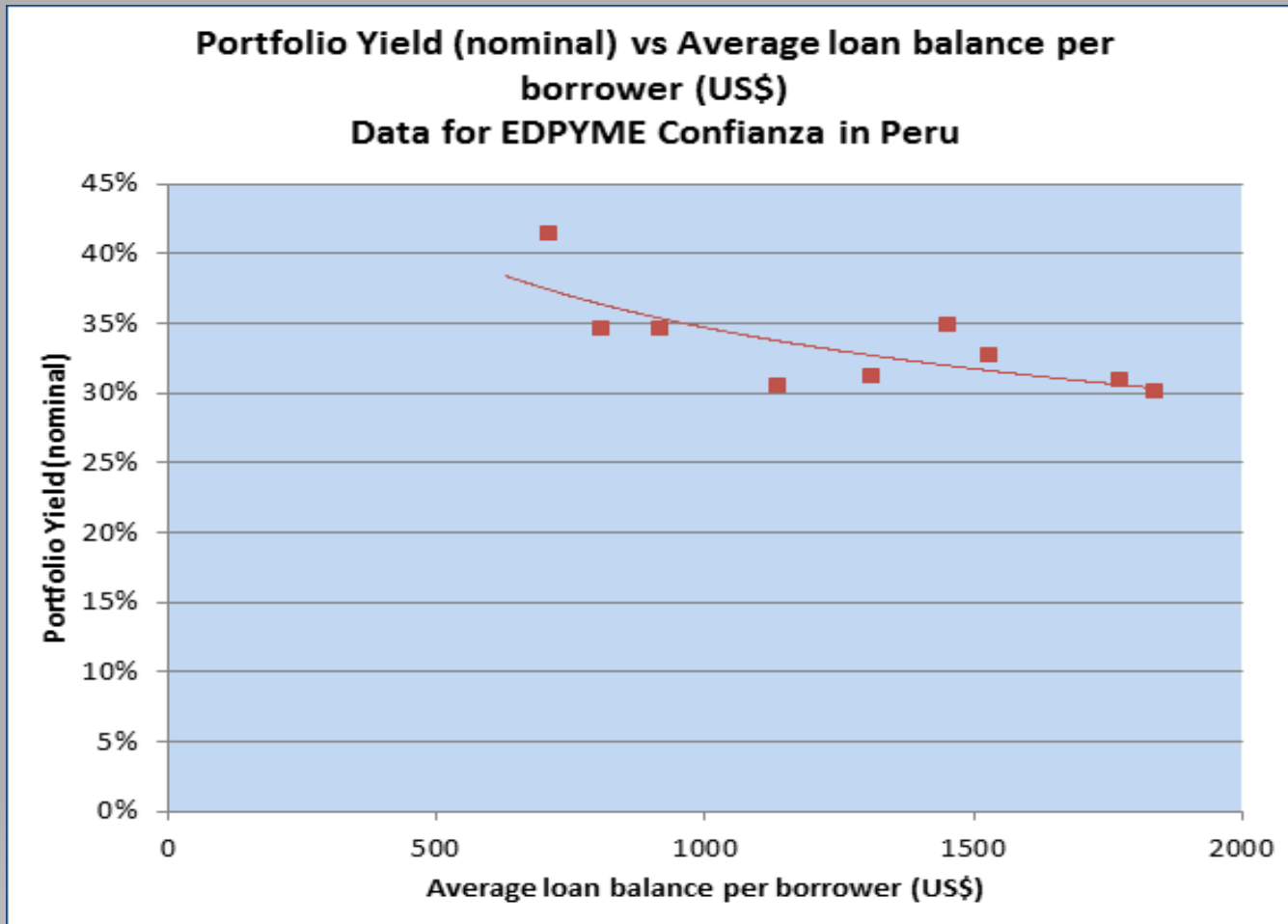


Fuente: SBS.

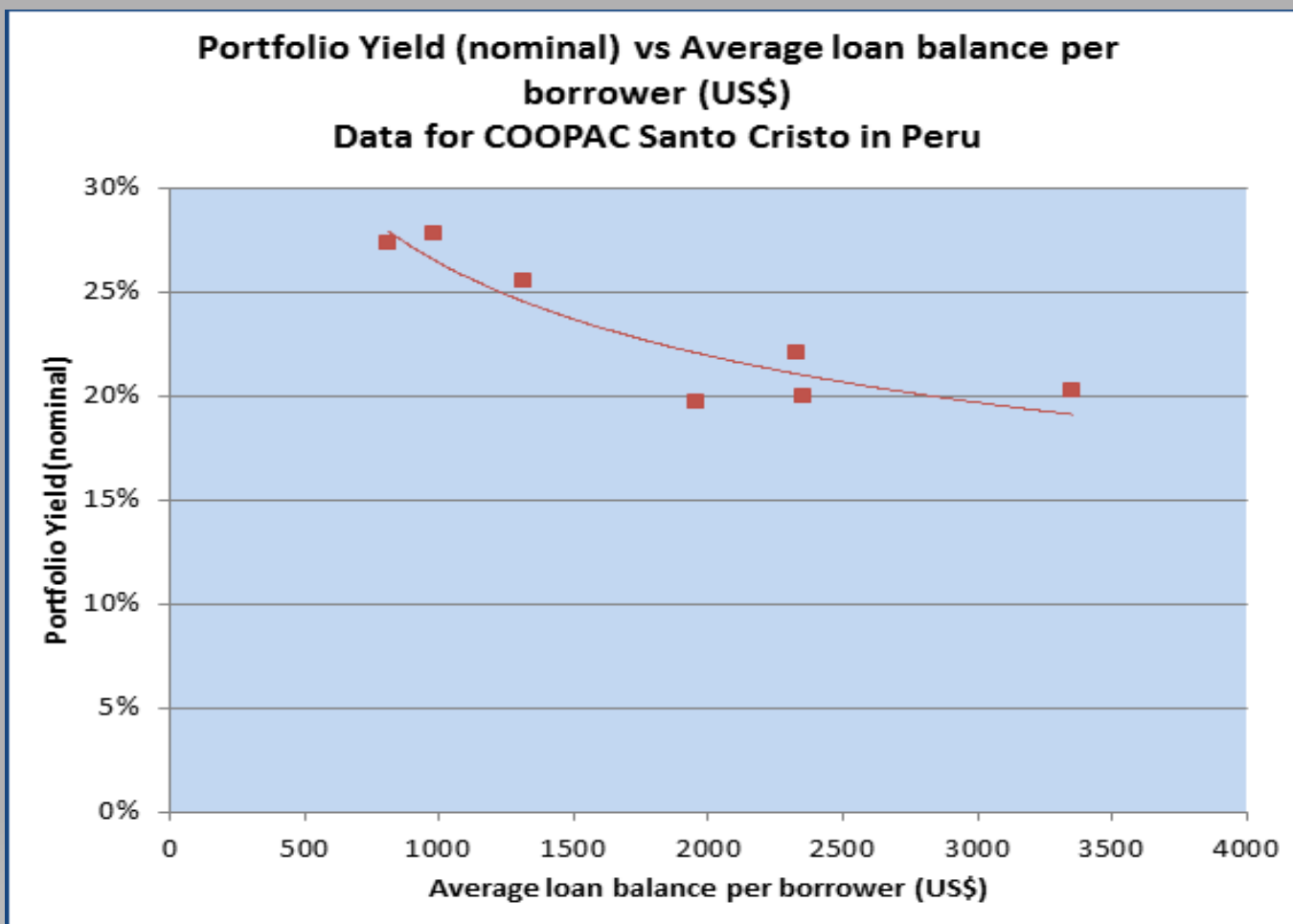
Price drops in Peru



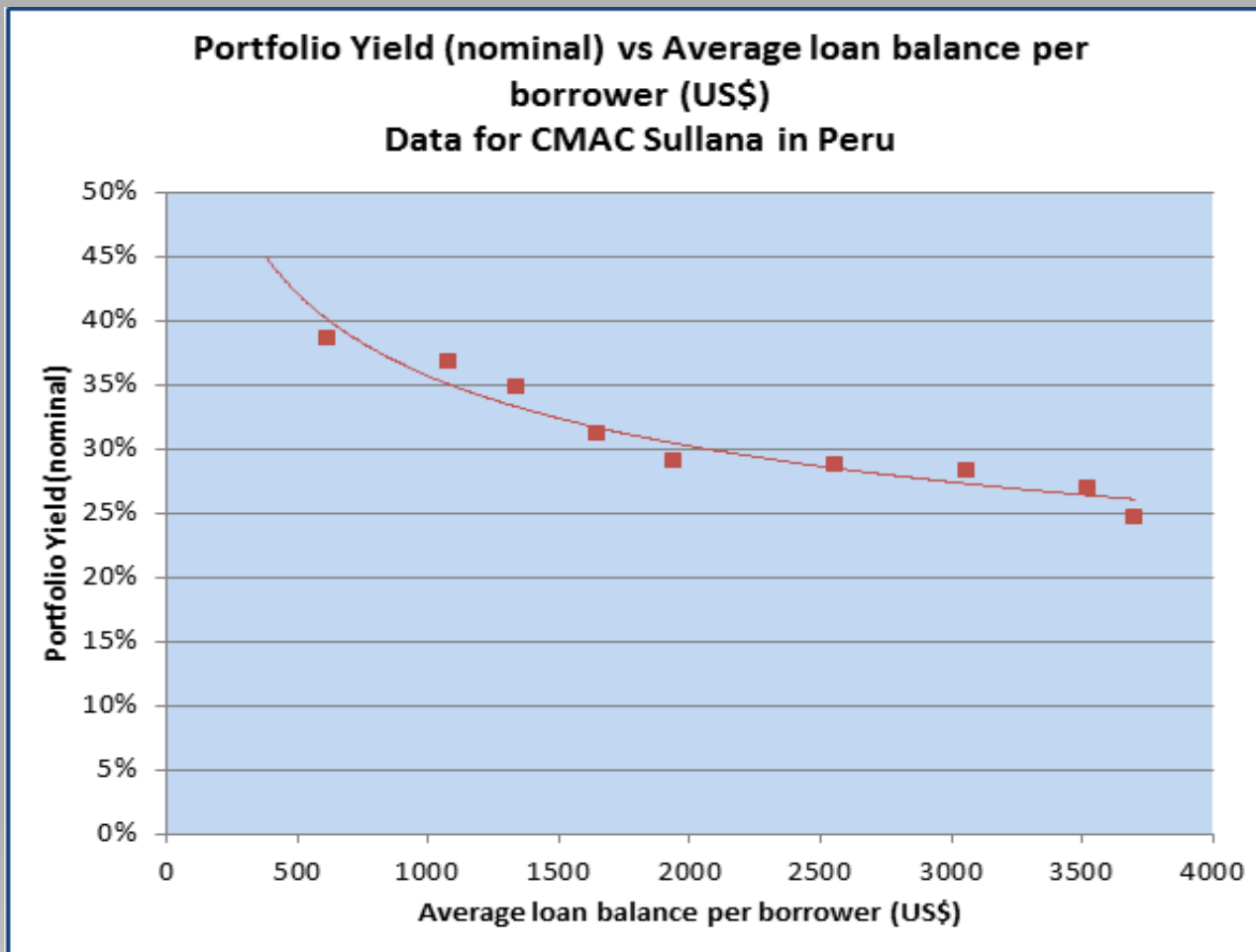
Price drops in Peru



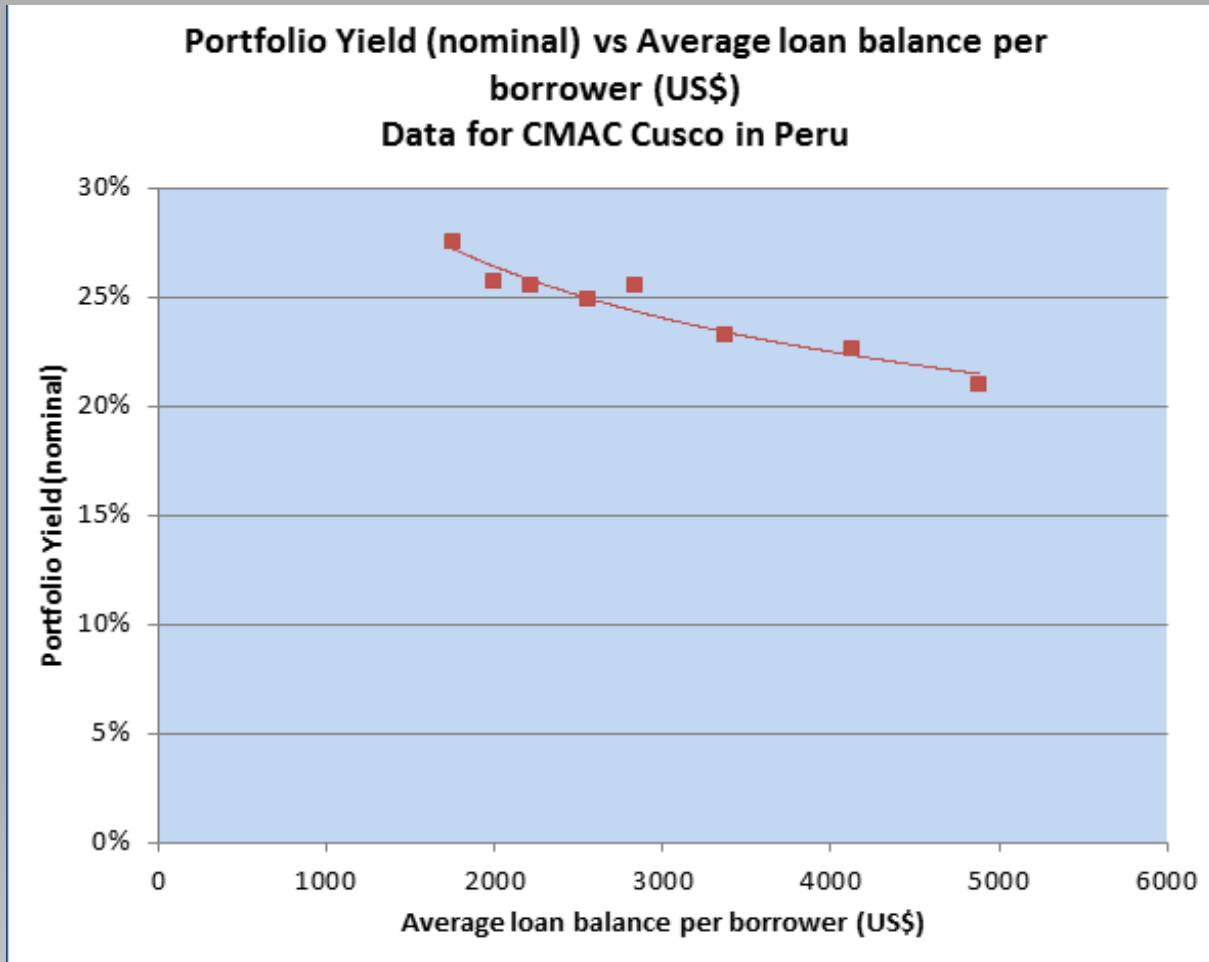
Price drops in Peru



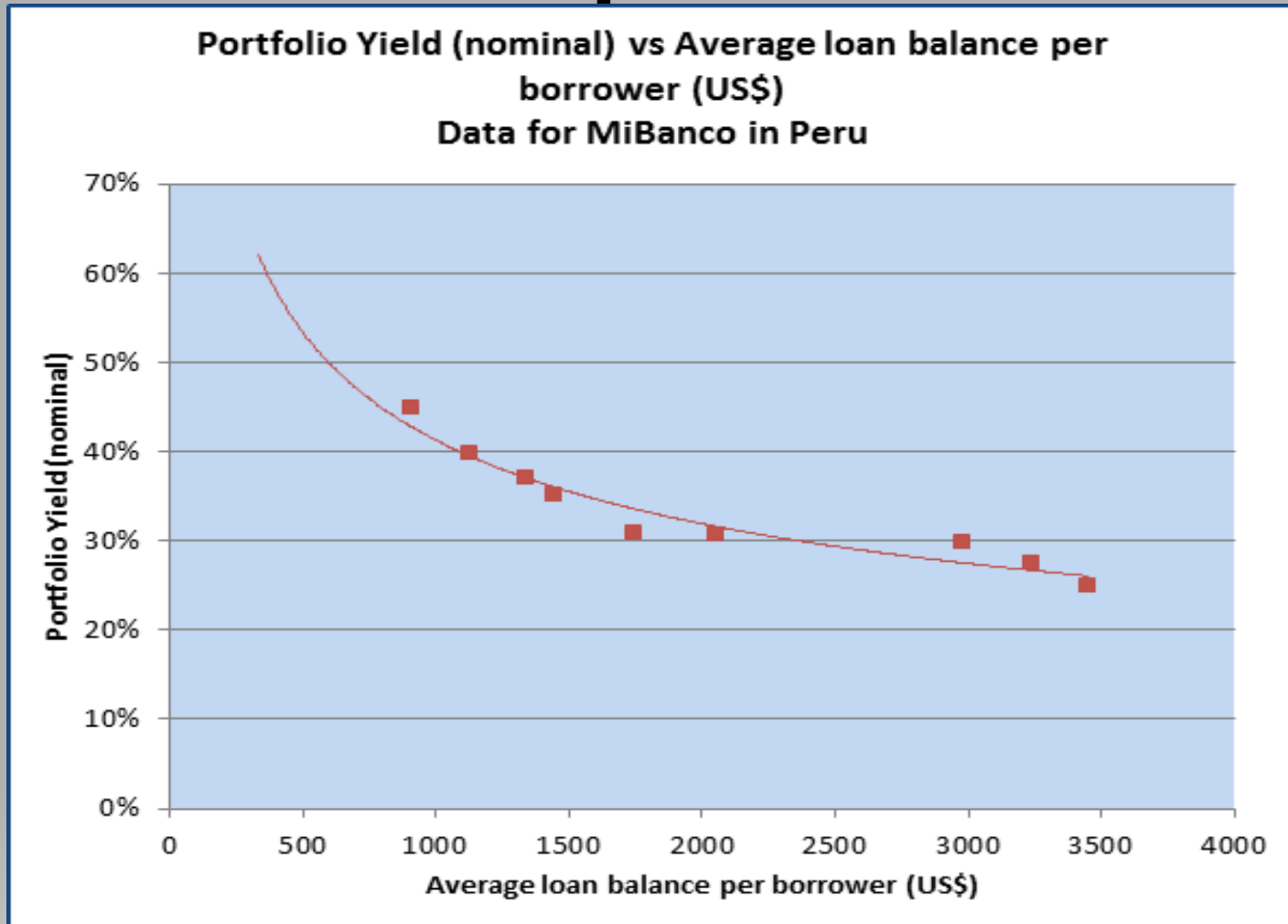
Price drops in Peru



Price drops in Peru



Price drops in Peru



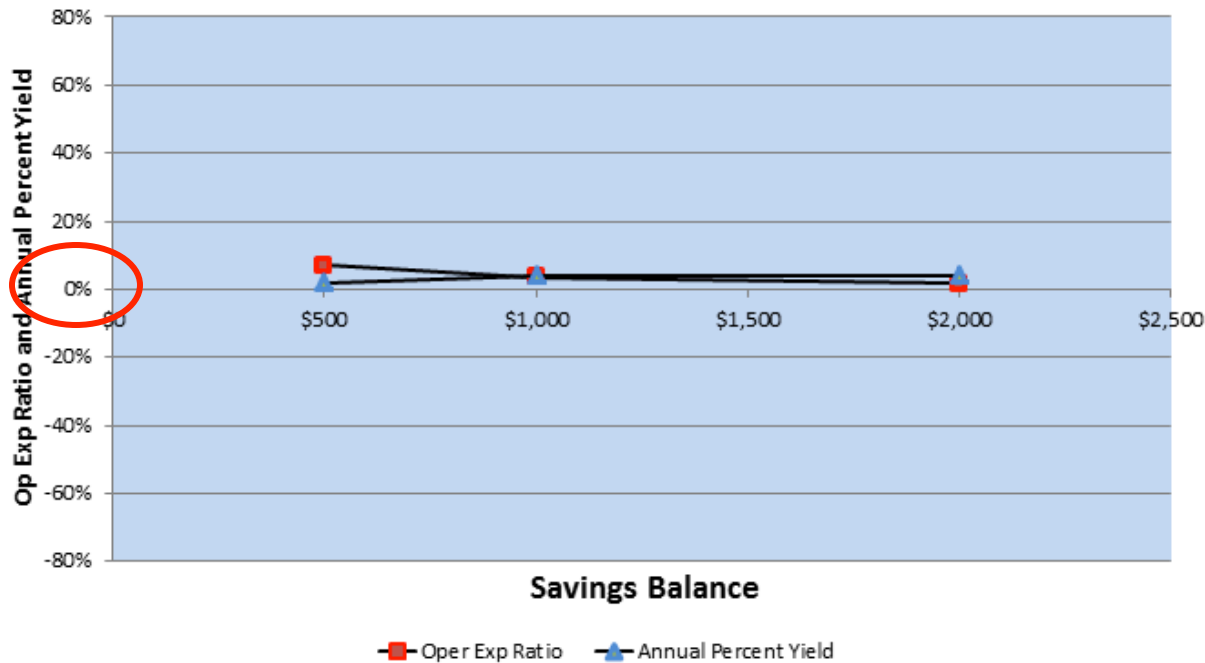


What about micro-savings?

Is there a curve here?

The micro-savings curve

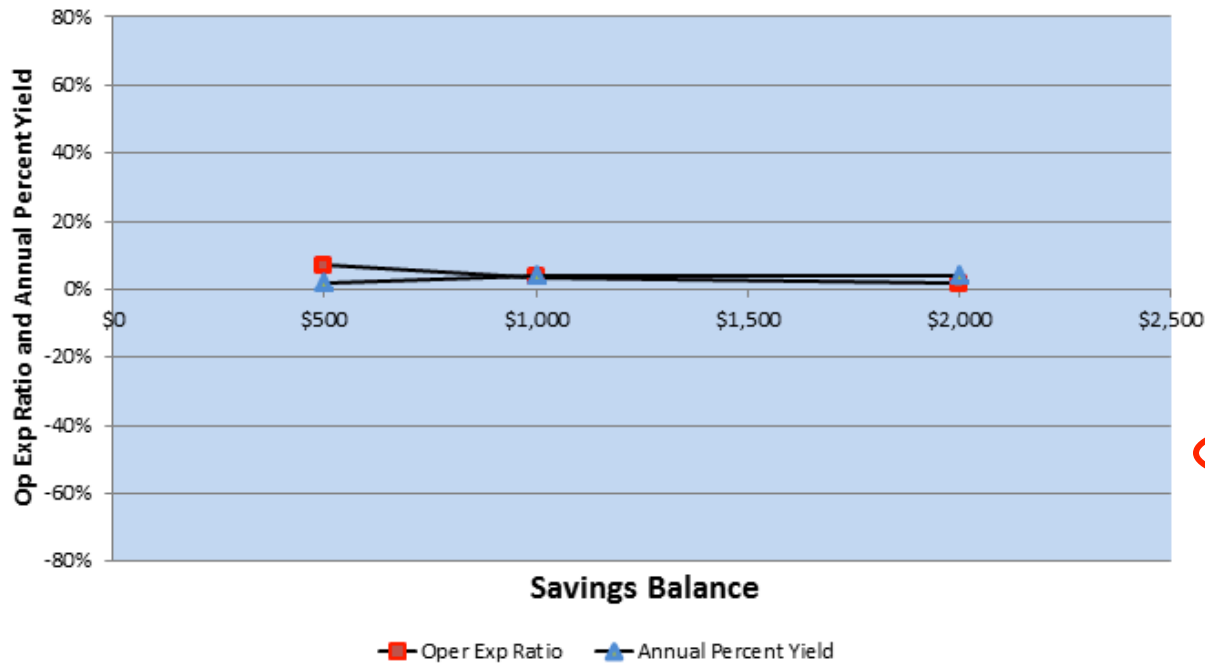
Costs of Micro-Savings and Interest Paid



Average Balance	Op Cost /Year	OCR	APY	Total Cost
\$50				0%
\$100				0%
\$200				0%
\$500	\$36	7%	2%	9%
\$1,000	\$36	4%	4%	8%
\$2,000	\$36	2%	4%	6%

The micro-savings curve

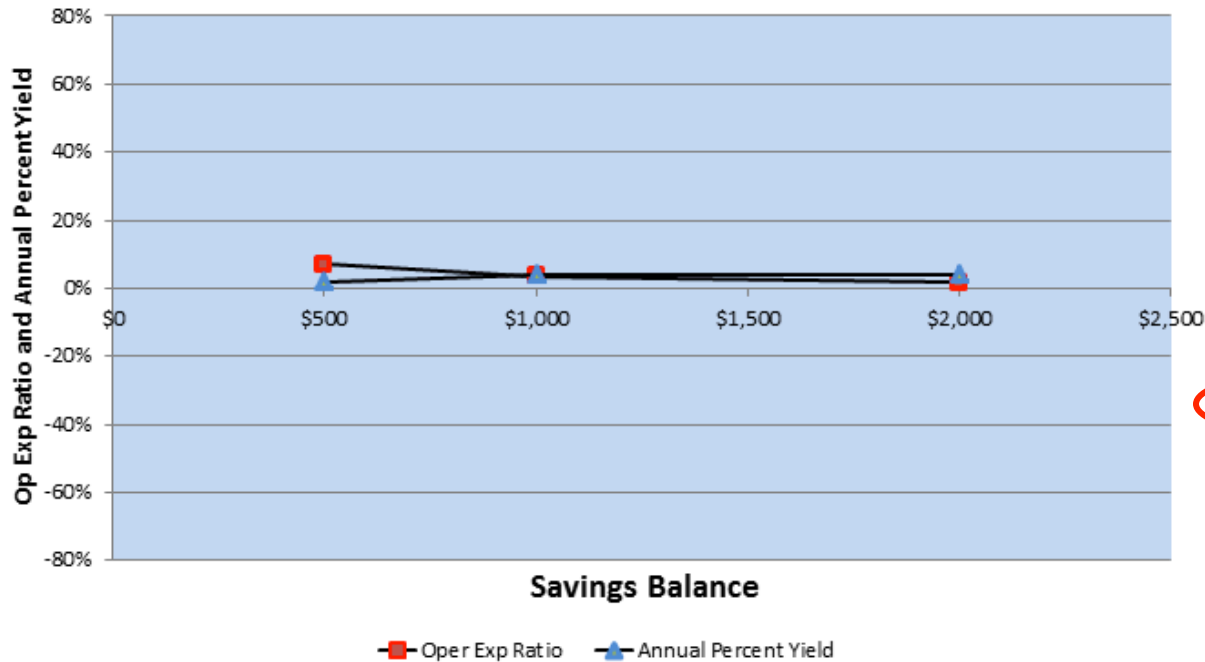
Costs of Micro-Savings and Interest Paid



Average Balance	Op Cost /Year	OCR	APY	Total Cost
\$50				0%
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\$500	\$36	7%	2%	9%
\$1,000	\$36	4%	4%	8%
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The micro-savings curve

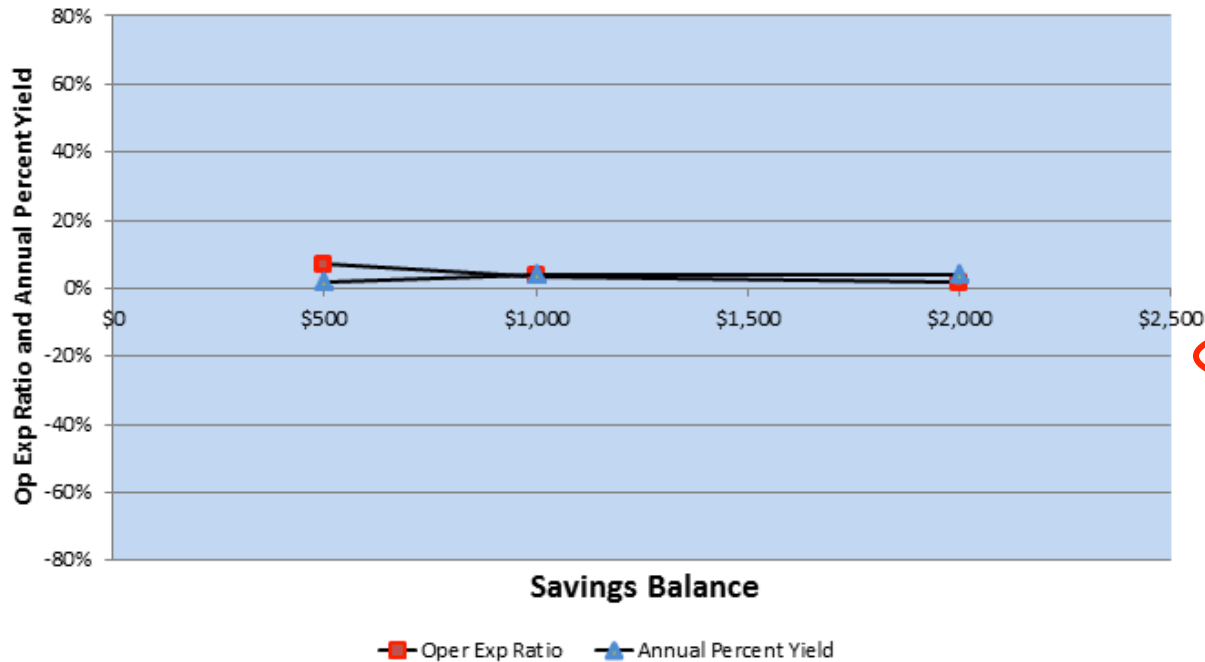
Costs of Micro-Savings and Interest Paid



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The micro-savings curve

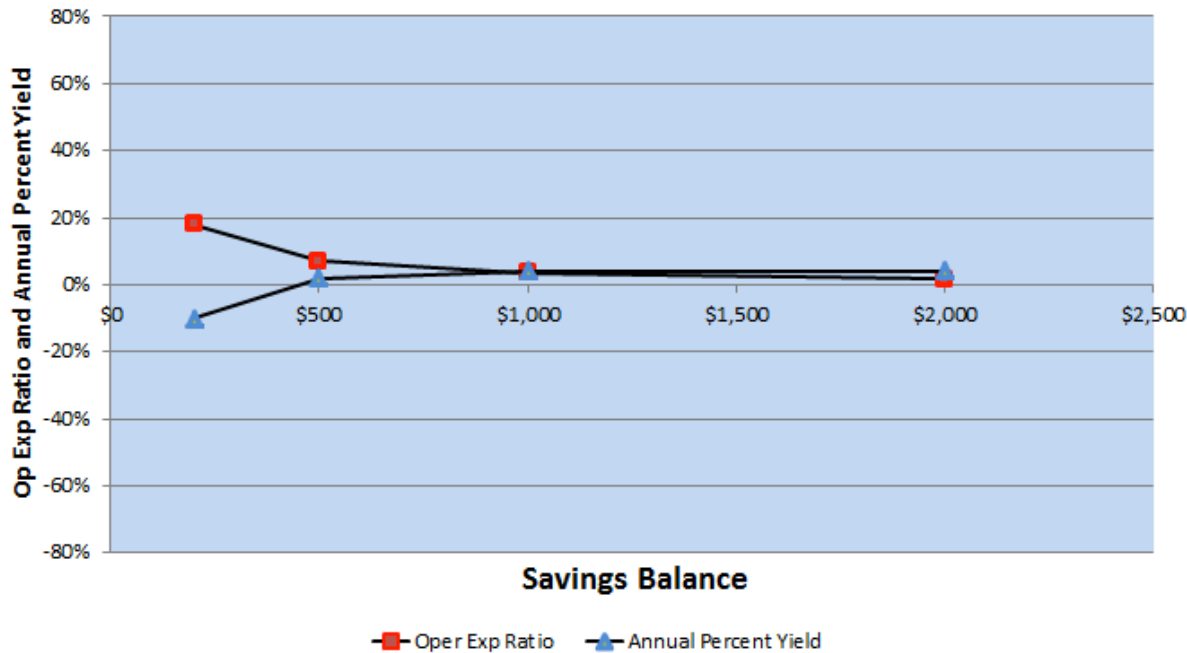
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The micro-savings curve

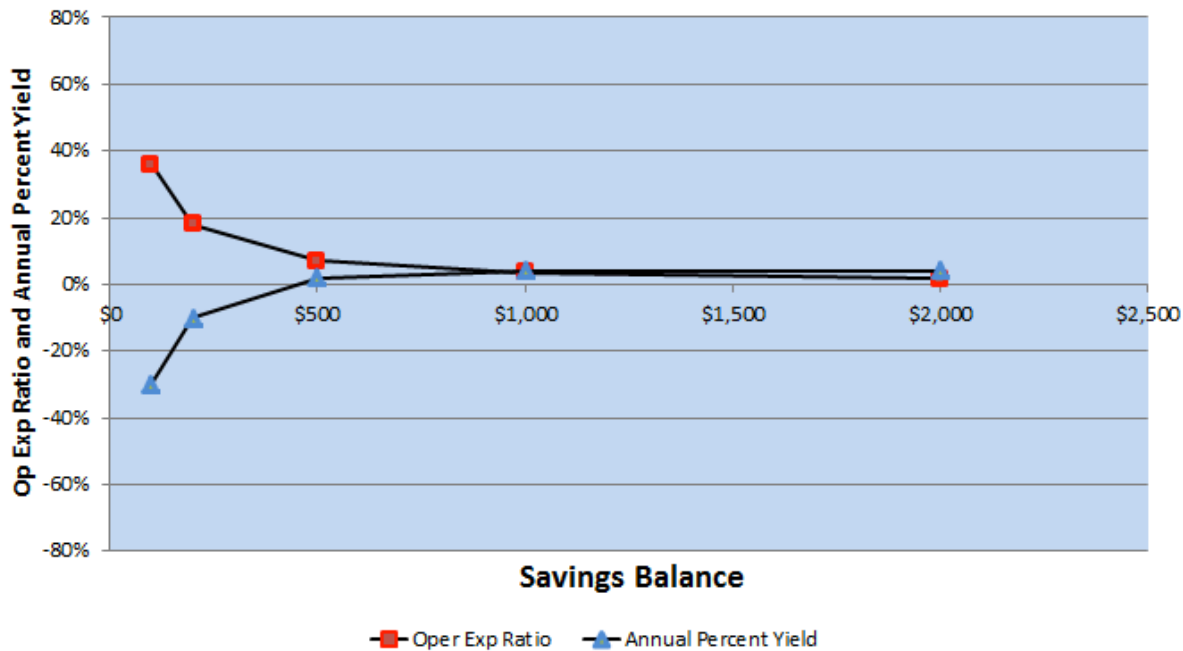
Costs of Micro-Savings and Interest Paid



Average Balance	Op Cost /Year	OCR	APY	Total Cost
\$50				0%
\$100				0%
\$200	\$36	18%	-10%	8%
\$500	\$36	7%	2%	9%
\$1,000	\$36	4%	4%	8%
\$2,000	\$36	2%	4%	6%

The micro-savings curve

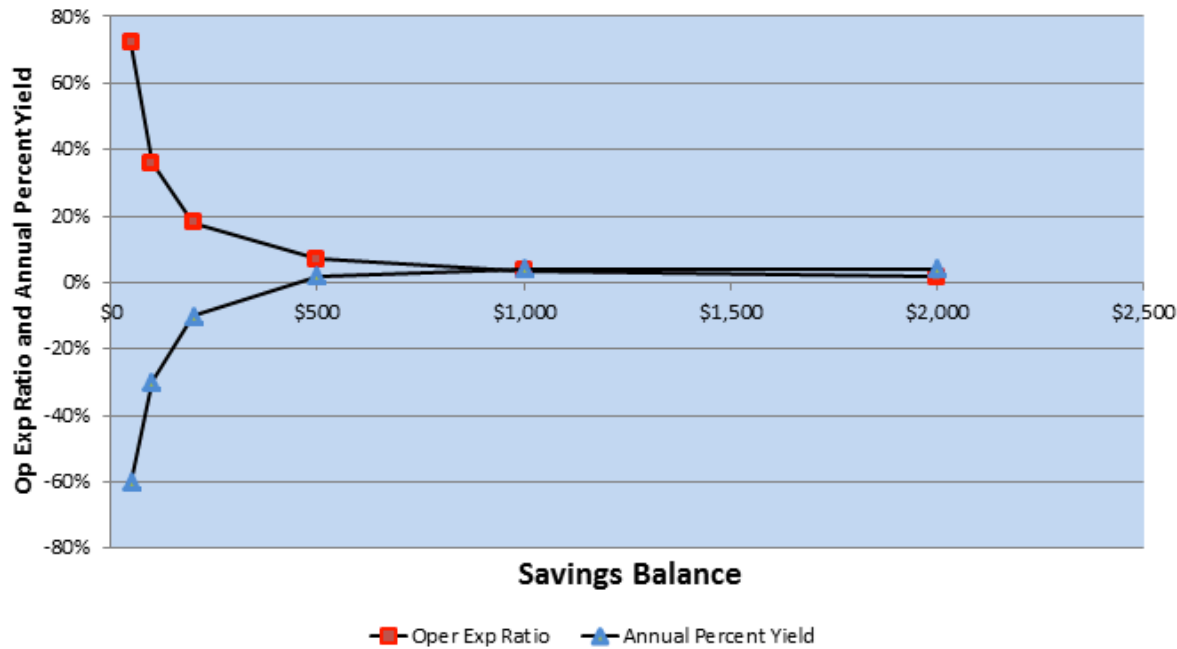
Costs of Micro-Savings and Interest Paid



Average Balance	Op Cost /Year	OCR	APY	Total Cost
\$50				0%
\$100	\$36	36%	-30%	6%
\$200	\$36	18%	-10%	8%
\$500	\$36	7%	2%	9%
\$1,000	\$36	4%	4%	8%
\$2,000	\$36	2%	4%	6%

The micro-savings curve

Costs of Micro-Savings and Interest Paid



Average Balance	Op Cost /Year	OCR	APY	Total Cost
\$50	\$36	72%	-60%	12%
\$100	\$36	36%	-30%	6%
\$200	\$36	18%	-10%	8%
\$500	\$36	7%	2%	9%
\$1,000	\$36	4%	4%	8%
\$2,000	\$36	2%	4%	6%