

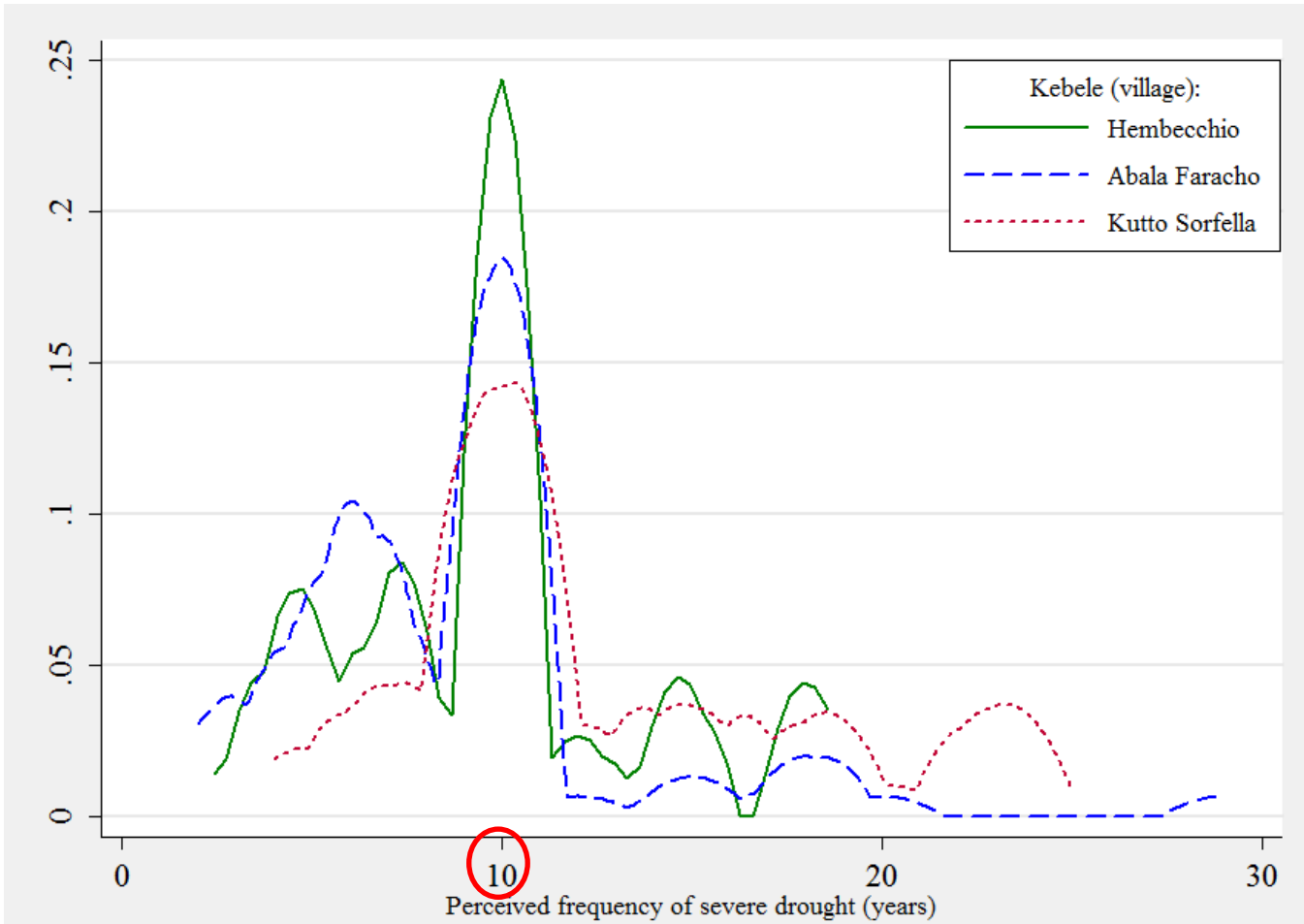


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DROUGHT-RELATED RISKS AND RURAL MICROFINANCE

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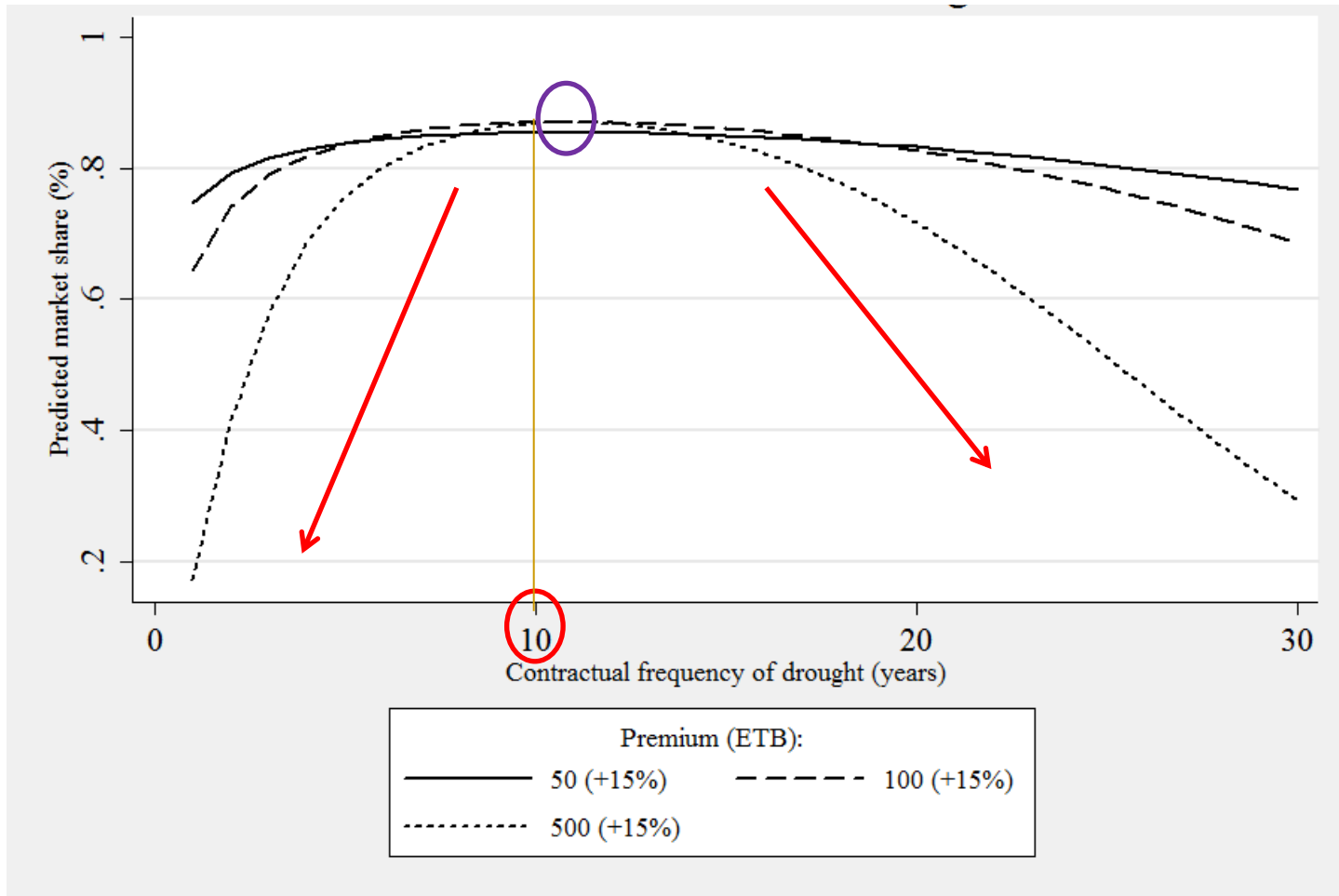
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(205 farmers in Southern Ethiopia – Discrete choice experiment Nov. 2013)

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Perceived basis risk and predicted market share of drought insurance





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Drought-related credit and liquidity risks (207 MFIs in 31 African countries – from 2003 to 2013)

- $PARP = \text{Polulation affected} / \text{Rural Population}$
- $PAR_{30} = \text{Portfolio At Risk} > 30 \text{ days}$
- $DLR = \text{Deposits} / \text{Total Loans}$
- $CAR = \text{Equity} / \text{Total Assets}$
- $ROE = \text{Return On Equity}$
- $BLR = \text{Number of Borrowers} / \text{Total Loans}$
- $RPGPR = \text{Rural Loans} / \text{Total Loans}$



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Results: Drought-related credit risk (PAR30)

		<u>IMPACT ON PAR30</u>			
		Estimate	PARP = 2%	PARP = 3.5%	
PAR30lag	Average MFI	8%	6.061	1%	2%
	"Extreme" MFI	18%		2%	4%
BLR	Average MFI	0.005	119.158	1%	2%
	"Extreme" MFI	0.011		3%	5%

<u>NET IMPACT ON PAR30</u>		
PAPR	Average MFI	"Extreme" MFI
2%	2%	5%
4%	4%	8%

("Extreme" MFI= high credit risk, very small average loan size)



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Results: drought-related liquidity risk (Deposit-to-Loan ratio)

			IMPACT ON DLR		
			Estimate	PARP = 2%	PARP = 3.5%
PARP (%)			35.243	74%	123%
PAR30lag	Average MFI	8%	28.819	5%	8%
	"Extreme" MFI	18%		11%	18%
DLRlag	Average MFI	74.60%	-10.701	-17%	-28%
	"Extreme" MFI	169.20%		-38%	-63%
CAR	Average MFI	32.80%	10.841	7%	12%
	"Extreme" MFI	59.10%		13%	22%
RPGPR	Average MFI	91.70%	-37.24	-72%	-120%
	"Extreme" MFI	102%		-80%	-133%

NET IMPACT ON DLR		
PARP	Average MFI	"Extreme" MFI
2%	-2%	-20%
3.5%	-4%	-33%

("Extreme" MFI = high credit risk, high deposit-to-loan ratio, high capital-to-asset ratio, 100% rural loan portfolio)



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CONCLUSIONS

- The **credit risk** of African microfinance institutions (MFIs) is **influenced by the interaction of drought shocks with its retarded performance.**
- The **liquidity risk** of African MFIs is **affected by** drought shocks through the retarded level of both **credit risk and liquidity risk, the asset-liability characteristics and the diversification of the loan portfolio.**
- **Geographical diversification, greater capital reserves and good quality of loans portfolio are key strategies** to deal with drought-related risks.
- **Risk transfer mechanisms** are to be designed not only for credit risk but **also for liquidity risk.**