Repercussion of Internal rating – based approach on banks capital in Bosnia and Herzegovina

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Introduction

In Bosnia and Herzegovina there are 27 banks, and two banks in process of liquidation. Total asset of active banks is 22,8 billion BAM in 2014. With this work we will try to analyse and explore the amount of capital that banks in Bosnia need to have in order to sustain their operation. Our primary focus in this paper would be credit risk. We will use EMS model to predict probability of default for companies in Bosnia and Herzegovina, analyse banks portfolios, calculate expected and unexpected loss.

Objective

Our findings should indicate how much capital do domestic banks need to have when local regulators decide to implement Internal rating- based approach, and what are repercussions to domestic companies and banks portfolio in Bosnia and Herzegovina.

Banks

Asset 11,4 billion EUR

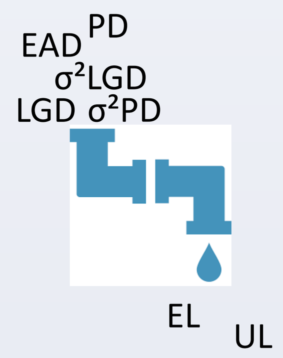
Credits to households 3.4 billion EUR

Credits to companies 3.8 billion EUR

Credits to state 750 mil EUR

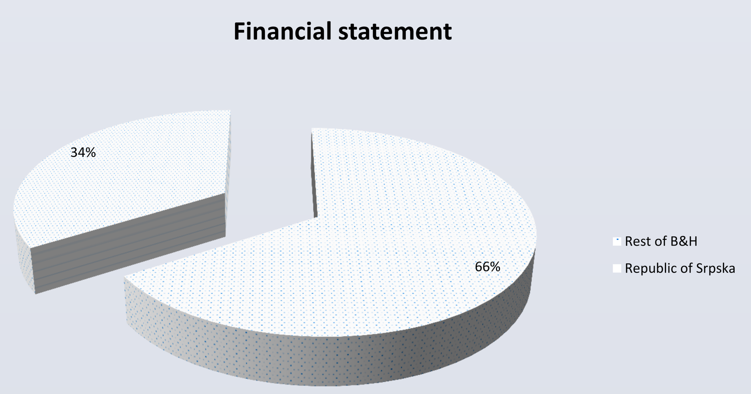
Methods

- We gathered annual reports from 27 banks in B&H, and collect data for three group of portfolio (asset class): credits given to companies, credits given to households and credits given to state
- For every asset class we find PD, EAD, LGD, RR, σ^2LGD, σ^2PD and calculate EL and UL



Credits given to companies

- We used 9.042 financial statement from Republic of Srpska for 2012 (entity in B&H) who represent 34% of all companies in B&H and we have sample for all population of companies for B&H
- Using EMS model we calculate PD for companies in RS
- Recovery rate for B&H we gather from Doing business report for 2015
- EAD are long term and short term credits in companies we analyzed



Credits given to households

- We assume that PD is NPL for households
- NPL in Croatia for households is 11,2% and for Serbia 10,8%, for Bosnia we assume 10% because we don't have exact data.

NPL = PD
households credits

Credits given to state

- We assume PD is 0 so we don't have EL and UL for credits given to state

Results

Expected loss for credits given in 2012 is:
- Expected loss for companies: 708 million BAM
- Expected loss for households: 440 million BAM

Sum of EL is: 1,148 billion BAM

Unexpected loss for credits given in 2012 is:
- Unexpected loss for companies: 2,473 million BAM
- Unexpected loss for households: 1,325 million BAM

Sum of UL is: 3,798 billion BAM

Expected loss for credits given in 2014 is:
- Expected loss for companies: 708 million BAM
- Expected loss for households: 478 million BAM

Sum of EL is: 1,186 billion BAM

Unexpected loss for credits given in 2014 is:
- Unexpected loss for companies: 2,473 million BAM
- Unexpected loss for households: 1,474 million BAM

Sum of UL is: 3,947 billion BAM

- Provision fo credits in B&H in 2014 are 1.68 billion
- Tier 1 is 2,47 billion, gross capital in 2014 is 3.3 billion
- 19 banks will need additional capital
- One bank will need more than 100% increase in capital
- Eight bank will need more than 50% increasingin capital
- Five bank will need more than 20%
- Four below 20%

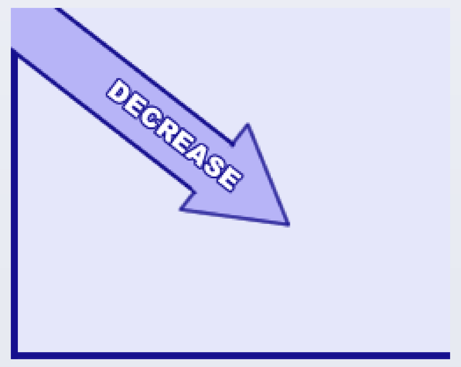
- Banks which need increasing more than 50% of capital represent 20% of market share in B&H, or 30% of all employees in banking sector

EL and UL for banks portfolio in B&H

EL			UL		
For credits given to state	For credits given to companies	For credits given to households	For credits given to state	For credits given to companies	For credits given to households
0,00%	8,58%	6,40%	0,00%	29.93%	19,2%

Conclusion

- Banks will decrase credit activity to companies in B&H.
- In B&H most problematic factor for economic growth is acces to finance and this problem will be incrased in future,
- In order to prepare themselves for changes, local companies need to implement risk management approach in their operation, like Enterprise risk management system,
- Preparing regulatory solution to motivate institutional investor to support long term investments,
- Spreading risk awareness culture in B&H society



Banking activity

Problems for banks, companies, citizen

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Acknowledgements & Contact

I wish to acknowledge Oliviero Roggi and Maxin Gray who supported our organization and give us opportunity to attend IRMC 2011 in Amsterdam.

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