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# STRESSING BANK PROFITABILITY FOR INTEREST RATE RISK

DISCUSSION  
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## SUMMARY

- Paper studies stress testing of bank profitability in form of NIMs (= Net Interest Margins)
- NIMs are linked to Interest Rates using variety of empirical models
- Results show NIM forecasts can be improved over as-is forecasts, though marginally and mostly at long horizon
- One take-away is that the large uncertainty in forecasting ability limits implementation of stress-test



## REMARK 1: SET-UP OF STRESS TEST

- Stress test considers data from quarterly “Consolidated Reports of Condition and Income” for ~30 Bank Holding Companies and at Aggregate level (= average top 25)

### Questions:

- How likely are these margins as drivers of next crisis?
- To what extent do NIMs drive bank profitability? And what is the interrelation with the expenses?
- Is quarterly frequency too low?



## REMARK 2: INTEREST RATES AND FACTORS

- Models used in analysis: average of (lagged) yields, Nelson-Siegel, PCA, Partial LS; all of form

$$NIM_t = c_f + \rho_f NIM_{t-1} + \sum_{j=1}^2 \gamma_{f,j} F_{t-j} + \eta_{f,t}$$

- Data for interest rates: 12 maturities, 3m – 30y

### Questions:

- Are the different NIM forecasting results due to different capabilities to forecast interest rates?
- Subset of models used are factor models. How ‘different’ are these, after rotation?
- Would an AR(1) model (also) be a fair benchmark?



## REMARK 3: BENEFIT FROM STRUCTURE NIM

- The relation between NIMs and Interest Rates is left very free (but remains linear)

### Questions:

- Do some of the (intermediate) results provide insight into this relation?
- Can you select an 'optimal' model for the NIM first, instead of averaging over lagged-NIM + 1 factor models?
- Are there possibilities of nonlinear dependencies? Particularly around the zero lower bound.



## REMARK 4: FORECASTING EXERCISE

- In many cases equally weighted averages of individual point forecasts are taken

### Questions:

- Why always equal average and not other averaging schemes? See, e.g., Geweke and Amisano (2011).
- Is point forecast (mean) of greatest interest? See, e.g., Diks, Panchenko and Van Dijk (2011), and papers of Simon Price and Anne Opschoor at this conference.



## REMARK 5: CROSS-SECTION OUT-OF-SAMPLE

- The firm-level analysis will consider ~30 bank holding companies that are part of the 2014 stress test

Question:

- Would it be possible to apply the same analysis on banks that did not survive (previous and/or other preceding) crises?



## MINOR REMARKS

- Label is 'macro-banking', however arguably factors are not (pure) macroeconomic factors but more financial (yields).
- For dynamic factor type models, can you use forecasted factors or forecasted yields instead of lagged ones?
- Do the Gurkaynak, Sack and Wright yield data favor the Nelson-Siegel model?



## CONCLUSION

- Many methods considered
- Forecasting results thoroughly studied (Diebold-Mariano test, Rossi and Sekhposyan decomposition)
- Humble and honest conclusion
- Interesting plans: Individual BHCs, Bank-Equity Analyst forecasts, MOVE index, Blue-Chip Treasury forecasts

*Overall: Relevant and interesting paper!*



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