Frank Heid: *Capital requirements and macro-economic fluctuations*

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Background

Capital charge: Strengthen the financial system on a **micro-economic/static** level

Concerns: Are there destabilizing effects of capital charges when seen from a **macro-economic/dynamic** point of view?

Among the main concerns: **Pro-cyclicality**

Pro-cyclicality

Central question: Do capital charges **amplify the business cycle** by influencing credit supply?

There is evidence that **ratings fluctuate** over the business cycle

As Basel II increases risk-sensitivity of capital charges, also **capital charges fluctuate** over the business cycle

Fluctuations in Basel II capital charges

These fluctuations are confirmed by several studies, e.g.

- Altman, Resti, Sironi (2002): BIS Working Paper No. 113
- Segoviano, Lowe (2002): BIS Working Paper No. 117
- Catarineu-Rabell et al. (to appear): Bank of England

Fluctuation(Standardized Approach) < Fluctuation(F-IRB) < Fluctuation(A-IRB)

Often, already the fact that capital charges fluctuate over the business cycle, is termed "pro-cyclicality" of a capital charge regime

From fluctuations to pro-cyclicality

Main achievements of the paper:

- Assessment of how the changes of GDP growth **themselves change** when shifting to another regulatory capital regime

- A **closed loop** from real sector to financial sector back to real sector is presented, taking account of the regulatory capital regime

Possible additional scenarios

- The paper shows the effect of an economic upturn. What would be the amplifying effect on an economic **downturn**?
- In the calculation, the old risk weight function is used. What would be the results using the **new** corporate/SME risk weight functions?
- Are amplifications still significant when a shorter time horizon (2 years) is considered and/or a_y (sensitivity of regulatory capital ratio to GDP) is smaller due to estimation error?

The model

- In the model the driving force for the bank's loan supply is the consideration of a capital ratio (shown to be compatible with data). What about other drivers?

- Single bank model

- In the VAR-model of the economy, corporate bond yields are used. Thus, for the pro-cyclicality scenario, the bond yield sensitivity is modified with the (theoretically derived) loan rate sensitivity.