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Discussion for “Measuring Bank Competition in China” by Xu et al.

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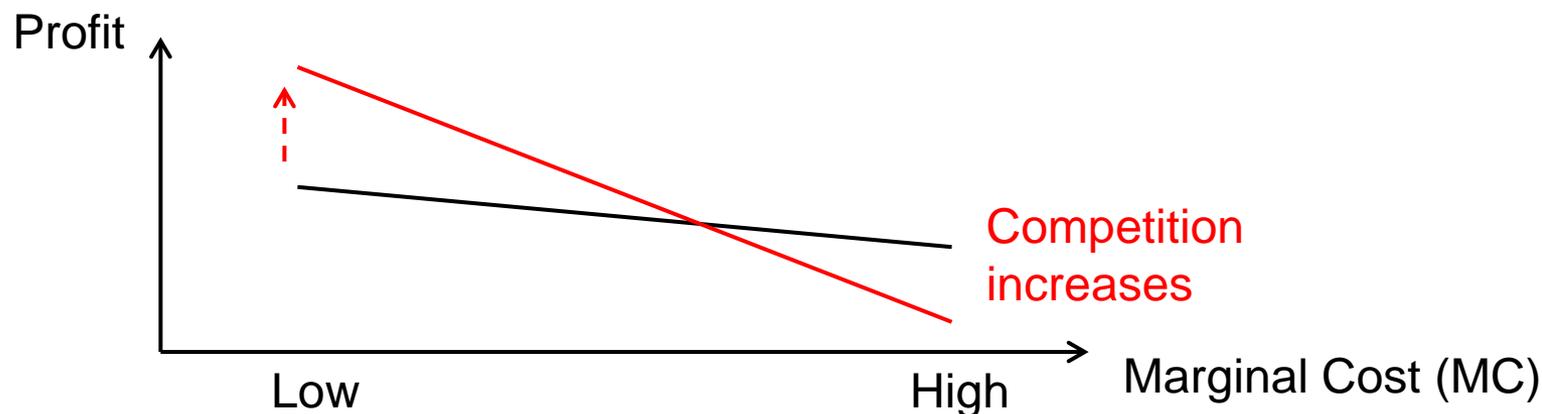


Summary

- Measure bank competition in China
 - Sample with 127 banks, including SOCBs, JSCBs, CCBs and FBs, during 1996-2008
- New features:
 - Use Profit Elasticity (PE) approach
 - Show that the PE approach is more robust than Lerner indices and Panzer-Rosser H Statistics under interest rate regulation
- Interesting, stimulating and well-executed paper:
 - In addition to the new empirical method and results, it contains informative background and literature review

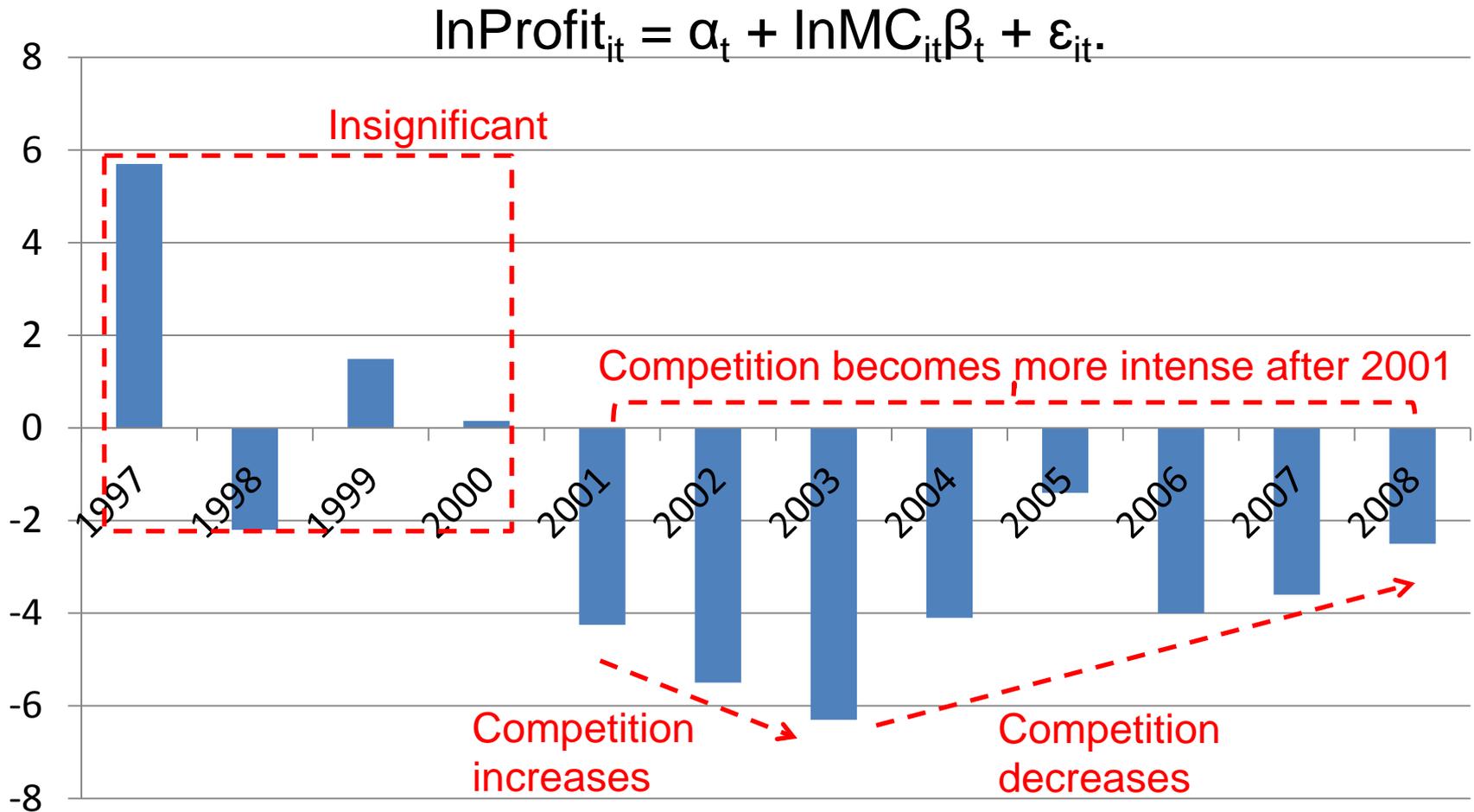
Profit Elasticity (PE) approach

- Consider there are two banks competing in loan quantity
 - Also apply to interest rate competition

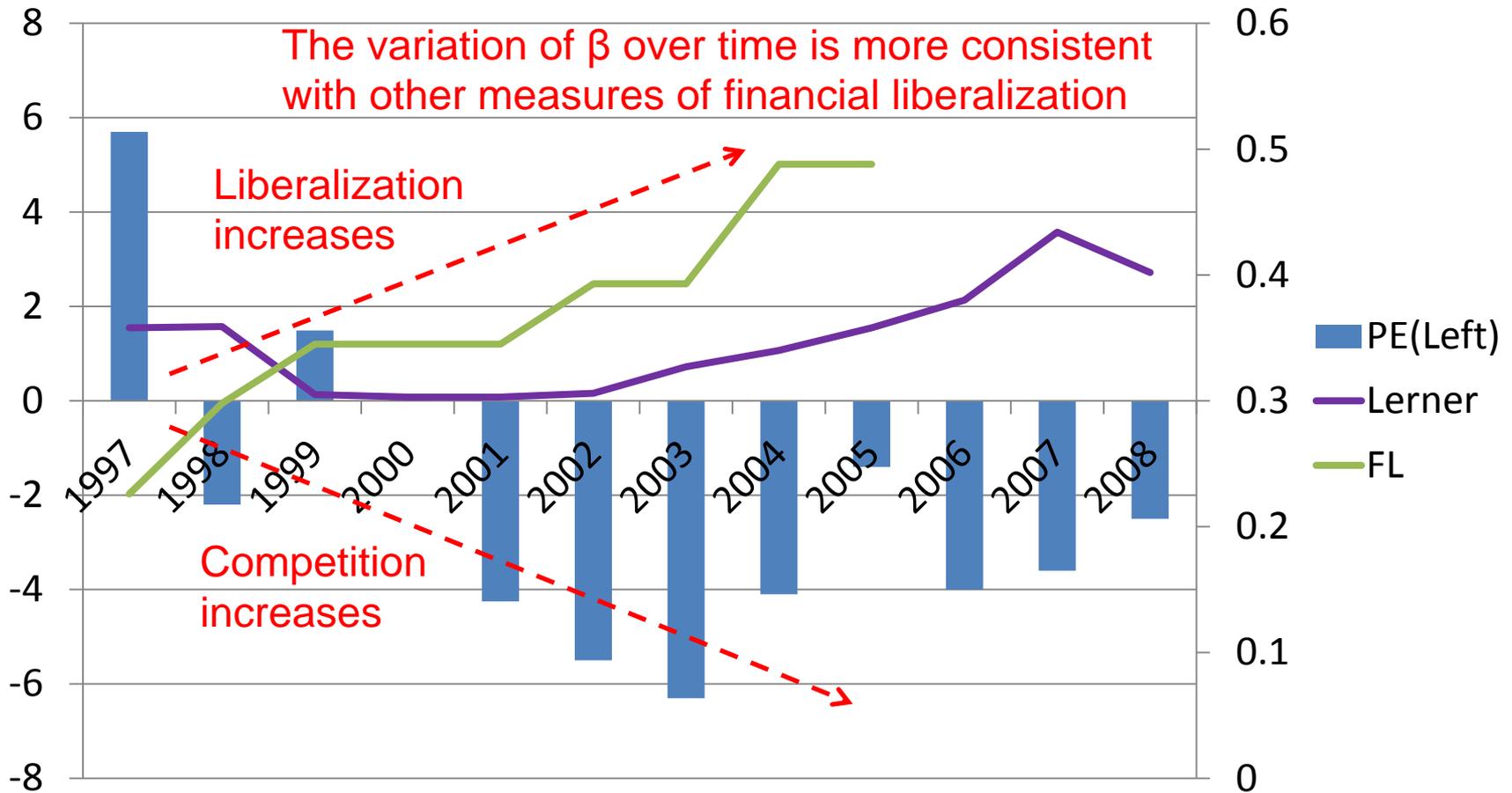


- Empirical model: $\ln \text{Profit}_{it} = \alpha_t + \ln \text{MC}_{it} \beta_t + \varepsilon_{it}$
 - Competition \uparrow when β_t becomes more negative

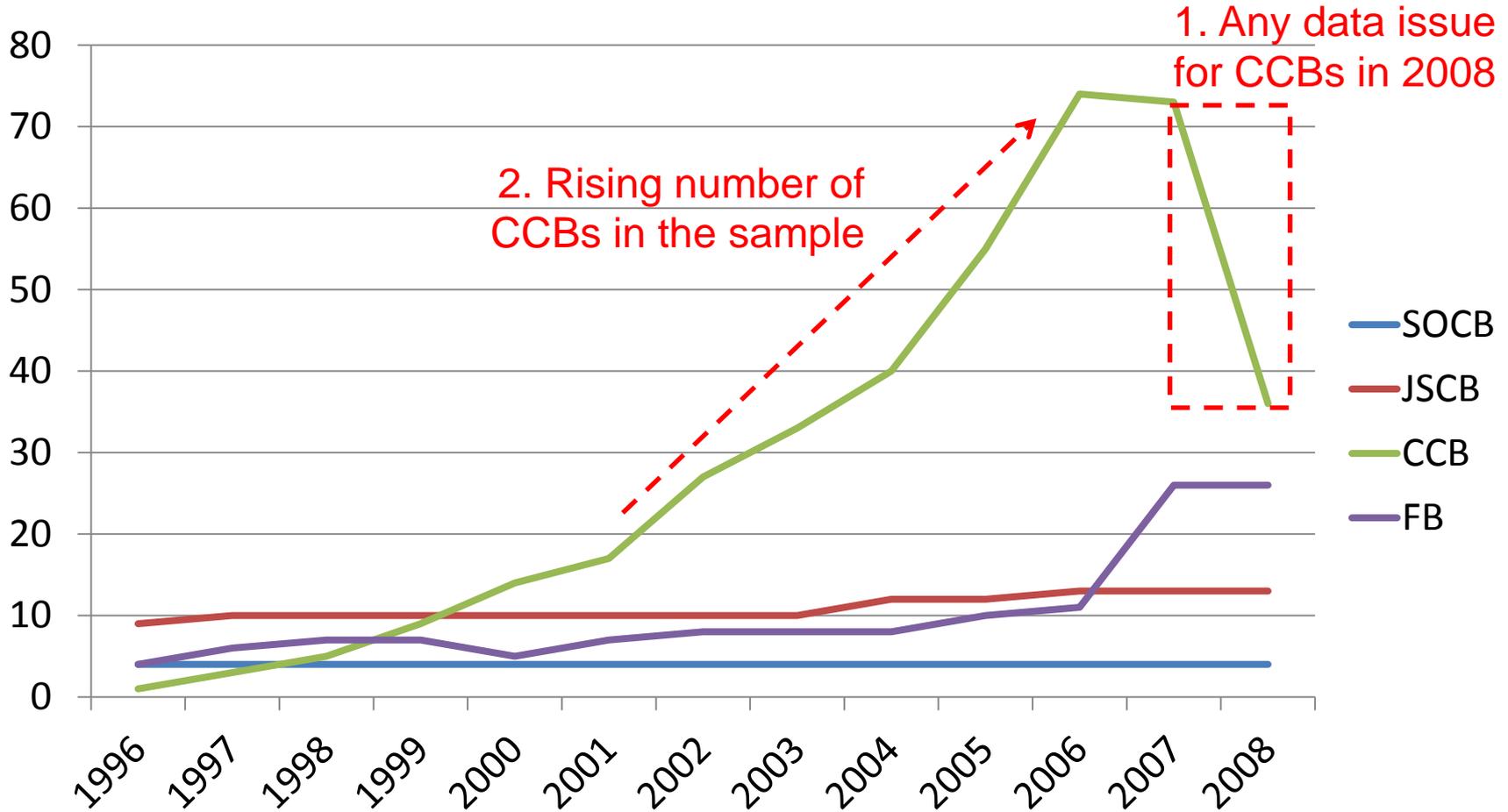
Empirical Results on β_t



Empirical Results on β_t



C1: Number of Observations



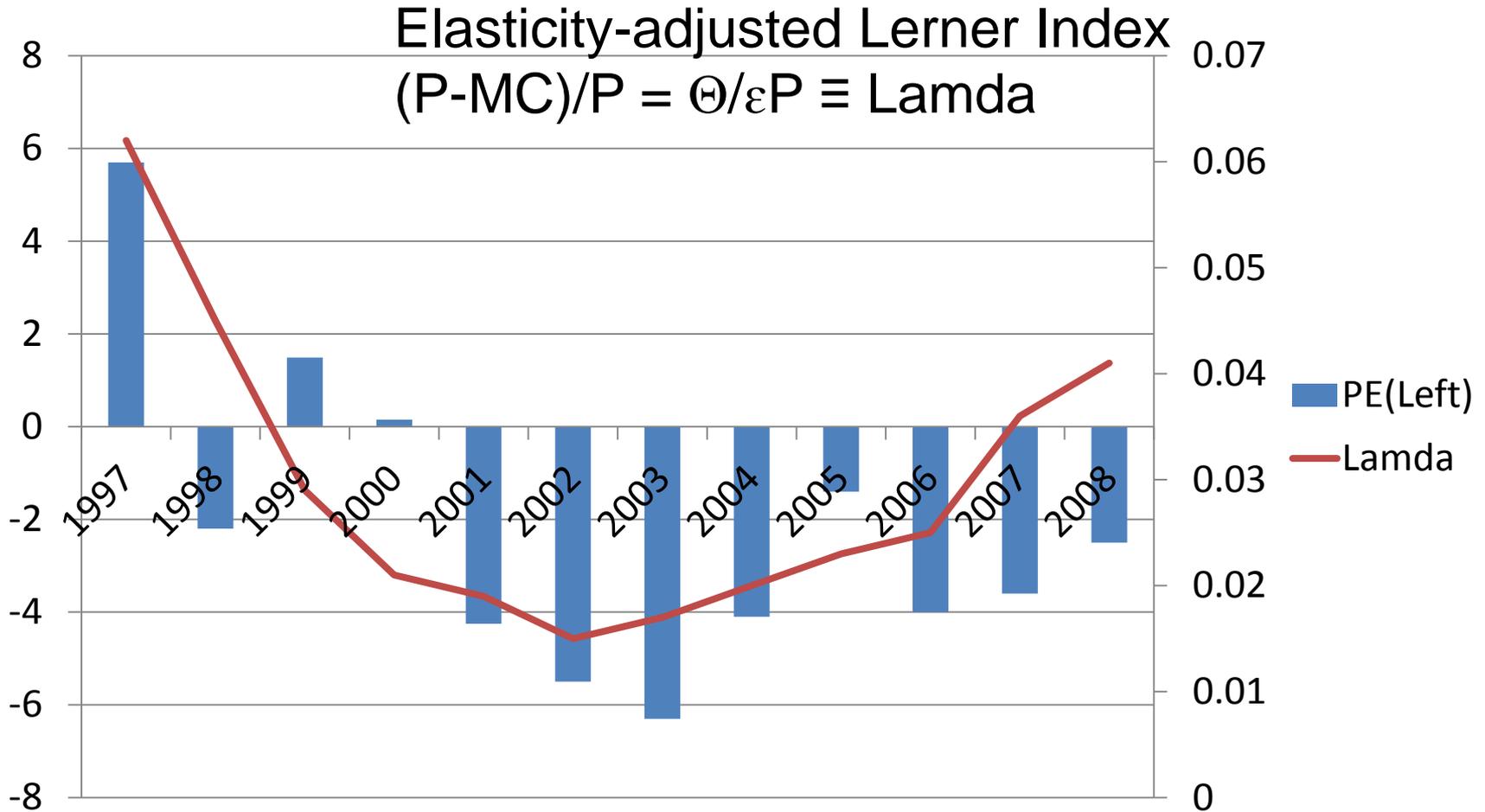
C2: Product Differentiation

- Market segmentation/definition
 - Not sure whether the negative sign of β_t since 2001 is driven by the competition among CCBs or that between different kinds of banks
 - Pool all banks in a sample may mask the sources of increased competition
 - Run sub-sample analyses across bank types
- Higher MC may relate to higher service quality
 - Banks with higher MC may have higher profits because higher service quality increases demand
 - Ho (2012) shows that Chinese banks differentiate with each other in terms of branch, ATM and employee
 - Increasing trend of β_t (in the last few sample years) may due to tougher competition through product differentiation

C3: Assumptions

- Empirical model: $\ln \text{Profit}_{it} = \alpha_t + \ln \text{MC}_{it} \beta_t + \varepsilon_{it}$.
 - $\ln \text{Profit}_{it} = \ln Q_{it} + \ln(P_{it} - \text{MC}_{it})$
 - Cournot model suggests that more efficient firms produce more output with higher price-cost margin
 - Should check whether these implications hold in the data
- Non-negative β_t before 2001
 - First-mover advantage of large banks
 - Banks with higher MC can have higher market shares and profits
 - Collusion among large banks
 - Ho (2012) cannot reject the hypothesis of collusive price setting model during 1994-2001

C4: Biases/Demand Shifts?



C5: Identification

- Lending rate ceiling
 - Does it play an important role in biasing the elasticity-adjusted Lerner index before 2001?
 - Provide anecdotal evidences to support the ceiling was binding
 - For 2004Q1-3, 64.3% of loan interest rates were set below or at the benchmark rate; and 31.7% of them was set between 1-1.3 times of the benchmark rate (Dobson and Kashyap, 2006)
- Deposit rate ceiling
 - Consider there are two banks where $mc_1 < mc_2$
 - Aggregate Lerner index: $L = s_1L_1 + s_2L_2$
 - No definite conclusion on how aggregate Lerner index react to a more binding deposit ceiling
 - $dL/d\varepsilon = \underbrace{(ds_1/d\varepsilon)L_1 + (ds_2/d\varepsilon)L_2}_{\text{Negative effect: Reallocating more market share to the lower markup bank}} + \underbrace{\sum_i s_i(dL_i/d\varepsilon)}_{\text{Positive effect}}$.

C5: Identification

- Consider there are two banks competing in loan quantity
 - Set demand $P = A - Q$ and $MC_2 = K * MC_1$
 - Deposit rate ceiling is binding, i.e. $MC_i(\epsilon) = MC_i - \epsilon$
 - For $A = 10$ and $MC_1 = 1$, $dL/d\epsilon > 0$ for sets of parameter values
 - The proposed reallocation effect is not strong enough

