Discussion of Feng Dong, Pengfei Wang, Yi Wen "Credit Search and Credit Cycles"

Multiple Equilibria and Financial Crises Conference

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Context

- Tremendous increase in excess reserves in banks since the start of the financial crisis.
- Models of information asymmetries a la BGG, KM:
  - Firms lack capital, problem of skin in the game
  - but... liquidity seems actually rather abundant !
- We need other models to try and understand what is really going on.
- This paper proposes one such model.

Context

- **This model**: all about search frictions on the credit market.
- Depositors, banks, and firms. **Two frictions:**
  1. Banks have a hard time finding firms: $u_t = K_t/\tilde{S}_t$.
  2. Depositors have a hard time finding banks: $e_t = \tilde{S}_t/S_t$.

  $\Rightarrow$ On aggregate, savings are therefore only utilized up to a fraction $u_t e_t$.
- Firms that don't find banks: interpreted as being credit constrained. Funds that don't find firms: excess reserves.
- First assumption perhaps a bit of a black box, but it is standard in this literature. Maybe it proxies for moral hazard, etc.
- Second assumption is more uncommon...

Intuitions

Depositors search harder for banks when output is high, with elasticity that of the matching function. $e_t \sim Y_t^{\epsilon_H}$:

- Search harder if deposit rate is higher. Deposit rate is higher if loan rate is higher (because zero profit of banks), which is a fraction of profits, increasing with output.
- In practice, I am worried that: $\epsilon_H \simeq 0$? (problem: you then kill indeterminacy) Hard to find data which would suggest otherwise. (money under mattress?)

Fraction of matched firms is higher when output is high $u_t \sim Y_t^{\epsilon}$:

- Total entry costs need to be equal to the aggregate profits, because of free entry. So when Y_t increases, more firms must be matched.
- Number of loan officers assumed to be constant.

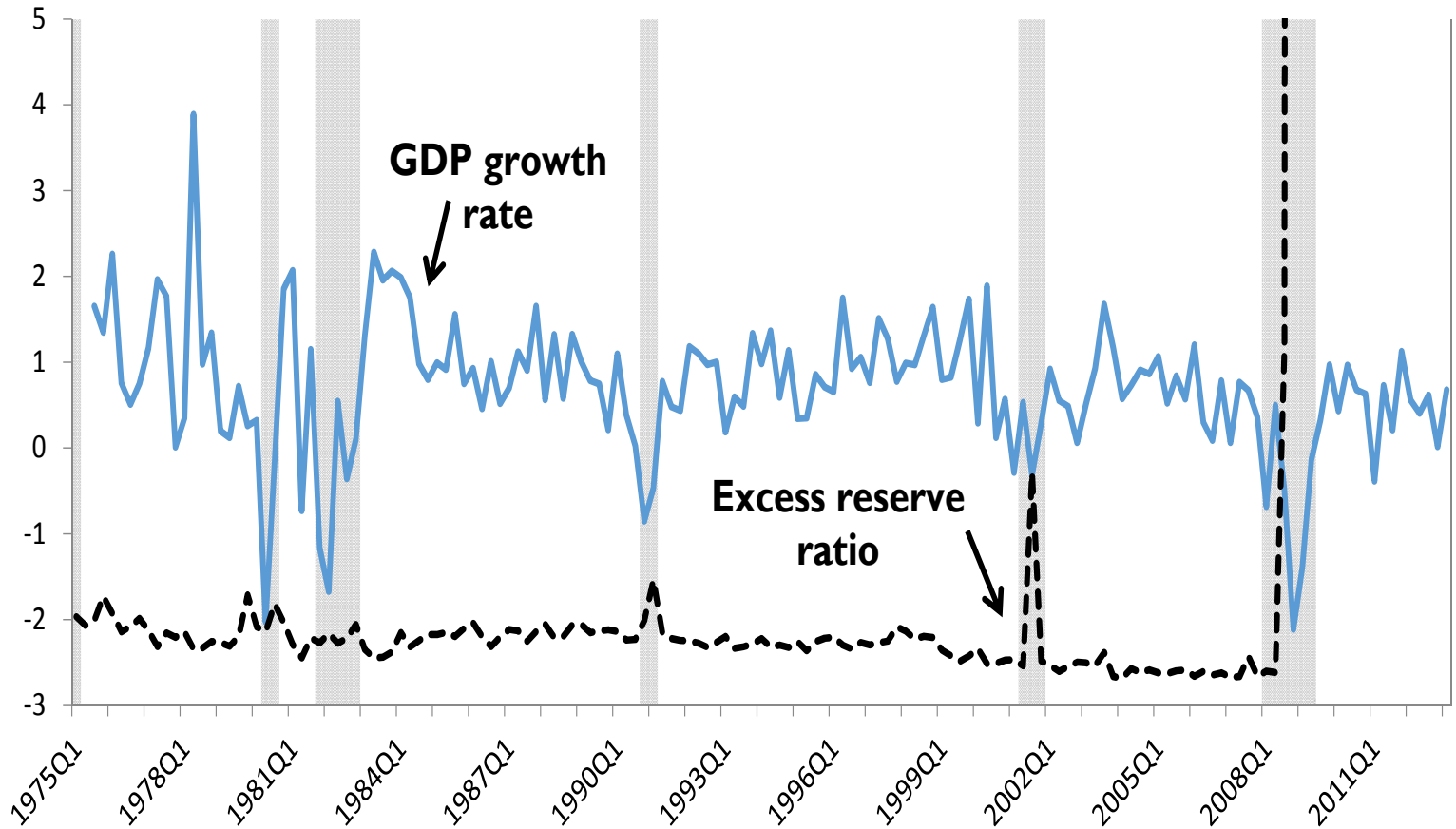
Intuitions

- Then the model writes as follows:

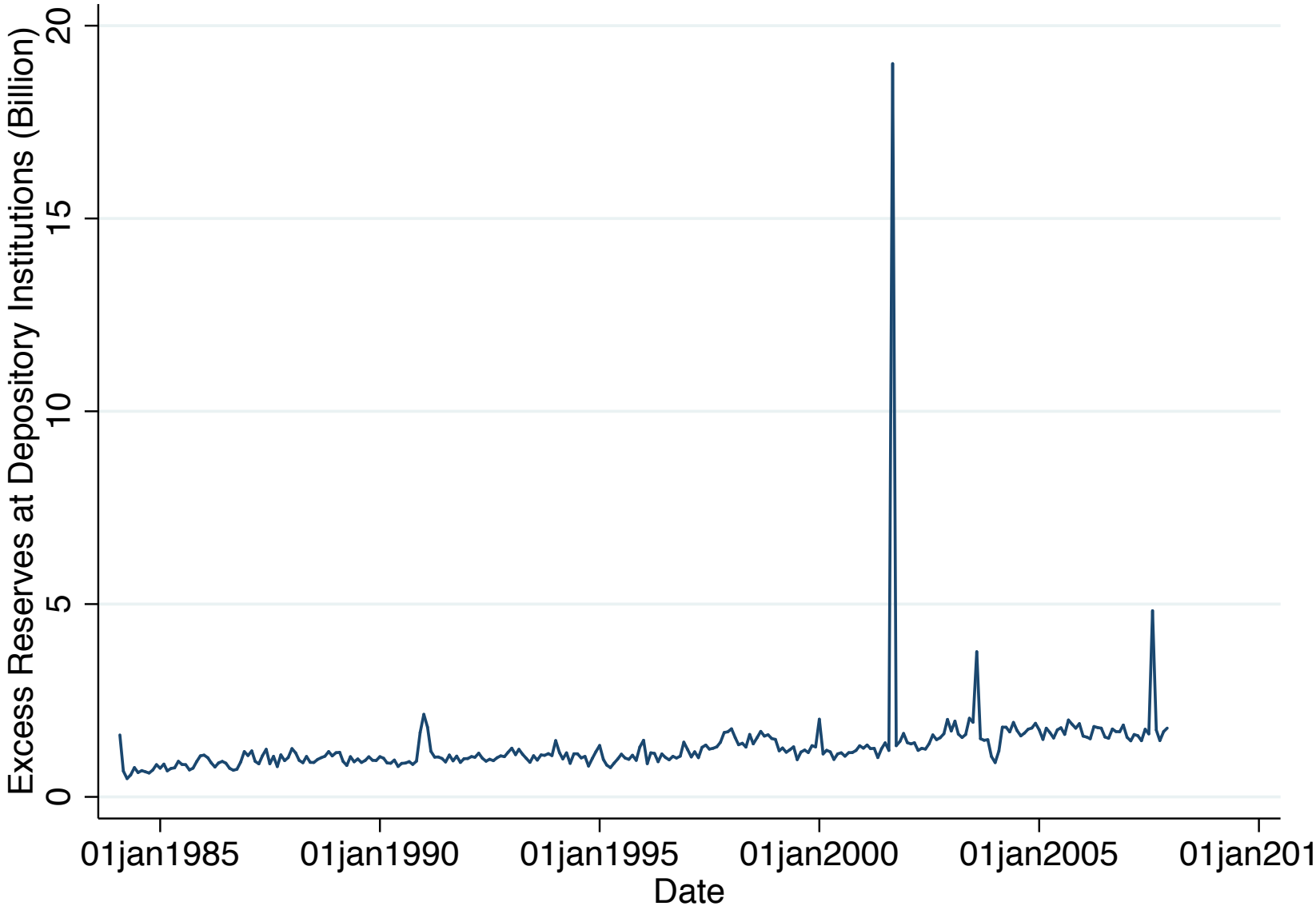
$$
\begin{aligned}
Y_t &= A_t \left(e_t u_t S_t\right)^{\alpha} N_t^{1-\alpha} \\
e_t &\sim Y_t^{\epsilon_H} \\
u_t &\sim Y_t^{\epsilon} \\
\psi N_t^{\xi} &= \frac{1}{C_t}(1-\alpha)\frac{Y_t}{N_t}.
\end{aligned}
$$

- Wen (1998) uses capacity utilization to decrease the degree of IRS needed in Benhabib-Farmer. Here they use this deposit search of households equation. (equation 2)
- I am not sure this is a convincing solution to this problem.
- Also, the model works through u_t, underutilized savings in banks, that they don't lend out.

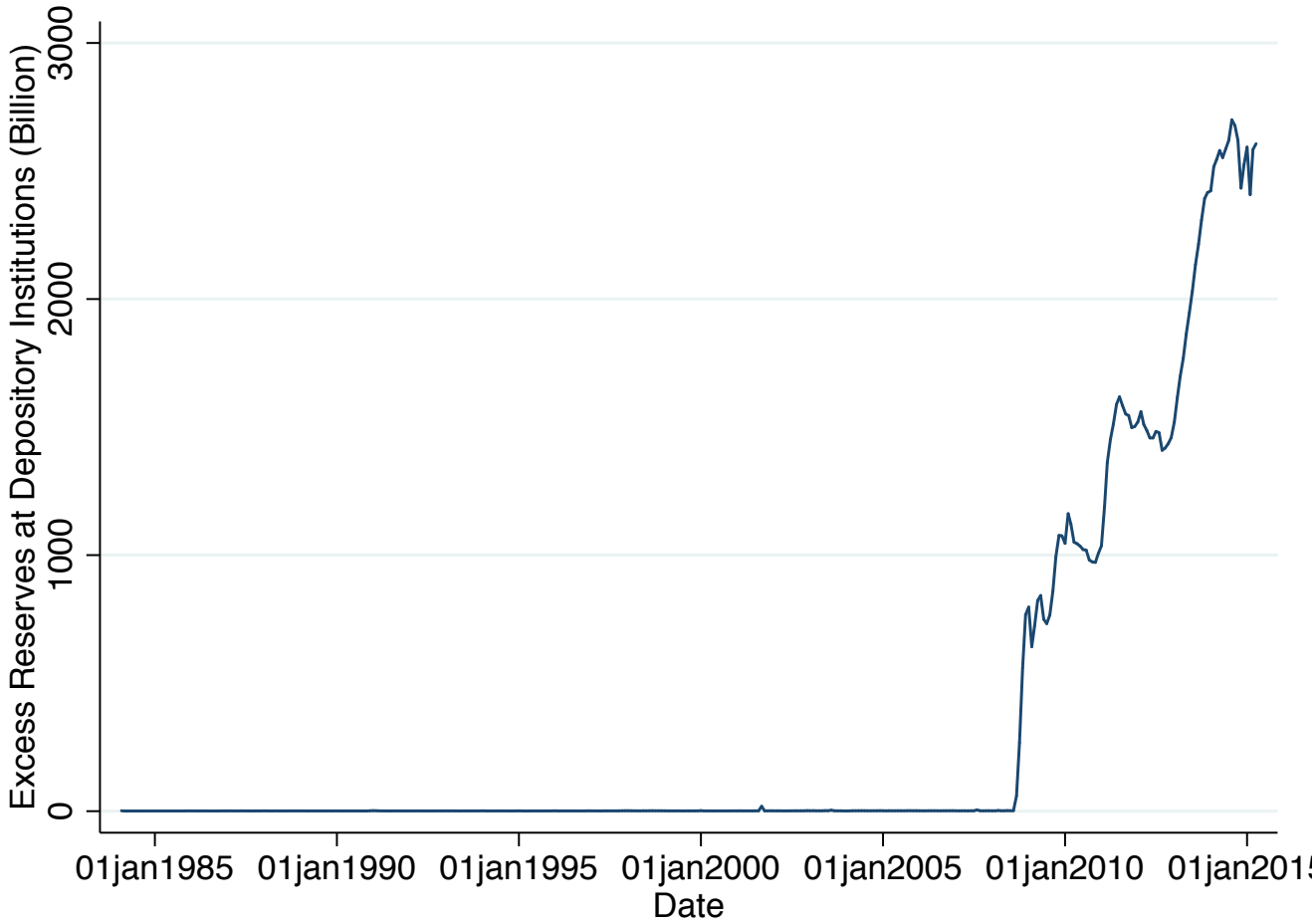
Excess Reserves=Underutilized savings



Before 2007


Excess Reserves at Depository Institutions (Billion)
0
5
10
15
20
01jan1985
01jan1990
01jan1995
01jan2000
01jan2005
01jan201
Date

What happened?



The utilization rate decreases tremendously ! What is specific to 2008? Something else is going on... (+ interest rate on reserves)

Calibration

- These intuitive remarks show up in the calibration.
- Model as it stands hard to take seriously, as least quantitatively.
- All of the difference between loan rate and deposit rate in model accounted for by unmatched savings, because of banks' zero profit, so:

$$R_t^d = u_t R_t^l.$$

  Problem is that deposit rate is approximately 0 now and the loan rate is a few percentage points. u_t is that low?

- Maybe maturity, risk, etc. ?

Calibration 1/2

- The paper I read insists on calibration, and finding a mechanism to generate increasing returns. The condition is:

$$\epsilon + \epsilon_H > \frac{1}{\alpha} \frac{\alpha + \xi}{1 + \xi},$$

where α is share of capital (1/3), and ξ is the inverse of Frisch elasticity.

- More favorable to indeterminacy: $\xi = 0$ - completely elastic labor supply. Robustness to elasticity of $2 - 3$? Condition becomes:

$$\epsilon + \epsilon_H > 1.$$

Calibration 2/2

- $\rho = 1/\beta - 1 = 1\%$.
- The deposit rate is used to calibrate the ϵ_H, the elasticity of looking for banks as a savers when output increases so R_d increases:

$$R^d = \frac{\rho}{1 - \epsilon_H}.$$

- At quarterly frequency, they assume the interest rate depositors get is:

$$R^d = 5.4\% \quad \Rightarrow \quad R = 23.4\%!$$

  Where does this come from?
- With reasonable deposit rate, ϵ_H is very close to zero.
- Other problems with calibration...
- Always a problem to ask entrepreneurs who are denied credit. (shared by literature on information asymmetries) What if they are just too optimistic?

Conclusion

- Preliminary work but very interesting question. About the not enough lending: regulators are a bit schizophrenic.
- Perhaps not in the direction the paper is currently going. I found the theoretical part on double search and matching, and Hosios efficiency potentially more interesting.
- I am worried though that plausibility of multiple equilibria is going to remain a problem with this mechanism.
- It find it hard to believe that savers have such a hard time finding banks.
- I would concentrate on the theoretical aspects of the paper, rather than trying to do a calibration: Hosios condition with capital and labor, etc.