Discussion of: Monetary Policy in a Channel System

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THIS DISCUSSION

(A) Key Features of the Model

(B) Main Findings and Intuition

(C) Discuss Robustness of the Policy Implications

- ◇ Relax Assumption
- ◇ Active Money Market

(B) MAIN FINDINGS AND INTUITION

Assumption ① - ④ imply First Best cannot be achieved:

Welfare $= (1-n)\ \underbrace{[u(q)-q]}_{\text{trade surplus}} - \underbrace{(1-\beta R)b}_{\text{collateral cost}}$

$\Rightarrow$ First Best: $b = 0$ and $q = q^*$ with $u'(q^*) = 1$

When $b = 0$, equilibrium money demand:

$$\underbrace{\frac{\gamma}{\beta(1+i_d)} - 1}_{\text{MC}} = \underbrace{(1-n)(u'(q)-1)}_{\text{MB}}$$

◇ Without ② or ④: $\gamma = \beta$ and $i_d = 0 \quad \Rightarrow q = q^*$.

◇ With ② and ④: $\gamma \geq 1 + i_d > \beta \quad \Rightarrow q < q^*$.

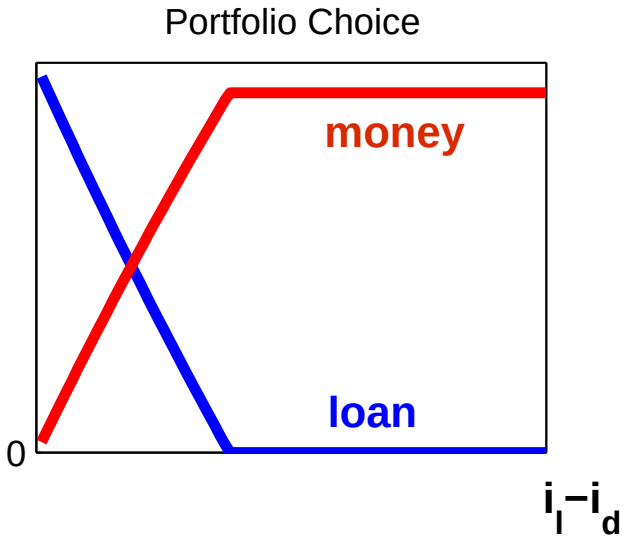
(B) MAIN FINDINGS

Benchmark Case: When money market is inactive $(\varepsilon = 0)$:

Optimal Policy:

- Positive Interest Corridor $i_l - i_d > 0$
- Zero Lump Sum Transfers $\tau = 0$

(1) What's the equilibrium effect of interest corridors?



Proposition 1

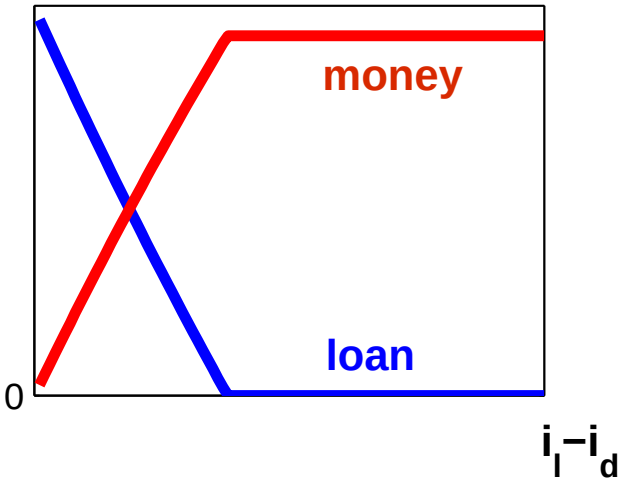
$i_l \uparrow$ relative to i_d

$\Rightarrow$ borrowing $\downarrow$

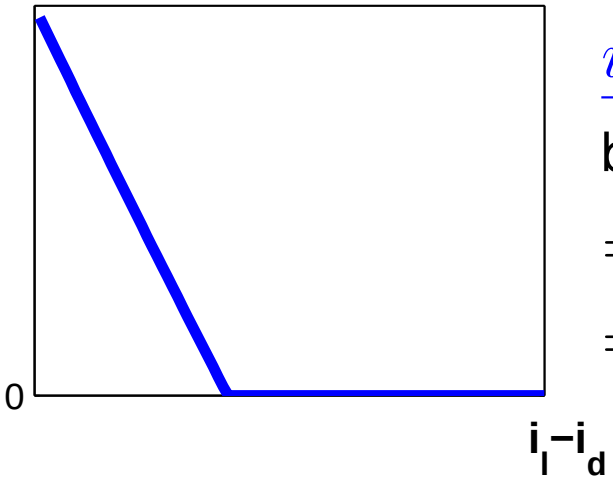
$\Rightarrow$ money $\uparrow$

(1) What's the equilibrium effect of interest corridors?

Portfolio Choice



Collateral (b)



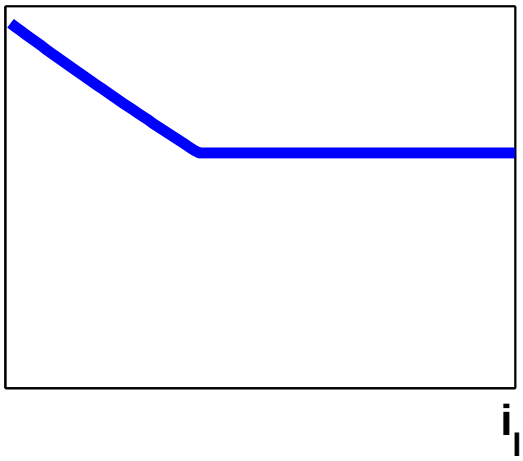
$i_l \uparrow$ relative to i_d

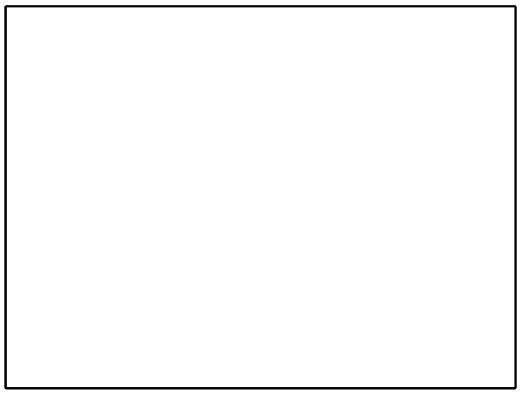
borrowing $\downarrow$

$\Rightarrow$ collateral $\downarrow$

$\Rightarrow$ Welfare $\uparrow$

Consumption (q)





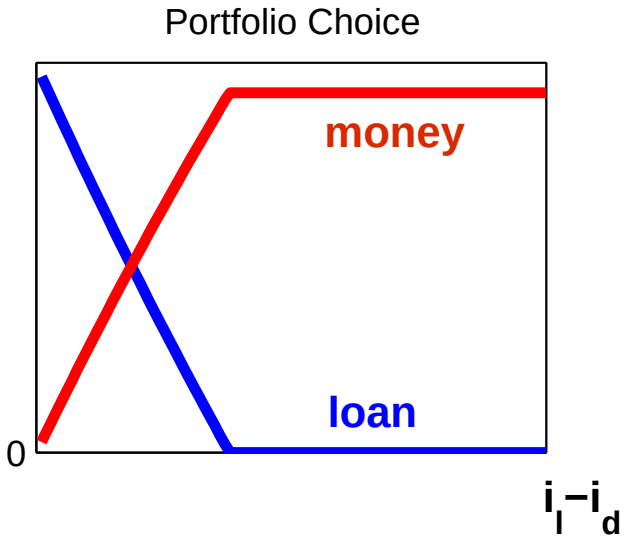
$i_l \uparrow$ relative to i_d

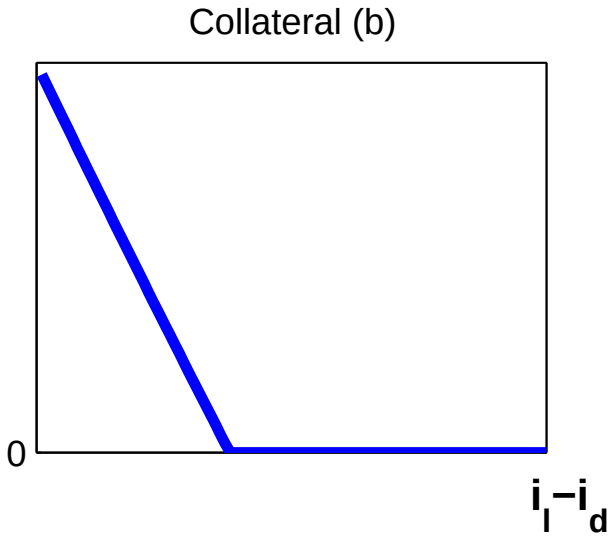
borrowing $\downarrow$

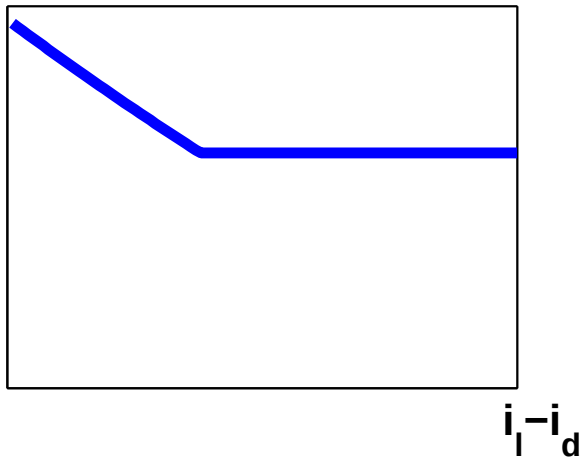
$\Rightarrow$ consumption $\downarrow$

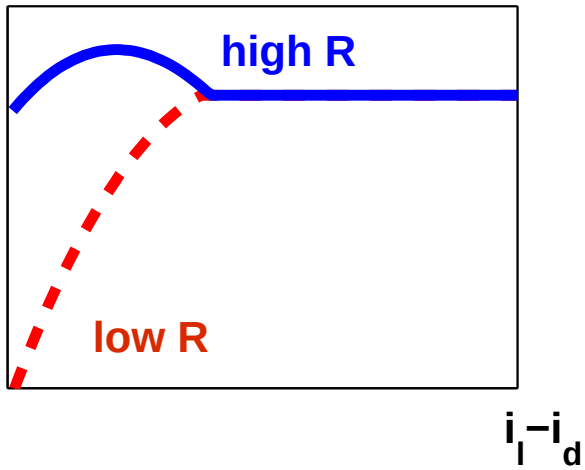
$\Rightarrow$ Welfare $\downarrow$

(2) What is the optimal policy?









Proposition 2

Optimal Policy:

b is costly (low R)

$\Rightarrow$ high i_l

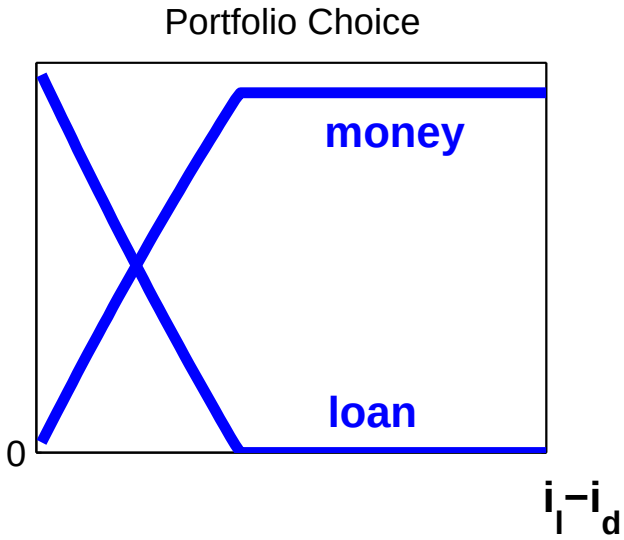
$\Rightarrow b = 0$

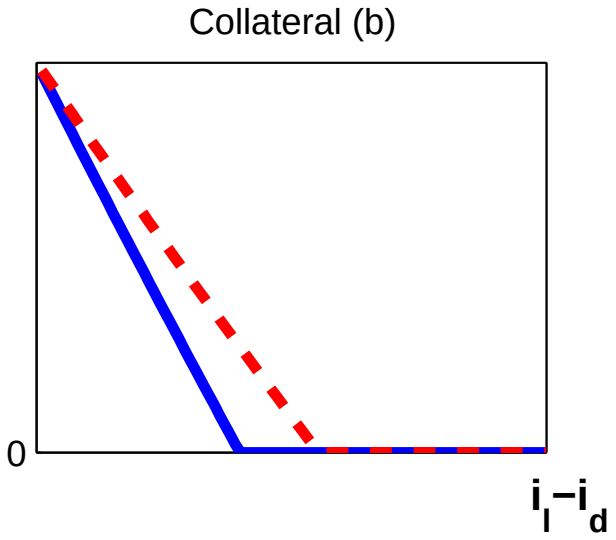
b is cheap (high R)

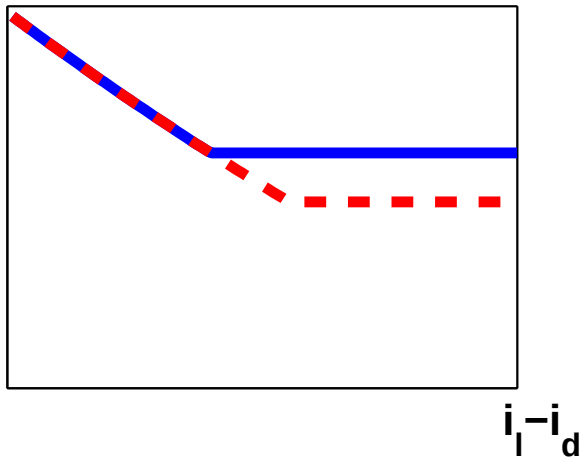
$\Rightarrow$ low i_l

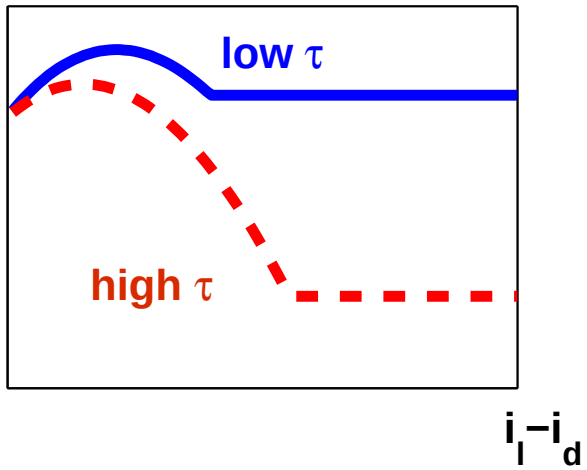
$\Rightarrow b > 0$

(2) What is the optimal policy?









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$\tau = 0$

(C) DISCUSSION

Benchmark Case: When money market is inactive $(\varepsilon = 0)$:

Optimal Policy:

- Positive Interest Corridor $i_l - i_d > 0$
- Zero Lump Sum Transfers $\tau = 0$

QUESTION: How robust are these results?

◇ With general cost function

◇ With an active money market

(1) GENERAL COST FUNCTION

For tractability, the paper assumes that the cost of re-balancing portfolio in the settlement market is linear

QUESTION: How robust is the result if we relax the linear cost assumption?

ANSWER:

I numerically computed the case with standard **convex** cost functions and found that:

- ◇ The distribution becomes **non-degenerate**
- ◇ **Positive corridor** is generally still optimal ($i_l > i_d$)
- ◇ However, **positive lump sum transfer** can be optimal ($\tau > 0$)
  (due to redistributive effect studied in Molico (2006))

(2) ACTIVE MONEY MARKET ($\varepsilon > 0$)

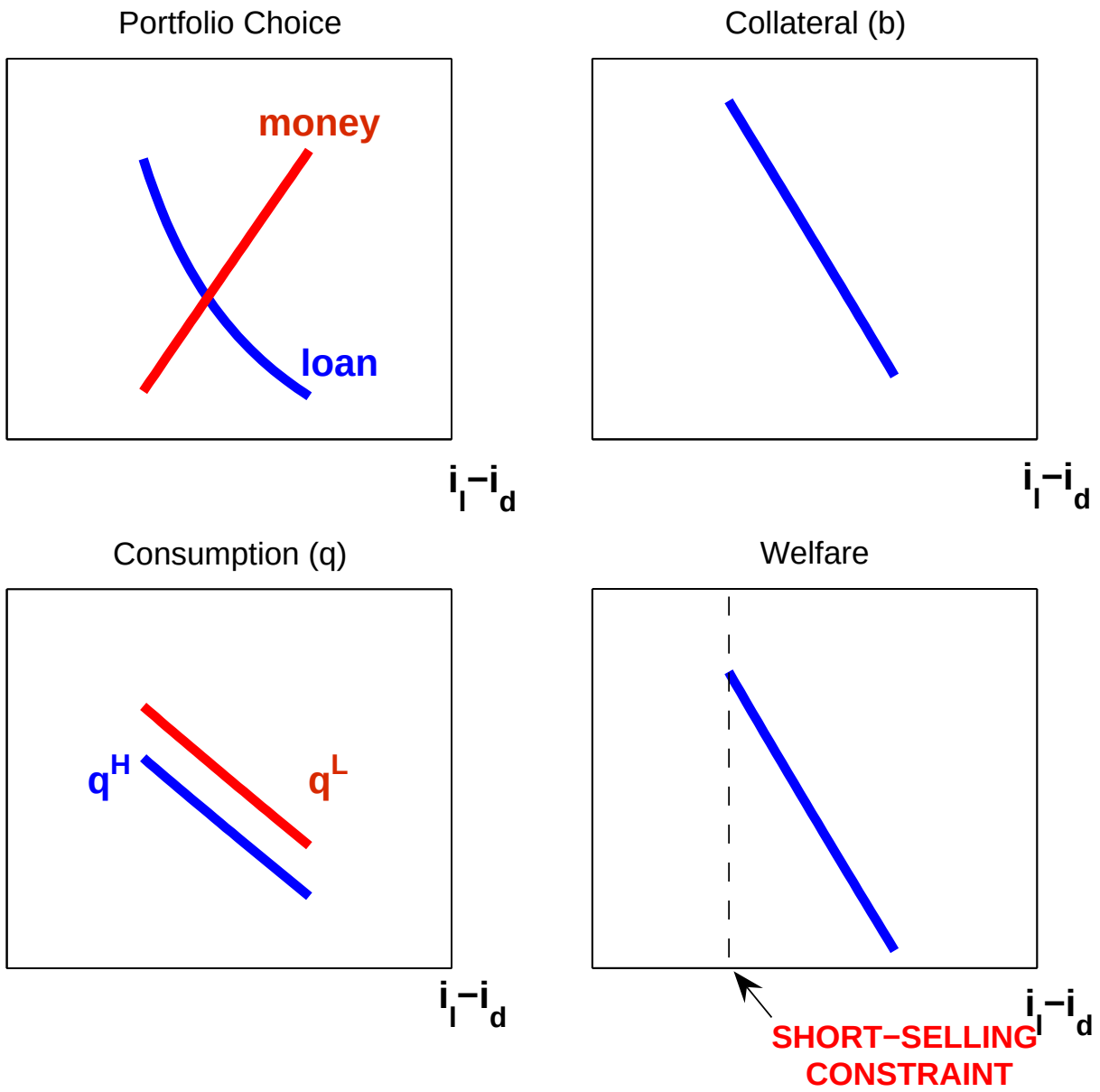
When the money market is active, the paper only derives the equilibrium when "short-selling" constraints are not binding.

QUESTION: What's the optimal policy when the money market is active?

ANSWER:

I computed the welfare effects of changing the interest corridor when "short-selling" constraints are not binding.

OPTIMAL POLICY WITH ACTIVE MONEY MARKET



(2) ACTIVE MONEY MARKET ($\varepsilon > 0$)

When the money market is active, the paper only derives the equilibrium when "short-selling" constraints are not binding.

QUESTION: What's the optimal policy when the money market is active?

ANSWER:

I computed the welfare effects of changing the interest corridor when "short-selling" constraints are not binding. I found that:

- ◇ Welfare is **decreasing** in the interest corridor.
- ◇ Results suggest that the optimal interest corridor will probably induce **binding "short-selling" constraints**.

SUMMING UP

- I learned a lot from this paper.
- An important first step toward analyzing a channel system in a general equilibrium model.
- There are some important questions remained unresolved.
  (e.g. optimal policy when money market is active)