U. Jerman & V. Quadrini Macroeconomics Effects of Financial Shocks

Discussion by Pietro Reichlin - LUISS

June 29, 2009

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RBC models have little to say about firms' financial structure over the business cycle

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 RBC models have little to say about firms' financial structure over the business cycle

this paper tries to fill this gap

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- .. invest more

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- When output is high, firms issue more debt
- ... issue less equity
- .. invest more
- ▶ .. pay more to shareholders

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- When output is high, firms issue more debt
- ... issue less equity
- .. invest more
- ... pay more to shareholders
- a lot of investment is financed through retained earnings

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- debt acts as a discipline device for managers
- collateral and credit ratings play important role
- firms may go bankrupt and bankruptcy is costly
- there is an external finance premium (typically counter-cyclical)

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Some consequences

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 \Rightarrow cost of debt goes down and debt-equity ratio is pro-cyclical

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 $Y \uparrow \Rightarrow$ firms' net worth + liquidity \uparrow , credit ratings \uparrow \Rightarrow cost of debt goes down and debt-equity ratio is pro-cyclical But this is not J&Q paper..

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J&Q's approach

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However: there is a limited commitment problem:

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However: there is a limited commitment problem: firms may default on debt obligations at limited cost

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 \Rightarrow Firms are subject to an enforcement constraint

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debt repayment is self-enforcing if current output not too high, value of firm not too low, dividends not too high

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Adverse financial shock \Rightarrow employment and dividends down

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Convex cost of changing dividends makes labor demand more sensitive to financial shock

Adverse financial shock \Rightarrow employment and dividends down

Adverse output shock \Rightarrow default less attractive \Rightarrow enforc. constraint relaxed \Rightarrow mild impact on employment

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Without financial frictions (only TFP shocks): the (RBC) model cannot account for actual volatility of output and labor

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Without financial frictions (only TFP shocks): the (RBC) model cannot account for actual volatility of output and labor

Financial frictions introduce an important source of volatility into the model

Only way to understand big swings in output and labor along the cycle is by introducing financial frictions

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Problem

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J&Q's story is not completely matching my intuition

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Then, net debt should go down in booms (counterfactual)

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J&Q's story is not completely matching my intuition

One could say: since firms are credit constrained, they use internal funds as a buffer stock against negative shocks

Then, net debt should go down in booms (counterfactual)

But internal funds seem to play no role in J&Q's paper

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1. Two types of debt:

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- 1. Two types of debt:
 - Intratemporal debt (m)

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- 1. Two types of debt:
 - Intratemporal debt (m)
 - Intertemporal debt (b)
- 2. Dividends, investment, labor costs, interest payments are paid before revenue is realized
- 3. Agents can default on m only at interim stage
- 4. *m* exactly equals revenue F(k, l)

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The limited commitment problem - A simplified scheme

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The limited commitment problem - A simplified scheme

Firms balance sheet:

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Firms balance sheet:



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Option 1: No default

Firm payoff = F(k) - m + V'/R IP-lender payoff = m

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Option 1: No default

Firm payoff = F(k) - m + V'/R IP-lender payoff = m

Option 2: Default without renegotiation:

Firm payoff =
$$F(k)$$
 IP-lender payoff = $\xi V'/R$

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Option 3: Default + Reneg.:

Firm payoff = F(k) + V'/R - e IP-lender payoff = e

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If firm has all the bargaining power, $e = \xi V'/R$ and

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Option 3: Default + Reneg.:

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If firm has all the bargaining power, $e=\xi V'/R$ and

Firm payoff =
$$F(k) + (1 - \xi)V'/R$$

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Questions

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Can we make no default self-enforcing by imposing a low enough Intratemporal Loan? This would be equivalent to imposing m < F(k), i.e., the firm retains some internal funds</p>

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- Can we make no default self-enforcing by imposing a low enough Intratemporal Loan? This would be equivalent to imposing m < F(k), i.e., the firm retains some internal funds</p>
- Why default on Intratemporal loans only? What happens when you allow for default on intertemporal loans?

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- Can we make no default self-enforcing by imposing a low enough Intratemporal Loan? This would be equivalent to imposing m < F(k), i.e., the firm retains some internal funds</p>
- Why default on Intratemporal loans only? What happens when you allow for default on intertemporal loans?
- Is it true that all firms are debt constrained? Financial shocks have a very asymmetric effects on (small and big) firms

Questions (cont.)

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Is this a good way to model financial shocks? I see a good fin. shock as a rise in asset values. In J&Q's model:

 $\xi = \frac{\text{output}}{\text{Value of firm - dividends}}$

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Then,

Value of firm
$$\uparrow \Rightarrow \xi \downarrow$$

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