Discussion of: Margin-Based Asset Pricing

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Two-agent continuous time general equilibrium model



- Positive margin must be posted for every trade
- Margin requirements impose a limit on position size
- Binding margin requirements have an associated shadow cost of capital
- Similar to equilibrium with transactions costs
- Very difficult to solve

Market



- Underlying securities
 - Positive net supply
- Derivatives: same cash flows as the underlying – Zero net supply
- Derivatives have lower margins than underlying
- Two lending/borrowing markets:
 - interbank (subject to margin constraint)
 - other (not subject to margin constraint)

Agents

- Agent 1:
 - Bank
 - Low risk aversion
 - Access to both lending/borrowing markets
- <u>Agent 2:</u>
 - Retail
 - High risk aversion
 - No access to interbank market
 - Limited or no access to derivatives

Model Properties

- As Bank becomes smaller part of market:
 - Market price of risk rises (Retail more risk averse)
 - Bank's margin constraint more binding
 - (Shadow) cost of capital rises
- r_{interbank} r = bank's (shadow) cost of capital
- R_{security} r = unconstrained return
 + (shadow) cost of capital x margin
- r_{derivative} r_{underlying} ≈ (shadow) cost of capital x margin difference
- Similar to what we have observed

Conclusions

- Nice GE model that is consistent with my prior beliefs about how prices are affected
- Seems consistent with what we have observed
- I think that it needs another clearing condition to account of financing of margin accounts