Comments on Jean-Edouard Colliard: “Rational Blinders”

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Overview

• Paper tackles an important and timely topic.
• Reasonable and parsimonious modeling framework.
• Some interesting & provocative results
• Hard to interpret the relevance of these results because paper does not present full model solutions
The Issue

• Banks have the ability under Basel rules to use internal models to determine the amount of capital they must hold.

• Banks almost certainly have better information than regulators on their “true” risks, and how the true risks relate to the risk reported by the models.

• Will banks exploit this information advantage to use models that understate risks in order to achieve greater leverage?
The Model: Agents and Assets

• Borrowers who finance risky projects: they can default.
• Investors with access to a safe asset who can also invest in intermediaries.
• Limited liability intermediaries endowed with capital who can borrow from investors and lend to borrowers.
• Investor-Intermediary contracts non-contingent.
• Benevolent regulator.
The Model: Models

• $F(t, \sigma)$ is a cumulative probability that fraction $t$ of loans will default. $\sigma$ indexes model optimism.
• Monotone likelihood ratio property.
• $\sigma$ drawn from a distribution.
• Bank knows true value of $\sigma$ but the regulator just knows the distribution.
The Model: Timing

• Regulator specifies function that makes capital requirement contingent on bank’s announcement of $\sigma$.

• $\sigma$ drawn from its distribution. Bank reports $\sigma'$ to the regulator.

• Loan and deposit interest rates, and borrowing and lending are determined in competitive equilibrium.

• Some borrowers default.
Two Policy Tools

• Paper explores two policy tools: capital requirements and ex post monitoring of model based on performance.

• Second model is a mechanism design in which there are transfers from/to bank contingent on realized default experience compared to model predictions.
Capital Requirement

• In equilibrium a fraction of intermediaries choose the most optimistic model and maximum leverage: others invest in safe asset.

• The greater the demand for loans, the more banks choose maximum leverage/optimistic model.

• Since regulator can’t distinguish between models, it imposes identical capital requirement on all banks using models.
Capital Requirement II

• One of the main results of the paper is that tightening capital requirements can lead to more bank failures in equilibrium.

• If loan demand very inelastic, tighter capital requirement→greater margin on loans→more banks choose to enter risky lending.

• Result depends on fraction of risky lenders being “small enough”: will this happen in equilibrium?
Capital Requirement III

• Regulator is benevolent, so amount of defaults is constrained optimal: regulator never tightens too much. Is the point that real world regulators are flawed and may over-tighten?
• The relevant issue is the loss from information asymmetry, and how this varies with demand parameters.
Capital Requirement IV

• What is the value of increased regulatory precision (i.e., narrower range of models) and how does this vary with level and elasticity of demand?
• It’s unclear whether model can answer these questions as currently constituted but a modest change might permit it: let support of the regulator’s distribution be centered +/- \( h \) around true risk parameter.
Backtesting

• Transfers between bank and regulator conditional on model performance. Also capital requirements: regulator has more tools
• IC, IR, LL constraints.
• Most potentially interesting part of the paper, but the weakest: need to solve the program, but don’t.
• Impose binding IR constraint: is this optimal? Why not leave rents with banks?
Backtesting II

- Interesting but unexplored question: what is the value of backtesting vs. a system in which the regulator only can utilize capital requirements?
- What drives the value of backtesting? Accuracy of backtest (e.g., the level at which the model is “distinguishable from above”)?
Backtesting III

• Paper worries about the credibility of transfer schedules that require payments to bankrupt banks.
• Isn’t the real problem the credibility of promises not to bail out the bankrupt?
• In the model, adding a $T \geq 0$ constraint must reduce welfare. There is a benefit to bailouts here. How big is it? What drives it?
• Addressing these issues requires solving the entire program. Paper doesn’t do that, meaning it falls short of its potential
What’s the Alternative?

• The paper focuses on the potential costs of allowing banks to choose models.
• Are standard models a better alternative?
• Doesn’t eliminate gaming the models: better-informed banks load up on the risks the model underestimates.
• This leads to crowded trades, which can create systemic risks.