Discussion:

The Limits of Model-Based Regulation

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Fundamental Intuition

Bayesian Persuasion

- Boleslavsky, Carlin, and Cotton (2015)
Fundamental Intuition

**Bayesian Persuasion**

- Boleslavsky, Carlin, and Cotton (2015)

**Complexity and Obfuscation**

- Gabaix and Laibson (2006)
- Carlin (2009)
- Carlin and Manso (2011)
Empirical Setting

Purpose of IRB

1. More precise estimate of risk
2. Overcomes imprecision of “coarse” SA.
3. Better assessment of capital markets
4. Less financial fragility.
Empirical Setting

1. Large fixed cost, only 45 banks adopted it
2. Long time to adopt.
3. Requires empirical expertise.
4. Models need to be assessed and updated
5. Very hard for an outsider to monitor, except by evaluating ex post performance.

IRB Not Easy
Empirical Findings

1. SA compared to IRB
   • Table 2
   • Higher probability of default (PD) predictions
   • Lower actual default
   • Lower estimation error
   • Higher ratio of risk-weighted assets to loan (RWA)
   • Equivalent actual loss rate
   • Lower interest rate charged

2. IRB-F compared to IRB-A
   • Table 10
   • Lower PD predictions
   • Actual default rate equivocal
   • Higher RWA
   • Lower actual loss rate
   • Lower interest rate charged
Implications

1. Discretion with IRB leads to manipulation
   • Lower PD predictions associated with higher actual defaults
   • Lower RWA associated with higher actual defaults
   • Higher interest rate charged associated with IRB

2. Complexity leads to more room for manipulation
   • Arises from comparison of IRB-F and IRB-A

3. Convincing empirical analysis
   • Though, it would be good to add more independent variables to enrich your recommendations to regulators (e.g., differentiate by loan type)
   • Will discuss this more shortly.
Alternative Explanations

Suppose an auto manufacturer improves the computer capability and complexity in its cars:
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MANIPULATE EMISSIONS

BHV
Alternative Explanations

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Alternative Explanations

- Long ramp-up period
- Empirical expertise required
- Unclear why mistakes would induce a one-way bias in the PD measures, but it could.
- Standard deviation of PD estimates in IRB same as those in SA, which makes this less likely.
- Not sure how this would explain higher interest rates in IRB loans
- Could characterize the standard deviation and errors by loan class.
Alternative Explanations

- Introduced by Hansen and Sargent (2010)
- Carlin, Matoba, Longstaff (2014)
  - Prepayment Speed Forecasts by mortgage dealers dispersed
  - Empirical risk premium associated with dispersion
- Andrei, Carlin, Hasler (2015)
  - Risk premium associated with model uncertainty
- Might explain higher rates charged by IRB loans
- Though unclear why model mistakes would induce a one-way bias in the PD measures.
- Could make a measure of PD dispersion to evaluate this.
- Characterize by loan class.

Model Uncertainty

Sender

Full Disclosure

Receiver

Bounded

Bounded
Discussion

• Paper makes a very plausible case for manipulation
• Glaeser and Shleifer (2001) correct
• Even if alternative explanations are relevant, simplifying the implementation of Basel (IV?) seems necessary
• Less is often more
• But, with more characterization, could give more pointed recommendations