Estimating the Benefits of Contractual Completeness: The Case of Debt Covenants

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The Point of the Paper

- What are the net benefits to firms from including covenants in debt contracts?

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- $\surd$

The Results are Interesting

- The question is not easy
- Relative costs and benefits are unobservable
  - Covenant benefits: lower interest rate/larger loan
  - Covenant costs: restrictions on firm actions/lower private benefits
- For the average firm the value of an extra covenant is worth more than the loan spread itself.
- This number shows large variation across firms.

The Paper Introduces a new Methodology to Corporate Finance

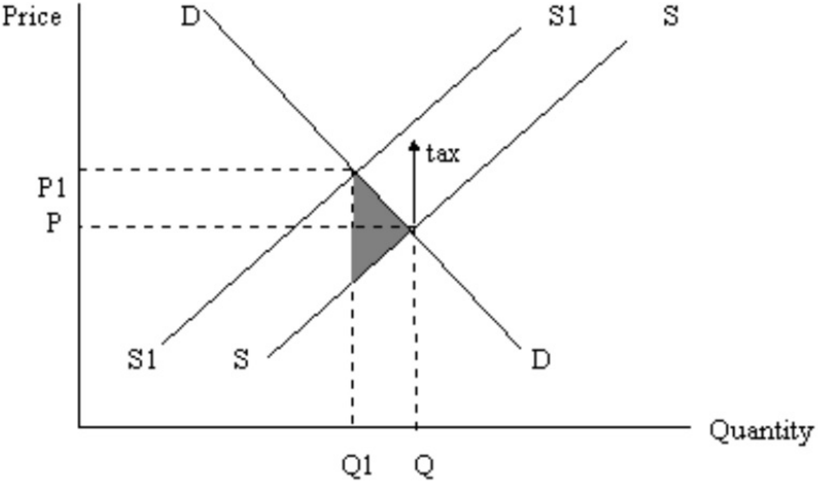
- A hybrid between structural and reduced-form estimation.
- Established technique in public finance.
- The paper has potential to be extremely influential.

Outline

- Explain the methodology with a simple analogy
- Suggestions

Let’s Start with Economics 101

Estimate the deadweight loss from an excise tax



This is a Quasi-Structural Exercise

- No need to estimate the parameters of a model.
- Estimate elasticities. This is nontrivial.
- Use properties of utility and profit maximization to make inferences about welfare gains and losses.
- No welfare statements without some kind of structure.

What Is the Connection to Contractual Completeness?

- Gregor's question is to estimate the net benefit from contractual completeness.
- No need to estimate a model.
- Estimate elasticities and use a generic optimality condition to make inferences about welfare gains and losses.

The Analogy is Only Loose

demand and supply curves	$\Longleftrightarrow$	Estimate the price of a covenant in terms of a loan spread
Harberger triangle	$\Longleftrightarrow$	Net benefits of covenants.

The Most Important Difference

- The Harberger triangles are relevant for a consumer maximizing utility and a firm maximizing profits.
- There are many contracting models.
- The key is to find a generic optimality condition for this entire class of models.
- Sufficient statistic approach.

This Approach Has Pluses and Minuses

- Pros:
  - The identification of elasticities is usually easier and more transparent than the identification of structural parameters.
  - You can make welfare statements without a full blown model.
  - Results are relevant for a *class* of models.
- Cons:
  - You cannot reject any theories.
  - The assumptions you need are only somewhat transparent.
  - You can only do limited counterfactual exercises.

Estimating the price of a covenant

- Shorthand for the sensitivity of the interest rate to covenants
- You cannot regress loan spreads on covenants.
- Lousy firms
  - choose more covenants
  - are charged higher spreads.
- Simultaneity problem.

Hedonic technique produces the price of a covenant

Step 1: for LOAN 1, regress the spread on characteristics.

Step 2: harvest the residual.

Step 3: **rational expectations**
agents know about the residual when they make LOAN 2.

Step 4: the residual is orthogonal to this choice

Use a first-order condition to calculate the benefit to the firm

- At an optimum

$$\begin{aligned}\text{the price of the covenant} &= \text{marginal benefit of covenants}\\ &= \text{benefit of a bigger loan}\\ &- \text{cost of constricted actions}\end{aligned}$$

- Make a functional form assumption for the marginal benefit of covenants

- Calculate the benefit to the firm

Calculate surplus

- How much worse off is the firm if you take away a covenant?

All in spread

- In a quantitative exercise, you have to be careful about measuring things.
- Spread for revolvers is the all-in-draw spread.
- Does not include the cost of maintaining the revolver.
- Underestimates the cost of the loan.
- Overestimates the benefits of covenants relative to costs.

Performance pricing grids

- Provisions in contracts that specify interest rates as a function of covenant bounds.
- Useful as a different way to estimate the price of a covenant.
- Useful as an out of sample check.

Separability

- In the empirical implementation.
- The effects of covenants are separable from firm characteristics.
- All different kinds of firms have the same marginal benefits of covenants.

Really Nice Paper

- Interesting topic!
- New and potentially broadly useful methodology!
- No unfixable problems!