

Aggregate Effects of Collateral Constraints

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discussion by Toni Whited

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The goal of the paper is to quantify the welfare effects of collateral constraints.

- ▶ Reduced form regressions of factor demand changes on real estate prices.
- ▶ Estimate the parameters of a model of factor demand under financing frictions.
- ▶ Embed this partial equilibrium model into a general equilibrium model.
- ▶ Measure the welfare effects of relaxing collateral constraints.

I celebrate this type of paper!

- ▶ Asks an interesting and important question!
- ▶ Nice integration of reduced-form and structural work!

Outline

- ▶ Outline the model
- ▶ Discuss the central result
- ▶ Discuss the estimation

The real side of the model is straightforward.

- ▶ Partial-equilibrium, discrete time, infinite horizon, shareholder wealth maximization problem
- ▶ Firm uses capital and labor to produce output
- ▶ Stochastic demand/productivity shock to sales
- ▶ Adjustment costs on capital and labor

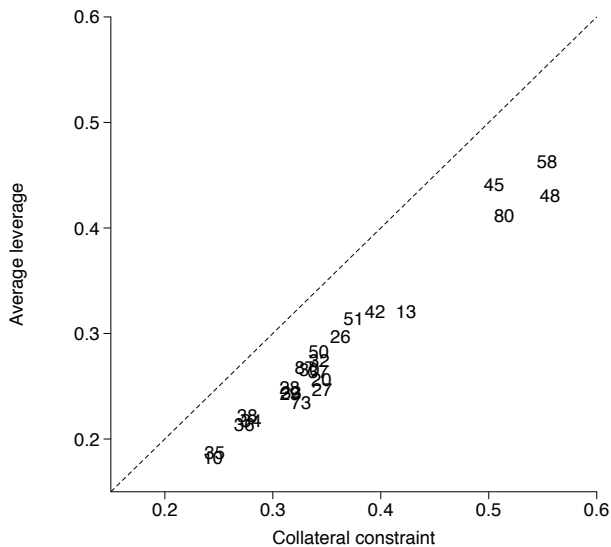
So is the financial side.

- ▶ No external equity finance
- ▶ The firm is endowed with land
 - ▶ Cannot be bought or sold
 - ▶ Subject to an exogenous price shock
 - ▶ Can be used as collateral for, ...
- ▶ Risk-free debt finance, also collateralized by capital
- ▶ Cash (negative debt)

The firm has a strong incentive to preserve debt capacity.

- ▶ In leverage models with endogenous investment/labor demand,
- ▶ and collateral,
- ▶ You want to keep your powder dry in case a good opportunity pops up tomorrow.

This is what capacity preservation looks like.



from Li, Whited and Wu (2016)

There is an extra incentive for dry powder here!

- ▶ Stochastic constraint.
- ▶ Land prices change the value of collateral and move the constraint around.

I did not understand the counterfactual experiment.

- ▶ What happens to welfare when you relax the collateral constraint?
- ▶ This sounds straightforward, but it is not.
- ▶ It is not obvious how much to relax the constraint.
- ▶ You can't completely relax the constraint.

“... we allow firms to borrow up to a non-binding level.”

- ▶ Does this mean that the constraint was binding before?
- ▶ Implication is a high correlation between debt and land value.
- ▶ Weird parameters.

Welfare calculation excludes the financial sector.

- ▶ Collateral constraints are the outcome of a contracting problem.
- ▶ They have benefits as well as costs.
- ▶ They protect lenders.
- ▶ Counterfactually moving a collateral constraint to a suboptimal level might hurt banks.

Three suggestions for improvement of the counterfactual.

- ▶ More discussion of what it means to relax a constraint.
 - ▶ Better contract enforcement in the courts?
 - ▶ Screwing over the banks?
 - ▶ Fewer intangible assets that are hard to collateralize?
- ▶ Look at more than a 0-1 experiment.
- ▶ Add a financial sector

Try different counterfactuals!

- ▶ Why do labor and capital have different sensitivities to movements in the value of collateral?
- ▶ How does this vary in industries with different levels of intangible capital?

I do not believe they have a “well-identified” regression.

- ▶ Real estate prices are endogenous.
- ▶ The authors' earlier work used an instrument.
- ▶ Not here.
- ▶ Just controls.

But it does not matter!

- ▶ The goal here is not to find a strictly causal elasticity.
- ▶ The goal is to understand why we see the patterns in the data that we do.
- ▶ You do not need exogenous variation to estimate model parameters.

The authors are basically using an empirical policy function to estimate the model.

- ▶ Policy functions describe a relation between the state of the world and optimal policies.
- ▶ Regressions of investment and employment growth on land prices are exactly that.
- ▶ Long history of using policy functions in the estimation of dynamic discrete choice models.
- ▶ Bzdresch, Kahn and Whited (2014) use them in SMM estimations.

But the regression endogeneity leaves us with a disconnect.

- ▶ Land prices are endogenous in the data but exogenous in the model.
- ▶ Best solution: estimate an equilibrium model with endogenous prices.
- ▶ Feasible solution: make the productivity and land price shocks correlated.

Too many calibrated parameters!

- ▶ Quantitative statements are always made with regard to some particular data set.
- ▶ We are not doing chemistry. There is no Avogadro's number in economics.
- ▶ When parameter A comes from one study and parameter B comes from a different study and parameter C is just set to a nice round number, it is hard to understand what any quantitative statements mean.

This is easy to fix.

- ▶ Estimate as many parameters as possible *outside* the model.
- ▶ Just estimate everything else. It's not that hard any more.

This is the best type of paper to discuss!

- ▶ Basically really good!!!
- ▶ Preliminary.
- ▶ I hope I added value.

