

Discussion of:

*Taxing Bank Leverage:
The Effects on Bank Portfolio Allocation*

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The question

- ▶ The paper studies how regulations that affect the cost of:
 - ▶ debt / new equity issuance / leverage ...
- ▶ ... affect the *composition* of bank assets
- ▶ When we talk about taxing leverage, focus is usually on:
 - ▶ the overall size of bank balance sheets
 - ▶ the composition of liabilities (debt vs. equity)
- ▶ Discussions (and theoretical models) often implicitly assume:
 - ▶ asset holdings will not change, or holdings of different assets will shrink in same proportion
- ▶ But ... is this true? In theory? In practice?
- ▶ The paper does two things:

1) A simple, illustrative model

- ▶ Shows we should expect policies that affect the cost of leverage ...
 - ▶ ... either directly or by affecting cost of new equity ...
- ▶ ... to systematically alter the composition of bank assets
- ▶ Mechanism relies, in part, on the interaction of new policies with existing capital requirements
- ▶ If risk weight on government bonds is artificially low:
 - ▶ policies that make equity less expensive will tend to decrease the share of bonds in bank assets
- ▶ With some policies, there are multiple effects at work
 - ▶ but they tend to point in the same direction
 - ▶ result: taxing leverage will decrease the share of bonds in bank assets

2) Empirical results

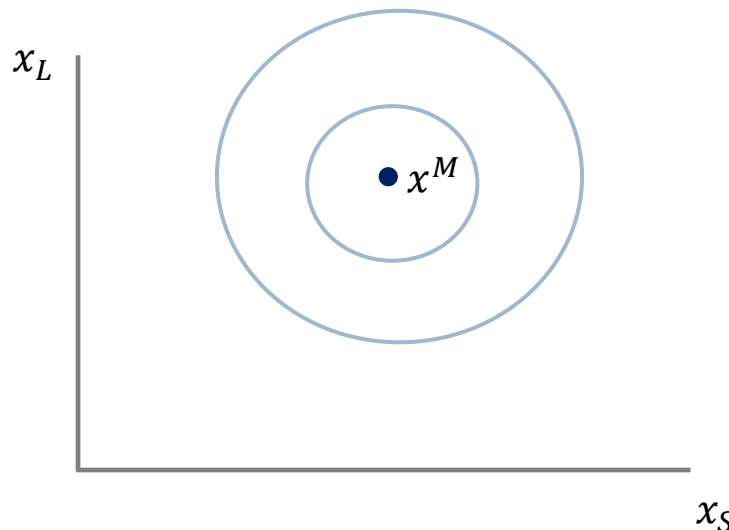
- ▶ Identifies regulatory changes in individual European countries that created useful natural experiments
 - ▶ challenging task; much has changed in Europe in the last 10 years
- ▶ Policies seem, at first glance, to be quite different
 - ▶ allowance for corporate equity in Belgium
 - ▶ liabilities tax in Slovakia, Germany
- ▶ Paper carefully controls for changes in the environment
 - ▶ macroeconomic conditions, credit demand, other policies, etc.
- ▶ Results come through clearly
 - ▶ the predictions of the illustrative model are supported
- ▶ Impressive amount of robustness analysis

My plan

- ▶ I will focus my discussion on understanding:
 - ▶ the mechanisms at work
 - ▶ the implications for policy makers

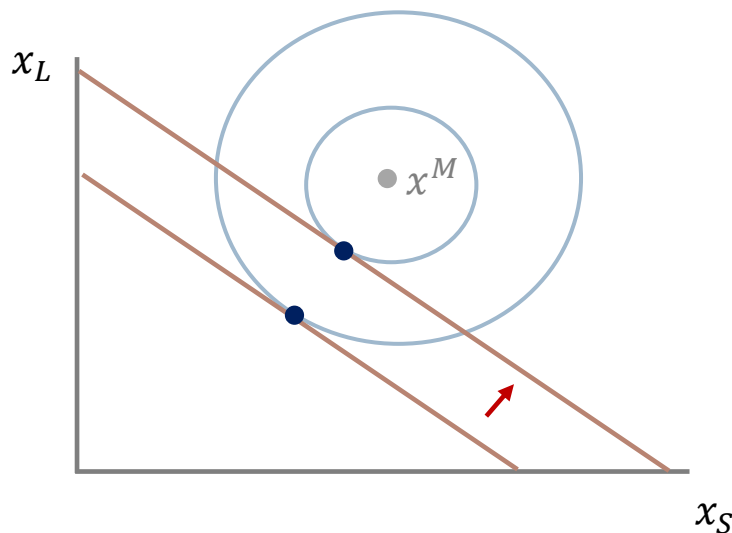
Capital requirements and portfolio choice

- ▶ Start with a simple model with two assets
 - ▶ loans to firms (x_L) and govt securities (x_S)
 - ▶ each have some random return
- ▶ A competitive bank has fixed equity E_0 , mean-variance preferences
 - ▶ can issue debt/deposits at a given interest rate
- ▶ With no capital requirement → optimal portfolio x_m



- ▶ depends on expected returns, variances, and covariance

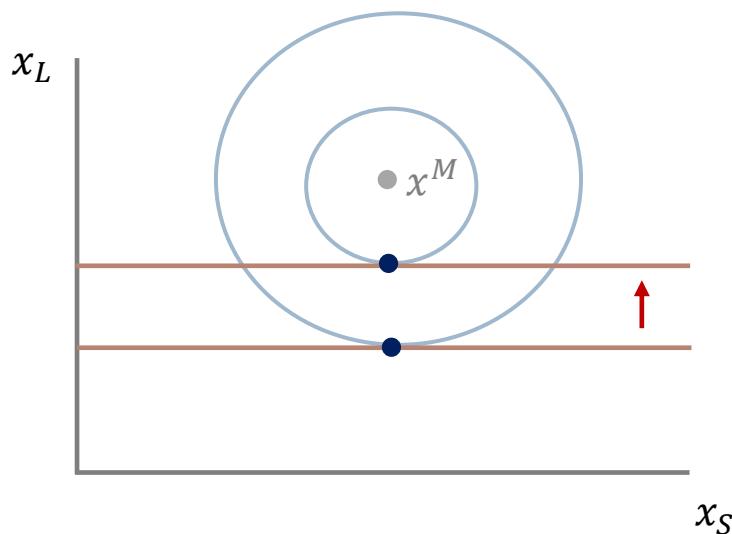
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- ▶ Add a capital requirement: $w_L x_L + w_S x_S \leq \frac{1}{k} E$
 - ▶ Suppose we relax the requirement (i.e., decrease k)



- ▶ Change in optimal portfolio depends on:
 - ▶ slope of the requirement (the risk weights)
 - ▶ shape of the indifference curves (mean-variance)

- ▶ Change in policy *could* leave the ratio $\frac{x_L}{x_S}$ unchanged
 - ▶ But generally should expect it to change the composition of assets
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- ▶ Suppose government securities are given a zero risk-weight ($w_S = 0$)
 - ▶ capital requirement: $x_L \leq \frac{1}{kw_L} E$

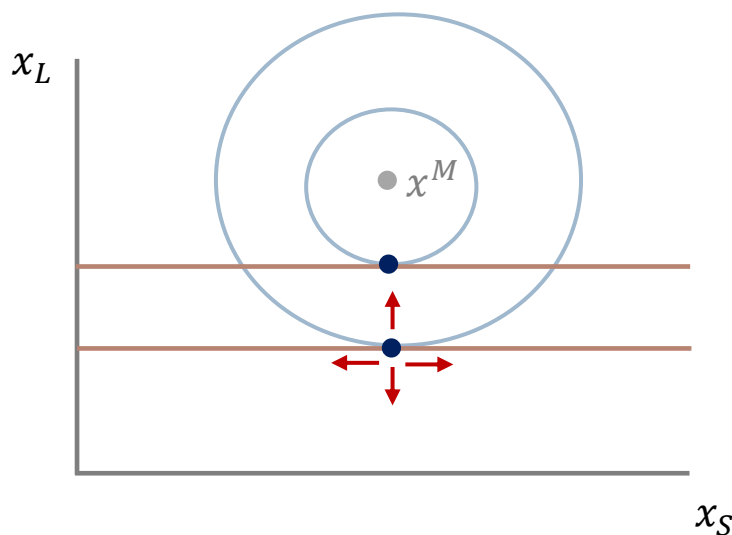


- ▶ Relaxing the requirement:
 - ▶ has a big effect of x_L
 - ▶ little or no effect on x_S
- ▶ Shifts composition of portfolio toward loans

- ▶ Or, think of it in reverse:
 - ▶ if we tighten capital requirement and $w_S = 0$...
 - ▶ loans are more impacted than bonds → portfolios shift toward govt bonds
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Next step

- ▶ Now suppose equity is not fixed
 - ▶ instead, can be increased by paying a cost
 - ▶ bank is optimizing on two margins: size and composition of assets



- ▶ a policy that makes it cheaper to increase equity
 - ▶ like an allowance for corporate equity (ACE)
- ▶ will lead bank to choose higher E

- ▶ ... and change the composition of assets toward loans
 - ▶ as before, capital requirement is “distorting” portfolio toward bonds
 - ▶ ACE effectively loosens requirement → portfolio shifts back toward loans
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Taxing leverage

- ▶ Taxing bank liabilities (or leverage) sounds quite different
 - ▶ for one thing, banks will tend to shrink rather than grow
 - ▶ might naively expect the opposite effect on asset composition

- ▶ Consider a tax on all (non-equity) liabilities at rate τ

- ▶ Profit: $(1 + r_L)x_L + (1 + r_S)x_S - (1 + \tau)D - R\Delta E$

- ▶ where: $x_L + x_S = D + E$

- ▶ Or profit: $(r_L - \tau)x_L + (r_S - \tau)x_S - (R - \tau)\Delta E$

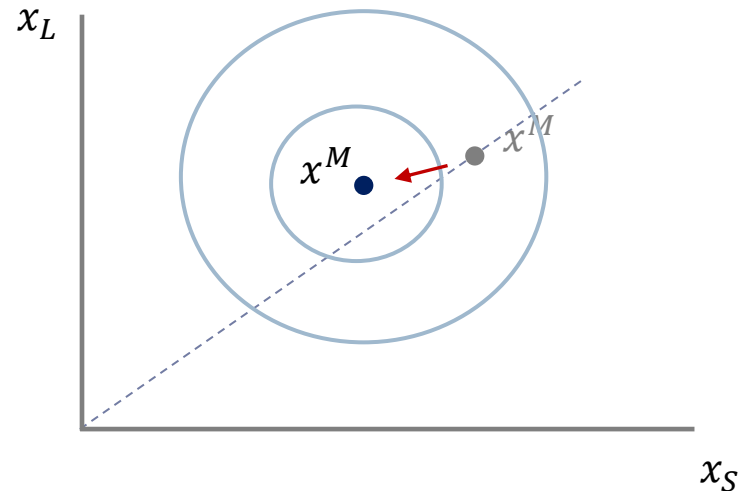
- ▶ Two effects:

- ▶ reduces the effective return on each asset by τ
- ▶ reduces the effective cost of equity issuance (since it saves on debt)
 - ▶ this second effect is similar that described above

$$(r_L - \tau)x_L + (r_S - \tau)x_S - (R - \tau)\Delta E$$

↑ ↑

- ▶ First effect: tax decreases return on bonds by higher percentage
- ▶ In the mean-variance framework:
 - ▶ desired bond holdings decrease more
 - ▶ bank's allocation shifts toward loans
 - ▶ even with no capital requirement
- ▶ In other words:
 - ▶ a liabilities tax has two effects on asset composition
 - ▶ direct: makes low-return bonds less attractive
 - ▶ indirect: incentive to increase equity loosens capital requirement
 - ▶ both effects → shift in composition of portfolio toward loans



Comments

Differentiating policies

- ▶ Effect of an equity subsidy depends on binding capital constraint

- ▶ but the effect of a liabilities tax does not

Q: Is there a way to test these differential predictions?

- ▶ If there are some banks/situations where capital constraint does not bind ...

- ▶ perhaps the binding concern is a leverage ratio, liquidity requirement, ...

- ▶ ... how to the effects of an ACE and a liabilities tax compare

- ▶ in terms of directional effect on portfolio composition?

- ▶ Is there data available that could address this question?

- ▶ I have no idea but, if so, it would be interesting

Policy implications

- ▶ Results in the paper are positive in nature
 - ▶ establishes the effects of a given change in policy
- ▶ But the language leans at times toward the normative
 - ▶ tax on leverage leads banks to “refocus their activity on lending”
 - ▶ and helps “maintain the supply of credit” to the economy
- ▶ Are these changes desirable?
 - ▶ are they an added benefit of taxing leverage? Or a cost?
 - ▶ the answer is not so clear (to me)
- ▶ Results in the paper raise some interesting policy questions
 - ▶ lie beyond the scope of the present paper
 - ▶ but are interesting to think about going forward

Why is $w_S = 0$?

- ▶ One view: the weights are wrong
 - ▶ w_S really should be > 0
 - ▶ but is not due, for example, to political constraints
 - ▶ incorrect risk weight distorts allocations, and we would like to correct the distortion
 - ▶ that is, get banks to “refocus on lending” is good
- ▶ Another view: $w_S = 0$ is designed to increase demand for bonds
 - ▶ concern about self-fulfilling debt crises, for example
 - ▶ aim to help maintain the flow of credit *to governments*
 - ▶ a policy that shifts bank assets away from bonds may cause problems
- ▶ What is the “right” way to think about optimal policy here?

More generally

- ▶ How do the results in this paper change our view of the overall optimal regulatory regime?
- ▶ Suppose banks benefit from government guarantees
 - ▶ this fact distorts their choices (become too large, leveraged, etc.)
- ▶ How effective is a liabilities tax in correcting the distortion?
- ▶ In a model with a single asset ...
 - ▶ ... where the only choices are size and leverage ...
 - ▶ ... the tax will tend to be very effective
- ▶ But with many assets, both the guarantee and the tax will affect the composition of bank portfolios
 - ▶ does a liabilities tax become more attractive, or less?

Conclusion

- ▶ Interesting paper!
- ▶ Main takeaway: policies that affect the cost of bank debt/equity ...
- ▶ ... will also likely affect the allocation of bank portfolios
- ▶ The provides convincing evidence that these effects are present
 - ▶ and quantitatively important
- ▶ Also illustrates how national policy changes in the EU are a useful source of identification
- ▶ Policy makers need to take these effects into account
 - ▶ when trying to correct distortions associated with tax treatment of debt, or with implicit guarantees ...
 - ▶ need to recognize how policy will affect incentives, composition of assets