



MAX-PLANCK-GESELLSCHAFT

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Does Debt Finance Impose Discipline on Banks?

A Contribution to the Debate on Bank
Equity Requirements

http://www.coll.mpg.de/pdf_dat/2010_42online.pdf

Fragility of Banks and the Crisis



- The financial crisis was not just the result of misguided subprime lending.
- Estimates of market value losses in subprime-related securities are lower than realized losses in the Japanese crisis of the 90s
- Subprime affected the global financial system because institutions holding such securities were fragile:
 - High leverage
 - Excessive maturity transformation
- Consequences:
 - High Vulnerability to Loss of Confidence
 - Enormous Deleveraging Multipliers

Fragility of Banks and the Crisis



- Examples:
 - Sächsische Landesbank: Commitments to Conduits and SIVs amounting to more than 40 bn. EUR; conduits holding ABS and ABS CDOs with maturities in excess of 5 years, refinanced by commercial paper. Own equity less than 4 bn. EUR.
 - UBS Investment Bank holds Super Senior Tranches of MBS CDOs in its own portfolio, hedging credit risk through CDS with monoline insurers, without capital backing. UBS has equity of 40 bn. CHF on a balance sheet of 1600 bn. CHF

Fragility of Banks and the Crisis



- Acharya, Schnabl, Suarez:
 - Conduits and SIVs earned 20 – 30 basis points above refinancing costs
 - 8 % equity backing would have required 40 basis points (8 % times 500 basis points)
 - These operations were performed only because no equity was attributed to these assets.
- Assessment:
 - Why was no account taken of risk?
 - What investment criteria did these bankers use?

Should Banks be Required to have more Equity Finance?



- Proposals to raise equity requirements have met with fierce resistance from the industry.
- Higher capital requirements, they say, will induce a credit crunch.
- Funding costs will go up.
- Bank lending will go down.
- (... in traditional loans or in subprime mortgages and other trading-book-related operations?)

Fallacies



- Some arguments are simply fallacious:
 - Higher equity requirements will raise banks' funding costs because equity requires a higher ROE than debt: Higher equity implies that, per EUR invested, equity is less risky; required ROE goes down
 - High equity requirements harm shareholders – and society – because ROE goes down; if ROE goes down because required risk premia go down, this is false; if ROE goes down because the tax (and bailout subsidy) advantage of debt is lost, this is a private, but not a social cost.

Governance arguments



- “Capital requirements are not free. The disciplining effect of short-term debt, for example, makes management more productive. Capital requirements that lean against short-term debt push banks toward other forms of financing that may allow managers to be more lax.”

(Squam Lake Report, French et al. 2010, 44)

The Agency Paradigm of Corporate Finance



- External Finance creates agency problems.
- Different financing instruments create different agency problems.
- Observed financing patterns are the result of optimal contracting.
- Optimal contracting determines a suitable financing mix by trading off the agency costs of different instruments against each other.
- Interference with financing choice introduces distortions that raise agency costs.

Flaws in the Paradigm



- A zoo of effects, usually studied in isolated models
- No comprehensive analysis
- No professional routine for assessing which member of the zoo is appropriate for understanding a given issue in the real world
- Neglect of commitment issues
- Observed financing patterns in fact are not the result of optimal contracting *ab ovo*, but the result of ongoing contracting decisions

Presumed Virtues of Debt Finance



- Debt is a hard claim. As such it avoids the „free cash flow problem“ of equity finance.
- Debt is informationally undemanding. Debtholders do not have much to worry about (unless the borrower is close to bankruptcy)
- Debt provides proper incentives for managerial effort.

... and of Short-Term Finance



- Short-term debt must be rolled over.
- Before lenders renew their engagements, they will monitor the borrower.
- If the borrower wants the debt to be rolled over, he depends on the good graces of the lenders.
- Therefore, he will make sure that lenders monitoring him will not find anything untoward.
- Thereby, even the agency problems of debt finance itself are eliminated.

Agency Problems of Debt Finance?



- Default is costly, resolution is informationally demanding
- Excessive risk taking: „Heads – I win, tails – the creditors (taxpayers) lose“
- Particularly relevant with debt at 95 % of the balance sheet
- ..., which would not be tolerated by banks lending to a nonfinancial debtor

Theoretical underpinnings of short-term debt as a disciplining device



- Calomiris-Kahn 1991:
 - Demandable debt provides a mechanism by which a creditor can use a nonverifiable signal about debtor misbehavior to reduce the harm that the debtor is causing
 - A multiplicity of creditors may provide benefits because a multiplicity of signals with independent noise provides more precise information on aggregate
- This is THE theoretical basis of the debt-as-discipline theory/ideology even for fighting excessive risk taking!

Problems with the Theory



- What if creditor intervention ex post destroys wealth rather than protecting it?
 - Incentive effects can still be beneficial, but there is a commitment problem.
- There is also a free-rider problem in information collection.
- Both the commitment problem and the free-rider problem are solved if information and intervention (withdrawal of funds) provide private benefits at the expense of other creditors (queueing externality).

Fragility



- Uncoordinated interventions with a view to obtaining private benefits at the expense of other creditors introduce fragility.
- Creditors play a co-ordination game where it may be rational to run because others do so.
- Typically, there are multiple equilibria (even in Calomiris-Kahn!!!).
- Even if one can use global-games arguments to show that equilibrium is unique, the equilibrium may involve inordinately abrupt responses to small changes in fundamentals.
- No guarantee that information use is efficient.

Co-Existence of Debt and Equity



- Calomiris-Kahn assume that debt is the only source of outside funds. What becomes of their argument if there is outside equity as well as outside debt?
- Equity is informationally more sensitive than debt. Shareholders have an incentive to invest in information even in normal times.
- In normal times debt holders do not have an incentive to invest in information.
- Why should debt holders invest in information rather than look at the stock price?
- Will debt holders provide discipline when stock prices move up?

Theory meets reality



- The years 2004 – 2007 saw an explosive growth of short-term debt. According to Adrian & Shin, December 2007 marks a high point in leverage of dealer banks in the US.
- No disciplining of the expansion in subprime-related exposures
- ... even after June 2006 when real-estate prices turned and delinquencies went up dramatically
- „Market Discipline“ was entirely driven by „shareholder value“
- Shareholder interests aligned with excessive risk taking incentives

Observed Financing Structures – the Result of Moral Hazard?



- Observed financing structures are *not* the result of initial contracting.
- They are the result of ongoing financing relations.
- Unless previous creditors are fully protected by covenants, newly issued debt imposes risks on previous creditors.
- New debt finance can itself be a form of excessive risk taking – at the expense of previous creditors (or the taxpayer).
- The problem is particularly pronounced if new debt involves short maturities (Brunnermeier & Oehmke: maturity rat race).

Placing the Debate on Higher Equity Requirements



- Equity requirements are unpleasant because, for the bank as an ongoing concern, equity is more difficult to issue than debt.
- Equity requirements limit management's ability to take on new business without going to the market.
- Equity requirements limit excessive risk taking from taking on new short-term debt.
- Implications for investment criteria?

Why is Equity More Difficult to Issue than Debt?



- ... because debt is informationally undemanding and equity is not!
- ... how many skeletons does the bank have in its closet? The new creditor worries much less than the new shareholder.
- ... how much dilution does the old shareholder have to accept? Why should he do so if benefits from new stock issues fall partly on creditors? (Debt Overhang Problem)

Is an „informationally undemanding“ instrument good for discipline?



- In a one-period world: unambiguously yes!
- In a multi-period world: probably not!
- The fact that debt is informationally undemanding makes it easy to issue in the future.
- This in itself is a form of moral hazard.
- Moreover, the prospect of being able to do so weakens discipline today.

Should shareholders be forced to accept dilution after a crisis?



- Reluctance to issue new shares is itself a form of excessive risk taking, gambling for resurrection.
- Imposition of a recapitalization may be desirable as a way of reducing systemic externalities from default.
- Imposition of a recapitalization may also be useful from a private contracting perspective as a commitment device ex ante.
- Such a commitment device would improve the terms on which the bank can borrow.
- From the shareholders' perspective, however, this way of improving borrowing conditions is inferior to a government bailout prospect.

Conclusions



- Observed high levels of debt finance should not be interpreted as the result of optimal contracting under commitment but as a result of possibly excessive risk taking in the absence of prior commitments.
- The notion that debt as a hard claim imposes discipline is correct in a static model, but problematic as a statement about ongoing financing relations.
- The notion that callable debt or short-term debt that needs to be continuously rolled over has desirable disciplining properties has at best a very weak theoretical foundation and does not fit the experience of the crisis.

Conclusions



- Reliance on notions of optimal contracting theory supporting debt as a disciplining device as a way of rebutting calls for higher equity requirements amount to an abuse of theory.
- Corporate finance theory is sorely in need of a professional routine for assessing which model or combination of models in our zoo are appropriate for discussing about a real-life problem.