

**Topic 3**  
**Value Added on the Lending Side**  
(Wednesday afternoon, first session)

The value of a fixed claim depends upon

- a) Subsequent exogenous events
- b) Some subsequent decisions taken by the borrower.

The exposure to subsequent exogenous events can be priced into the initial contract.

Effects of discretionary borrower actions are different.

- a) Equity generally controls the firm's assets.
- b) Lenders therefore may be expropriated.

Pricing such strategic behavior into a loan contract can raise the contract rate so that

- a) violate the entrepreneur's participation constraint
- b) induce the entrepreneur to shift toward riskier activities (Stiglitz and Weiss 1981)

Weiss 1981)

The design of bank loan contracts addresses some of these issues.

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**Topics**

Loans vs. lines

Relationship vs. transactional deals; intertemporal risk sharing

Covenants and control rights

Collateral

Defaults

Seniority

Nonprice rationing

Loan sales, syndications

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**Lines vs. Loans**

Loans are much like bonds. Direct competition.

Lines provide liquidity and flexibility, and have no close substitute in the primary markets.

- often turn into term loans
- provide flexible financing
  - seasonal
  - uncertain total needs
  - guarantees (CP, performance bonds)

Recollection: RBA once counted undrawn lines as part of the money supply(?).

Recent research (Sufi, RFS forthcoming): lines are commonly withdrawn when a firm's cash flow declines.

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### Relationships (1)

Definition: hausbank, keiretsu, chaebol

Relationships are important beyond the financial sector:

- doctor
- attorney
- local restaurant
- significant other
- barber

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### Relationships (2)

Information affects lending terms

- Possible future rents → lower price now (Petersen and Rajan QJE 1995)
- Past information learned could improve OR worsen terms now
- Deposit returns can be stabilized across cycle
  - Allen and Gale
  - Cannot risk-smooth through time when market products compete, unless there is valuable relationship information.

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### Relationships (3)

Black (JFE 1975) viewed all services and accounts as perfectly contestable.

But he also said people would bundle their services at a single bank because the bank would thereby know more about them and (he implied) would charge less for loans or pay more on deposits.

Was he thinking that any bank could learn the same things from observing the same services?

Ex ante vs. ex post competition (as in Rajan or Sharpe 1990))

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## Relationships (4)

How/when change primary lender?

- Initially: longer relationship must be better
- Ongena and Smith (JFE 2001) found small Norwegian firms often change

Is change good or bad? For whom?

- Franklin National Bank (1973): lemons
- DeGryse and van Cayseele (JFI 2000): loan terms worsen with relationship's duration
- Brick and Palia (2007): 21 basis point decline in the loan interest rate with a one standard deviation increase in relationship length.

Conclude: effects of changing primary lender probably not uniform.

Related to: syndication and loan sales (below).

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## Covenants

Things the borrower promises to do

Things the borrower promises NOT to do

Covenants affect the distribution of control rights between borrower and lender.

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From their Roberts and Sufi (2008 wp), Table III:

	Renegotiation Sample		
	Mean	SD	Median
<i>Contract Terms</i>			
<i>Contract Contingencies</i>			
Pricing Grid	0.726	0.446	1.000
Any Measure of Cash Flow	0.367	0.482	0.000
Credit Rating	0.232	0.422	0.000
Balance Sheet Item	0.049	0.216	0.000
Other measure	0.078	0.268	0.000
Borrowing Base	0.194	0.396	0.000
Accounts Receivable	0.166	0.372	0.000
Inventory	0.134	0.341	0.000
Other Collateral	0.036	0.186	0.000
Financial Covenant	0.953	0.212	1.000
Any Measure of Cash Flow	0.826	0.379	1.000
Any Measure of Net Worth	0.449	0.498	0.000
Balance Sheet Item	0.318	0.466	0.000
Measures of Liquidity	0.141	0.348	0.000
Loans	1.000	1.000	1.000
Firms	799	799	799

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Covenants transfer some control to lender under some conditions

- Technical defaults
  - » Often waived
  - » Often lead to re-negotiations
- Cross-default clauses among lenders

Effect of Covenants: Limit lender's risk exposure

Depends upon: "good" accounting

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Public vs. private debt long recognized as qualitatively different.

- Zinbarg (1975 *FAJ*): "private placement lenders generally view the Loan Agreement as a living document destined to be modified periodically to take account of changing circumstances."
- Carleton and Kwan (2004 SSRN wp) "in private placements, technical default and renegotiation of bond covenants occur quite frequently [Beneish and Press (1993) and Chen and Wei (1993)]."

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Loan terminations

Panel B: Loan Outcomes by Maturity

	Stated Maturity Bin (Years)			
	< 1	1-3	3-5	> 5
Renegotiated	0.268	0.727	0.941	0.983
Matured	0.732	0.273	0.059	0.017
Loans	194	172	255	232

Source: Sufi-Roberts (May 2008 wp), Table I.

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### Re-negotiations aren't always bad for the borrower:

Panel B: Likelihood and Timing of Renegotiation Outcomes Conditional on Renegotiation

	Likelihood of Outcome	Effective Maturity / Stated Maturity
<i>Renegotiation Outcomes</i>		
Amount Increase	0.560	0.416
Amount Decrease	0.291	0.446
Spread Increase	0.293	0.460
Spread Decrease	0.259	0.486
Maturity Increase	0.569	0.521
Maturity Decrease	0.119	0.346
Switch Lead Arranger	0.114	0.528

Source: Roberts-Sufi Table IV

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### Covenants in public vs. private debt

- The “originate and hold” lender has appropriate incentives to monitor and enforce/waive/modify covenants (Pennacchi (JF 1995)).
- Harder to re-negotiate with a large number of atomistic bondholders.
  - free riders
  - Diamond and Rajan (JF 2001)

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### Summary so Far

1. Public and private debt differ.
2. Covenants set the starting point for re-negotiations, which are common.
3. Private lender protects its repayment chances by enforcing covenant compliance.
4. Relationships: borrower needs to trust lender, particularly with cross-default clauses.

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## Defaults

### Technical default

- can be cured or waived
- can force re-negotiation of some loan terms

### Actual default

- cross-default with other claimants (e.g. bonds) gives banks considerable power.

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## Loan Loss Accounting

Contra (reserve) account: “LLR” or “LLA”

Making provisions: PLL

These are like (asymmetric) “marking to market” the loan portfolio.

Net charge-offs

Be careful which one(s) you use to judge asset quality.

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## Citigroup

### DETAILS OF CREDIT LOSS EXPERIENCE

*In millions of dollars at year end*

	2007	2006	2005	2004	2003
Allowance for loan losses at beginning of year	\$8,940	\$9,782	\$11,269	\$12,643	\$11,101
Provision for loan losses	\$17,424	\$6,738	\$7,929	\$6,233	\$8,046
Gross credit losses	\$12,700	\$9,541	\$10,961	\$10,873	\$10,526
Credit recoveries	\$2,249	\$2,197	\$2,555	\$2,272	\$1,760
Net credit losses	\$10,451	\$7,344	\$8,406	\$8,601	\$8,766
Total	\$10,451	\$7,344	\$8,406	\$8,601	\$8,766
Other—net (2)	\$204	(\$236)	(\$1,010)	\$994	\$2,262
Allowance for loan losses at end of year	\$16,117	\$8,940	\$9,782	\$11,269	\$12,643

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"Provisions for loan losses increased substantially, including

- a change in estimate of loan losses inherent in the loan portfolio but not yet visible in delinquency statistics,
- along with volume growth and
- credit deterioration in certain countries
- the increase in net credit losses in Japan Consumer Finance due to the continuing adverse operating environment and the impact of Japan consumer lending laws passed in the fourth quarter of 2006.
- Higher past-due accounts in Mexico cards ... "

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## Collateral

Two theoretical perspectives:

- a) The bank *demand*s collateral from riskier-looking applicants
  - i. Sell collateral to satisfy loan
  - ii. Induce borrower to default on someone else
- b) The safer applicant *offer*s collateral as a signal

Empirical Evidence: Berger and Udell (JME 1990, JPE 1995) find that nearly all defaulting loans are secured

"Empirical evidence presented here strongly suggests that collateral is most often associated with riskier borrowers, riskier loans, and riskier banks."

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## Collateral (cont'd)

What does this tell us about how things looked at the application stage?

- Can we infer initial contract from the final one?
- The initial contract lives and changes.
- Need loan origination info to judge reason(s) for collateral.

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## Seniority

Fama 1985: motivated early "bank loan announcement" studies.

Booth (JFE 1992) told the cross-monitoring story in reverse.

Fama's likely to be incorrect about seniority.  
Renegotiations when covenants tripped  
Welch (RFS, 1997)

De facto seniority due to short maturities. (But: voidable preferences)

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## Nonprice Rationing

Stiglitz and Weiss 1981: a higher loan rate has two effects

- a) covers greater defaults
- b) causes greater defaults
  - i. borrower works less
  - ii. borrower chooses riskier projects (to max. his/her own benefits)

Williamson (1986) also has rationing:

- a) costly monitoring occurs only when borrower does not repay
- b) higher loan rates raise default probability, perhaps lowering the expected return net of monitoring costs.

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- Non price rationing is possible, but not a foregone conclusion.
- It can occur because price affects product quality as well as the quantity demanded.
- Not such a hot topic any more.
- Return below to situations in which price has more than one effect on a transaction.

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## Summary

1. Public and private debt differ.
2. Covenants set the starting point for re-negotiations, which are common.
3. Private lender protects its repayment chances by enforcing covenant compliance.
4. Relationships: borrower needs to trust lender, particularly with cross-default clauses.
5. Losses and loss accounting
6. Collateral
7. Seniority
8. Nonprice rationing

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