Quotes

``Banks have proved themselves to be the most hazardous economic institution know to man. Breakdowns in banking lie at the centre of most financial crisis. And banks are usually effective at spreading financial distress."
``Trouble with banks. No body loves them. Everybody needs them." The Economist.

``Moral Hazard is when they take your money and then are not responsible for what they do with it"
``Wallstreet 2 : Money never sleeps". The movie.

``..any situation in which one person makers the decision about how much risk to take, while someoneelse bear the cost if things go badly." Krugman.

- Limited liability : A condition in which owners are not personally held responsible for the debts of by a firm. Corporations are the main form of business in which owners have limited liability.
- The shareholders of a corporation have limited liability in that their personal assets are protected from the fortunes of the corporation. Limited liability means that after default, the creditor of the corporation cannot sue and attach the personal assets of shareholders. Thus, the shareholders of the corporation risk only their original investment in their businesses or the price that they paid for their common stock.

Asset Substitution (numercial examples)

- Asset Substitution : The value of equity can be increased at bondholders' expense by replacing the firm's current (safe) assets with riskier projects. Shifting risk to the bondholders.
- Suppose you have $100 and can take one of the following two mutually exclusive projects which requires an investment 0f $100.

	Bad state	Good state
Probability	0.5	0.5
Project A	110	110
Project B	0	220

- Which one you are going to choose?

- Now suppose that you do not have any initial wealth. You have to borrow $100 at 10% to do one of the two projects. Your lender know that you can choose Project A or Project B. However, your lender is unable to directly control your choice of the project. Which project you are going to choose?

	Bad state	Good state	Expected
Probability	0.5	0.5	
Project A	110	110	110
Debt	.....	.....	.....
Equity	.....	.....	.....
Project B	0	220	110
Debt	.....	.....	.....
Equity	.....	.....	.....

- Substituting project B with Project A, the stockholders ..... the stock value but ..... the debt value.
- Debtholders bear the cost of asset substitution.

- Role of collateral. Suppose the interest rate is 10%. The amount of collateral, C = 110. Collateral is transferred to the lenders upon default. Then, the retuns become

	Bad state	Good state	Expected
Probability	0.5	0.5	
Project A	110	110	110
Debt	-110	-110	-110
Equity	$\underbrace{110}_{\text{Collateral}}$ +.....	$\underbrace{110}_{\text{Collateral}}$ +.....	55
Project B	0	220	110
Debt	$-\ \underbrace{110}_{\text{Collateral}}$	-110	-.....
Equity	$\underbrace{110}_{\text{Collateral}}$ −.....	$\underbrace{110}_{\text{Collateral}}$ +.....	.....

- Using collateral helps reduce moral hazard behaviour.

- Limit the issuance of the new debt. Moral hazard problem worsens at higher level of debt.
- Suppose you do not have any initial wealth. You have \$50 and are going to finance your project \$50 with your money and \$50 with debt. The interest rate is 10%. You can take one of the following two mutually exclusive projects.

	Bad state	Good state	Expected
Probability	0.5	0.5	
Project A	110	110	110
Debt	-55	-55	-55
Equity	55	55	55
Project B	0	220	110
Debt	0 (bankruptcy)	-.....	- .....
Equity	0	165	87.75

- Expected rate of return on equity: project A = $\frac{\text{..... } - \text{.....}}{\text{.....}} = 10\%$
- Expected rate of return on equity: project B = $\frac{\text{..... } - \text{.....}}{\text{.....}} = 74.5\%$

- Suppose you do not have any initial wealth. You have $20 and are going to finance your project $20 with your money and $80 with debt. The interest rate is 10%. You can take one of the following two mutually exclusive projects.

	Bad state	Good state	Expected
Probability	0.5	0.5	
Project A	110	110	110
Debt	-88	-88	-88
Equity	22	22	22
Project B	0	220	110
Debt	0 (bankruptcy)	-.....	-.....
Equity	0	132	66

- Expected rate of return on equity: project A = $\frac{\ldots - \ldots}{\ldots} = 10\%$
- Expected rate of return on equity: project B = $\frac{\ldots - \ldots}{\ldots} = 230\%$
- As debt increases, project B is even more interesting compared to project A.

- Risk-taking incentive increases by financial leverage (measured by debt to equity ratio, in this case).
- Hence, one way to reduce excessive risk taking behaviour is to limit the issuance of new debt.
- Equity capital acts as a protective buffer for lenders.
- When shareholders pay themselves dividends, the claims of the bondholders become less secure (lower asset coverage).
- Equity capital declines. Bondholders has less protection against possible losses.
- When equity declines, debt-equity ratio increases. This worsens the asset -substitution problem.
- Hence one way to reduce moral hazard problem is to put restriction on dividend payout.
- Cashflow covenants require the firm to trade at a profit.