Preventing Bank Runs

- **All** type 2 people are worse off in the case of a bank run, since at most they will get return of 1 instead of $X$.

- Nevertheless, each person is **rational** in withdrawing early if she believes everybody else will.

- The possibility of a bank run results from the fact that banks cannot borrow from others, and that types are unobservable.

- If a bank faced with a run can borrow enough to meet withdrawals, it can avoid losses resulting from the sale of its capital.
Interbank Lending

- If the bank is able to maintain enough capital to meet its obligations to type 2 people, these have no incentive to rush.

- In the real world banks borrow in the federal funds market from other banks and from the FED.

- In our model, banks could borrow from young people of type 1, that are willing to lend at a rate greater than or equal to one.
If these intergenerational loans were possible, the bank would only invest in capital.

It would then pay the middle-aged type 1 people with the deposits from half of the young people.

Suppose banks could tell the person’s type.

In this case they might refuse early withdrawals by type 2 people.

In times of runs, some banks resort to only paying people showing bills or payrolls requiring immediate payment.
Suspensions of Withdrawals

- One way for a bank to prevent a run is to temporarily close once the short-term reserves (storage) are used up.
- It then reopens when its capital pays off.
- With such policy, banks do not sell capital at a loss.
- Moreover type 2 people have no incentive to rush since they know they will always get their return $X$ on the third period.
- The right to suspend withdrawals may never actually be used, as depositors will no longer panic.
- Curiously, laws often require banks to remain open and pay all depositors that want to be paid.
The government can prevent bank runs by guaranteeing type 2 people their returns even in the case when the bank is insolvent.

It can do this by promising to tax the current young if it needs to pay off the depositors of the failed bank.

If everybody believes this, no type 2 will want to withdraw early, no runs occur, and the government will never tax the current young.

This costless nature of deposit insurance disappears in the case where the number of type 1 people is random or when bank assets are risky.
Bank Failures

- U.S. history is prolific in bank failures.

- From 1930 to 1933, bank failures averaged 2,000 per year.

- Until 1981, this number remained at 5 a year, when it jumped to a high of 200 a year in 1988.

- Like other investors, banks are also affected by low rates of return on their assets.

- Nevertheless, relative to other investments they are fairly safe.
Bank Failures

- Banks can protect themselves from risk by allocating a large fraction of their portfolio to safe assets.

- A safe portfolio may be necessary to prevent runs.

- The existence of shareholders also protects depositors from losses.

- The priority of depositors’ claims implies that any change in the bank’s asset value will affect net worth first.

- Only if net worth falls below zero will depositors be affected.

- Shareholders are more exposed to risk.
Deposit Insurance and Moral Hazard

- An uninsured bank will be careful in choosing assets.

- If its portfolio is too risky, it will be unable to attract shareholders and depositors.

- If the government insures the bank, however, depositors will no longer care about the bank’s risk exposure, only about the rate of return.

- Banks seeking depositors will therefore try to offer the highest possible rate of return, which leads them to risky assets.
Deposit Insurance and Moral Hazard

- This is the **moral hazard** resulting from insurance:
  - insuring people against losses removes the incentives for the insured to act to reduce the probability of such losses.

- How can governments prevent the risk taking behavior that deposit insurance encourages?

- One way is to limit banks to hold “safe” assets.

- Another way is to charge the banks insurance premiums that depend on their risk exposure.

- This way it’s the bank, not the taxpayer, that bears the cost of the extra risk.
Capital Requirements

- A **capital requirement** forces banks to maintain a net worth no less than some fraction of their assets.

- This is another way to reduce risk-taking behavior by banks.

- It has two effects:
  1. A larger cushion for depositors (or insurer);

- If depositors are uninsured they prefer banks with big net worth.

- If they are insured they don’t care, but the insurer does.

- It is therefore in the government’s interest to impose capital requirements.