JAMES A. GRAASKAMP CENTER FOR REAL ESTATE

Notes on Bank Runs and Other Crises of Confidence

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- Hypothetical Bank Balance Sheet

Assets		Liabilities	
Cash + Liquid Assets	$100	Deposits	$900
Loans	$900	Equity	$100
Total	$1,000	Total	$1,000

What do banks do?

- **Banks match savers (deposits) with borrowers (loans)**
- **The profit from the matching accrues to bank equity**

Assume

- **Deposits can be claimed at any time as cash**
- **Loans cannot be recalled**

If depositors try to withdraw > $100: bank fails

- Suppose loan defaults rise

Assets		Liabilities	
Cash + Liquid Assets	\$100	Deposits	\$900
Loans	\$850	Equity	\$50
Total	\$950	Total	\$950

- **Shareholder equity falls**
- **In this scenario, there does not have to be a "run" on the bank**
  - **The market value of the equity is still positive**

- Suppose loan defaults rise by a lot

Assets		Liabilities	
Cash + Liquid Assets	$100	Deposits	$850
Loans	$750	Equity	$0
Total	$850	Total	$850

- **Shareholder equity falls to $0 -- it cannot be negative**
- **The bank has $900 of deposits, but is only worth $850**
- **The bank is insolvent**

What do we expect to have happen? (Pre-FDIC)

- **Depositors rush to withdraw money**
- **After the $100 in cash is withdrawn by people first in line**
  - **The bank shuts down**
  - **The loans are sold off … and < $750 is recovered**
  - **Depositors receive a fraction of their deposits**

- But a loss isn't necessary to shut down a bank

Assets		Liabilities	
Cash + Liquid Assets	$100	Deposits	$900
Loans	$900	Equity	$100
Total	$1,000	Total	$1,000

Suppose everyone *thinks* bank assets have fallen in value

- **→ There will be a rush to withdrawl**

- **Depositors rush to withdraw money**
- **The bank shuts down, loans are sold off, depositors may receive a fraction of their deposits**

- **Crisis in confidence → Bank run → Bank failure**
- **FDIC insurance can prevent this … No need to rush to withdrawl**

- Great Recession started as a financial crisis
- A few big banks failed based on high leverage and real losses from subprime mortgages
- Lehman Brothers … looked like a bank run
- After Lehman bankruptcy, chaos in financial markets … Fed / Treasury stepped in

Source: FactSet, COMPUSTAT

	Year End 2006		
	Assets+	Equity+	Ratio*
Citigroup	1,884	120	6.4%
Bank of America	1,460	135	9.2%
JPMorgan Chase	1,352	116	8.6%
Morgan Stanley	1,121	35	3.1%
Merrill Lynch	841	39	4.6%
Fannie Mae	835	42	5.0%
Goldman Sachs	835	36	4.3%
Freddie Mac	813	28	3.4%
Wachovia	707	70	9.9%
Lehman	501	19	3.8%
Wells Fargo	482	46	9.5%
Bear Stearns	350	12	3.4%
WaMu	346	27	7.8%

+ $ billions. * Effective ratio lower than reported because of off-balance sheet vehicles.

- Banks play an important role … they intermediate between borrowers and savers
- If a bank shuts down b.c. of a run … the bank must liquidate assets
  - Not too costly if its one bank
  - Very disruptive if it is all banks
- If banks won't lend, firms can't borrow … no investment, no payroll, etc.

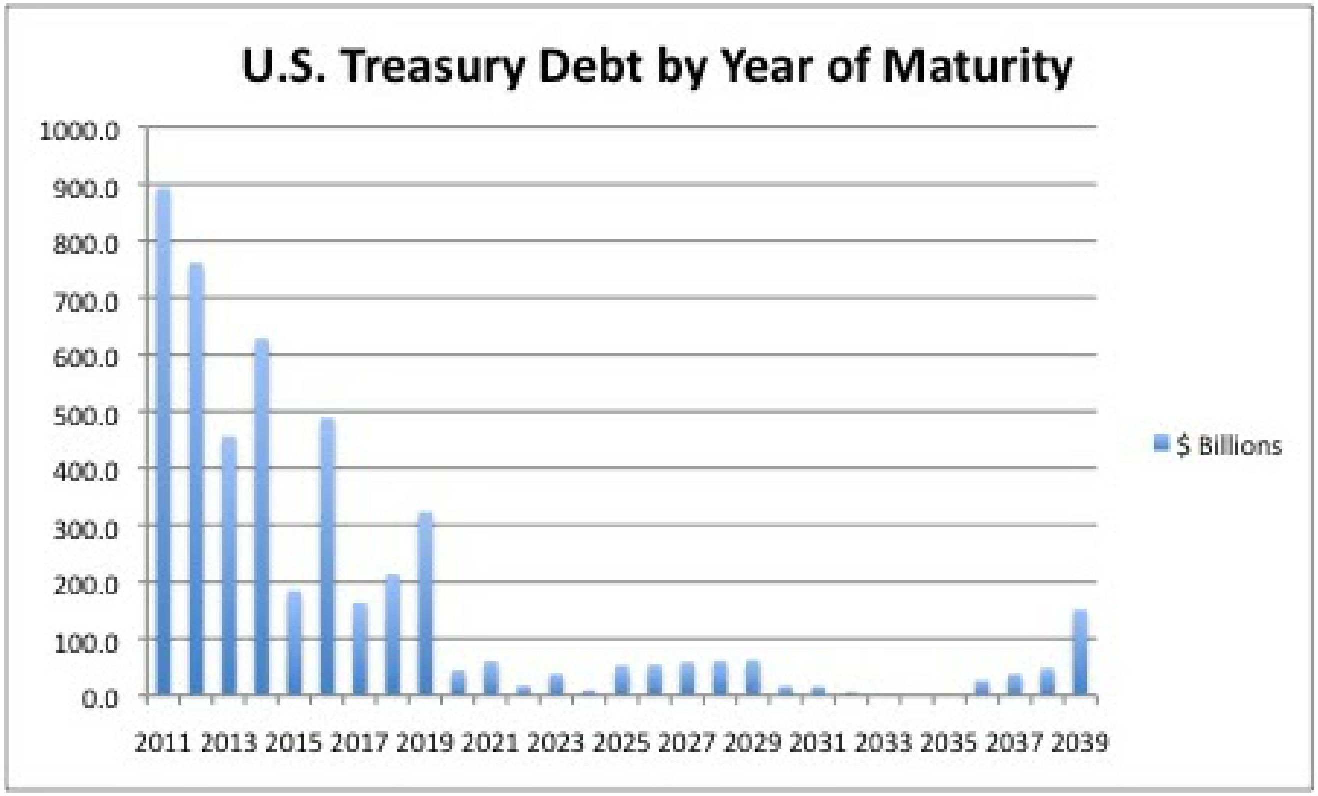
- How does this apply to sovereign debt?
  - Suppose investors believe other investors will not fund short-term debt. Implications:
    - Government cannot raise debt to pay interest
    - Default / print money / devalue
    - Value of all government debt falls
  - Short term debt cannot get funded "rollover risk"
  - Government defaults

- How does this apply to currency?
- Suppose investors believe other investors will no longer want to hold $
- Everyone tries to sell $ at the same time
- The $ loses value.

- Both of these are confidence crises

- It's impossible to predict when these will occur, but they seem to be correlated with observables

- If deficits are high, likelihood of a real default rises, people pull out in advance



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$800 billion in short-term securities (< 1 year) foreign owned.

Source: http://seekingalpha.com/article/656631-u-s-debt-maturities-evidence-of-looming-default-in-u-s-bonds

- How is the US different from Greece/Spain/etc
- The US can print money to fund debt
  - Minimal rollover risk
  - Inflation risk
- Greece/Spain/Italy cannot print Euros
  - Rollover risk is real and can lead to default