

BAILOUT

WITH TODD KEISTER'S MODEL

What does it mean

A broad definition:

“A bailout is a colloquial term for giving financial support to a company or country which faces bankruptcy. “

We'll be using a (very) narrow definition:

“The government bailout a bank in order to prevent greater, socioeconomic failures.”

An excerpt from FDIC's 1984 report...

Continental Illinois National Bank and Trust Company

Name of Institution: Continental Illinois National Bank and Trust Company
Headquarters Location: Chicago, Illinois
Date of Resolution: May 17, 1984
Resolution Method: Open Bank Assistance Transaction

“There were no mobs of frenzied customers outside Continental’s doors. There were just numbers flashing on computer screens, heralding *disaster.*”

– Sebastian Mallaby

Moral Hazard – Incentive Problem

- the investors
- the bank

Dynamic Inconsistency – the government’s dilemma

Swagal (2010):

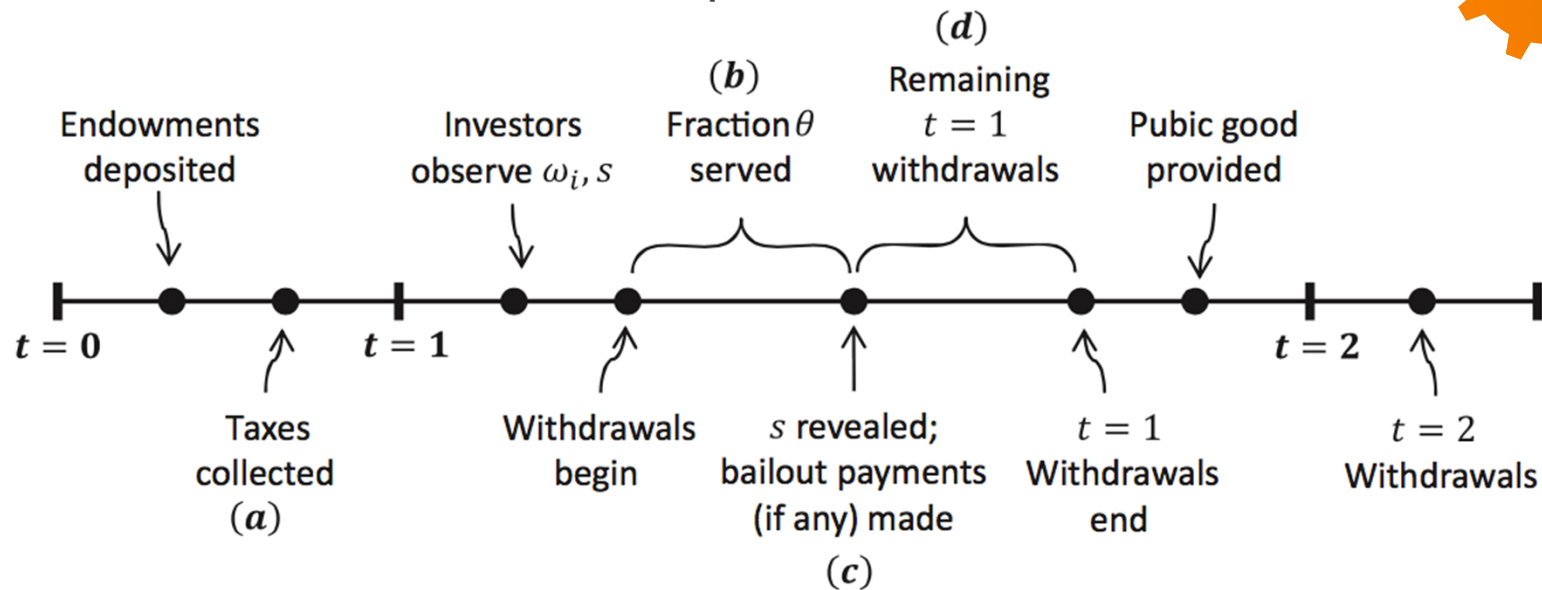
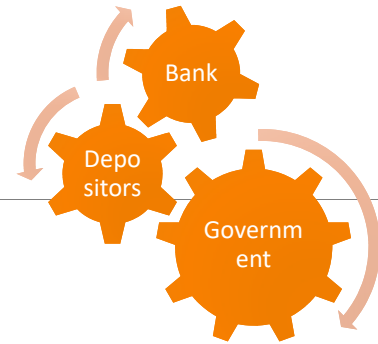
“[a] resolution regime that provides certainty against bailouts will reduce the riskiness of markets and thus help avoid a future crisis.”

Dijsselbloem (2013):

“[b]y ensuring that the private sector bears the primary responsibility for bank resolution, market discipline will be increased and a sustainable, healthy financial sector can be achieved.”

The Model

➤ Basic structure and assumptions



The Model

➤ The depositors

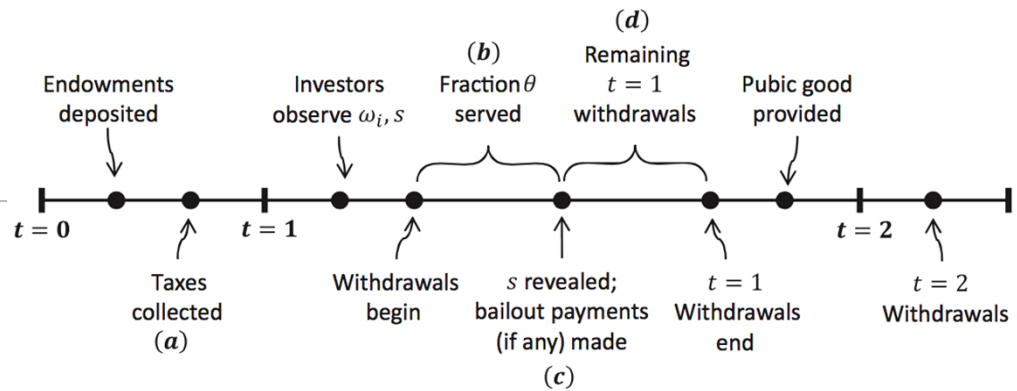
- Utility function:

$$U(c_1, c_2, g; \omega_i) = u(c_1 + \omega_i c_2) + v(g)$$

- Strategy profile:

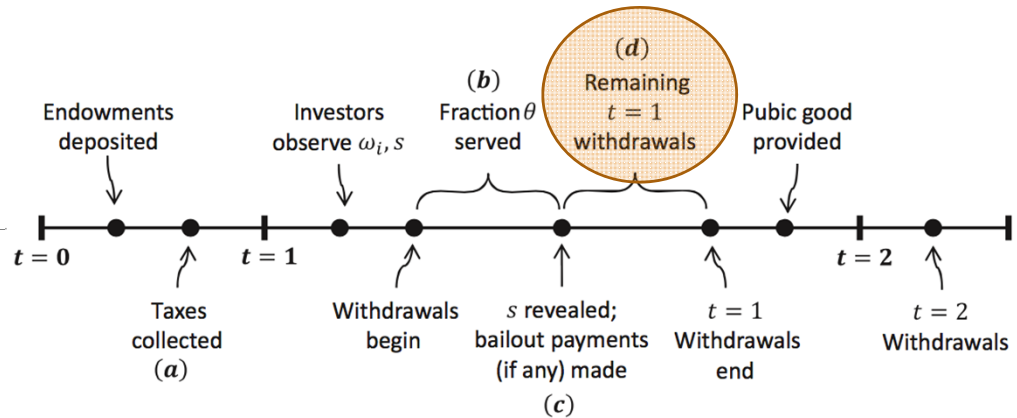
$$y_i(\omega_i, \alpha) = \omega_i \quad \text{for all } i \text{ and}$$

$$y_i(\omega_i, \beta) = \begin{cases} 0 \\ \omega_i \end{cases} \quad \text{for } \begin{cases} i \leq \theta \\ i > \theta \end{cases}.$$



The Model

➤ The bank



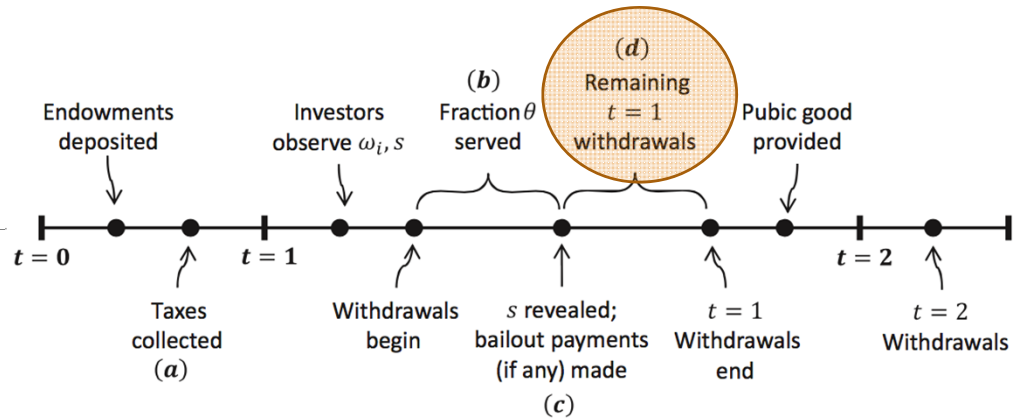
- (d) Once the bailout is received and any uncertainty is resolved, how should the bank allocate its *remaining resources*?

The bank's goal: Maximize welfare for the remaining investors

$$\max_{\{c_{1s}^j, c_{2s}^j\}} \left[\hat{\pi}_s u(c_{1s}^j) + (1 - \hat{\pi}_s) u(c_{2s}^j) \right]$$

The Model

➤ The bank



- (d) Once the bailout is received and any uncertainty is resolved, how should the bank allocate its *remaining resources*?

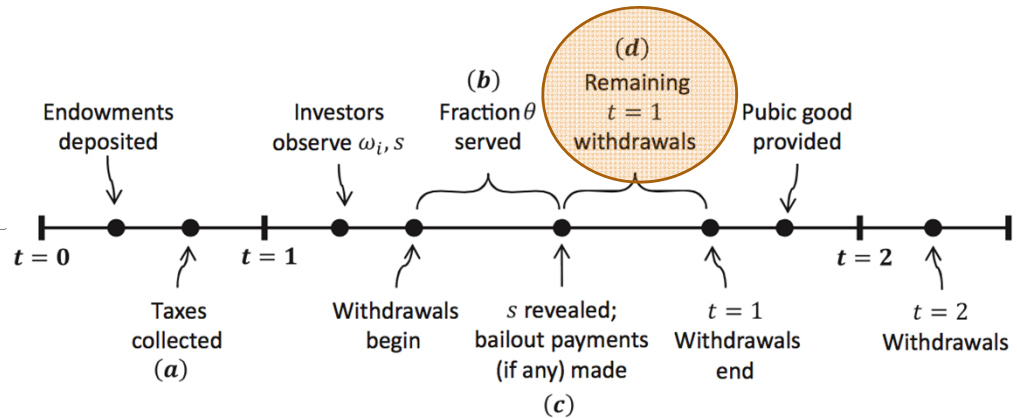
The bank's goal: Maximize welfare for the remaining depositors

$$\max_{\{c_{1s}^j, c_{2s}^j\}} \left[\hat{\pi}_s u(c_{1s}^j) + (1 - \hat{\pi}_s) u(c_{2s}^j) \right]$$

The fraction of remaining depositors that are impatient

The Model

➤ The bank



- (d) Once the bailout is received and any uncertainty is resolved, how should the bank allocate its *remaining resources*?

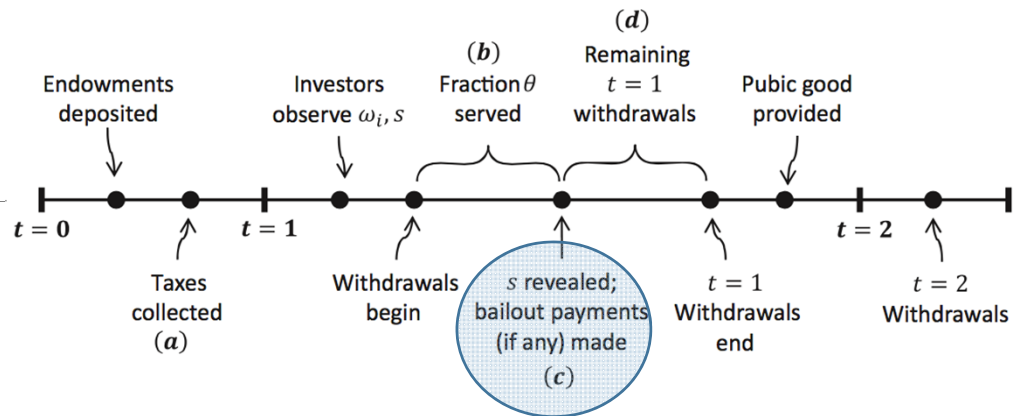
The bank's goal: Maximize welfare for the remaining depositors

$$V = \max_{\{c_{1s}^j, c_{2s}^j\}} \left[\hat{\pi}_s u(c_{1s}^j) + (1 - \hat{\pi}_s) u(c_{2s}^j) \right]$$

Subject to: "the bank's resource constraint"

The Model

➤ The government



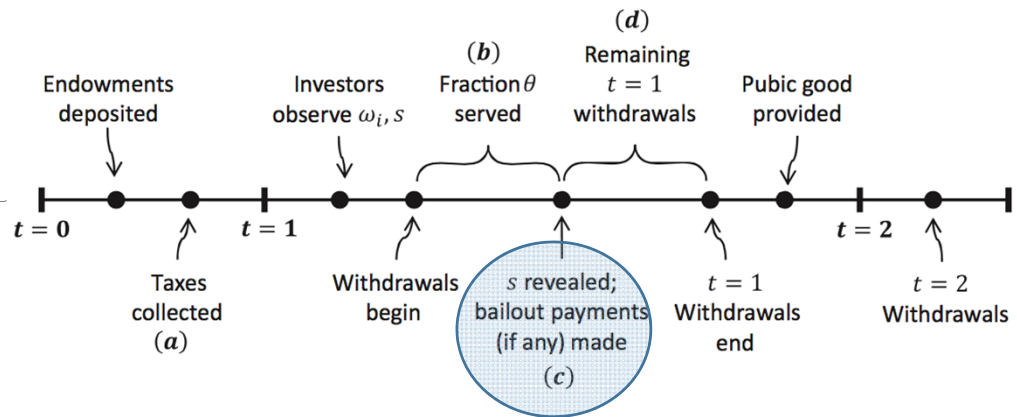
- (c) Implement an optimal bailout policy

step1: Is there a run?

step2: If so, how much bailout payment to give to each bank?

The Model

➤ The government



- (c) Implement an optimal bailout policy

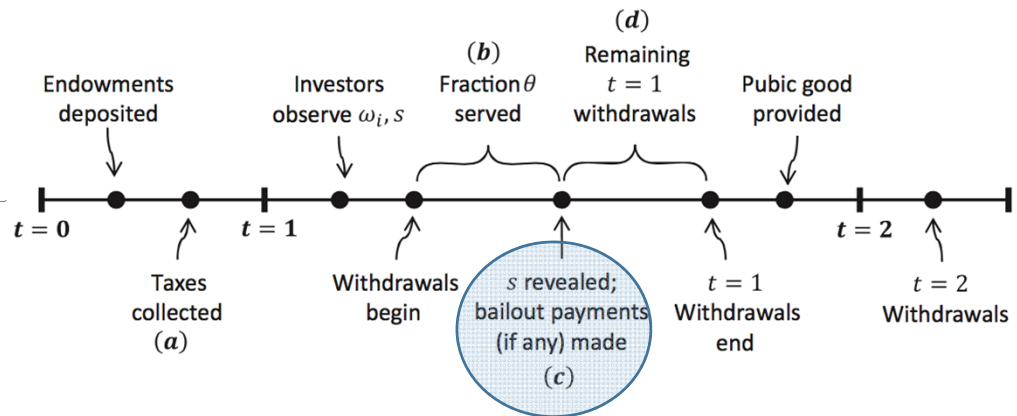
step1: Is there a run?

If $\theta > \pi \dots$

“the bank’s resource constraint” $\implies 1 - \tau - \theta c_1^j + b^j$

The Model

➤ The government



- (c) Implement an optimal bailout policy

step2: how much bailout payment to give to each bank?

$$\max_{\{b^j\}} V(b^j) + v(\tau - b)$$

The optimal bailout policy equates the marginal value of public consumption with marginal value of private consumption for the remaining investors **for each bank**

The Incentive Distortion

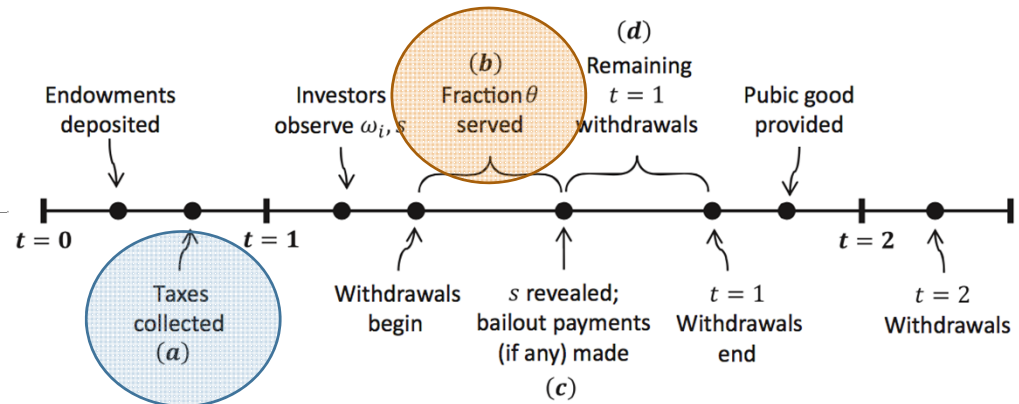
- The optimal bailout policy equates the marginal value of public consumption with marginal value of private consumption for the remaining investors *for each bank*.
- Each bank chooses the same values for $\{c_{1s}^j, c_{2s}^j\}$.
- b^j must be chosen such that each bank faces the same resource constraint, in other words, $1 - \tau - \theta c_1^j + b^j$ is a constant.
- A bank with fewer remaining resources gets larger bailout.

Reasons against Bailouts

"In bailing out failing companies, they are confiscating money from productive members of the economy and giving it to failing ones. An essential element of a healthy free market, is that both success and failure must be permitted to happen when they are earned. But instead with a bailout, the rewards are reversed – the proceeds from successful entities are given to failing ones. How this is supposed to be good for our economy is beyond me..."

– Ron Paul

Future discussion



1. (b): How will the anticipation of a bailout affect the bank's choice of the amount to give out to each withdrawing investor before the bailout?

$$\theta u(c_1^j) + (1-q)V(1-\tau-\theta c_1^j; \hat{\pi}_\alpha) + qV(1-\tau-\theta \bar{c}_1 + b; \hat{\pi}_\beta).$$

2. Possible solution to the incentive problem through (a): How can the government mitigate incentive distortion through tax rates?

3. A broader definition of bailout

- | | |
|---|--|
| 1970 - Penn Central Railroad | 2008 - The Bear Stearns Companies, Inc. |
| 1971 - Lockheed Corporation | 2008 - Fannie Mae and Freddie Mac |
| 1984 - Continental Illinois^[5] | 2008 - The Goldman Sachs Group, Inc. |
| 1995 - Mexico Bailout | 2008 - Morgan Stanley bailed out by The Bank of Tokyo-Mitsubishi UFJ |
| 1997 - South Korea Bailout | 2008-2009 - American International Group, Inc. multiple times |
| 1997 - Indonesia Bailout | 2008 - Citigroup Inc. |
| 1998 - Brazil Bailout^[44] | 2008 - General Motors Corporation |
| 2000 - Argentina Bailout | 2009 - Bank of America |
| | 2009 - CIT Group |
| | 2009 - Dubai and Dubai World bailed out by Abu Dhabi |

Cited works

1. fdic document on Continental Illinois: <https://www.fdic.gov/bank/historical/managing/history2-04.pdf>
2. Ron Paul. 11-24-2008, *the Bailout Surge*
3. wiki-page cases timeline, <https://en.wikipedia.org/wiki/Bailout>
4. Todd Keister. *Bailouts and Financial Fragility*, Review of Economic Studies (2016) **83**, 704–736
5. Sebastian Mallaby. *“The Man Who Knew: The Life and Times of Alan Greenspan.”*