Financial Dominance

Paolo Baffi Lecture 2015

by

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Overview

1. Ex-post redistribution of losses & recap
   - To sector with higher “amplification threat”
     - Financial sector’s amplification in 4 Steps
     - Amplifying amplification through “Financial Dominance”
2. Ex-ante risk sharing rules & contingent commitment
3. Government debt
   - Banks as hostage vs. as insurers
     - Doubling up strategy & diabolic loop
   - Role of other investors: “Secondary market dilemma”
4. Financial, fiscal and monetary dominance
5. European Monetary Union & ESBies

1. Re-distribution of losses after crisis erupted

Losses

- **Permanent**
  - Financial sector
  - HH sector
  - Nominal Savers
    “financial repression”
  - Tax payer
- **Temporary (Liquidity)**

Amplified by

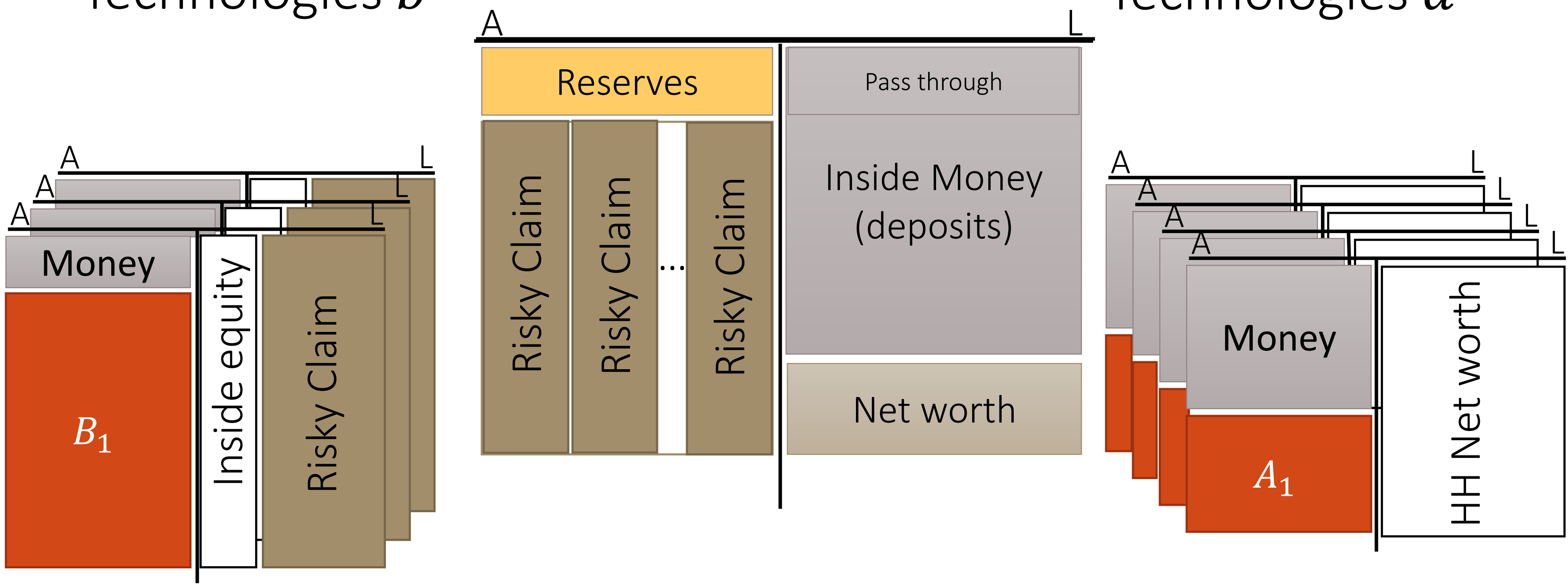
Liquidity spiral
Disinflationary spiral

Amplified by

Keynesian demand (MPCs)

Amplification in Financial Sector

- Technologies b
- Technologies a



- The I Theory of Money
  - with Yuliy Sannikov

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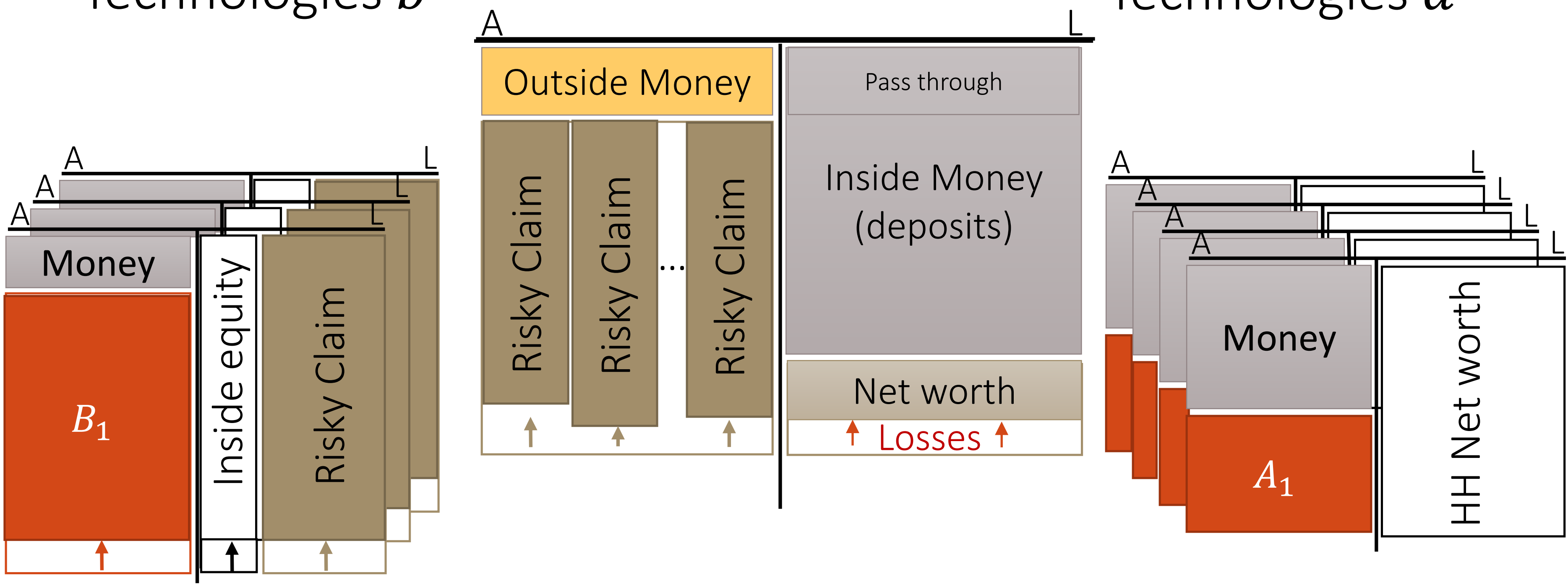
Shock impairs assets: 1st of 4 steps

- Technologies b
- Technologies a



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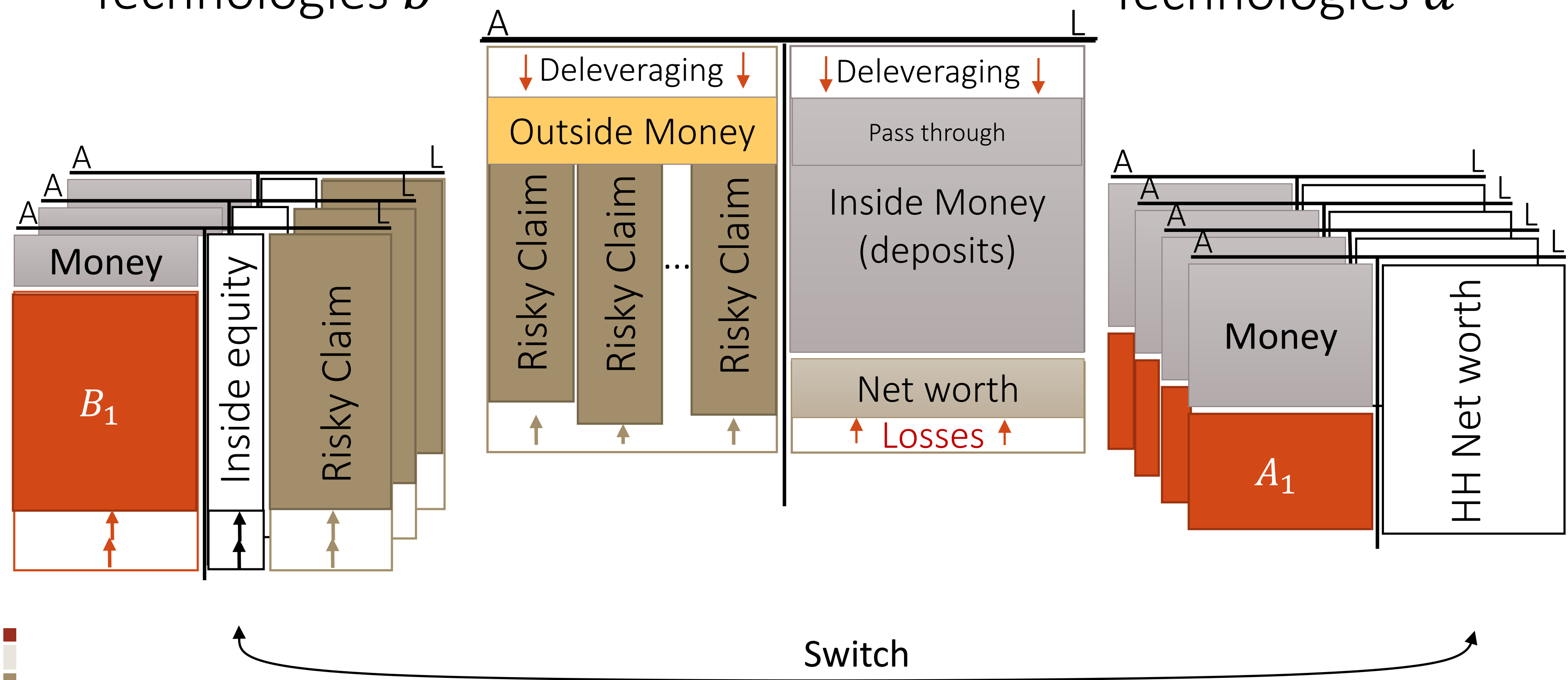
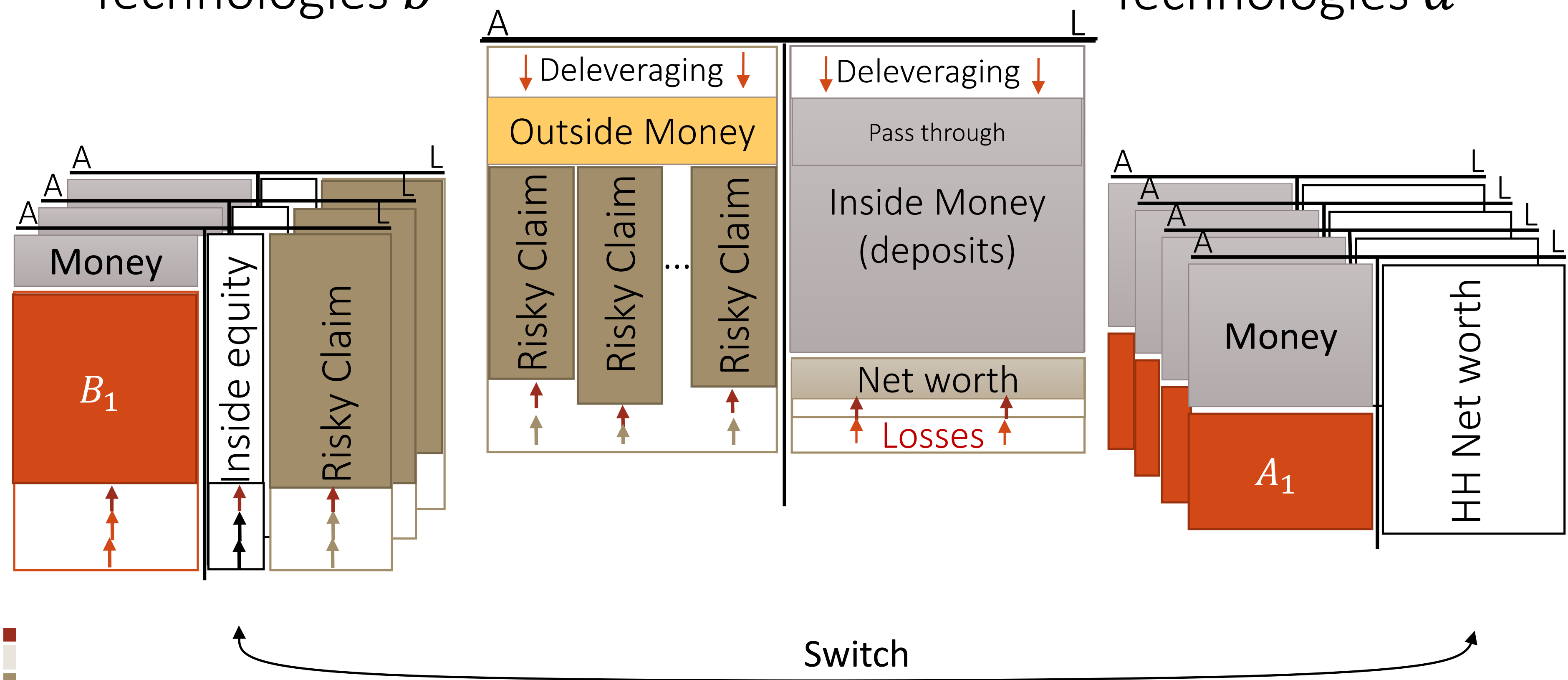
Shrink balance sheet: 2nd of 4 steps

- Technologies b
- Technologies a



Liquidity spiral: asset price drop: 3rd of 4

- Technologies b
- Technologies a



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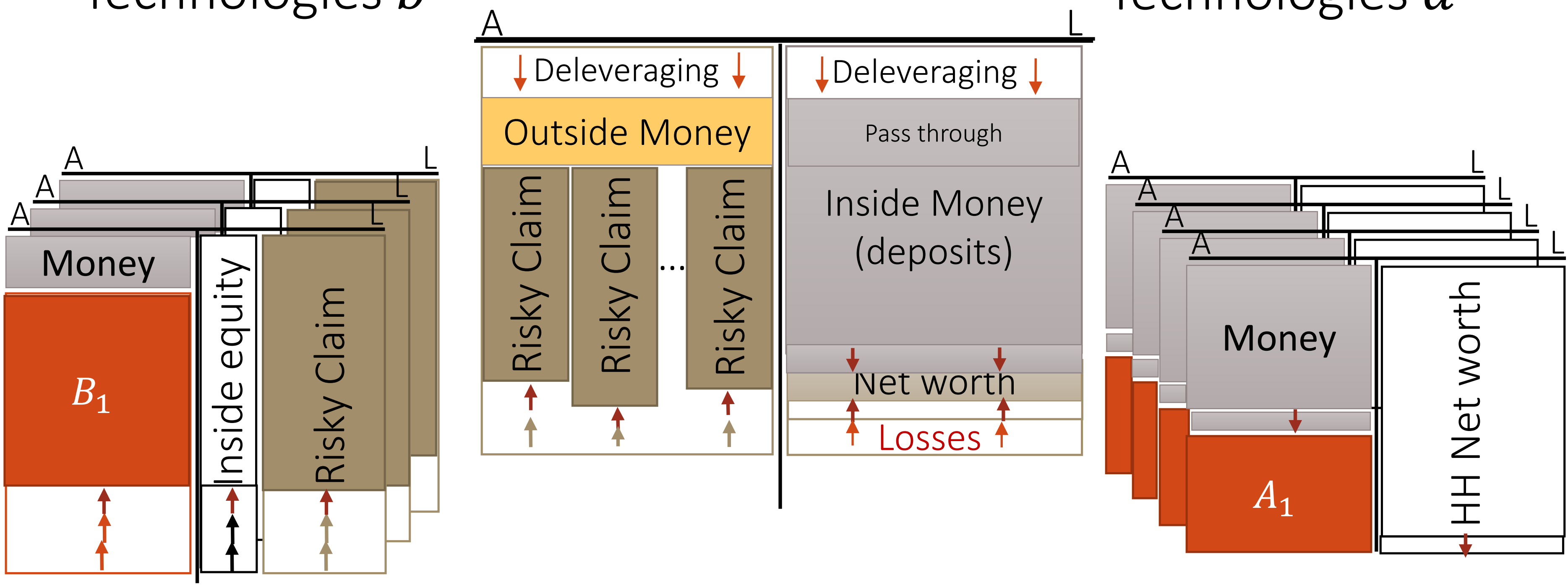
Disinflationary spiral: 4th of 4 steps

- Technologies b
- Technologies a



- Intermediaries are hit and shrink their balance sheets inducing
  - Asset side — liquidity spiral — financial stability
  - Liability side — disinflation spiral — price stability

- Response of intermediaries to adverse shock leads to endogenous risk due to amplification

"Paradox of Prudence"

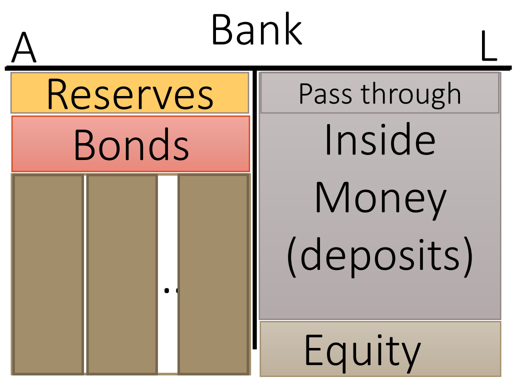
- … in I Theory.

- Each bank is "micro prudent" (deleverages)
  ➡ creates endogenous macro-risk "macro-inprudent"
  - Price process (drift & volatility) are taken as given
  - Pecuniary externality

- Analogy:
  Keynes' paradox of thrift (levels instead of risk)
  each consumer saves ➡ aggregate income/saving declines

Ex-post Redistribution via Monetary Policy

- (Contingent) redistribution … towards the banks
  "stealth recapitalization"



- Adverse shock → value of risky claims drops
- Monetary policy response: cut short-term interest rate
  - Value of long-term bonds (relative to money) ↑
  - "stealth recapitalization"
- Liquidity & Deflationary Spirals are mitigated

- Special Role of default-free long-term "safe asset" for MoPo
  - Interest rate policy leads to <u>income/wealth effects</u>
    (not only substitution effects)

- Refrain from government default

Redistribute via many Routes

- Ex-post redistribution via
  - Monetary policy: change asset prices/exchange rates "stealth recapitalization" (income not substitution effects)
  - Inflate away debt
  - Outright default on debt
  - Toughen foreclosure laws
  - Soften private bankruptcy

Involves government debt

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- **Financial Dominance**
  - Financial sector refuses to recapitalize itself, will try to maximize adverse amplification
  - "being weak is your strength"
    - defense mechanism against financial repression

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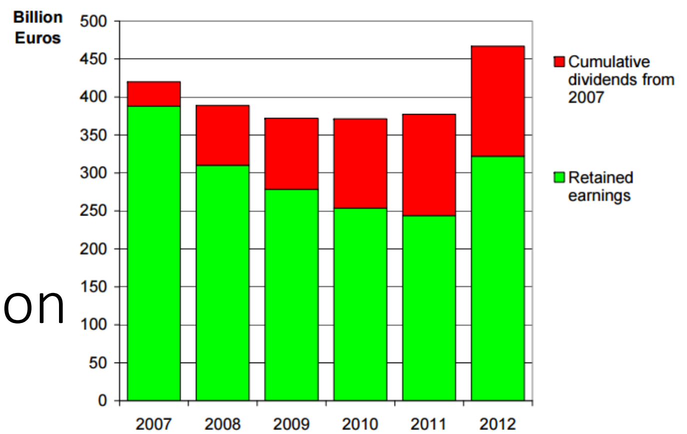

Source: Shin

Redistribute via many Routes

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Financial sector is more flexible and better organized than other sectors

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Ex-ante: Rule – Contingent Commitment

- Ideal Rule (e.g. monetary rule):
  - Distribute to "bottleneck" (balance sheet impaired sector)
  - Improves risk sharing/insurance

  ➡ reduces amplification /endogenous risk

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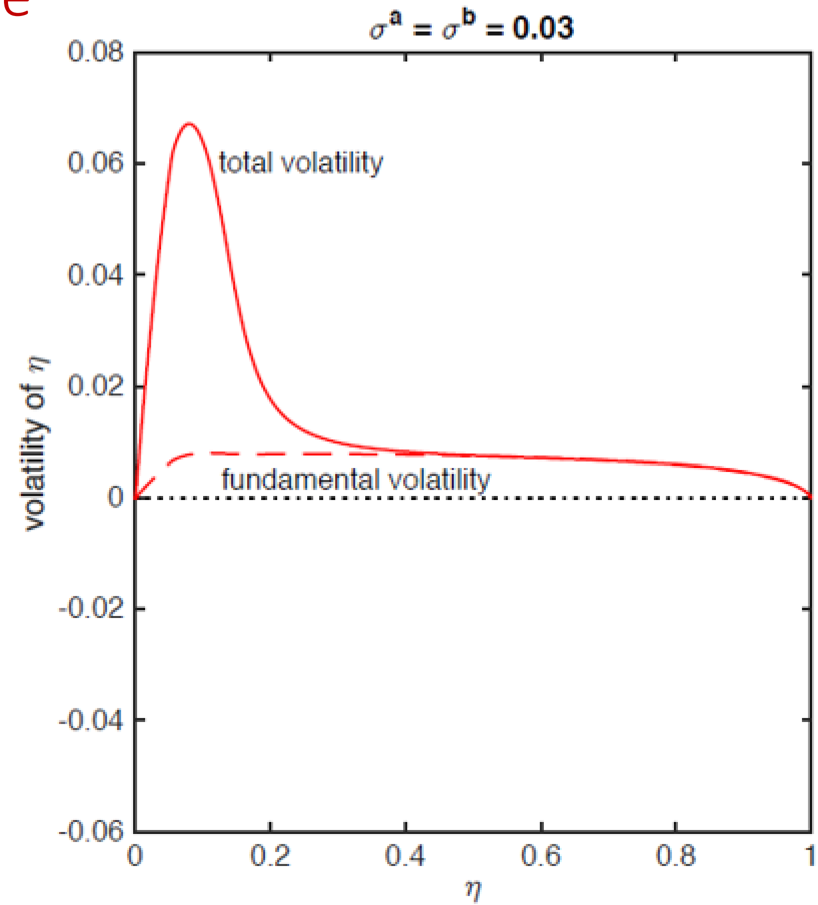

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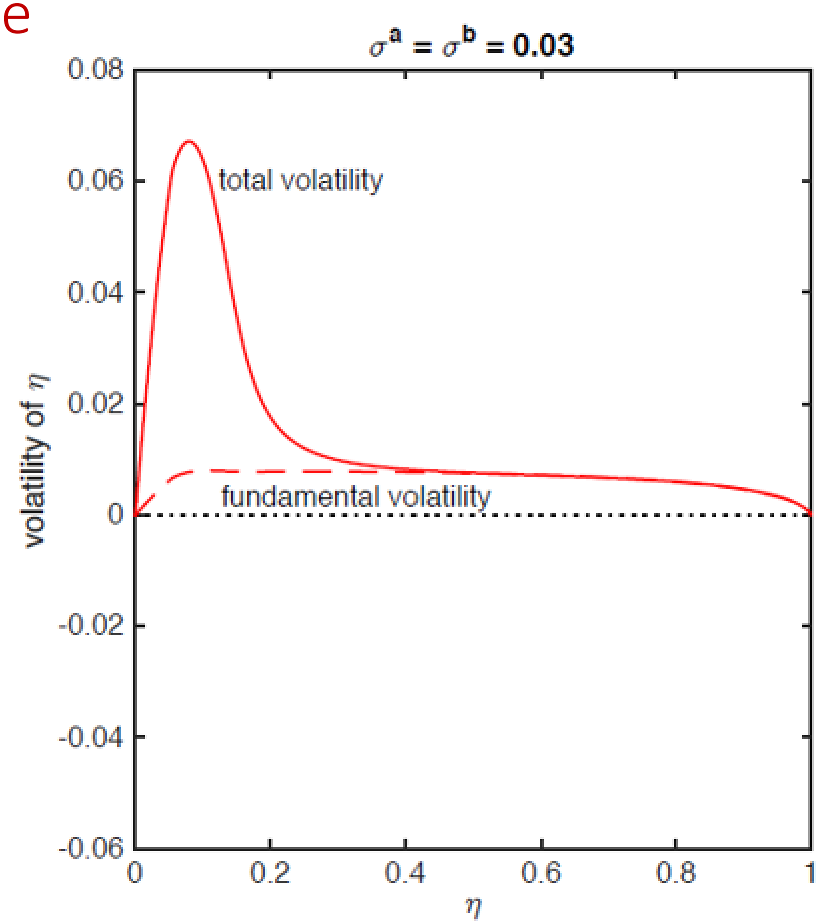

- Problems:
  1. Insurance alters behavior
     ➡ Moral hazard
  2. Time-inconsistent rule
     How to commit to it?

Contingent Commitment Challenge

t

Ex-ante

Gov. promises to
- limit ex-post redistributions (only risk sharing)

Interim

Strategic positioning

Financial dominance
- Pay out dividend
- Invest in gov. bonds (crowds out real lending)
- Deflationary spiral

Ex-post

Redistribution of losses, MoPo, bail-outs

Benefits sector that can cause most severe amplifications

- Time-inconsistency
  - Ex-ante: promise limited redistribution to keep interest rate low
  - Ex-post: redistribute too much

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3. Government Debt & Financial Dominance

- Dual role of contingent debt
  - Liquidity: Smooth temporary shocks over time
    - Tax smoothing
    - Keynesian stimulus

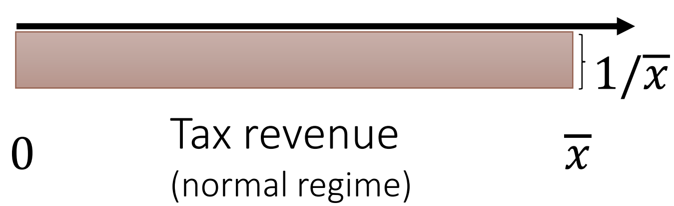
    → Default free bond
  - Solvency: Risk sharing permanent shocks over states of nature
    - Through MoPo → default free gov. bond
    - Through default → defaultable bond

    tension

- Time-consistency + risk sharing problem
  - Ex-ante:
    - promise to repay in states above a certain cut off
    - (partially) default in "crisis states"
  - Ex-post:
    - Excessive default
  - Contingent commitment vs. "straightjacket commitment"

Government Debt: Toy Model

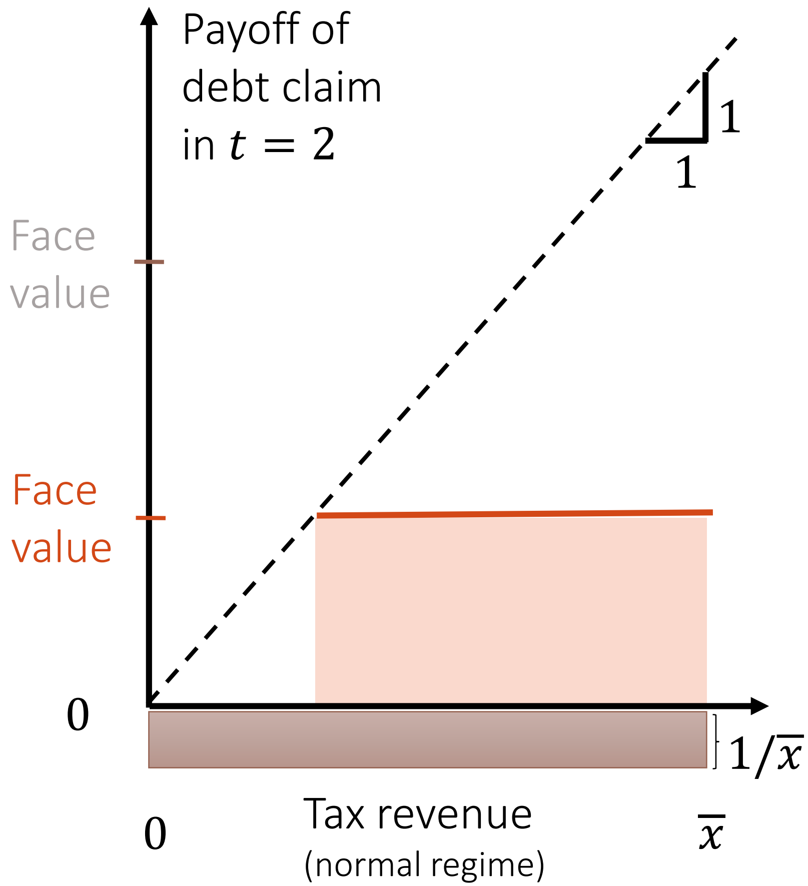
- $t = 1$ Refinance outstanding debt (from $t = 0$)
  - Determines face value of new debt
  - Default costs
- $t = 2$ uncertainty realizes -- state space
  1. x =GDP: Economic activity – income of citizens
  2. x = Primary surplus: absent austerity measures/extra taxes



  - Repay debt
  - Extra austerity measures/taxes to cover shortfall
  - Default decision

Government Debt

- Limited commitment: verification cost
- Risk-neutral investors



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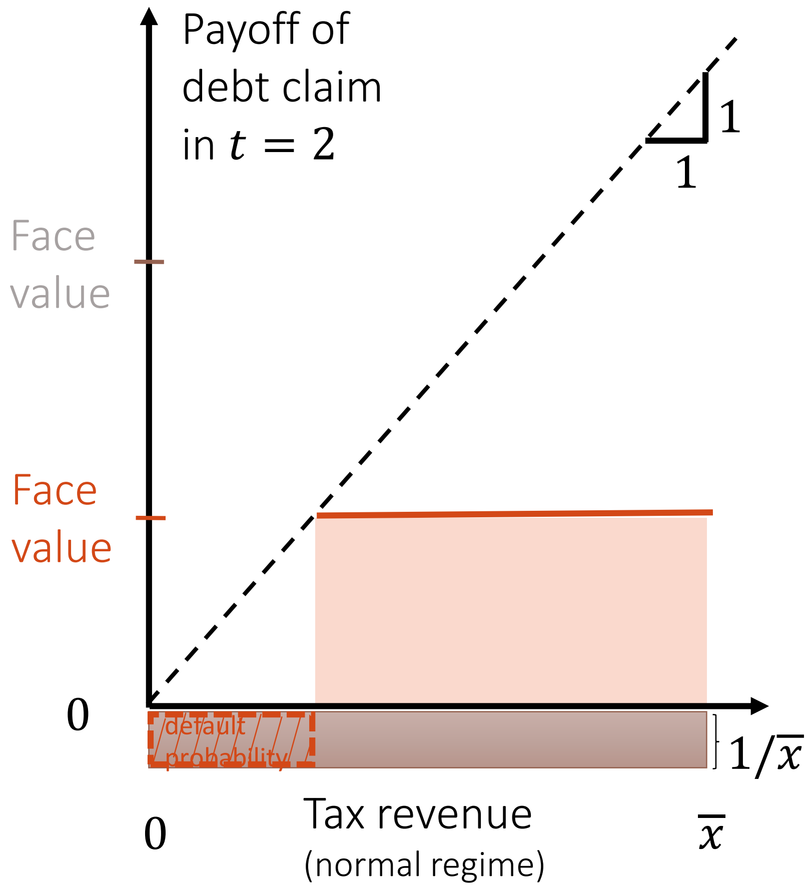

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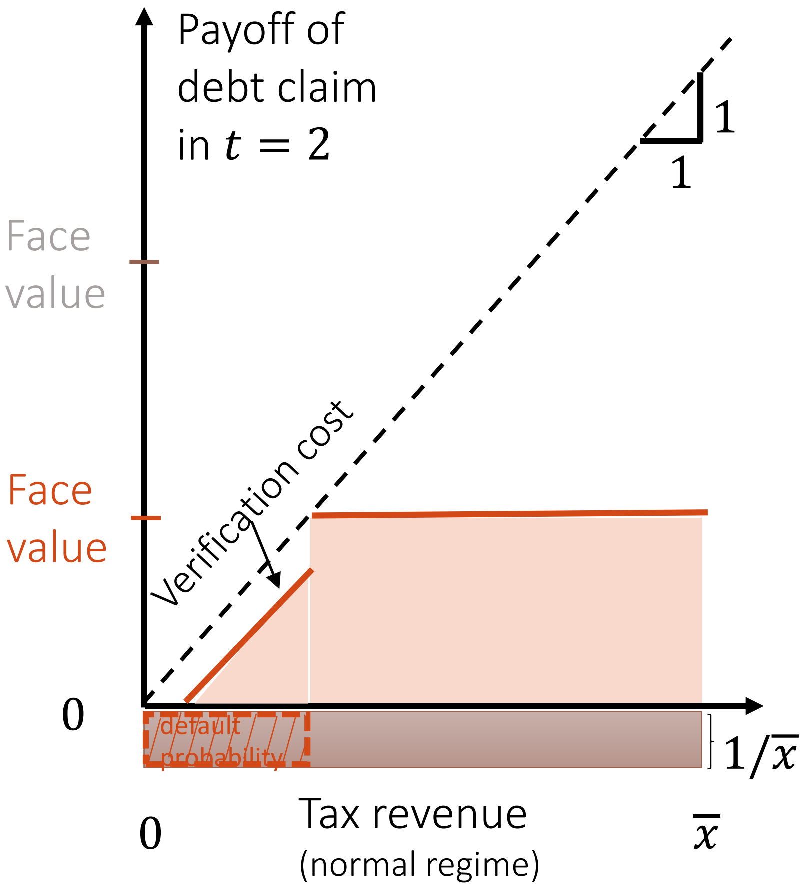

- Contingent debt
  - Partial default in bad states

Government Debt

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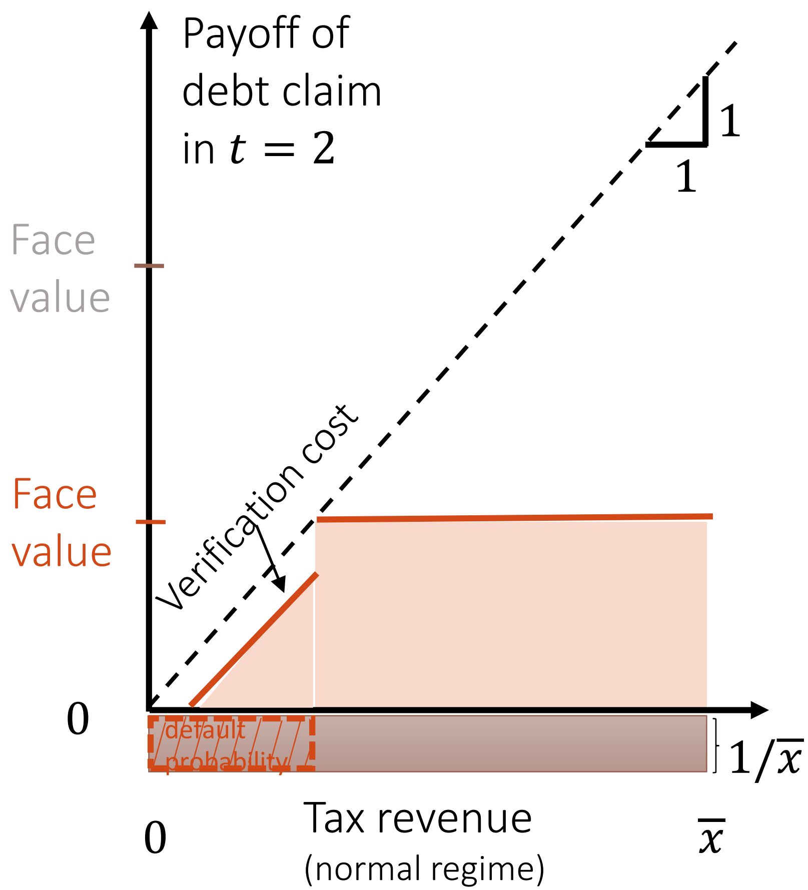

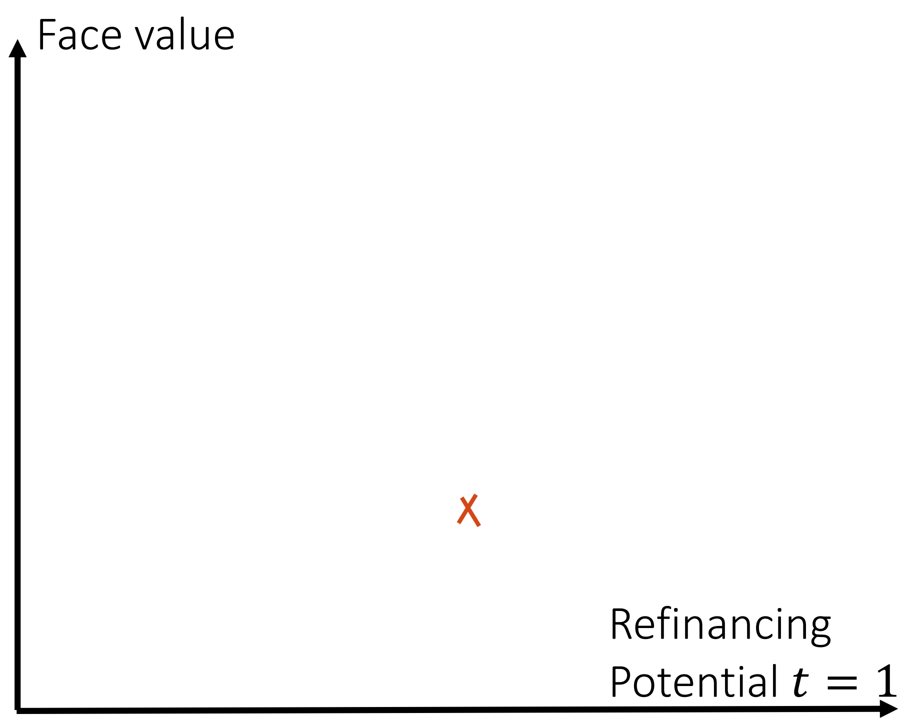

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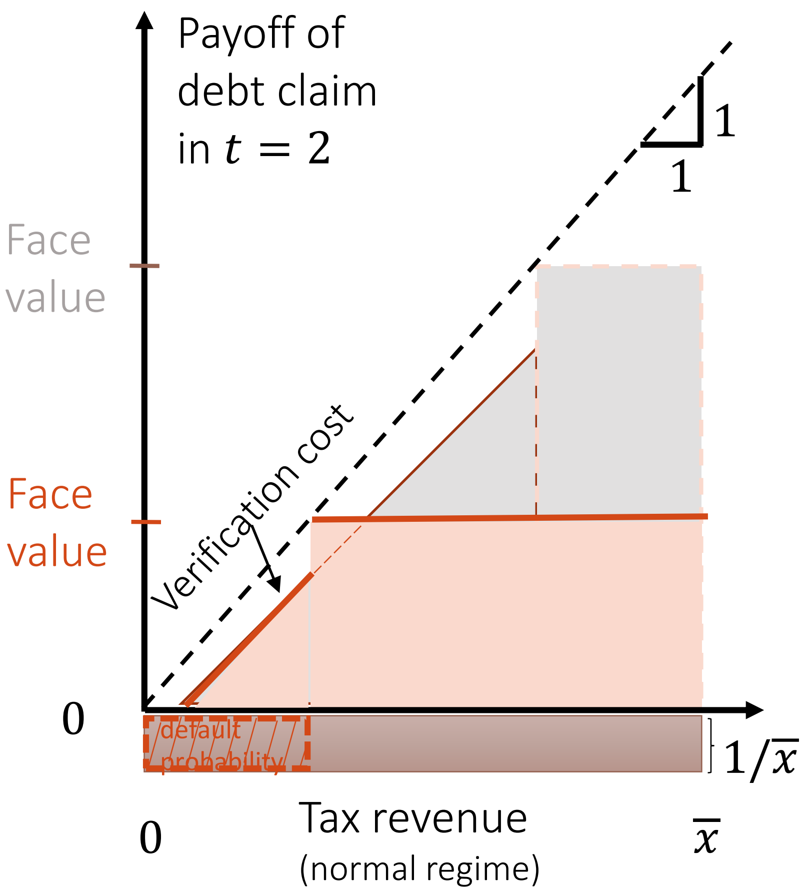

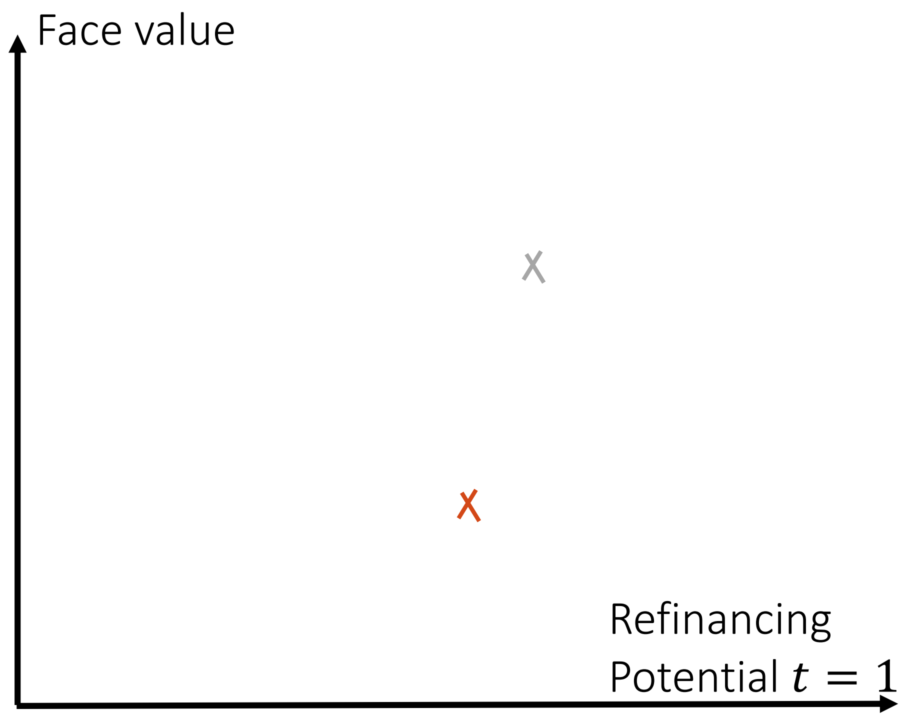

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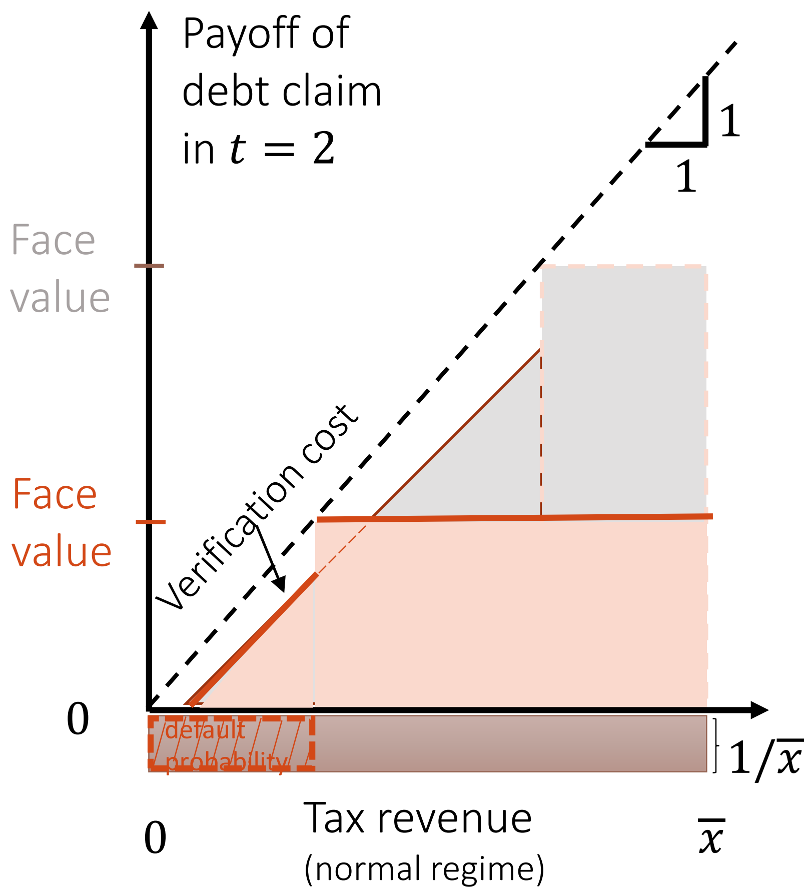

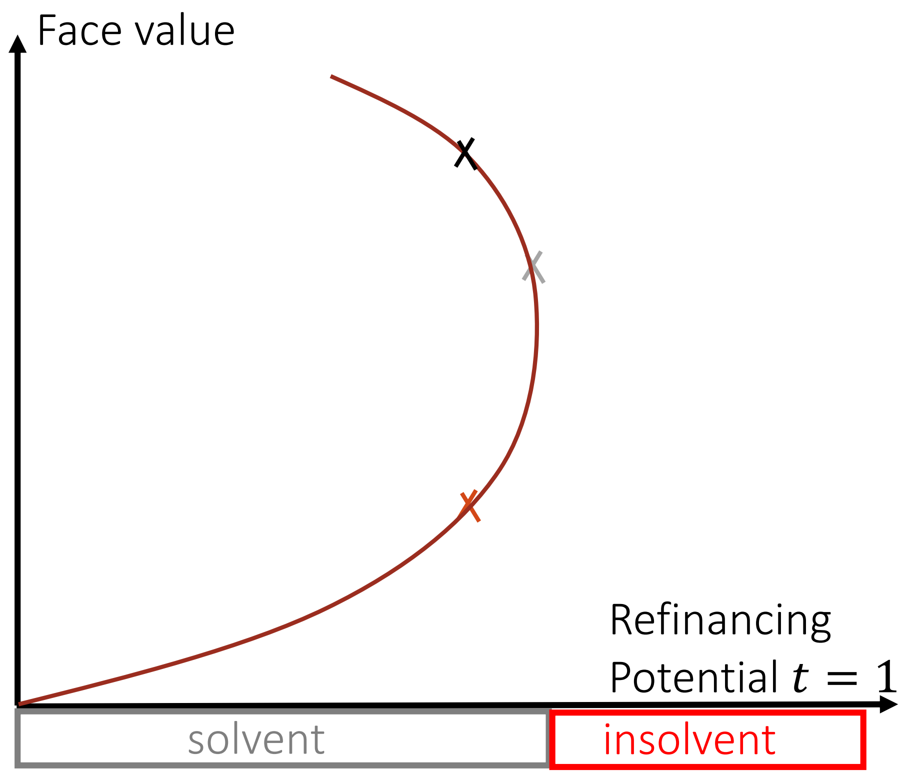

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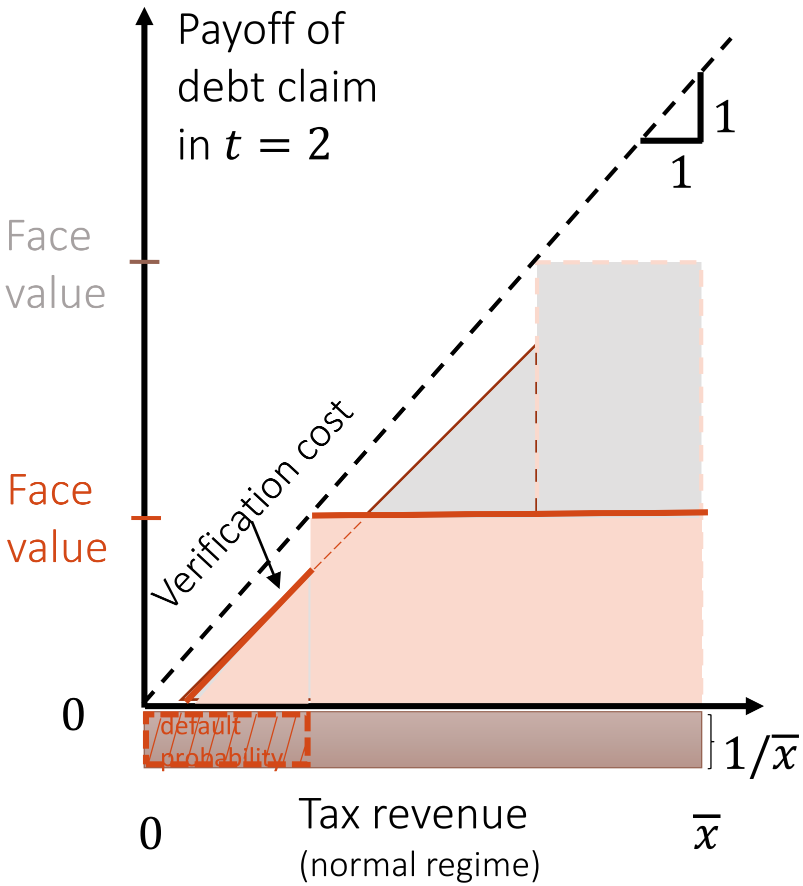

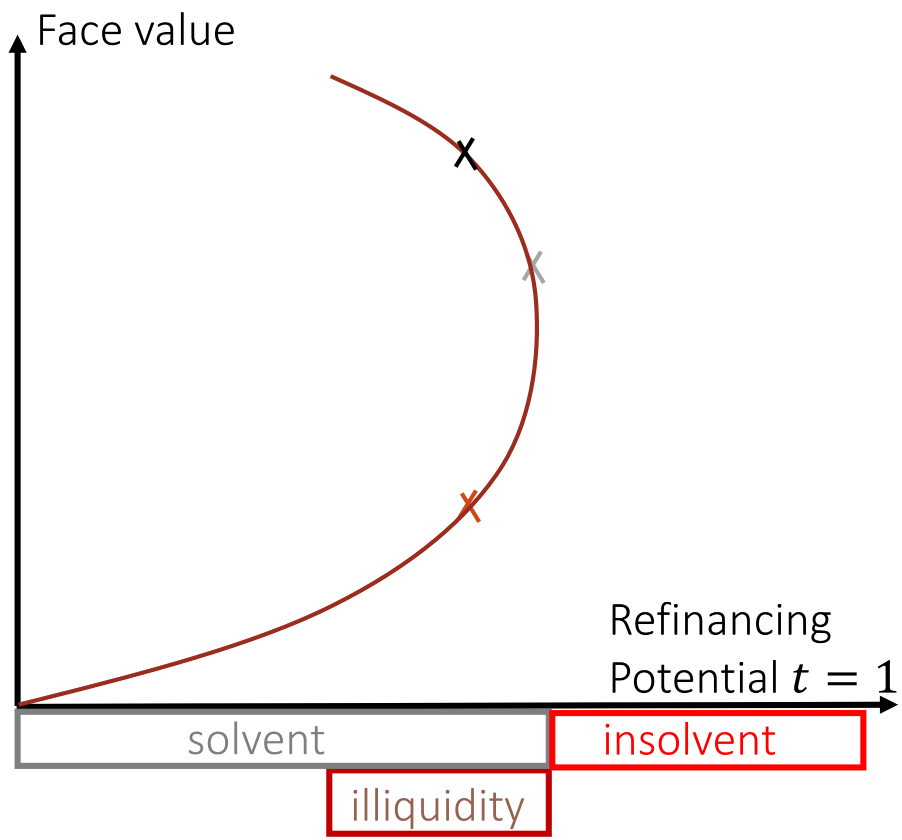

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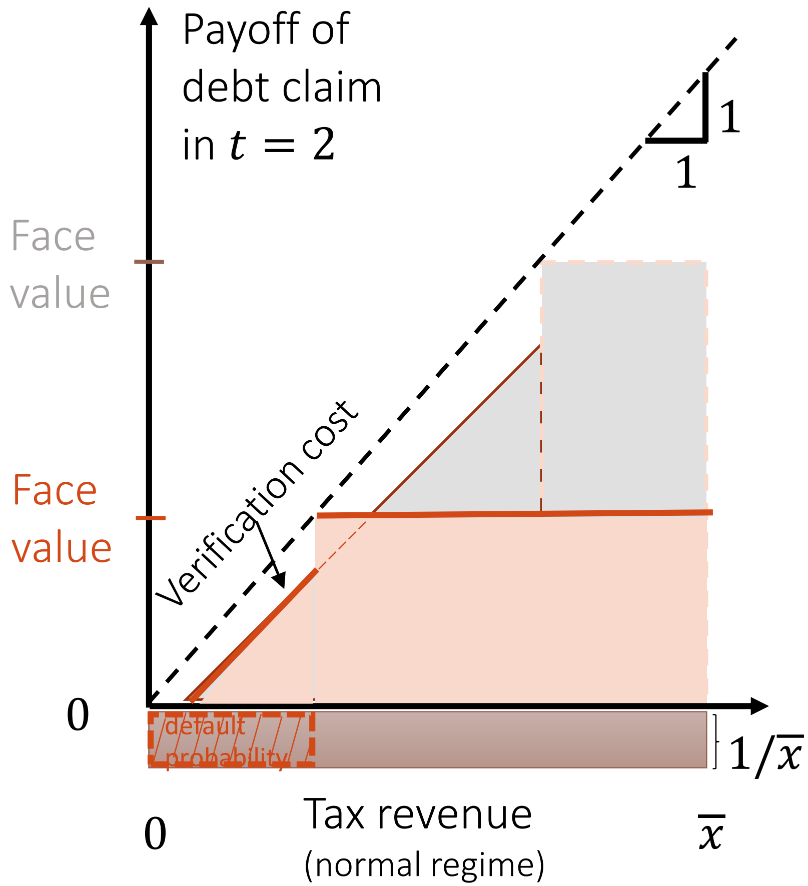
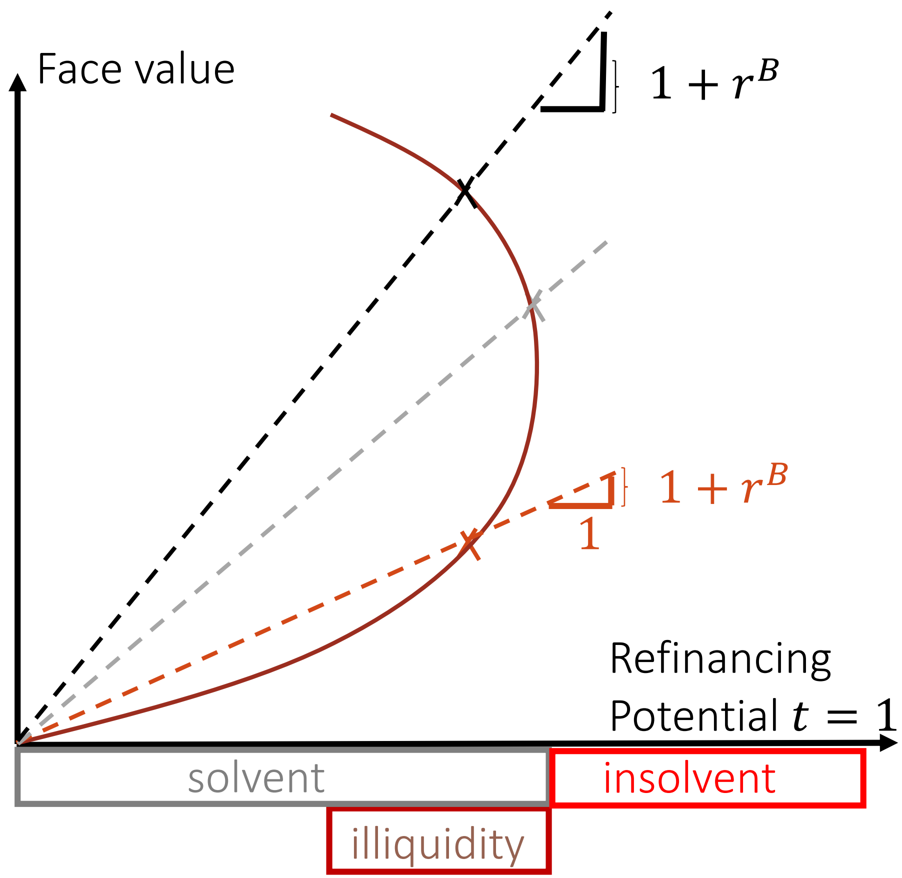
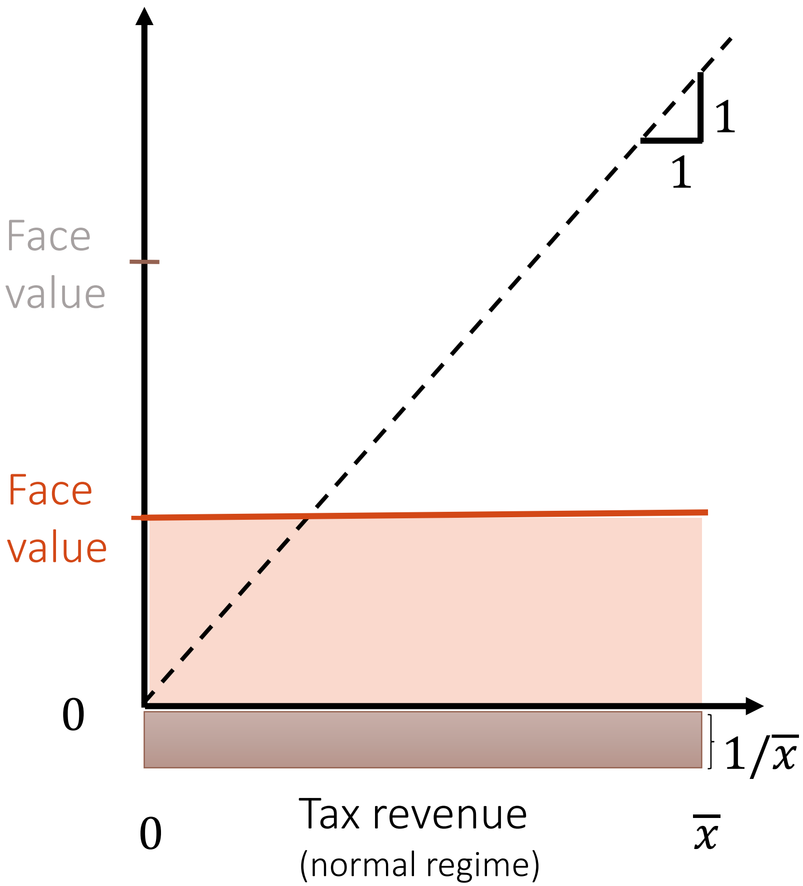




"Straight Jacket" Commitment



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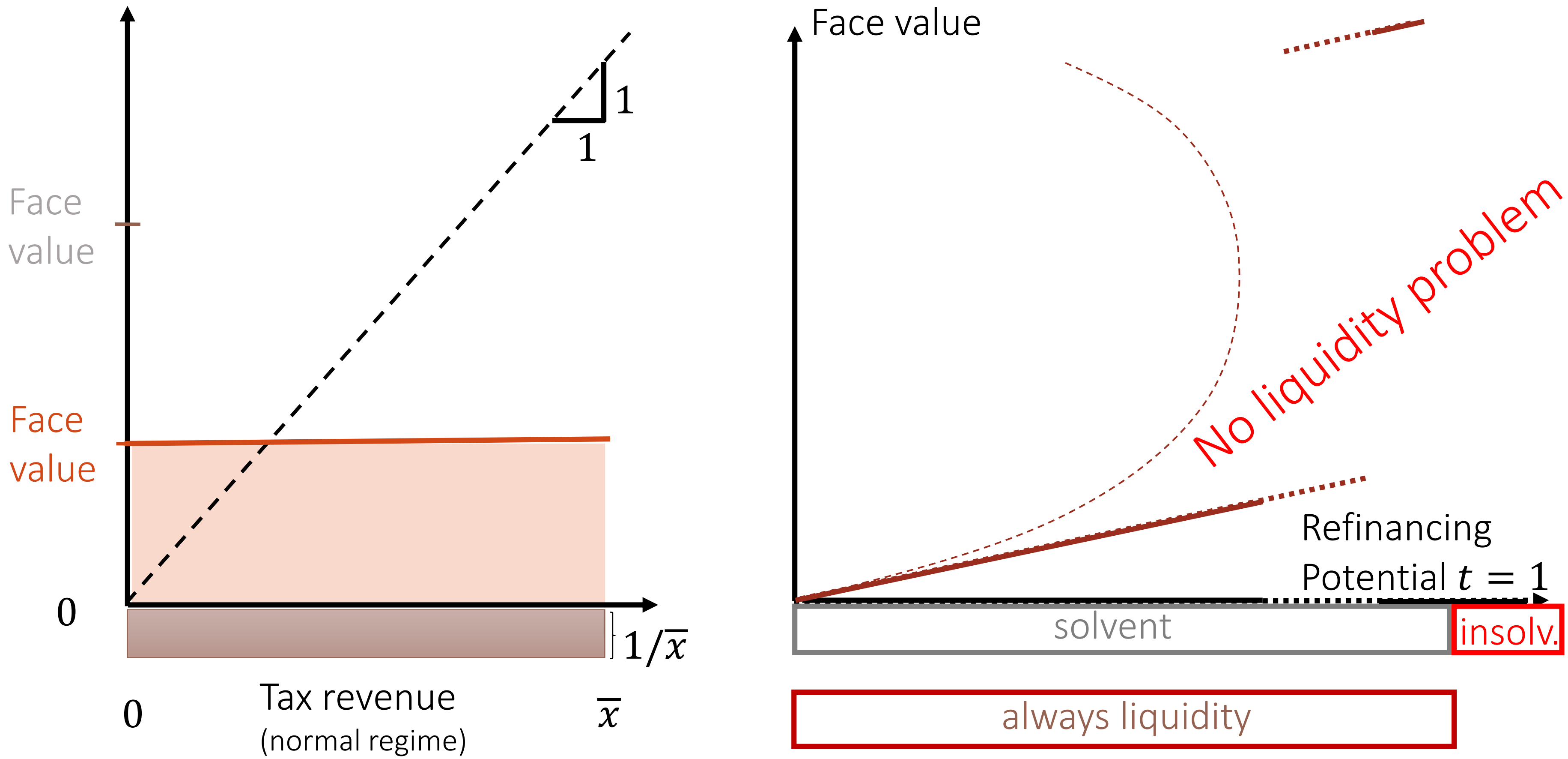
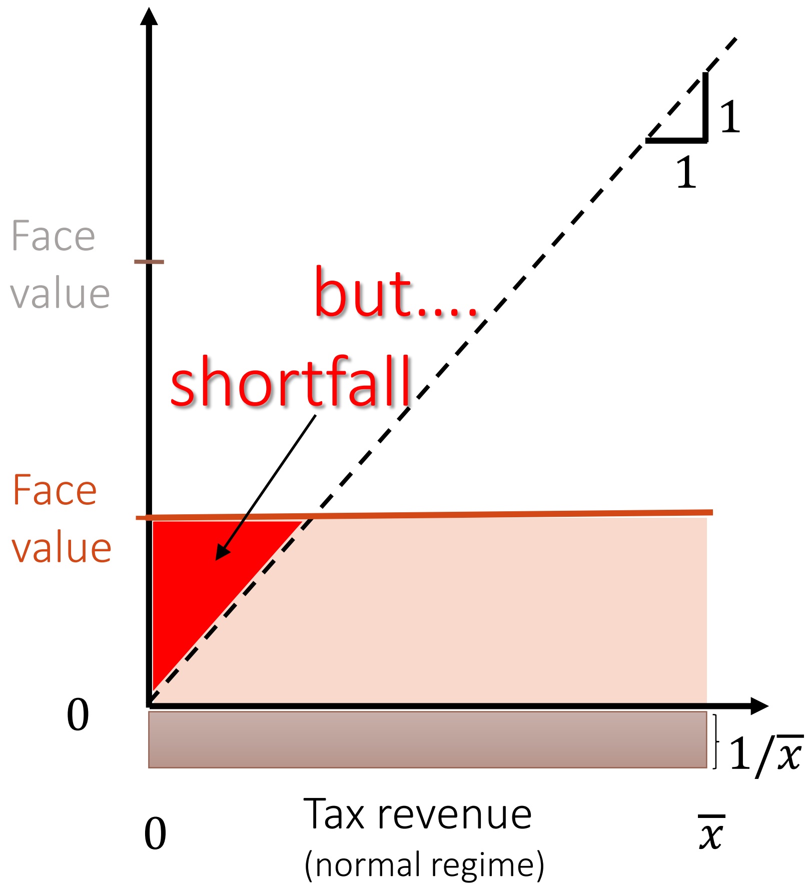
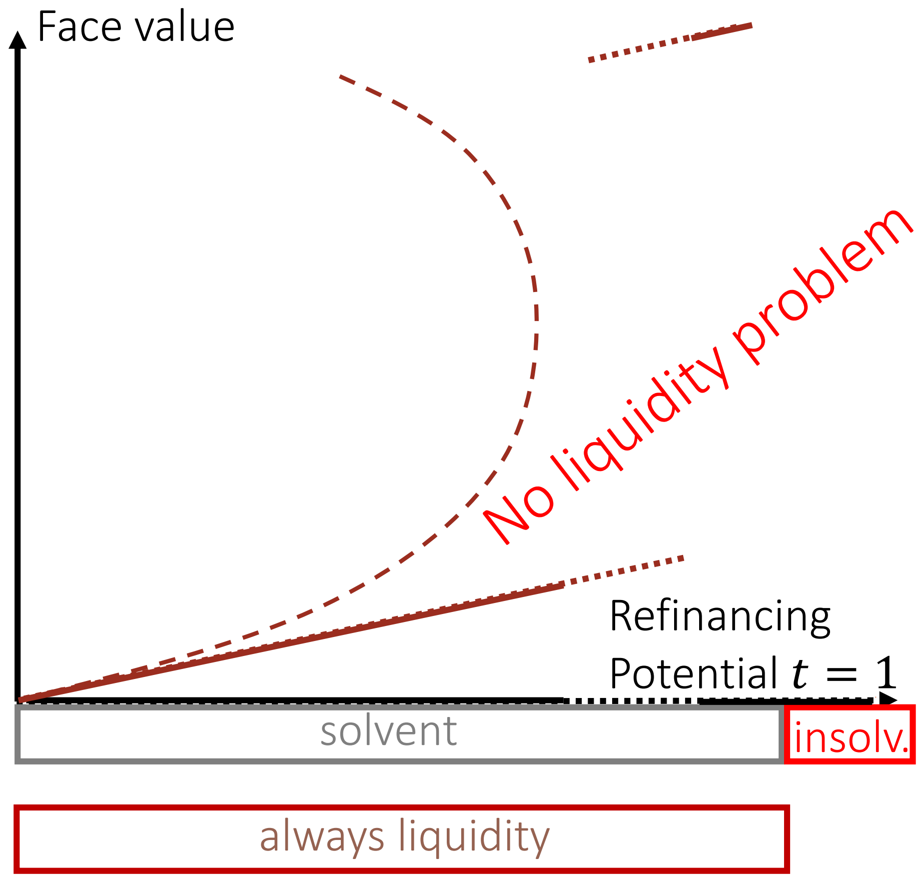


"Straight Jacket" Commitment

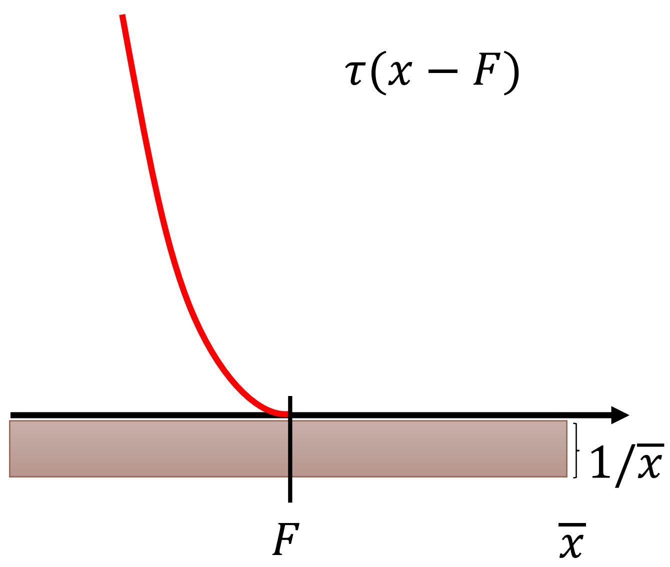
- … but tax short-fall
- Needs to raise taxes/austerity: distortionary costs in catastrophe states





“Straight Jacket” Commitment

- Shortfall needs to be financed through
  - Austerity measures
  - Emergency tax hikes



No liquidity problem

  - For very low realizations of x these costs might go to infinity

How can Financial Sector Help?

1. Offer itself as hostage for commitment device to repay

   → financial dominance is helpful …

   - Impose "default cost" C on citizens
     - x, i.e. GDP, declines as banking sector goes into tailspin
   - History: Bank of England
   - But government has to
     - Pay in addition to bail out banking sector
     - Banking sector kills real sector, gov. debt crowds out real loans

inconsistent

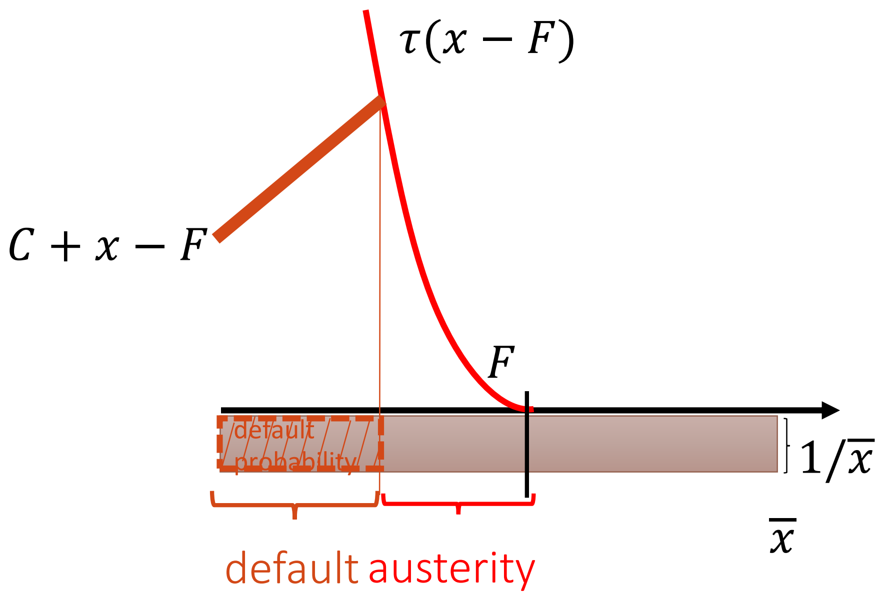
2. Provide insurance against
   - Rollover risk
   - Solvency risk

   only achievable if banks have sufficient loss absorption capacity

   → financial dominance rules this out

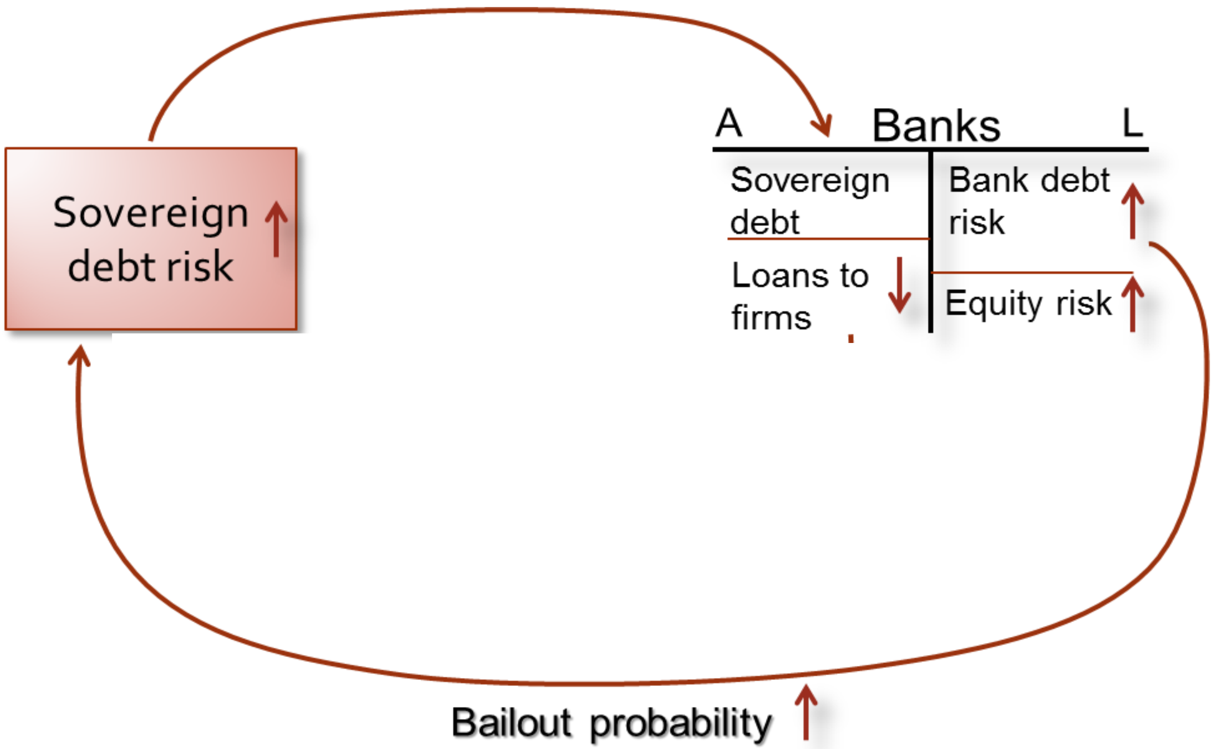
“Straight Jacket” Commitment

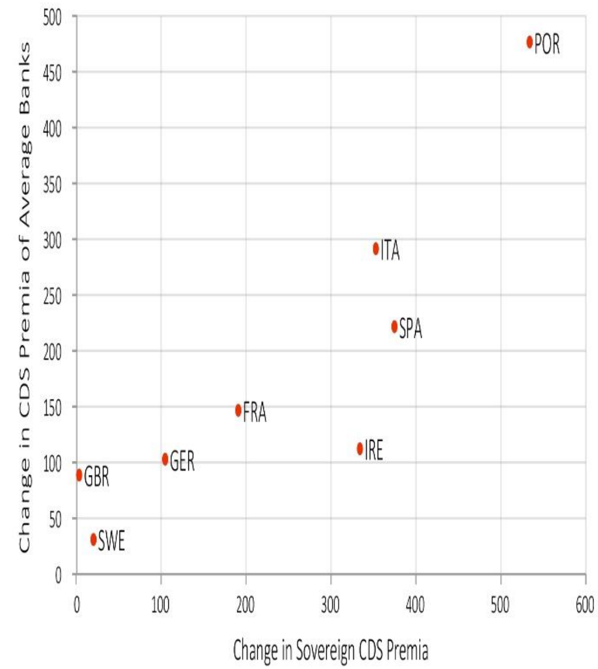
- Default if austerity costs + repayment exceed $C + x$
  - Default if $\tau(x - F) + F > C + x$



Diabolic Loop

- Trigger: fiscal or financial

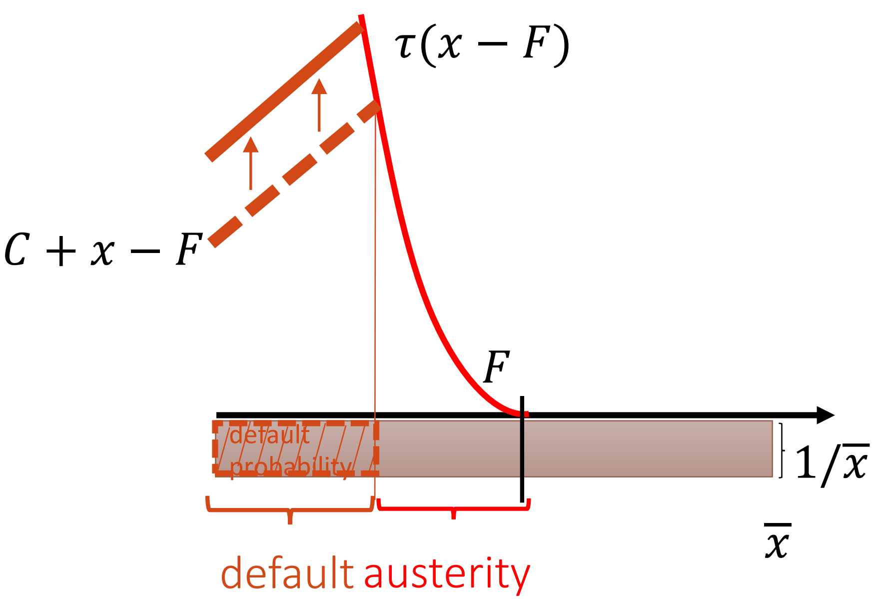




- Financial dominance increases commitment costs!

“Bank Hostage” Commitment

- Default if austerity costs + repayment exceed $C + x$
  - Default if $\tau(x - F) + F > C + x$
- Financial dominance increase commitment costs C



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- Default if austerity costs + repayment exceed $C + x$
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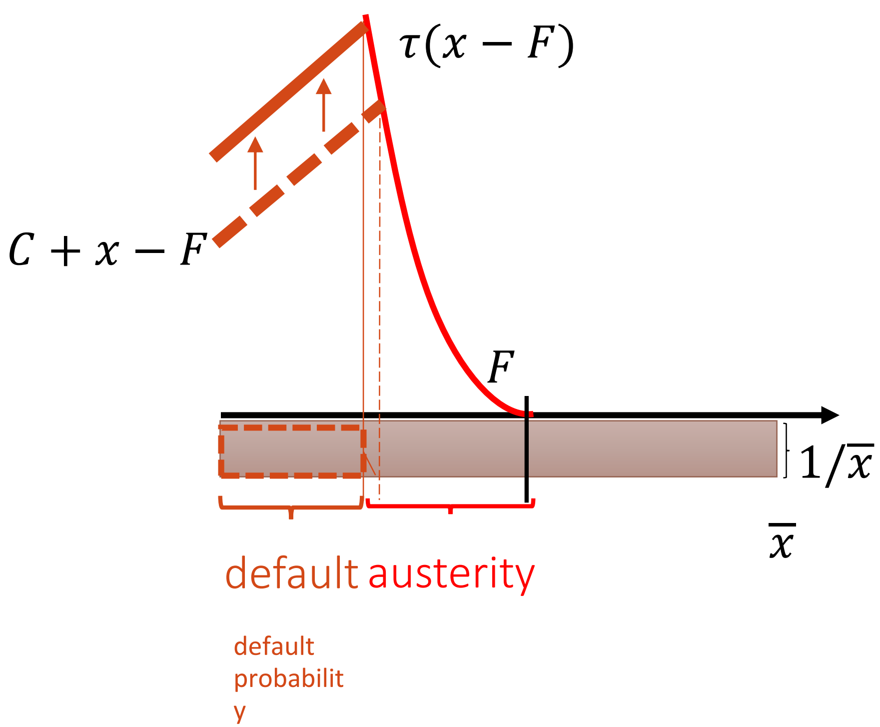
- Increase commitment costs C

➡ Lower default probability



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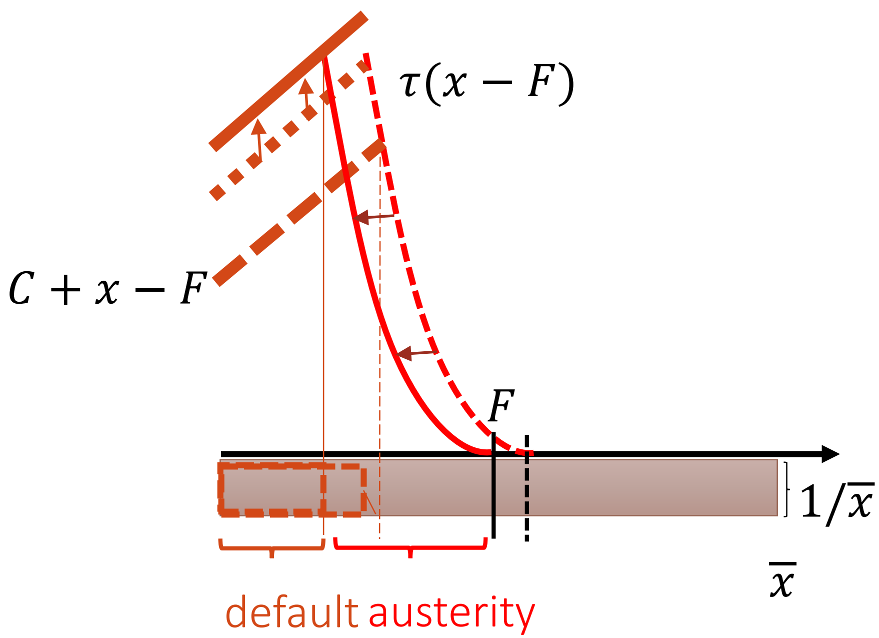

➡ Lower default probability

➡ Lower verification cost

➡ $\frac{\text{Lower face value } F}{\text{interest rate}}$

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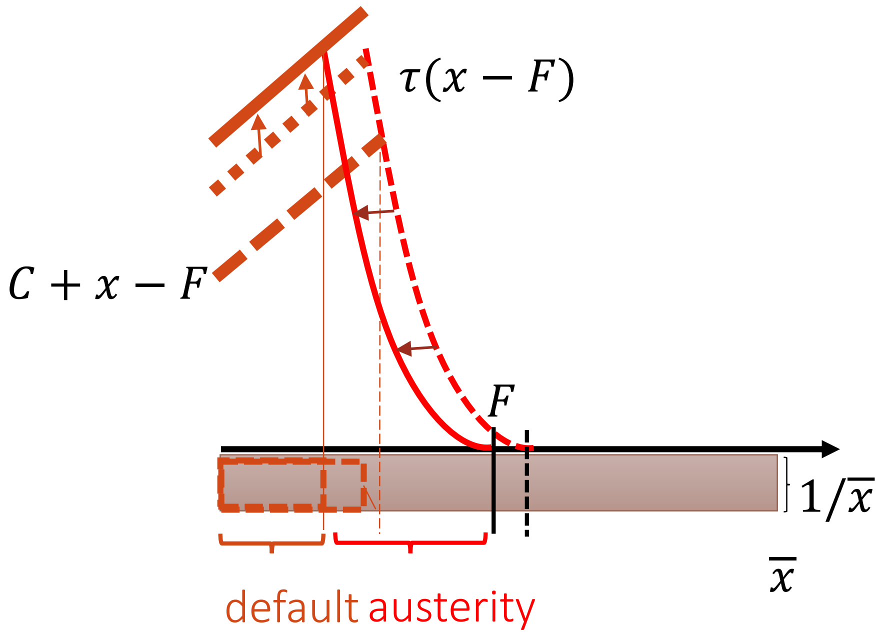

➡ Lower default probability

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➡ Lower face value F
interest rate

Again

➡ Lower default probability

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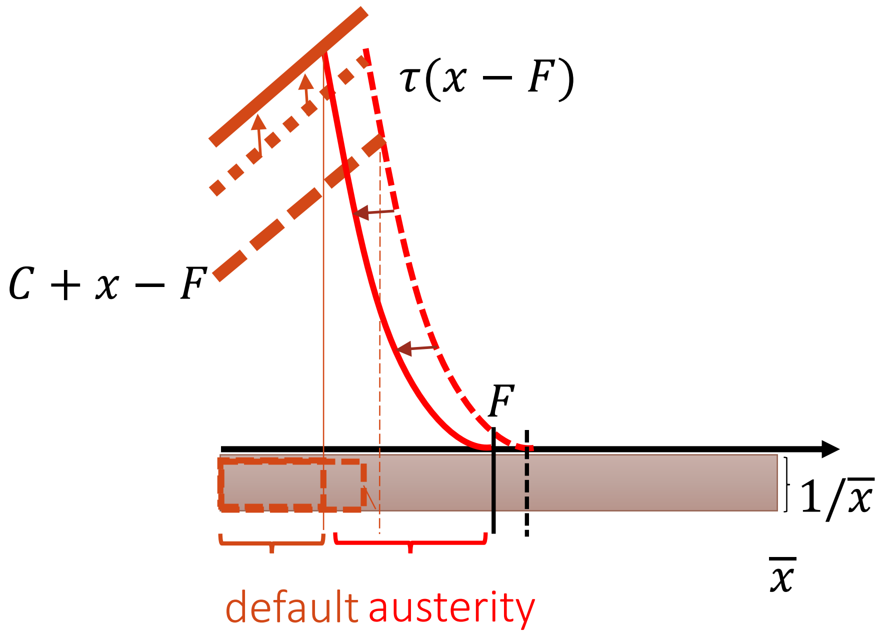

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interest rate

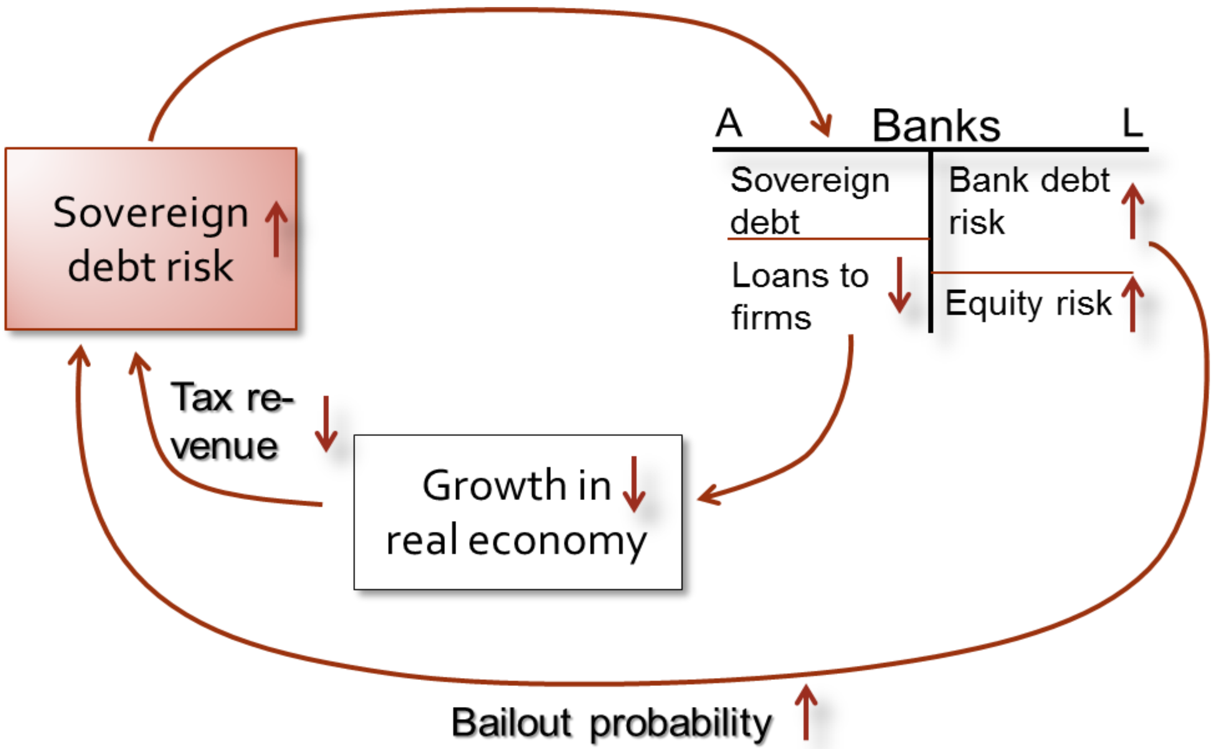
Again

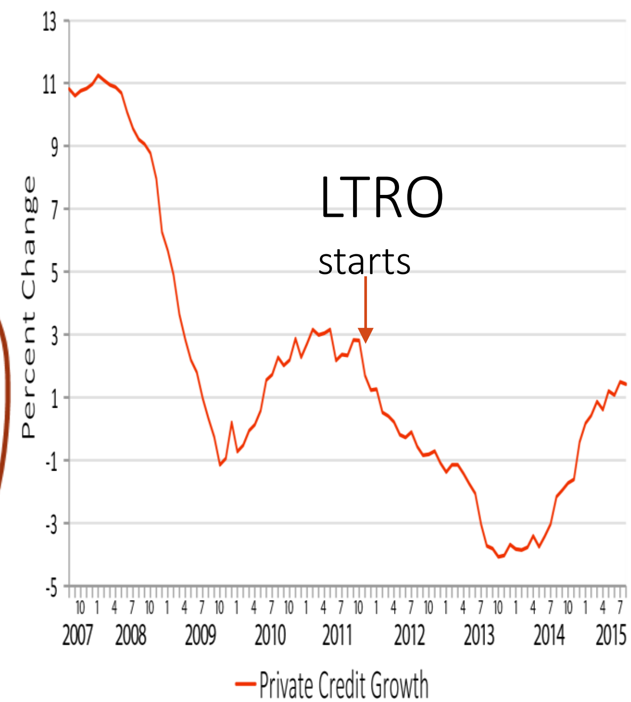
➡ Lower default probability

- Default prob ↓ , but if: higher cost C & higher austerity τ
- “doubling up strategy”

Diabolic Loop 2 overturns argument!

- Less lending to real economy

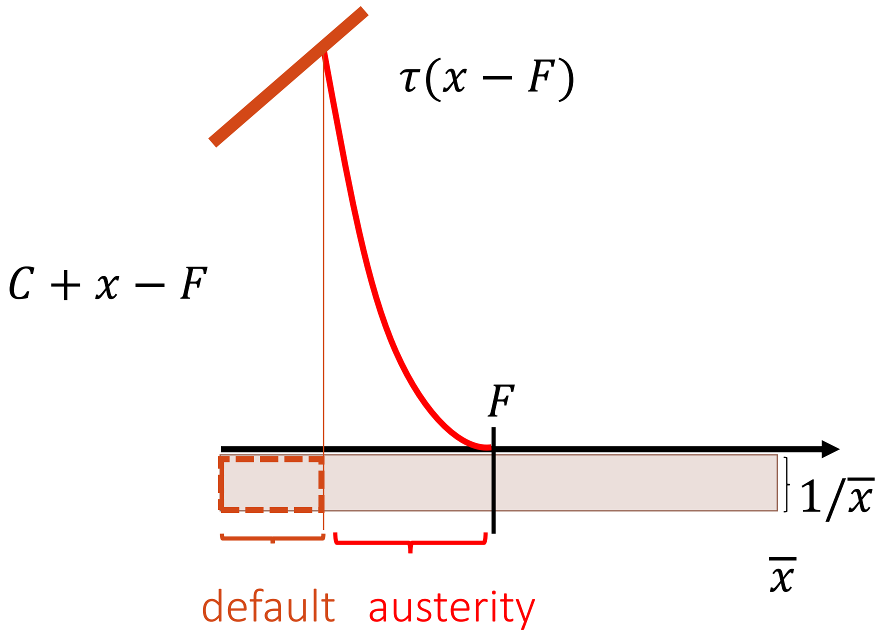




- GDP and tax revenue, x, declines

Diabolic Loop 2

- Default if austerity costs + repayment exceed $C + x$
  - Default if $\tau(x - F) + F > C + x$
- Increase commitment costs C



➡ Lowers GDP, x

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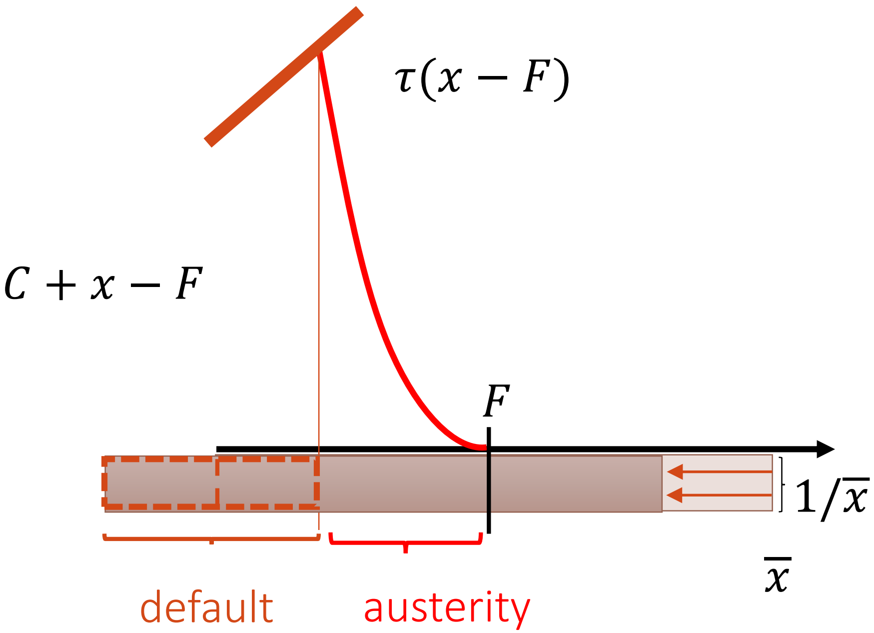

➡ Lowers GDP, x

➡ Default probability rises

Diabolic Loop 2

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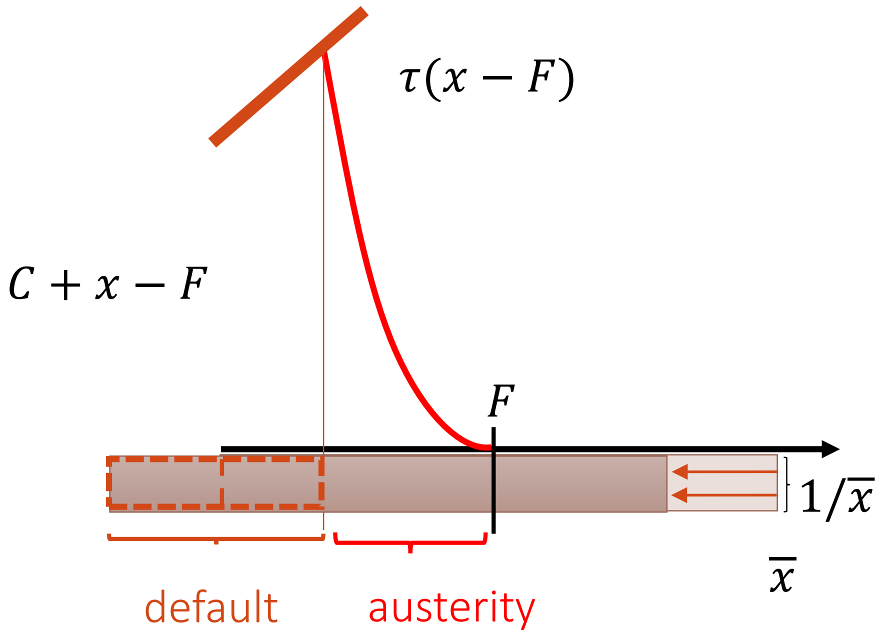

➡ Lowers GDP, x
➡ Default probability rises

➡ Verification costs rise
➡ Face value F rises
interest rate rises

Diabolic Loop 2

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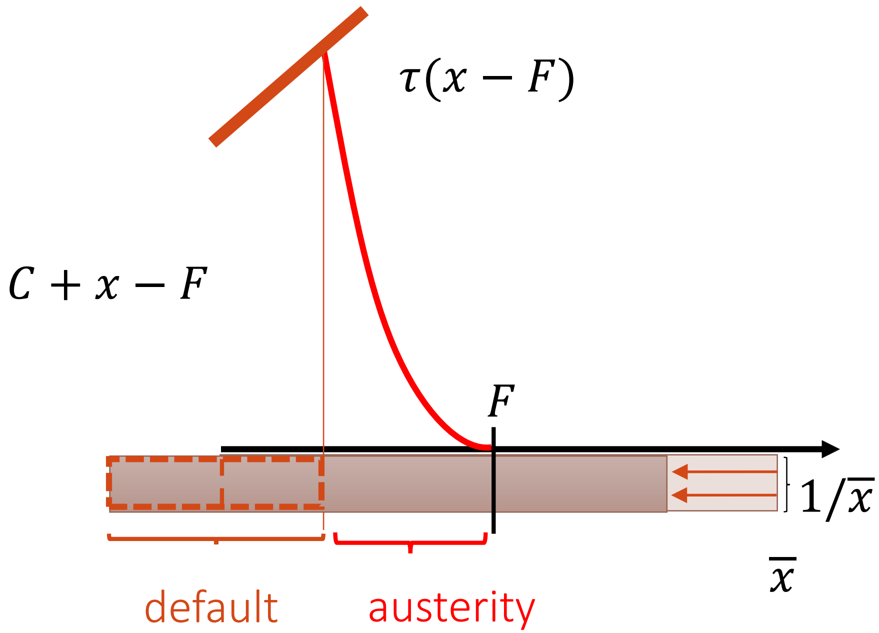

- ➡ Lowers GDP, x
- ➡ Default probability rises
- ➡ Verification costs rise
- ➡ Face value F rises
  interest rate rises

- 2nd "GDP Diabolic Loop" can undo all the benefits
  - Bank hostage is not even a doubling up strategy

“Bank Hostage” Commitment

- Extremely high commitment cost C due financial dominance
  - “straight jacket commitment”

- Reduces illiquidity problems
- Lower default prob., lower interest rate, but if failure then much worse “doubling up strategy”

- &… but 2nd Diabolic Loop goes in opposite direction

- No safety valve

… but can other investors help?

- "Secondary markets dilemma"
  - Selling government debt to foreign investors
  - Selling government debt to voters

  Before crisis gov.-debt always travels back to weak banks!

- Only way out: avoid financial dominance
  - MacroPru to ensure equity cushion of banks is large enough

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   → financial dominance is helpful …

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   - But government has to
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2. Provide insurance against
   - Rollover risk
   - Solvency risk

   only achievable if banks have sufficient loss absorption capacity

   → financial dominance rules this out

   - Sensible MacroPru regulation needed

Overview

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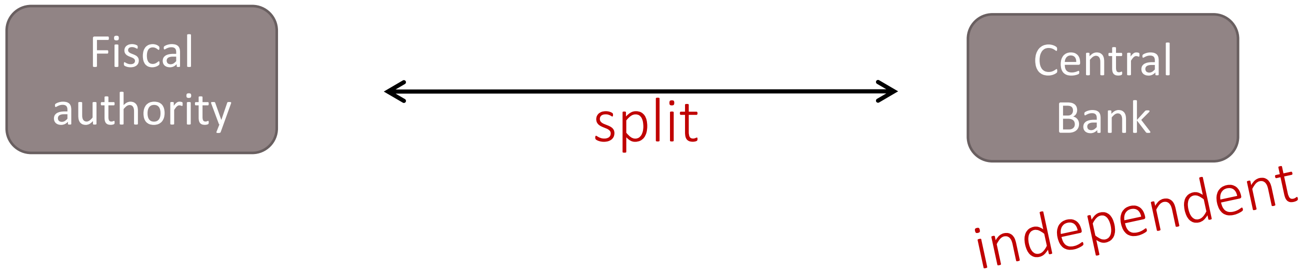
Interaction with Fiscal & Monetary Dominance

- Overcommitment problem

1. Split government in different authorities
2. Macro Pru & banks/investors share risk
   vs. straight jacket commitment
   - Strict rules for financial sector
   - Other commitments (fiscal risk sharing)
3. Both safe asset & contingent debt is needed
   - “squaring a circle”?

Institutional design: split authorities



0/1-Dominance vs. battle: “dynamic game of chicken”

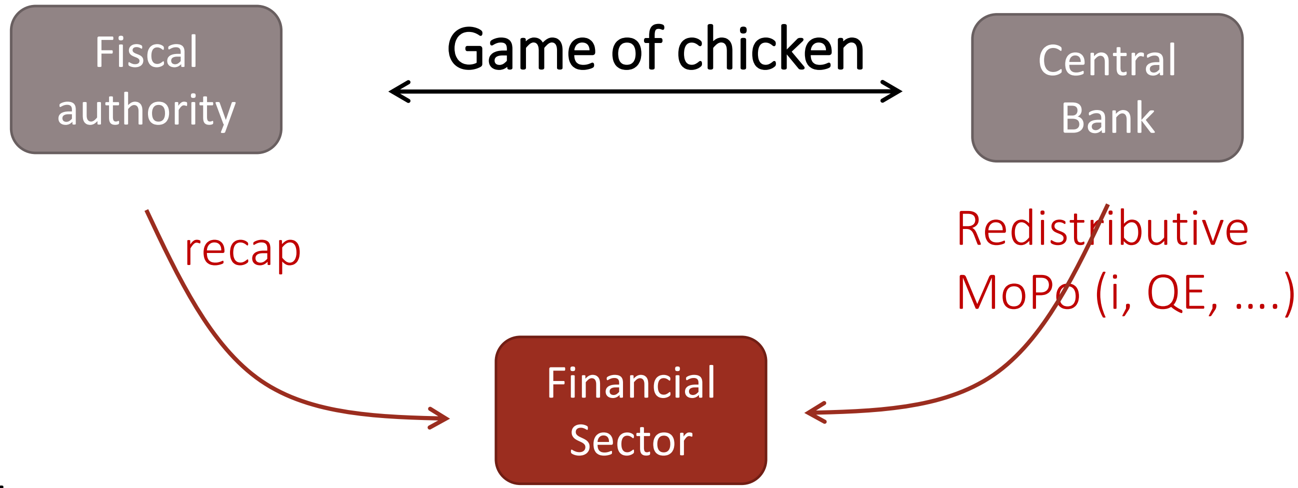
Institutional design: split authorities

Fiscal authority $\longleftrightarrow$ Central Bank

0/1-Dominance vs. battle: “dynamic game of chicken”

- Monetary dominance
  - Fiscal authority is forced to adjust budget deficits
- Fiscal dominance
  - Inability or unwillingness of fiscal authorities to control long-run expenditure/GDP ratio
  - Limits monetary authority to raise interest rates

Institutional Design: Financial Dominance



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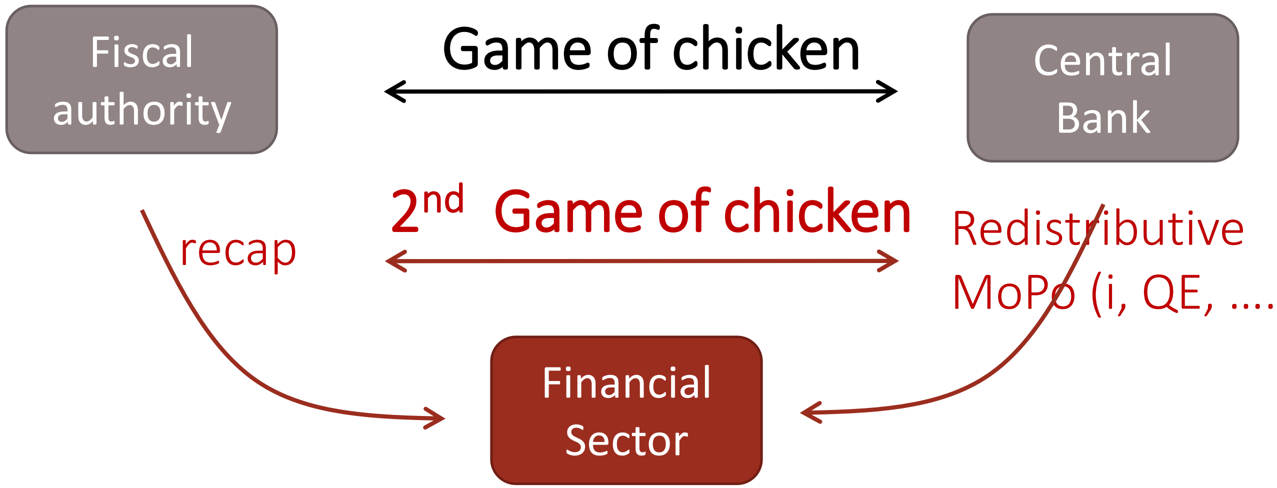
  - Inability or unwillingness of financial sector to absorb losses
    - Refusal to issue no equity – pay out dividends in early phase of crisis

Institutional Design: 2nd Game of Chicken



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European Context

- Straightjacket commitment
  - No inflation valve
  - No exchange rate valve
  - Cross-border Flight to safety capital flows

- How can government debt be both?
  - Safe asset (without default)
    - To smooth out temporary liquidity shortage, allow for Keynesian stimulus
  - Insurance instrument
    - To risk share extreme crisis states (Greece, …)

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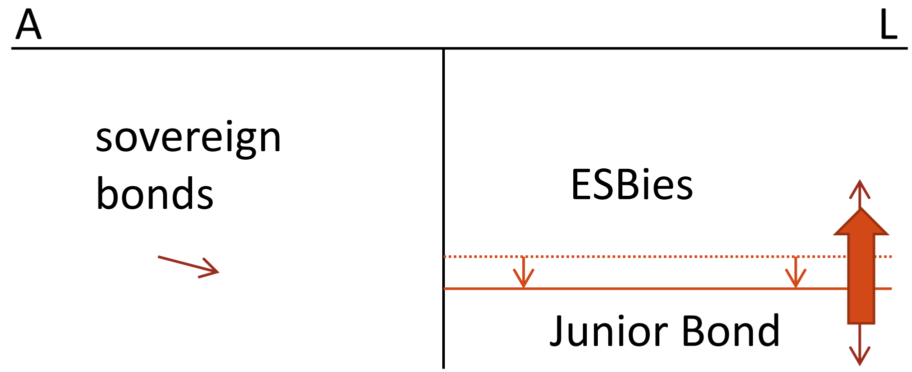
- ESBies
  - Pool
  - Split into two classes
    - Safe
    - Defaultable

A	L
sovereign bonds	ESBies
	Junior Bond

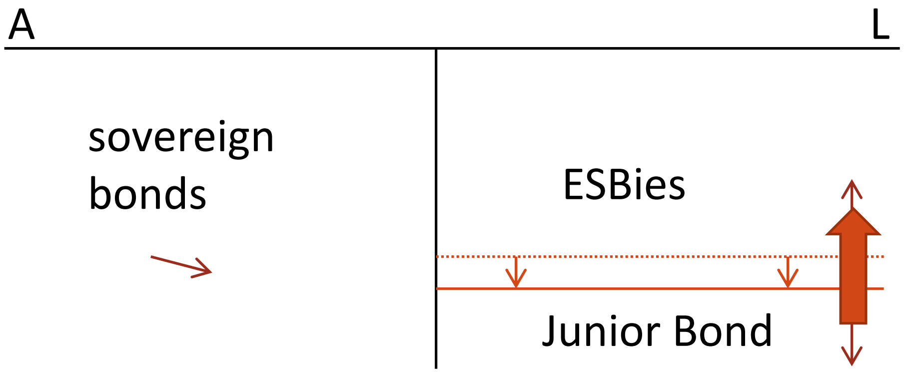
Flight to safety



Flight to safety asset is endogenous (coordination problem)

- Today: asymmetric shifts across borders
  - Value of German debt decreases
    - German CDS spread rises, but yield on bund drops (flight to quality)
  - Value of Italian/Spanish/Greek… sovereign debt declines

Flight to safety



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  - Value of German debt decreases
    - German CDS spread rises, but yield on bund drops (flight to quality)
  - Value of Italian/Spanish/Greek… sovereign debt declines
- With ESBies: Negative co-movement across tranches
  - Value of ESBies expands – due to flight to quality
  - Value of Junior bond shrinks – due to increased risk
  - Asset side is more stable

Conclusion

1. Ex-post redistribution of losses & recap
    - To sector with higher “amplification threat”
        - Financial sector’s amplification in 4 Steps
        - Amplifying amplification through “Financial Dominance”
2. Ex-ante risk sharing rules & contingent commitment
    - Straight jacket commitment removes safety valve
3. Government debt
    - Banks as hostage vs. as insurers
        - Over-commitment due to financial dominance
        - Doubling up strategy & diabolic loop
    - Role of other investors: “Secondary market dilemma”
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