



Financial Dominance

Paolo Baffi Lecture 2015

by

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Princeton University

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

Temporary (Liquidity)

Financial
sector

HH
sector

Nominal
Savers
“financial
repression”

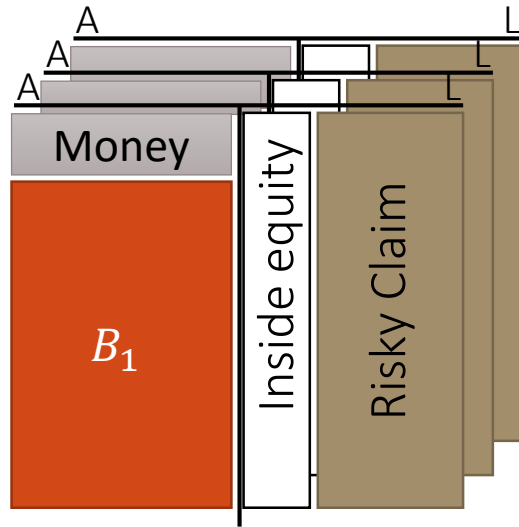
Tax payer

Amplified by
Liquidity spiral
Disinflationary
spiral

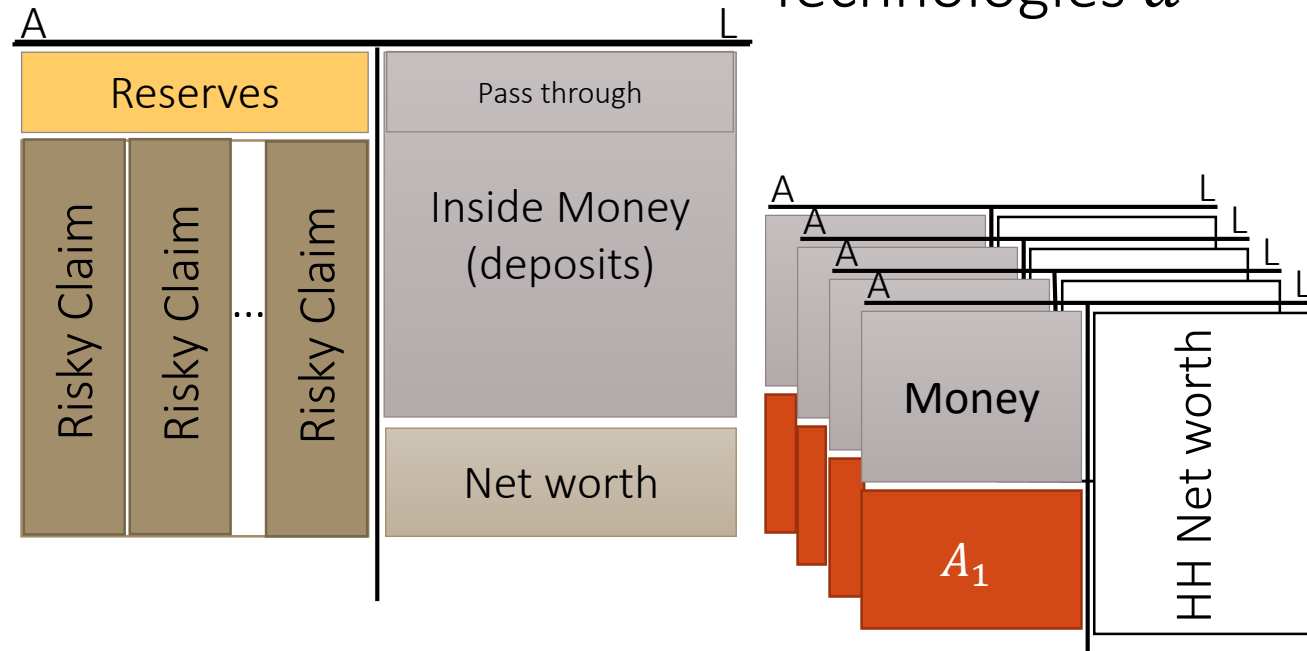
Amplified by
Keynesian
demand
(MPCs)

Amplification in Financial Sector

Technologies b



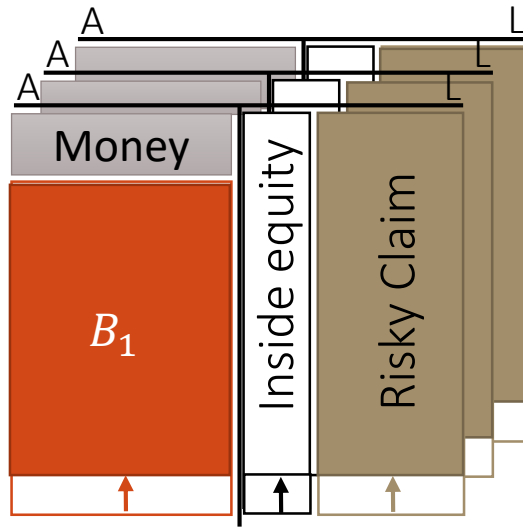
Technologies a



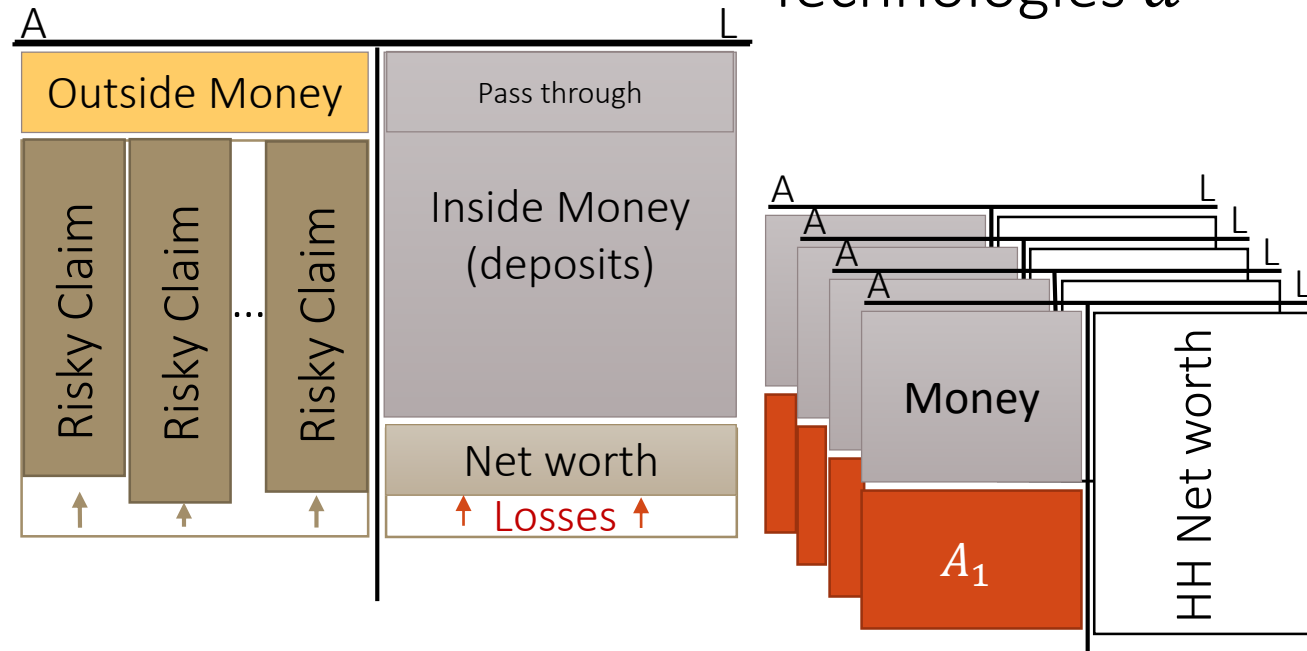
■ The I Theory of Money
• with Yuliy Sannikov

Shock impairs assets: 1st of 4 steps

Technologies b

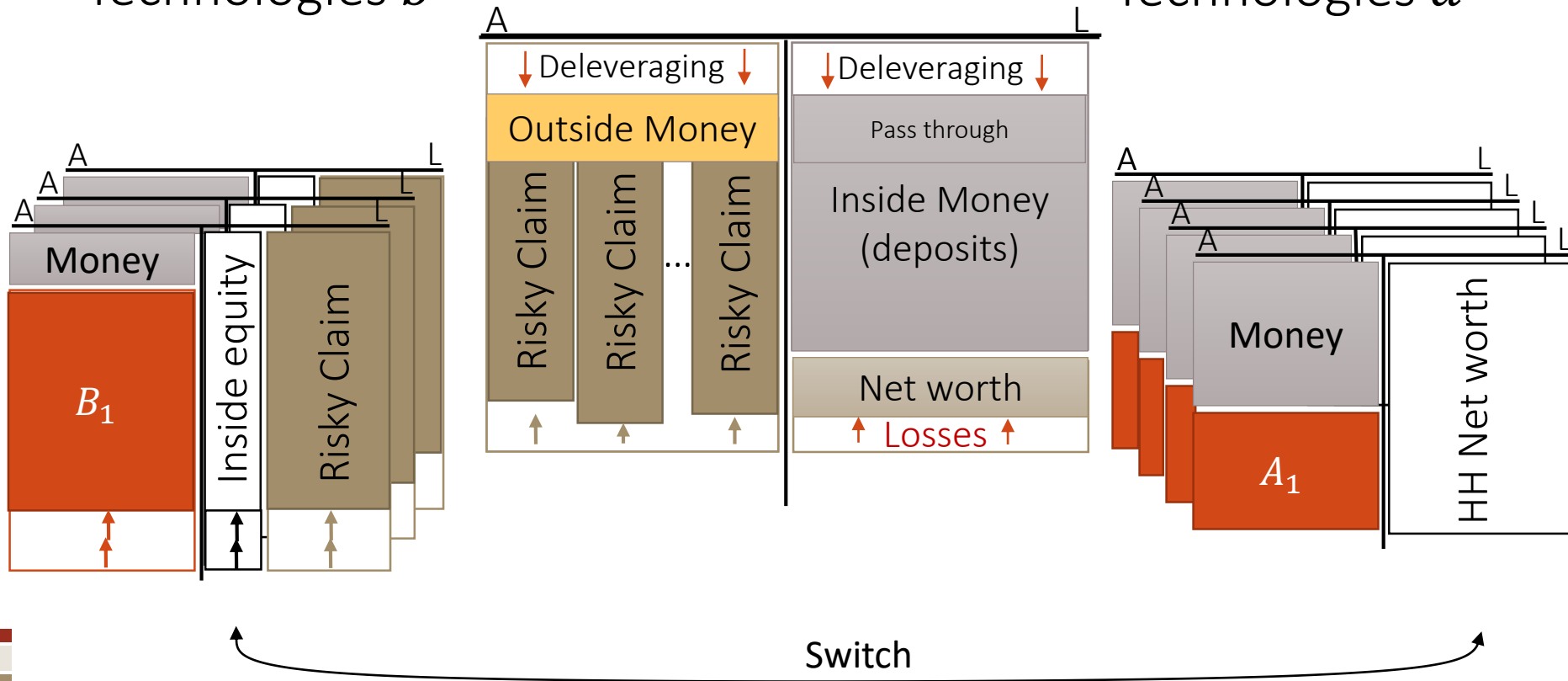


Technologies a



Brunnermeier – Financial Dominance

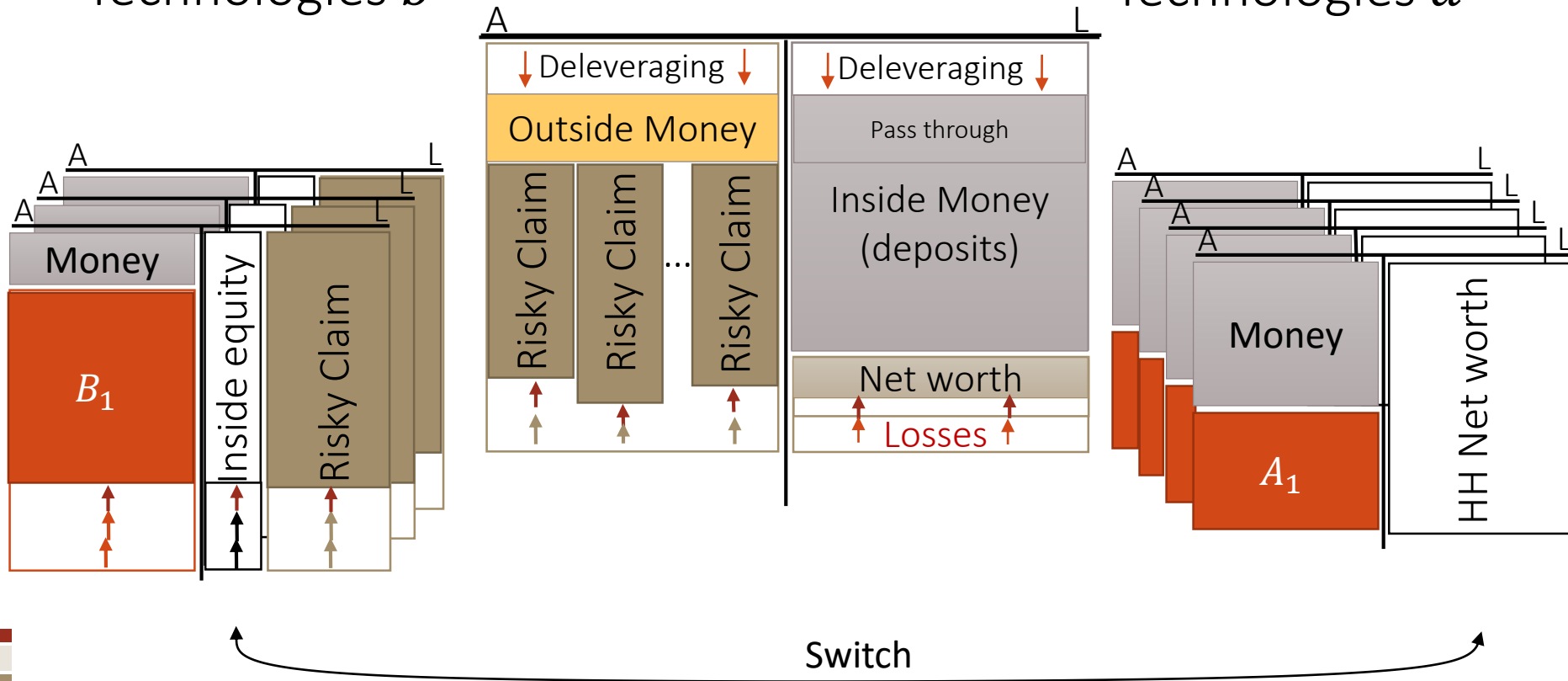
- Technologies a



Liquidity spiral: asset price drop: 3rd of 4

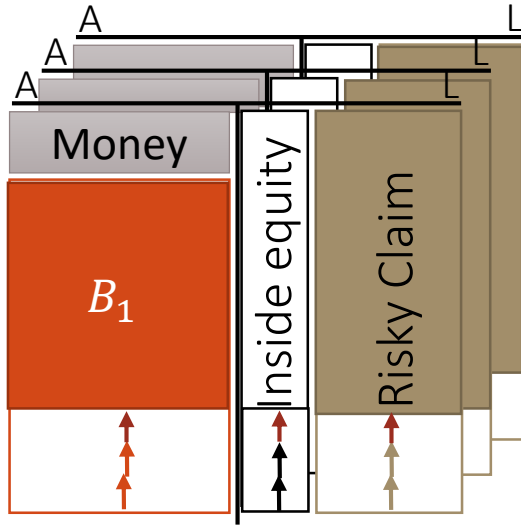
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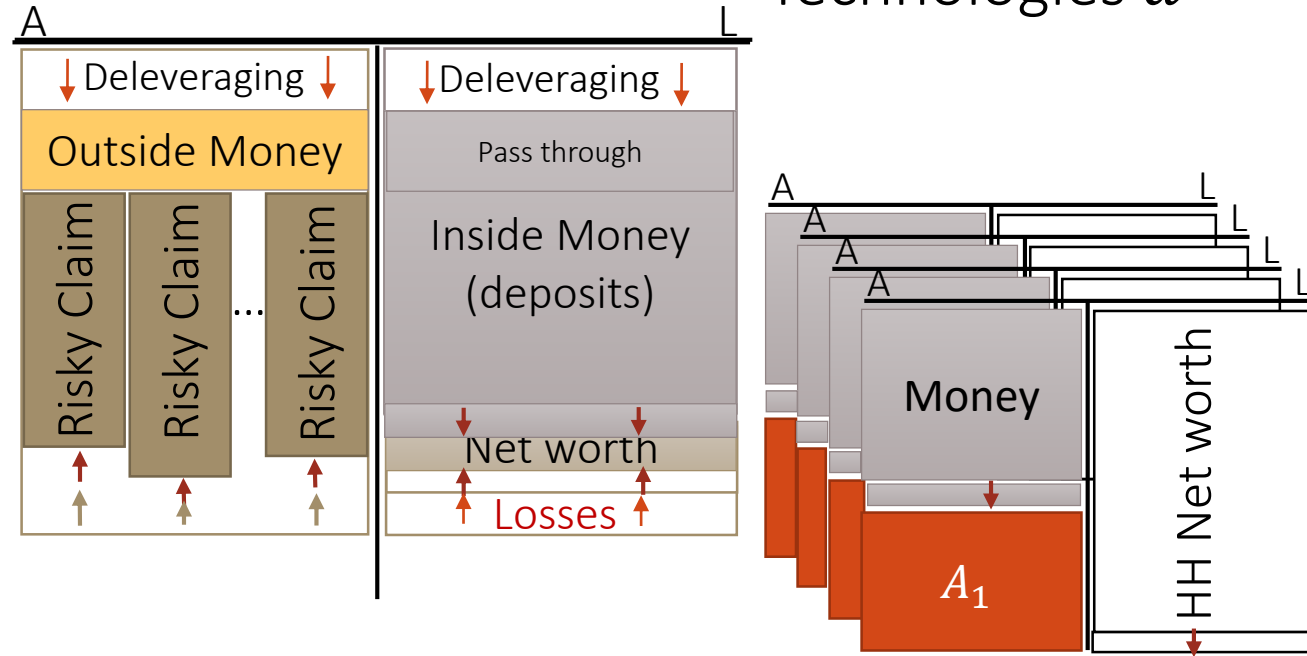


Disinflationary spiral: 4th of 4 steps

Technologies b



Technologies a



Intermediaries are hit and shrink their balance sheets inducing

- Asset side
 - Liability side
- liquidity spiral
disinflation spiral
- financial stability
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”

Bank	
A	L
Reserves	Pass through
Bonds	Inside Money (deposits)
...	Equity

- 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 income/wealth effects (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

Redistribute via many Routes

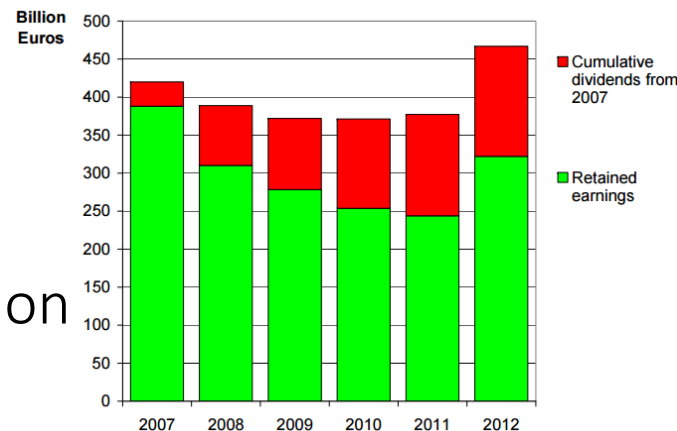
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Source: Shin

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■ Financial Dominance

- Financial sector refuses to recapitalize
will try to maximize adverse amplification
- “being weak is your strength”
 - defense mechanism against financial repression

Financial sector is more flexible
and better organized
than other sectors

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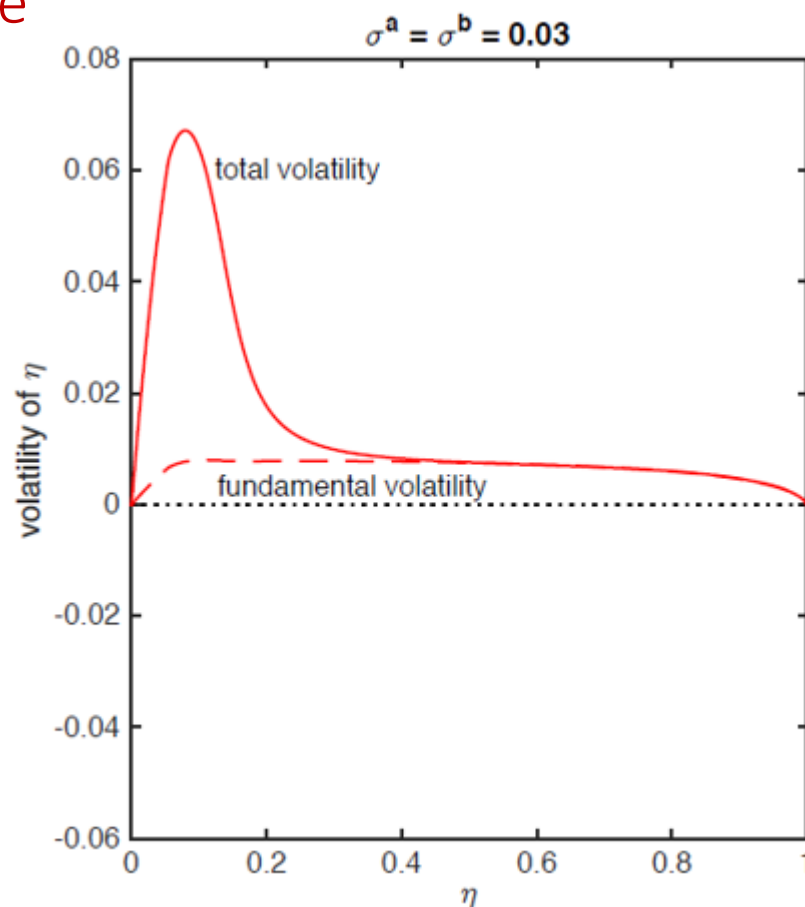
Ex-ante: Rule – Contingent Commitment

- **Ideal Rule** (e.g. monetary rule):
 - Distribute to “bottleneck” (balance sheet impaired sector)
 - Improves **risk sharing/insurance**
 - ➔ reduces amplification
/endogenous risk

Ex-ante: Rule – Contingent Commitment

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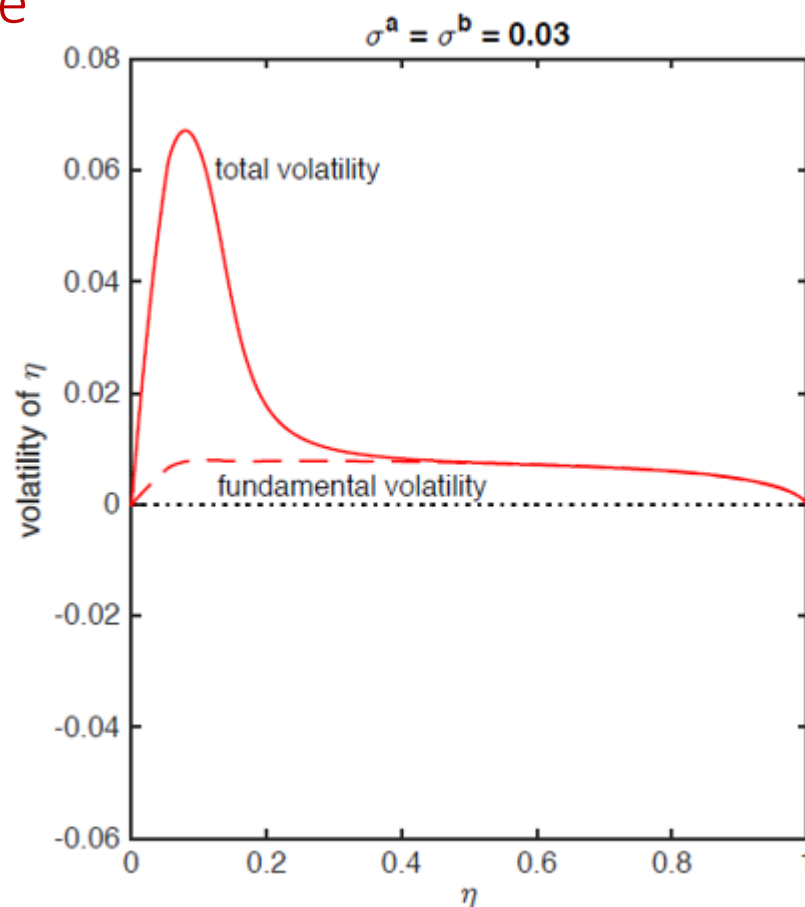
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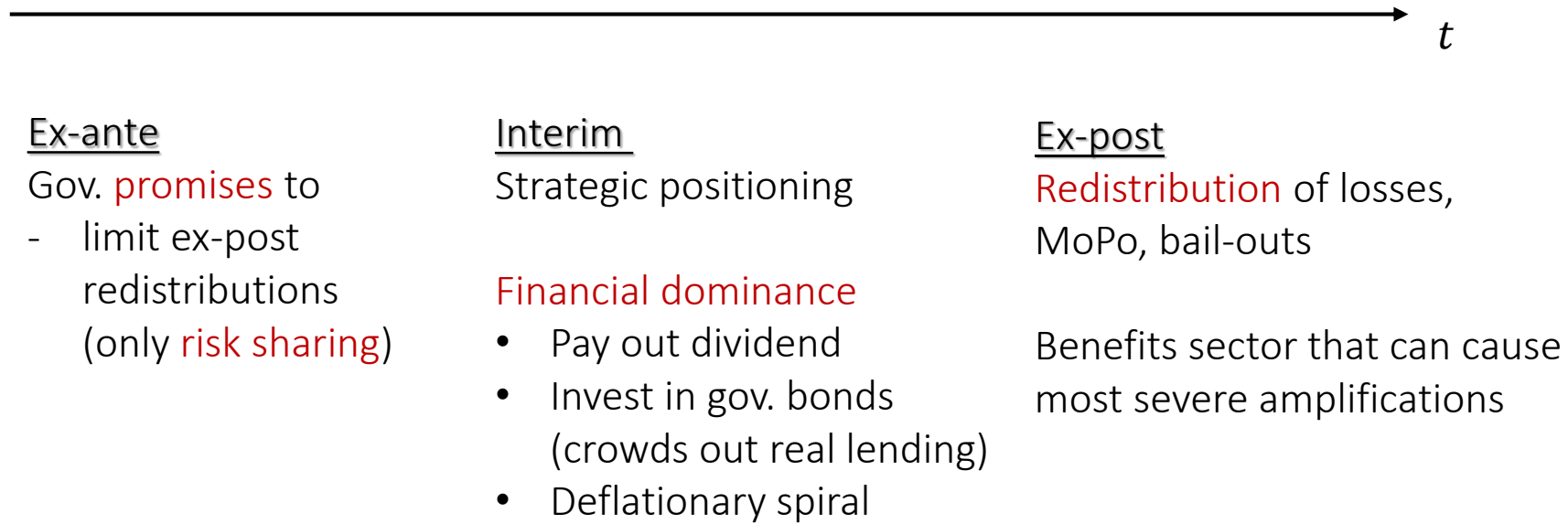
- Distribute to “bottleneck” (balance sheet impaired sector)
- Improves **risk sharing/insurance**
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■ Problems:

1. Insurance alters behavior
 - ➔ **Moral hazard**
2. **Time-inconsistent** rule
How to commit to it?



Contingent Commitment Challenge



■ Time-inconsistency

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

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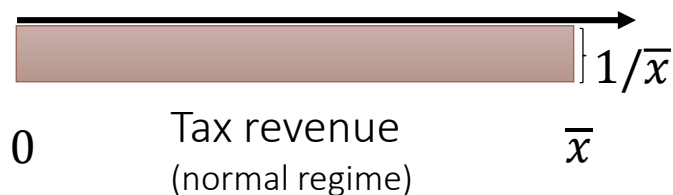
3. Government Debt & Financial Dominance

- Dual role of contingent debt
 - Liquidity: Smooth temporary shocks over time
 - Tax smoothing → Default free bond
 - Keynesian stimulus
 - Solvency: Risk sharing permanent shocks over states of nature
 - Through MoPo → default free gov. bond
 - Through default → defaultable bond
- 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”

↔ tension

Government Debt: Toy Model

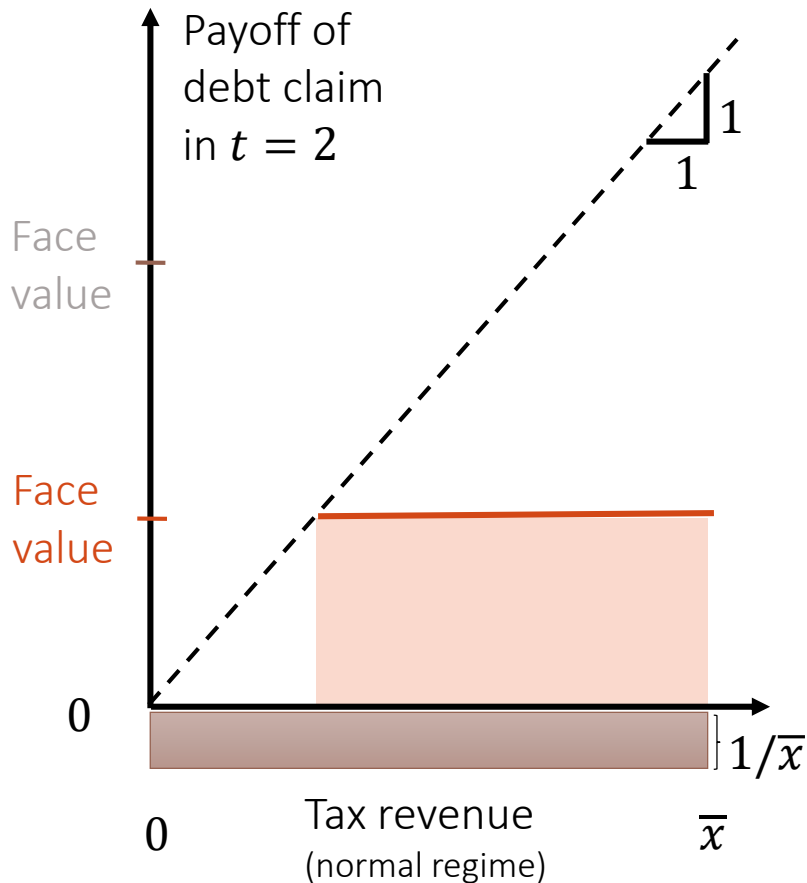
- $t = 1$ Refinance outstanding debt (from $t = 0$)
 - Determines face value of new debt
 - Default costs
- $t = 2$ uncertainty realizes -- state space
 1. x = GDP: Economic activity – income of citizens
 2. x = Primary surplus: absent austerity measures/extra taxes



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

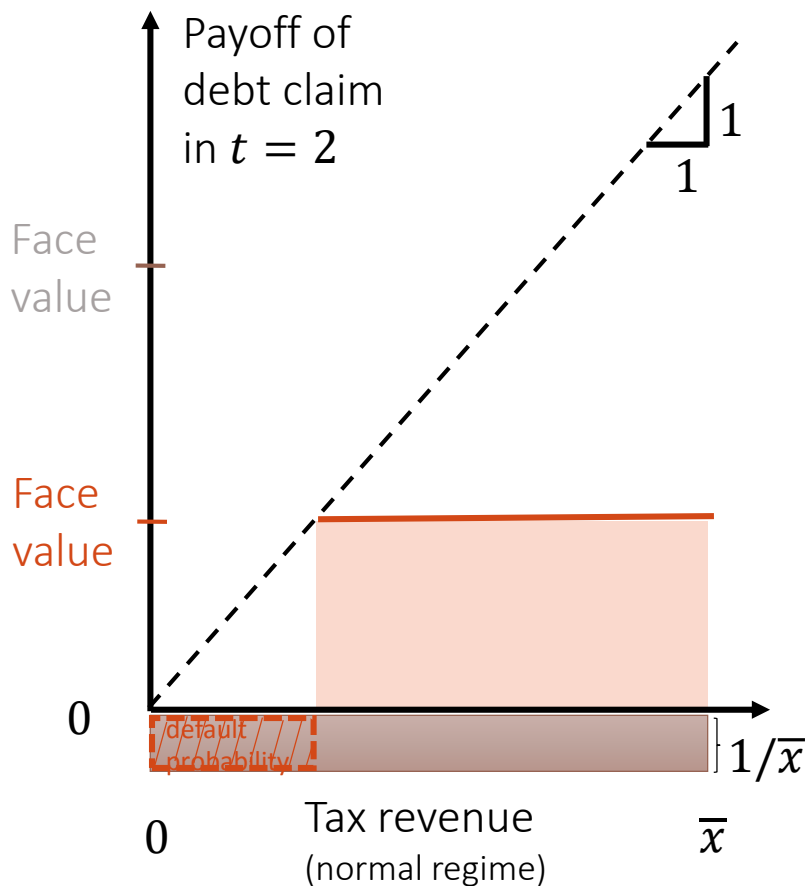
Government Debt

- Limited commitment: verification cost
- Risk-neutral investors



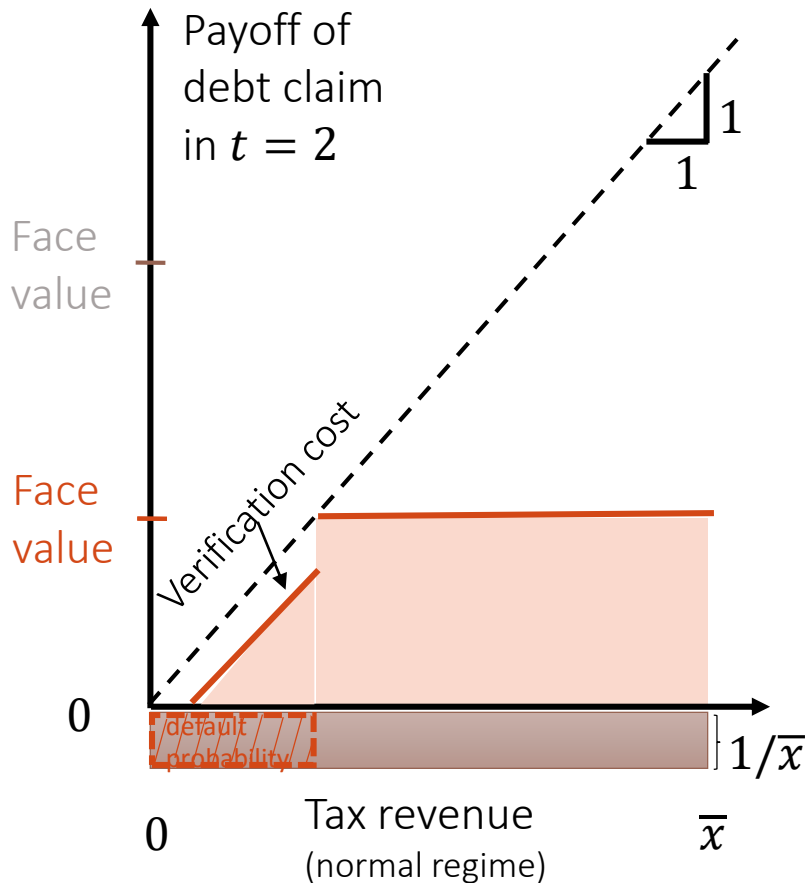
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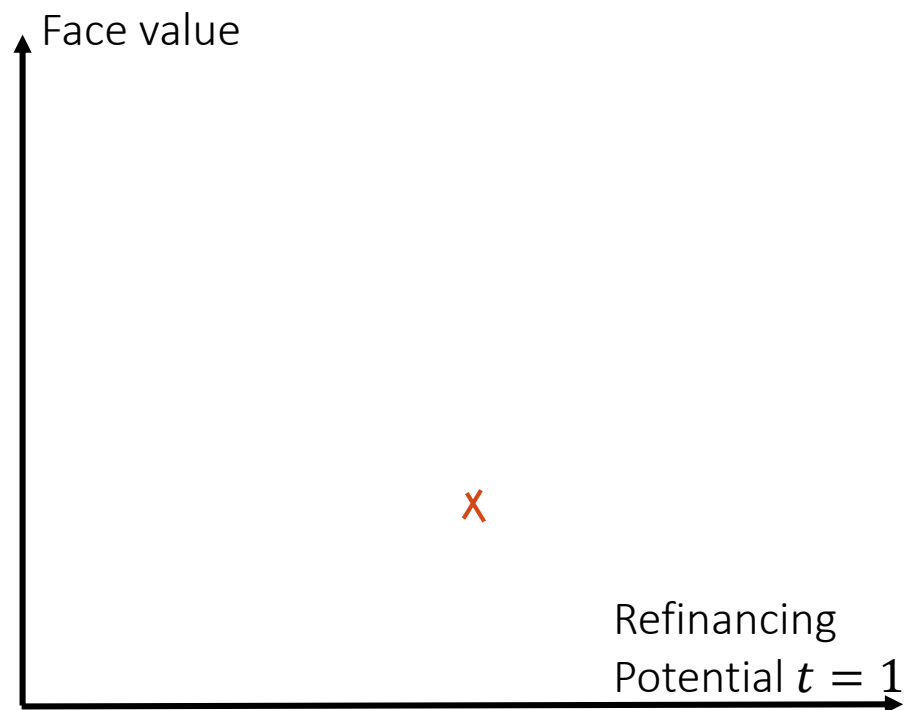
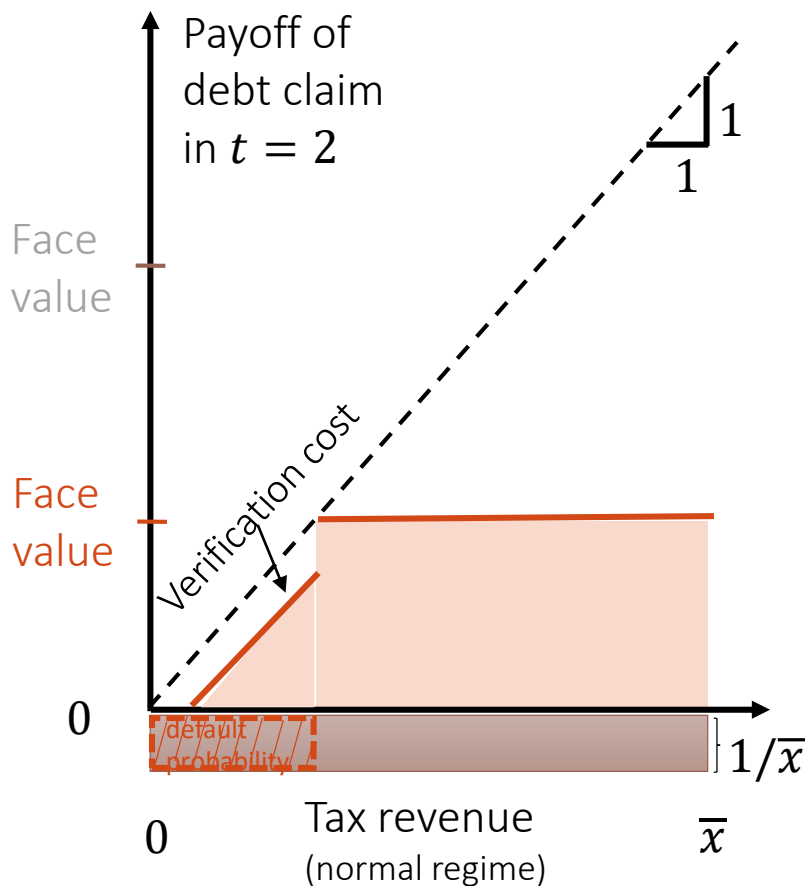
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- Contingent debt
 - Partial default in bad states

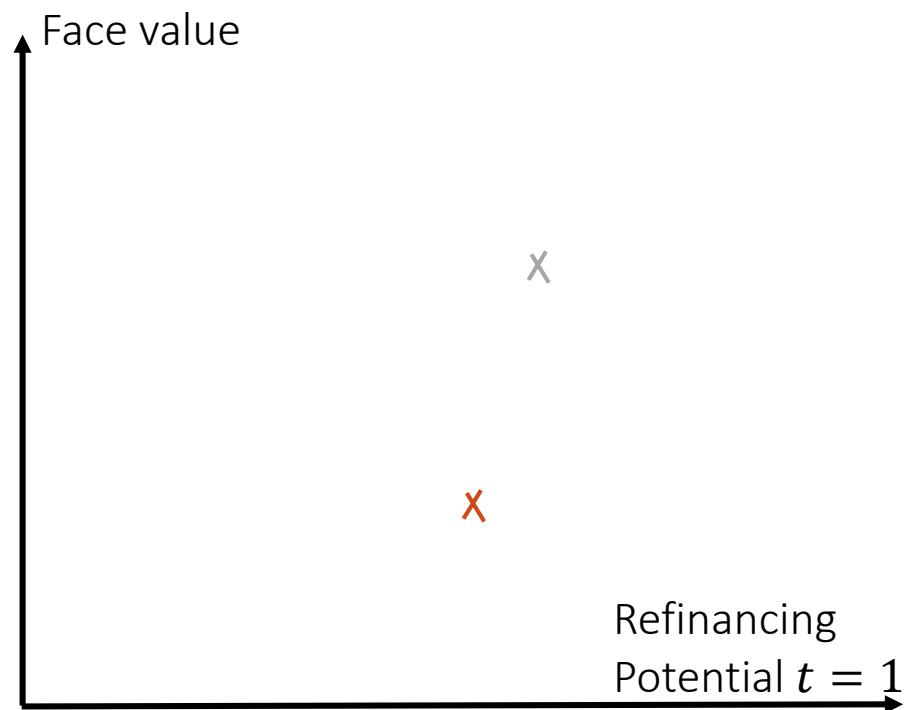
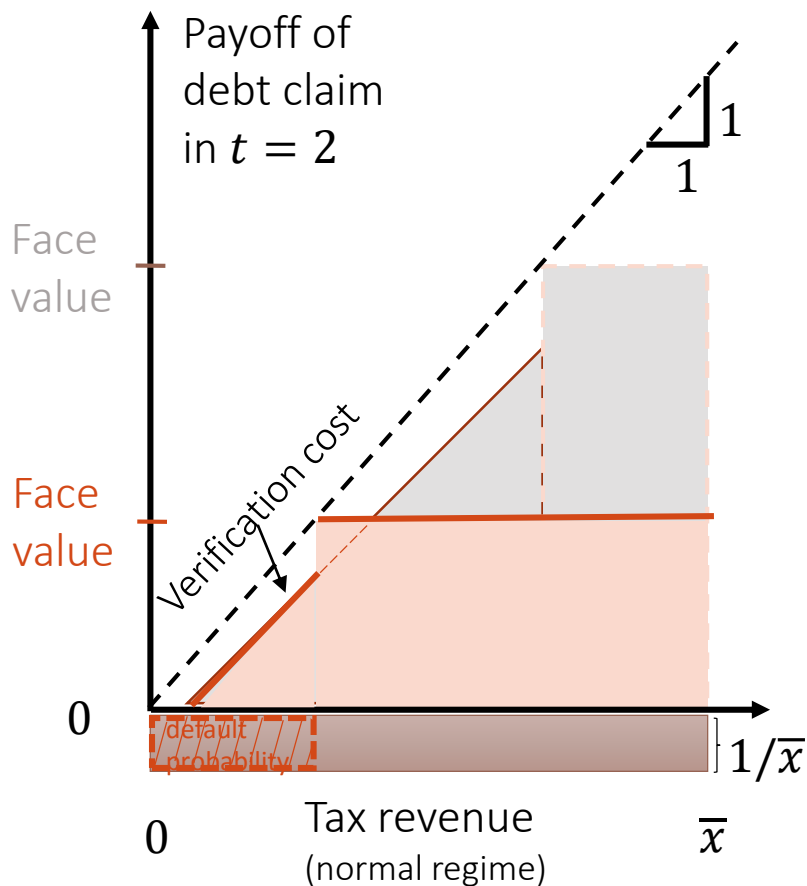
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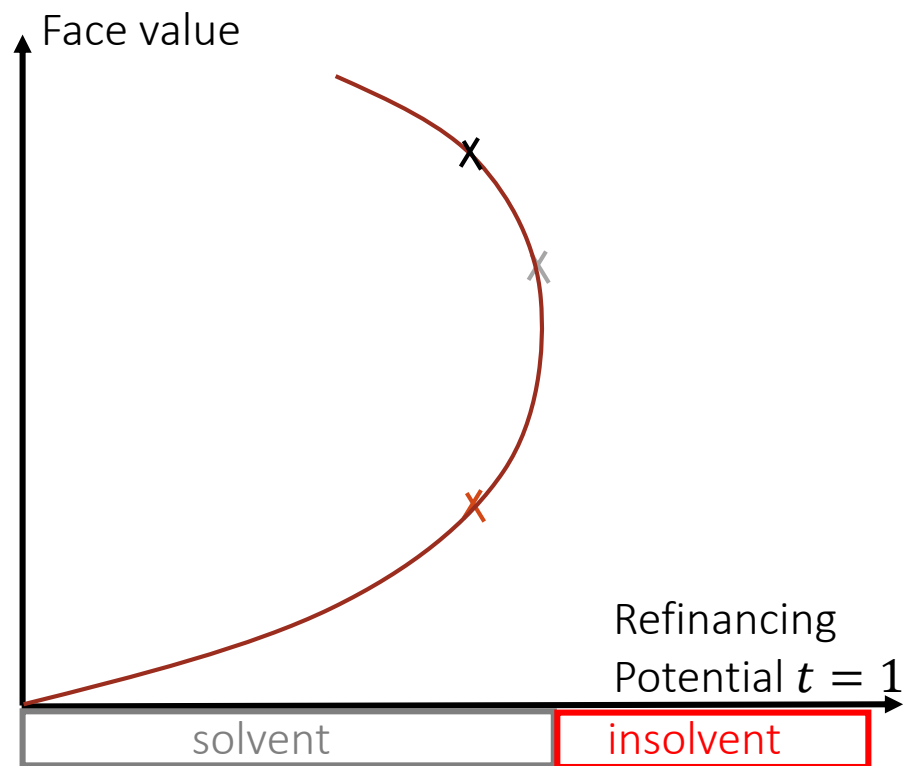
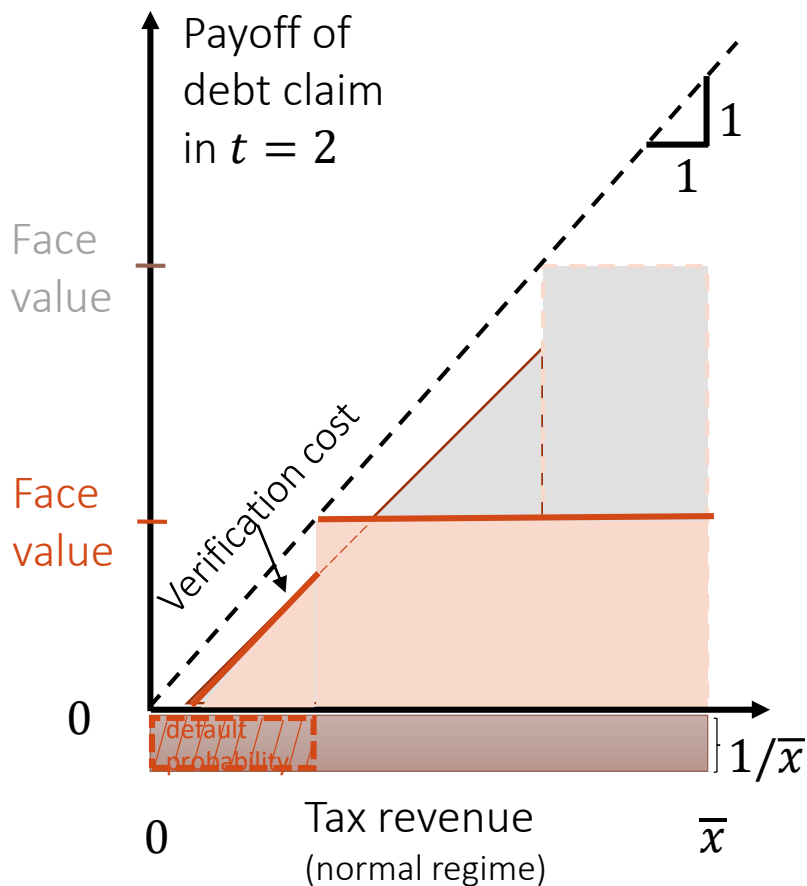
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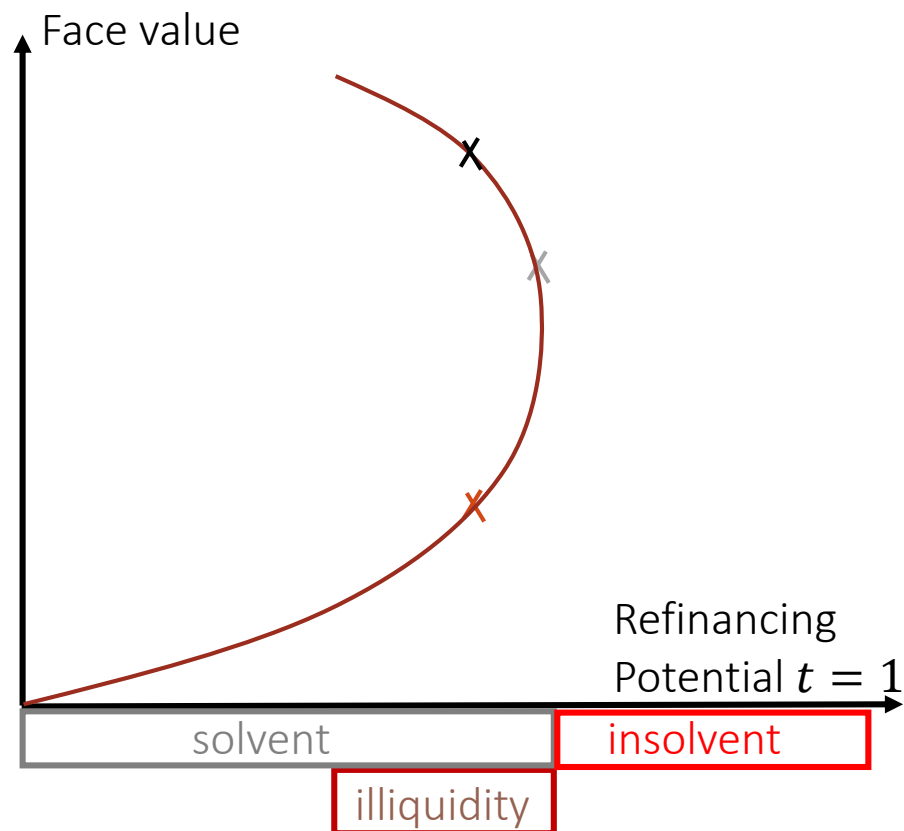
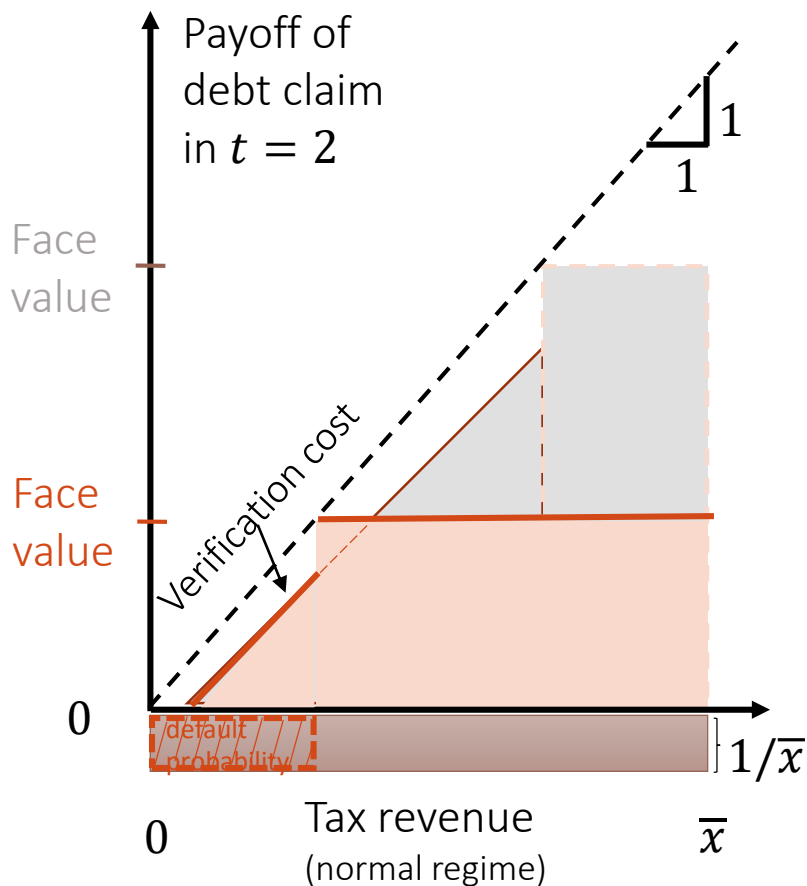
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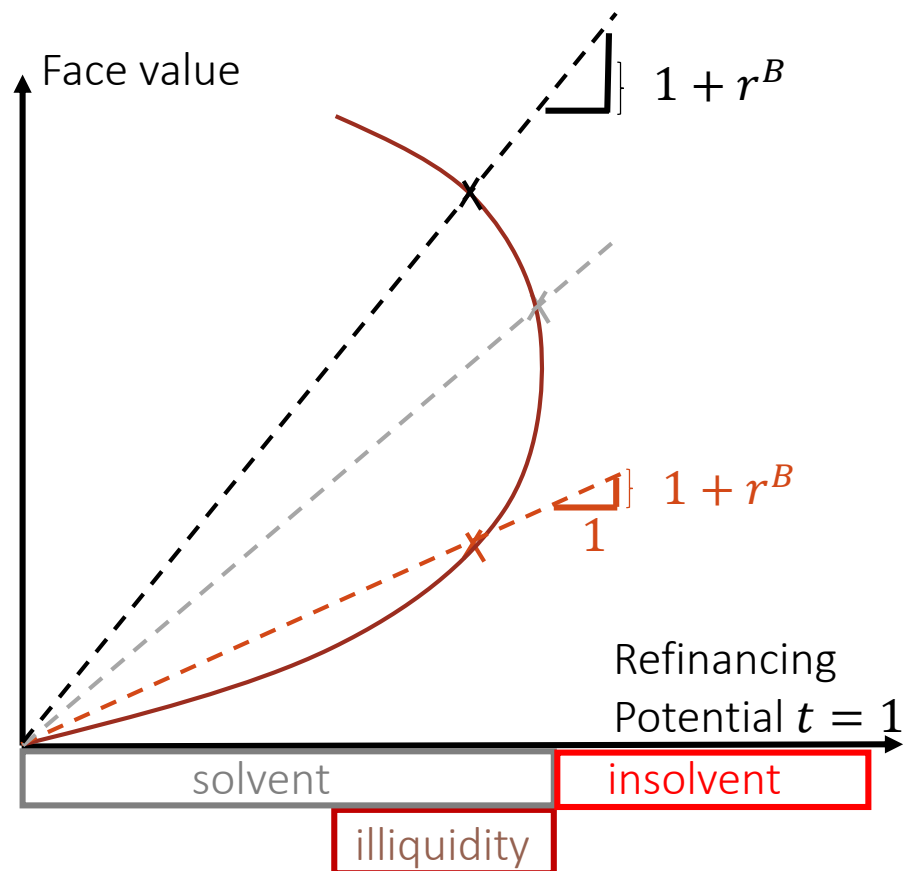
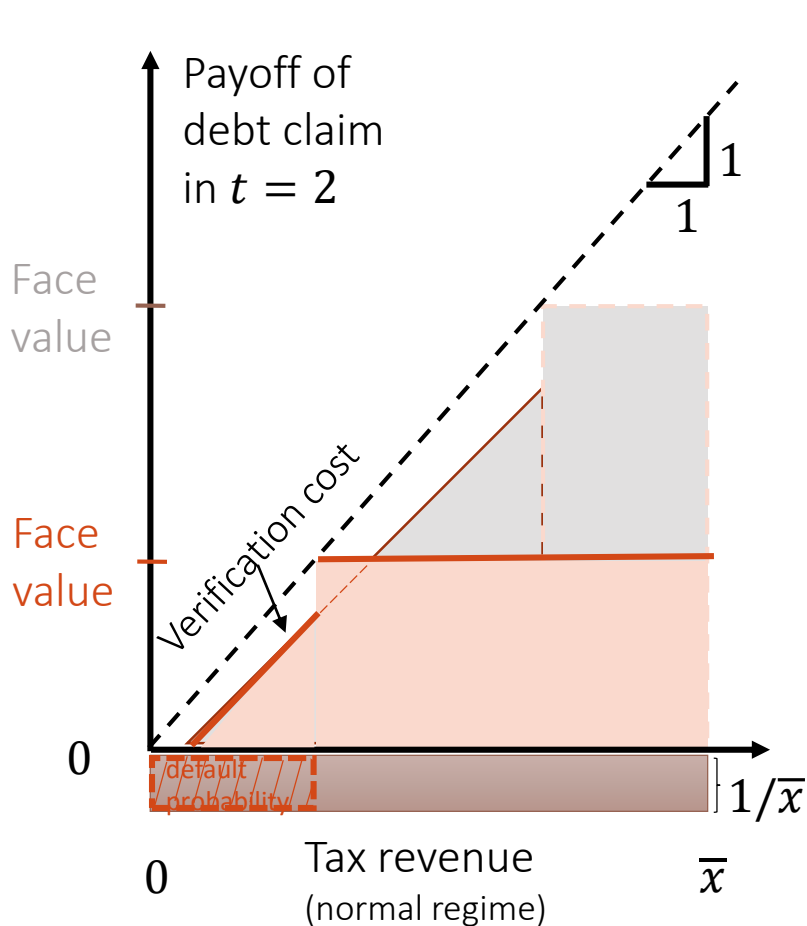
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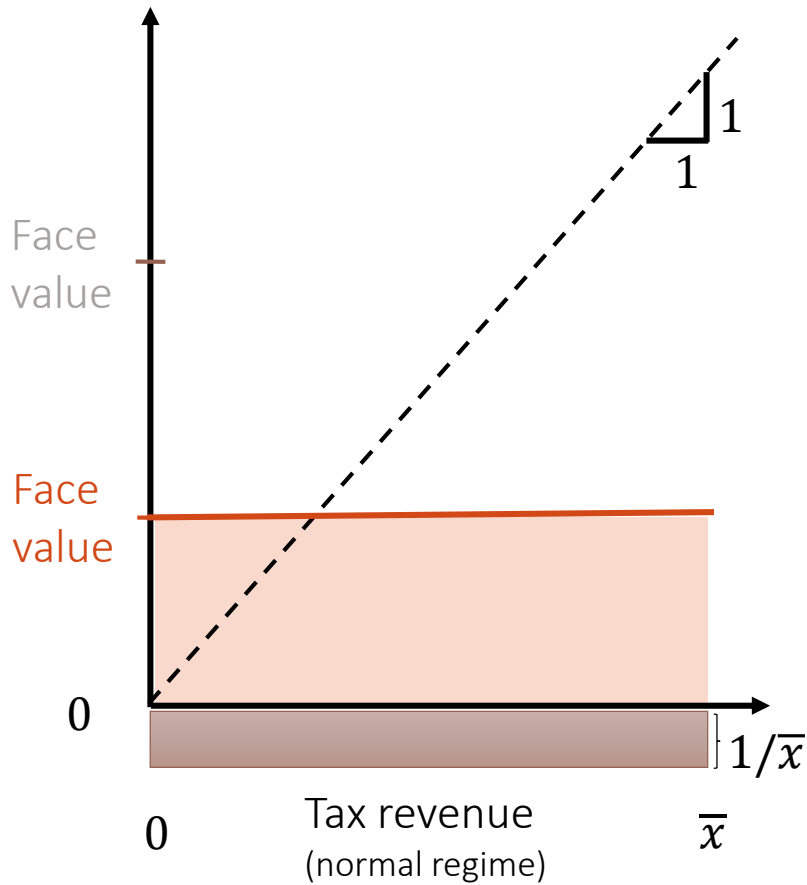


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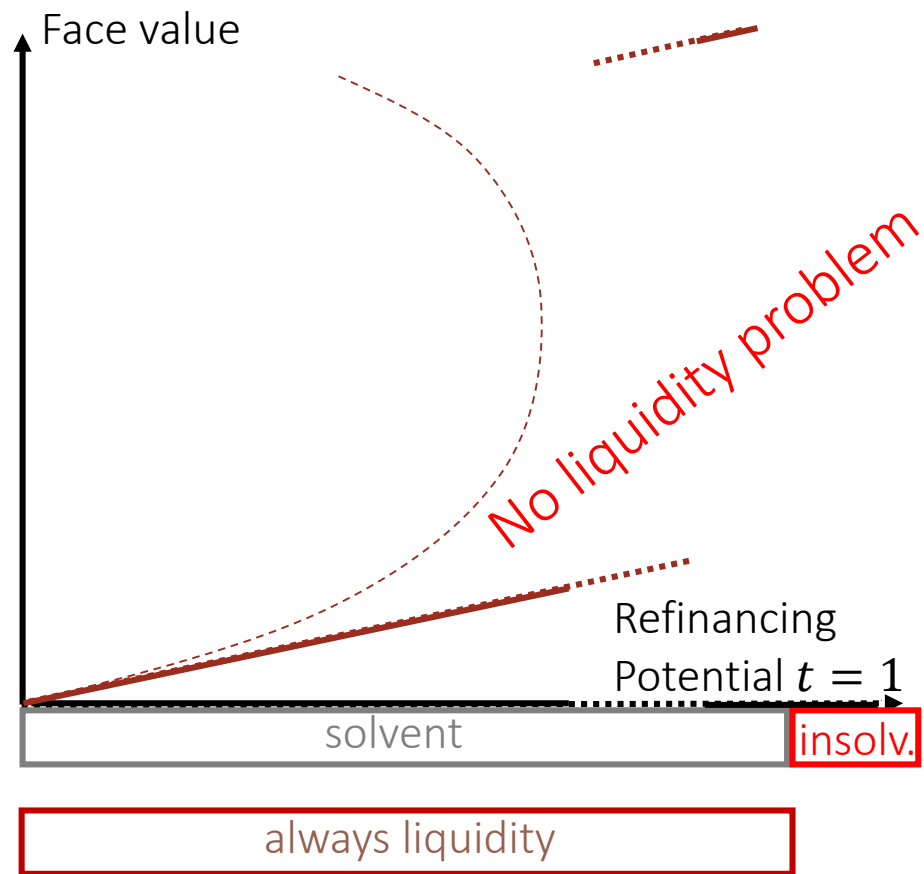
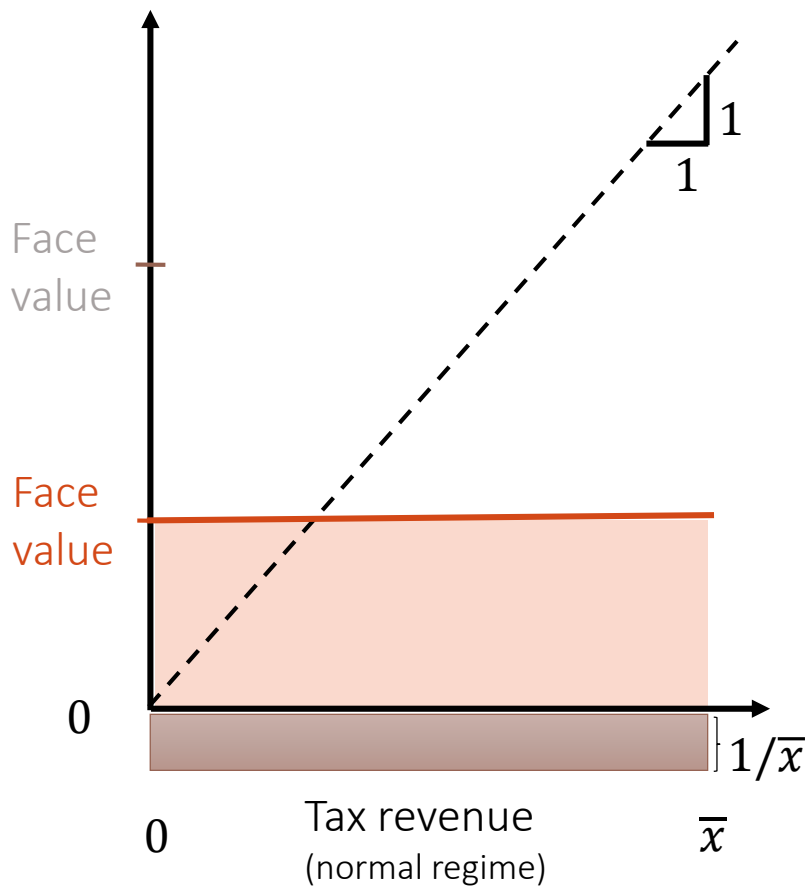
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“Straight Jacket” Commitment

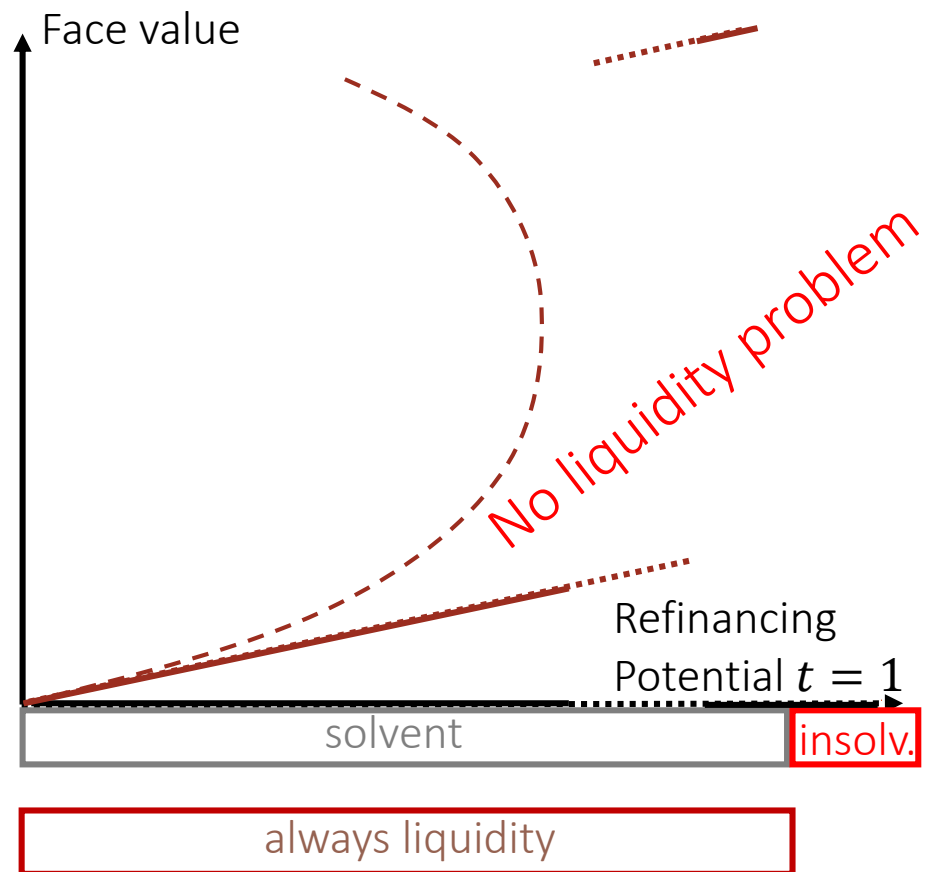
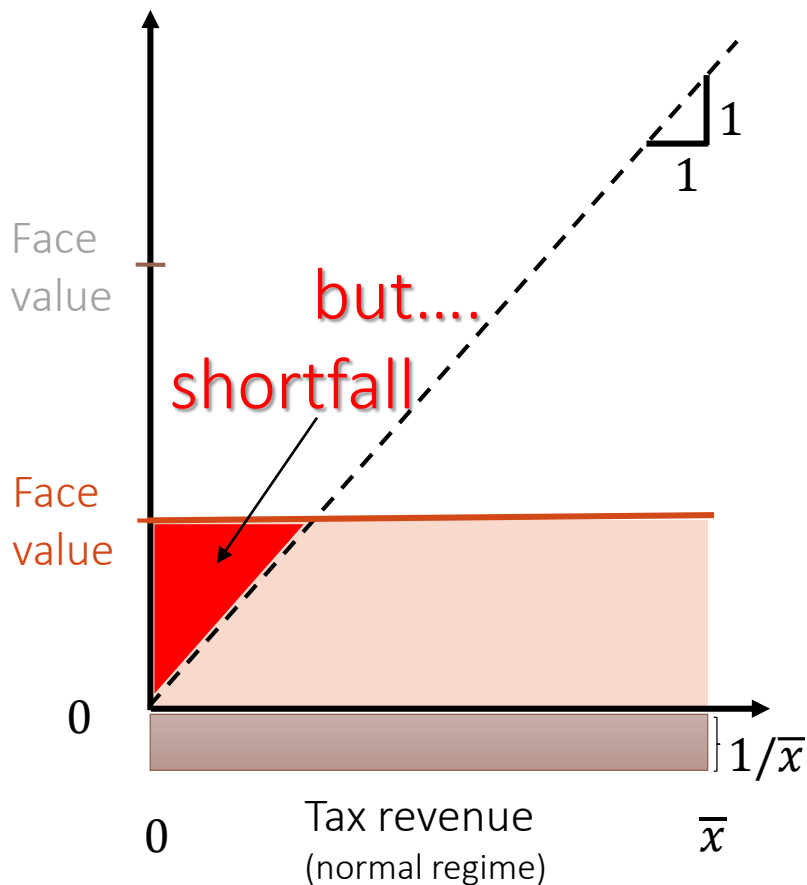


“Straight Jacket” Commitment



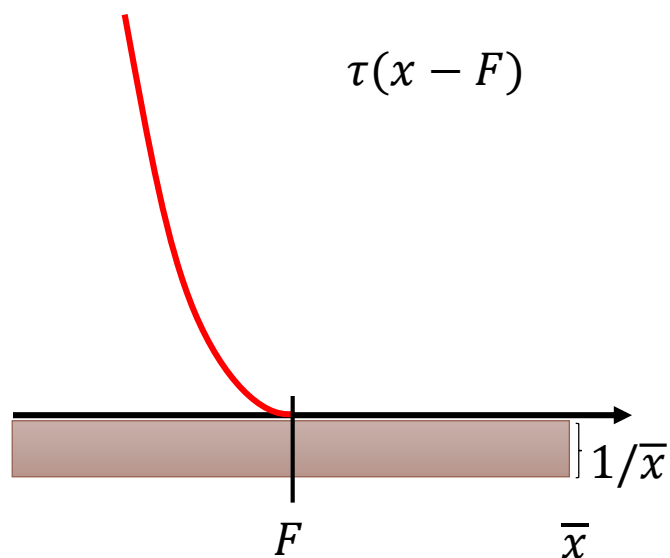
“Straight Jacket” Commitment

- ... 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

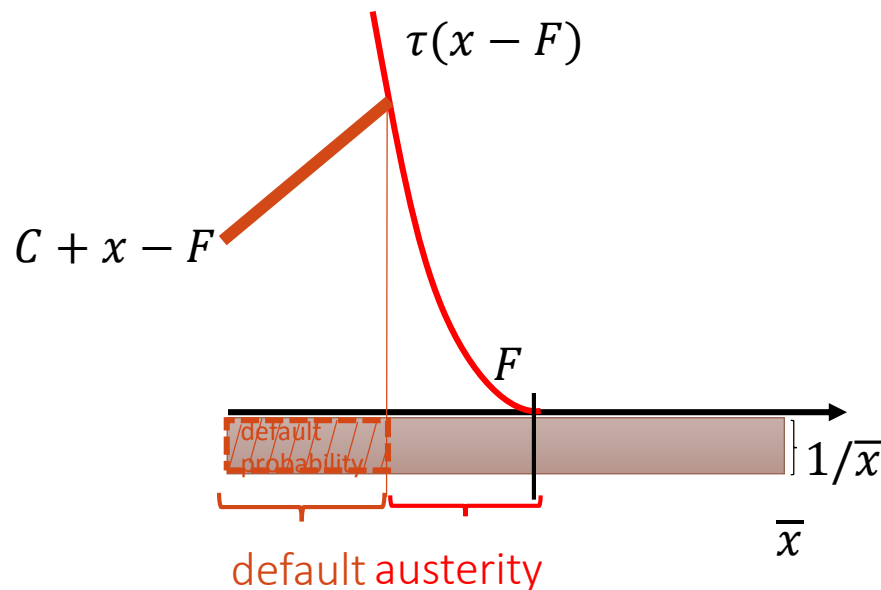
- Rollover risk
- Solvency risk

only achievable if banks have sufficient loss absorption capacity

→ financial dominance rules this out

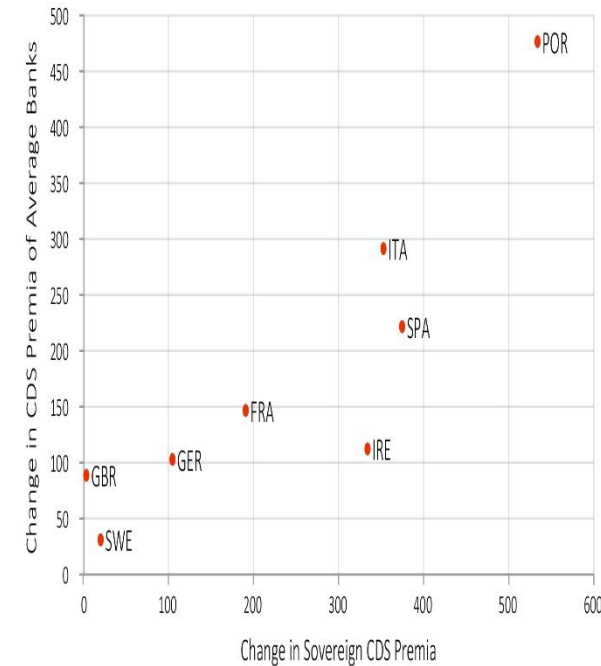
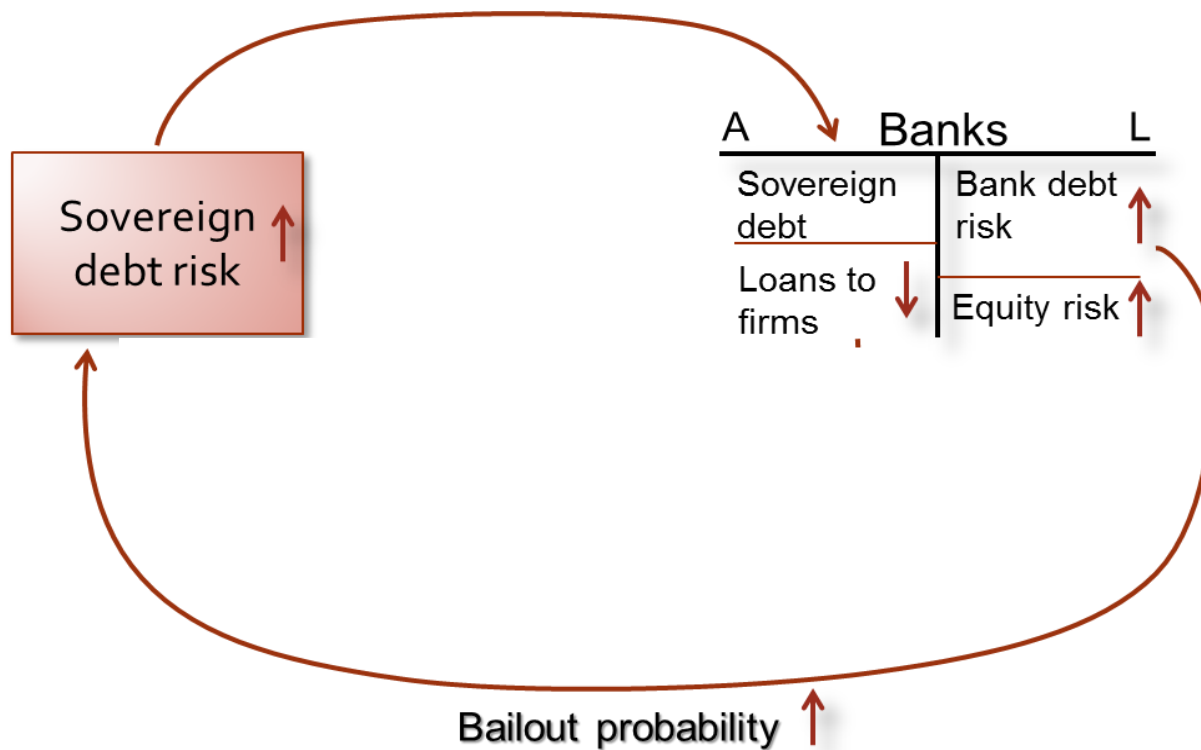
“Straight Jacket” Commitment

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



Diabolic Loop

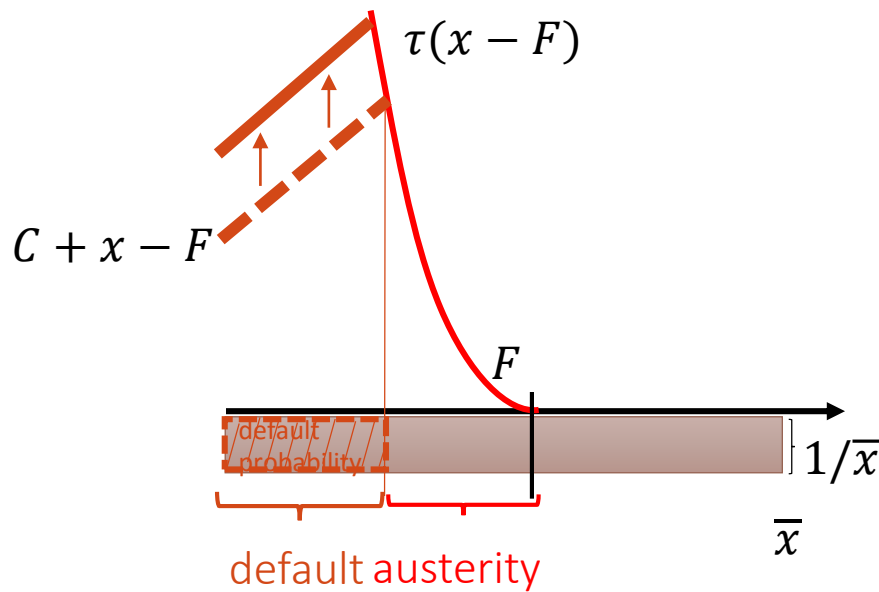
- Trigger: fiscal or financial



- Financial dominance increases commitment costs!

“Bank Hostage” Commitment

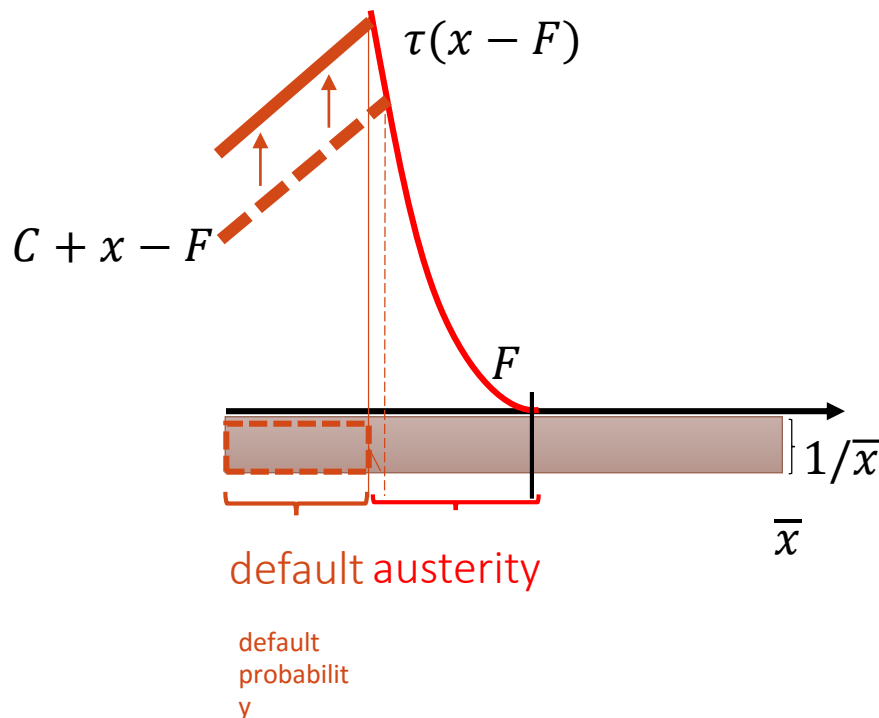
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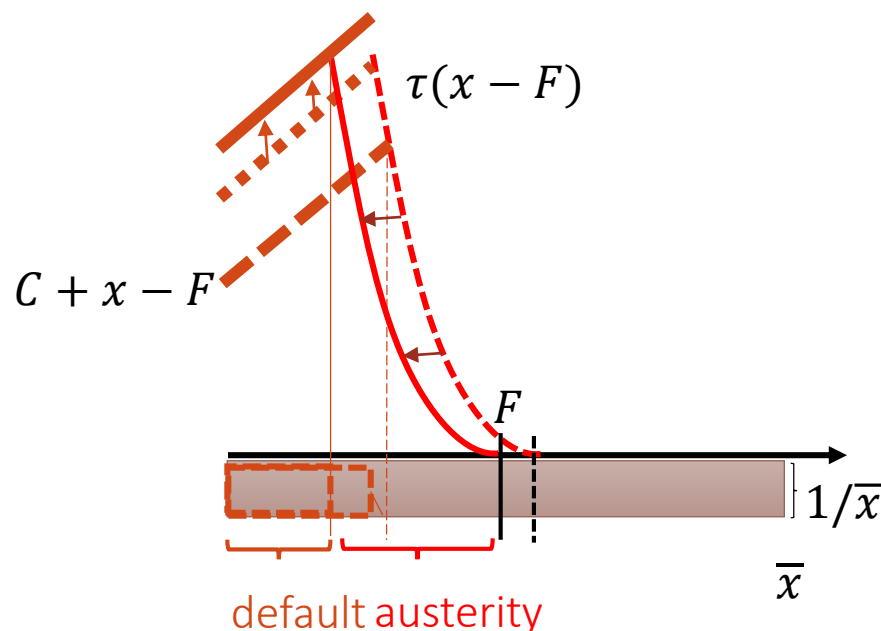
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➡ Lower default probability



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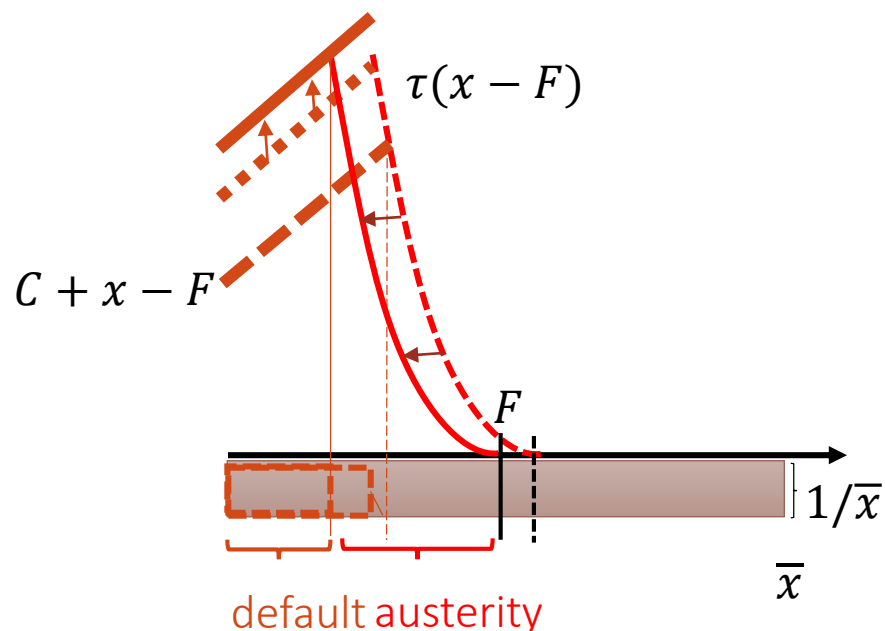
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- ➔ Lower default probability
- ➔ Lower verification cost
- ➔ Lower face value F
interest rate

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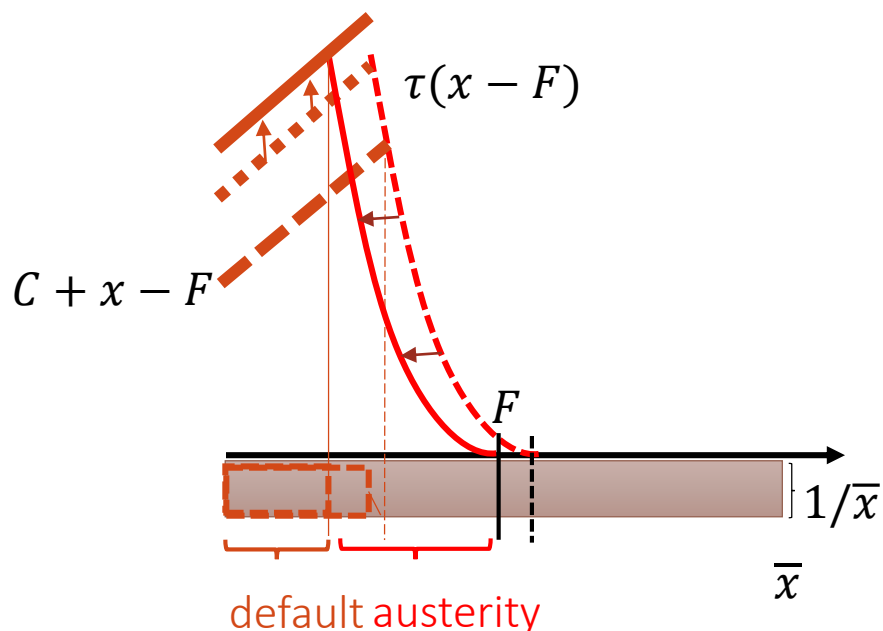
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Again

- ➔ Lower default probability

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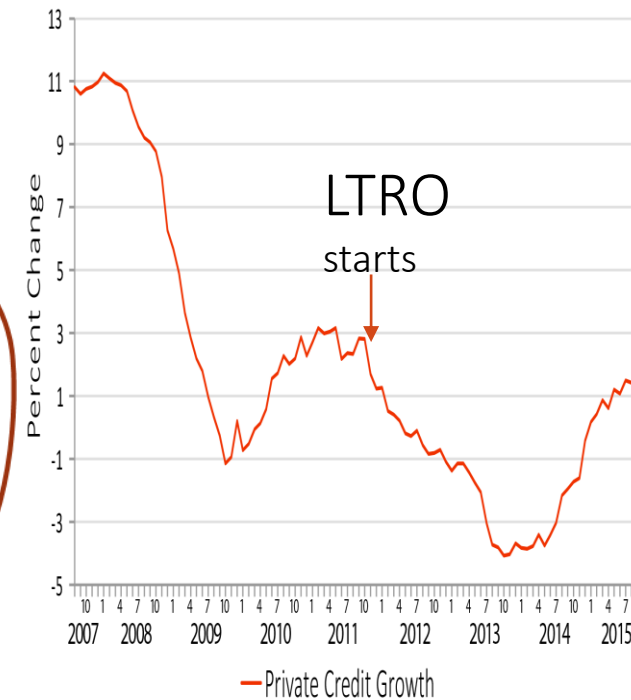
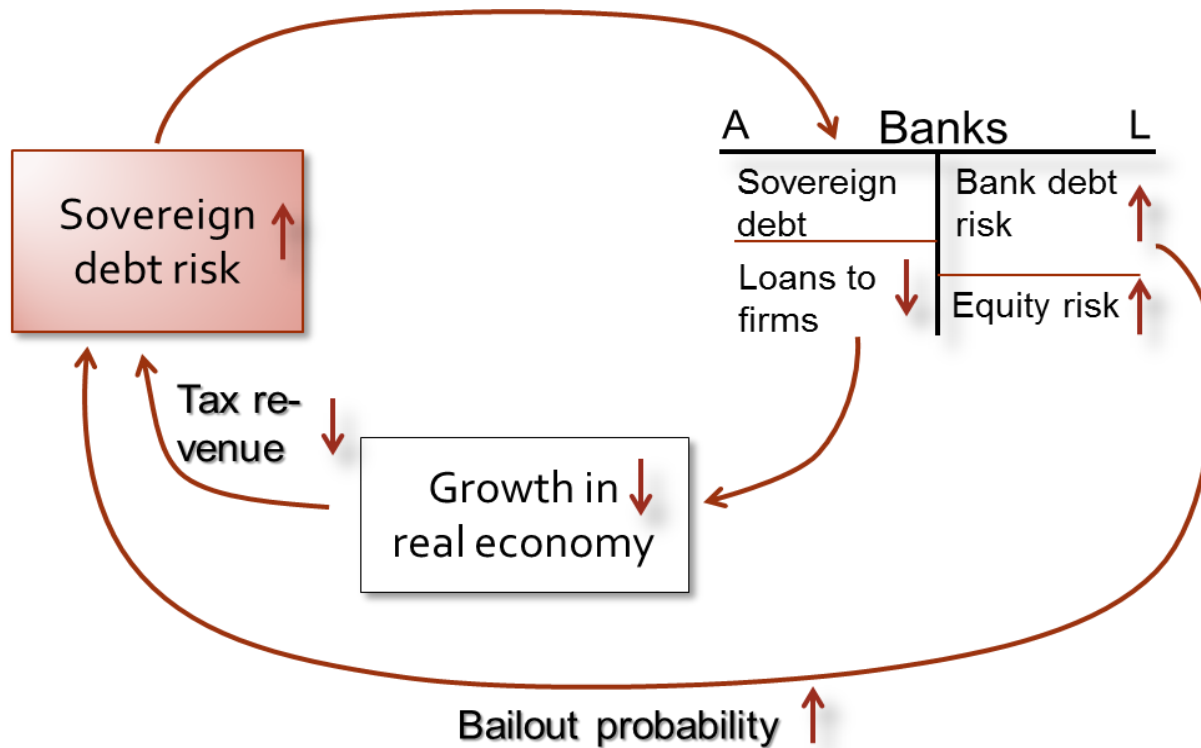
Again

- ➔ Lower default probability

- Default prob $\downarrow$, **but** if: higher cost C & higher austerity τ
- “doubling up strategy”

Diabolic Loop 2 overturns argument!

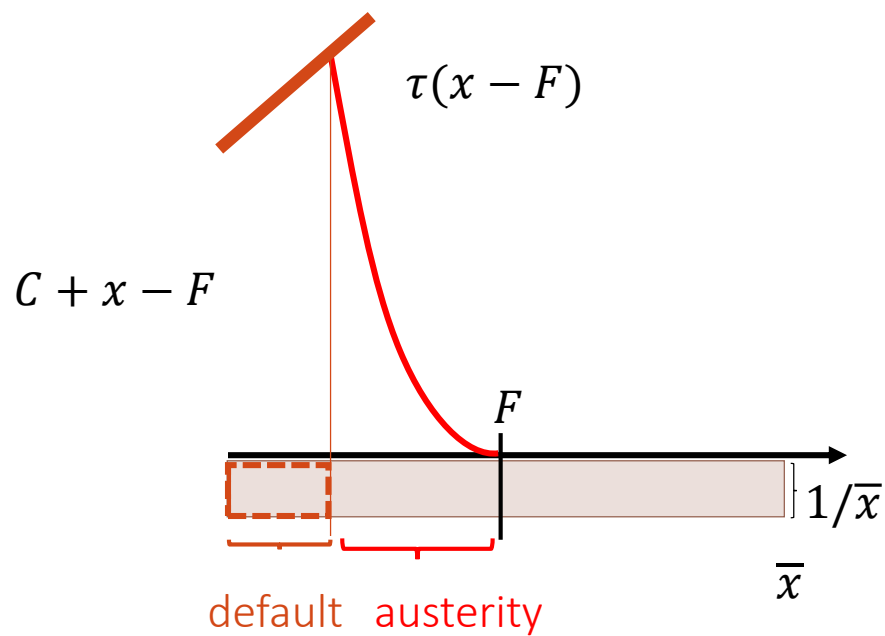
- Less lending to real economy



- GDP and tax revenue, x , declines

Diabolic Loop 2

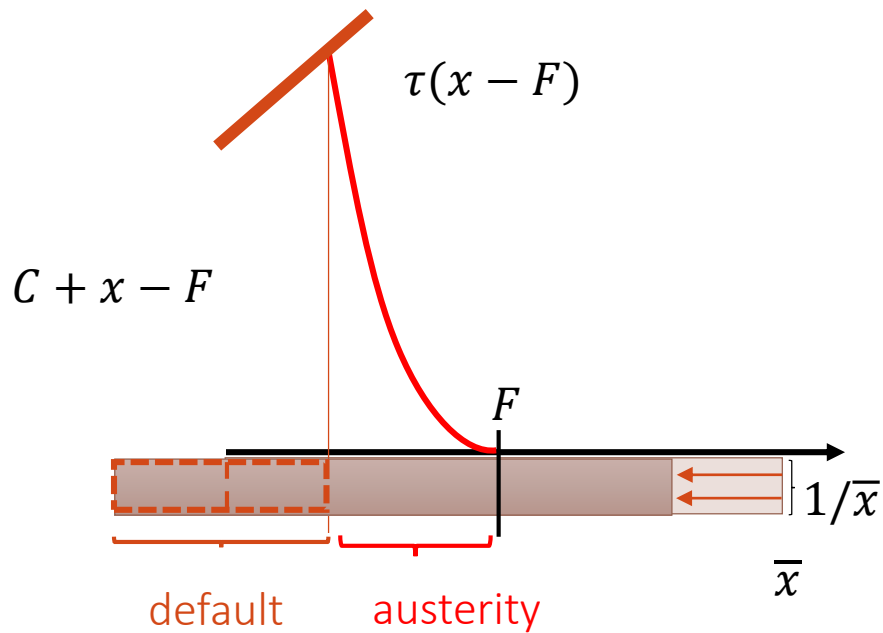
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➡ Lowers GDP, x

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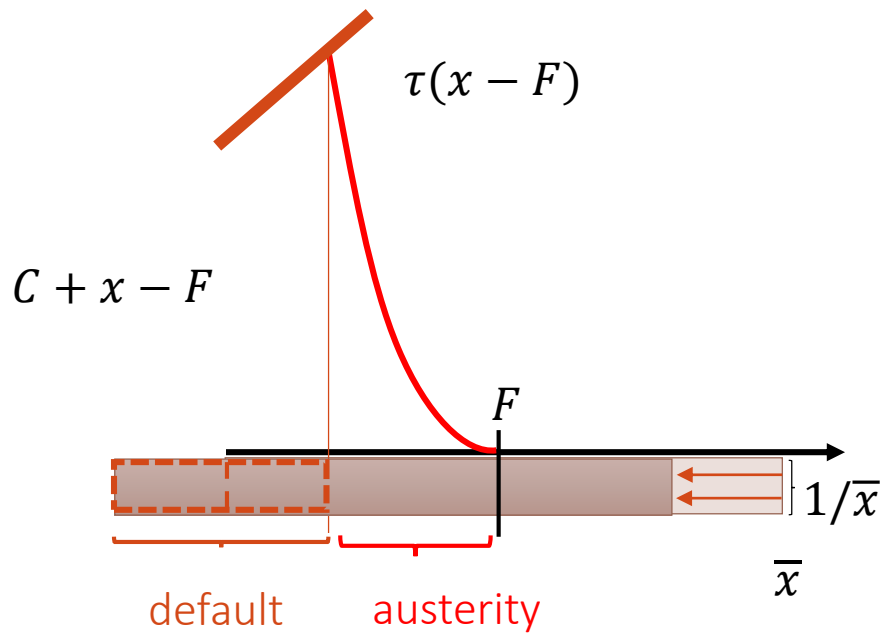
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- ➔ Lowers GDP, x
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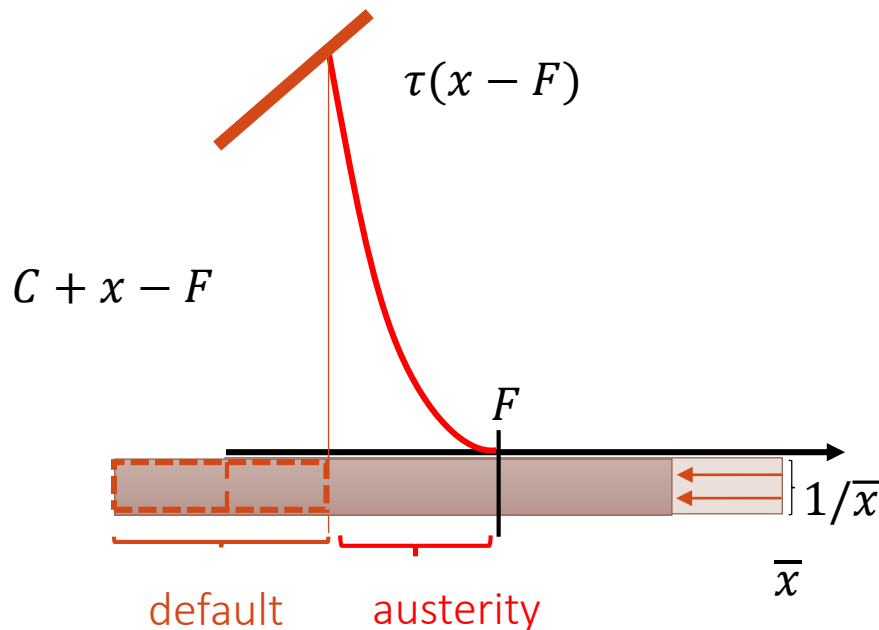


- ➔ Lowers GDP, x
- ➔ Default probability rises
- ➔ Verification costs rise
- ➔ Face value F rises
interest rate rises



Diabolic Loop 2

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- ➔ Lowers GDP, x
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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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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
- 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

- Sensible MacroPru regulation needed

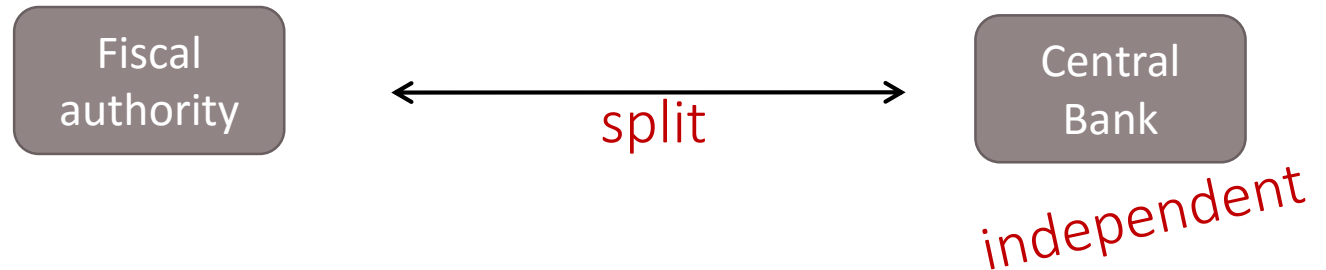
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Interaction with Fiscal & Monetary Dominance

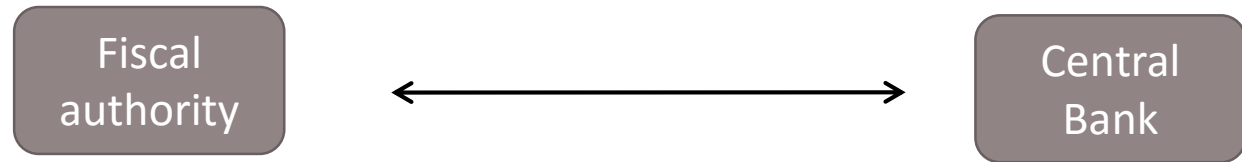
- Overcommitment problem
- 1. Split government in different authorities
- 2. Macro Pru & banks/investors share risk vs. straight jacket commitment
 - Strict rules for financial sector
 - Other commitments (fiscal risk sharing)
- 3. Both safe asset & contingent debt is needed
 - “squaring a circle”?

III Institutional design: split authorities



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

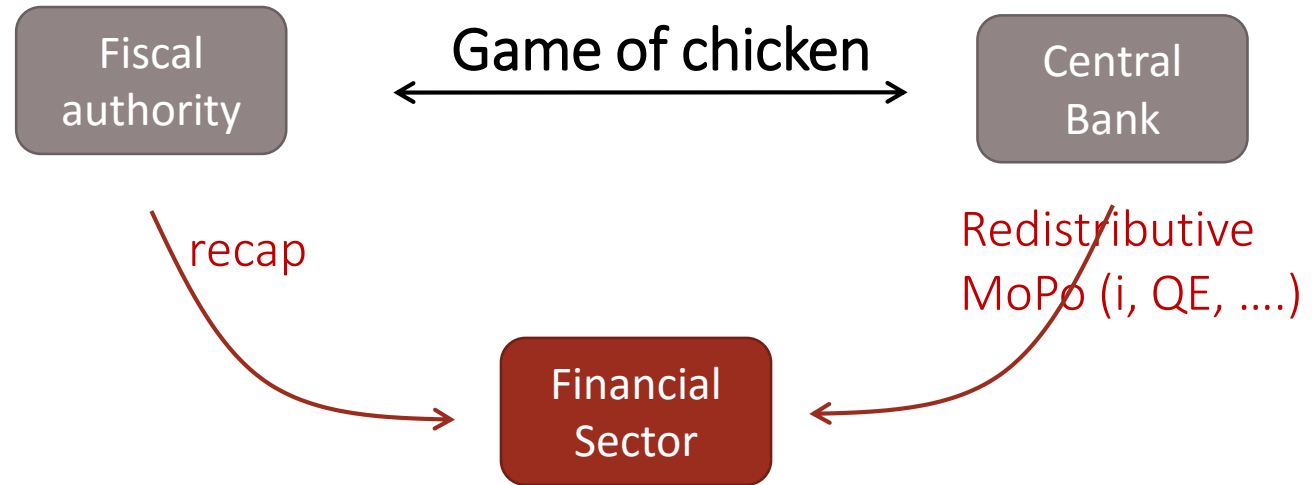
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0/1-Dominance vs. battle: “dynamic game of chicken”

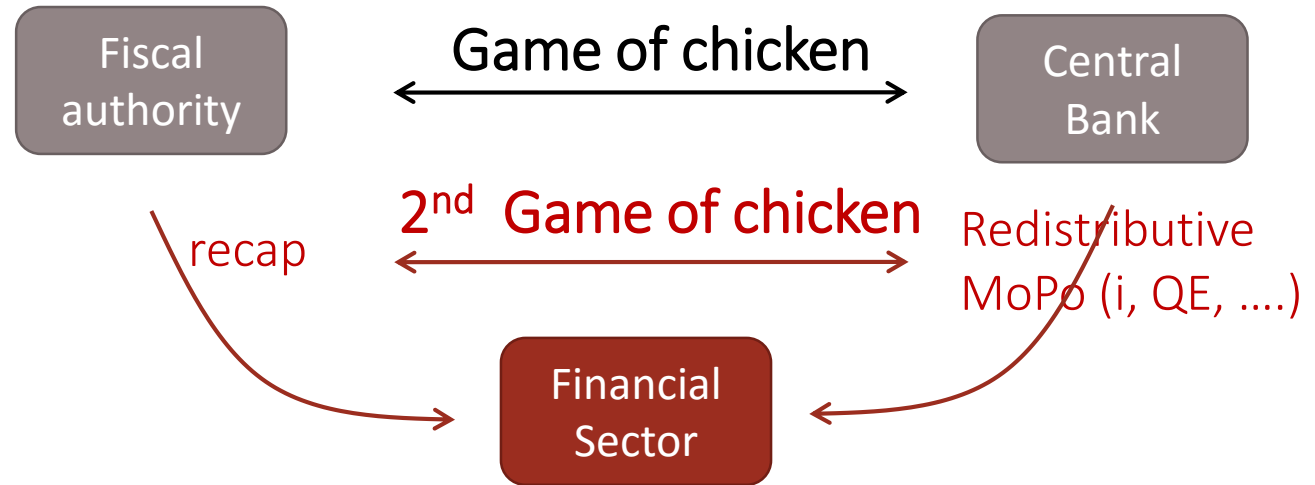
- Monetary dominance
 - Fiscal authority is forced to adjust budget deficits
- Fiscal dominance
 - Inability or unwillingness of fiscal authorities to control long-run expenditure/GDP ratio
 - Limits monetary authority to raise interest rates

III Institutional Design: Financial Dominance



- Monetary dominance
 - Fiscal authority is forced to adjust budget deficits
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 - Inability or unwillingness of fiscal authorities to control long-run expenditure/GDP ratio
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- Financial dominance
 - Inability or unwillingness of financial sector to absorb losses
 - Refusal to issue no equity – pay out dividends in early phase of crisis

III Institutional Design: 2nd Game of Chicken



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- Fiscal dominance
 - Inability or unwillingness of fiscal authorities to control long-run expenditure/GDP ratio
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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

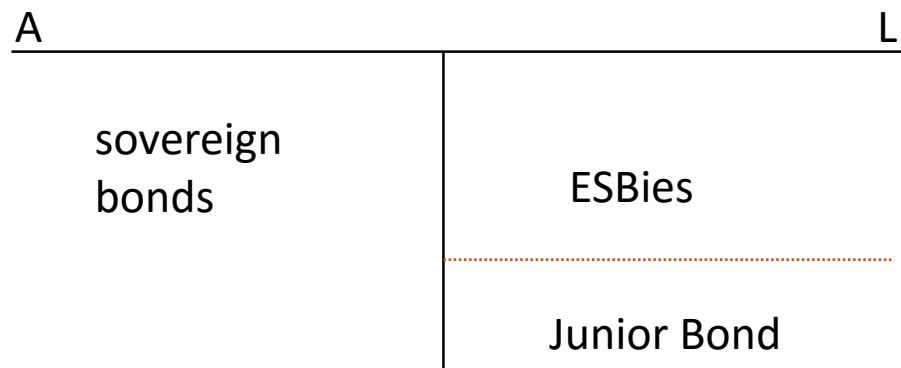
European Context

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

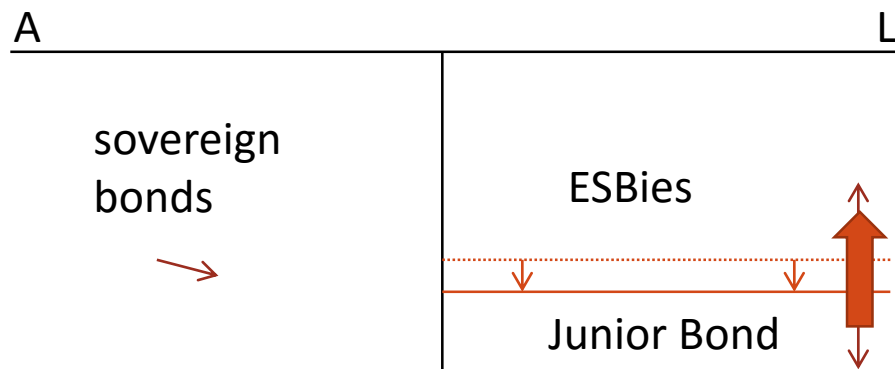
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 - Safe asset (without default)
 - To smooth out temporary liquidity shortage, allow for Keynesian stimulus
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 - Defaultable



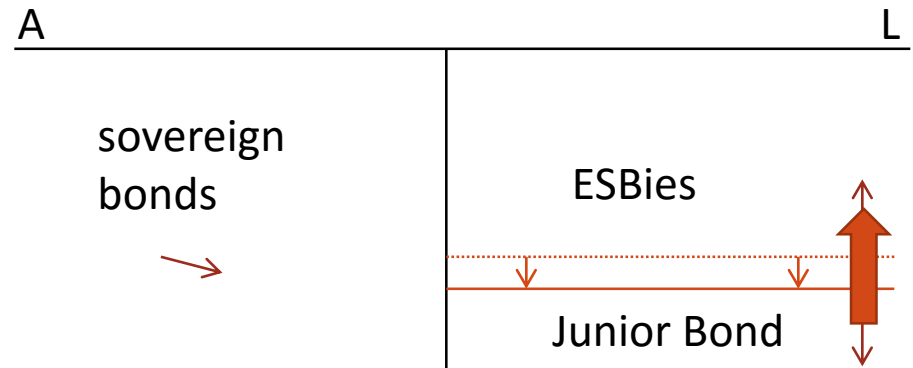
Flight to safety



*Flight to safety asset is endogenous
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- Today: asymmetric shifts **across borders**
 - Value of German debt decreases
 - German CDS spread rises, but yield on bund drops (flight to quality)
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 - 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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