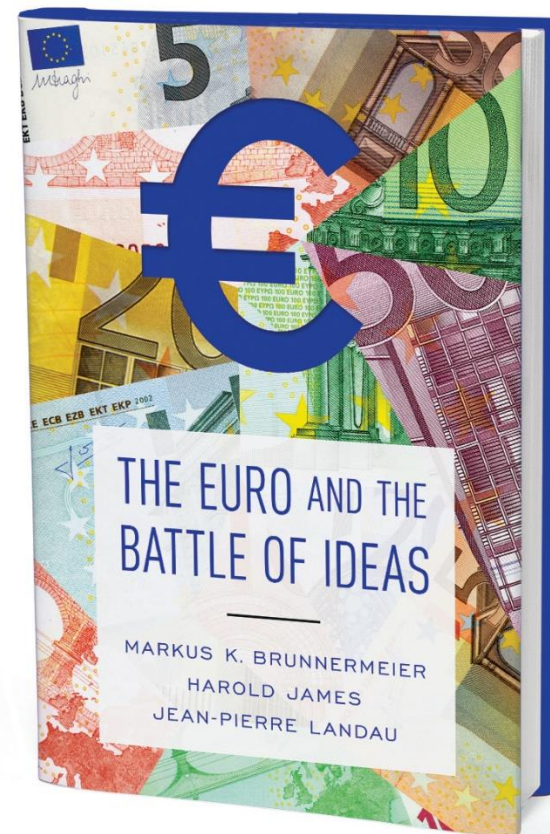




The Euro & The Battle of Ideas

Markus K. Brunnermeier,
Harold James &
Jean-Pierre Landau



Dutch National Bank

Amsterdam, 22.11. 2016

Why ideas?

- Ideas - ideologies

- Different economic philosophies

- Interests/incentives
... are interpreted through the lens of ideas

- Institutions
... only live if supported by ideas



Overview

■ Watershed moments

- 2010, May: EFSF, IMF involvement
 - 2010, Oct: Deauville PSI: contagion
- } Powershift
- 2012: Draghi's "Whatever it takes" Speech
 - 2013: Cyprus Bail-in
 - 2016: Brexit

■ Monetary and fiscal stability Maastricht's Ghost

■ Financial stability Maastricht's Stepchild

■ (Italy, Anglo-American, Global, IMF, ECB, ...)



Ghost of Maastricht “Rhine Divide”

Ideal types (Max Weber) White-black comparison to sharpen contrast

“French”



“German”



1. Discretion

Rules

2. Solidarity

Liability

- Fiscal union

No-bailout clause

3. Liquidity

Solvency

4. Keynesian Stimulus

Austerity/Reform

“Rhine-divide”

||| Ghost of Maastricht “Rhine Divide”

“French”

1. Discretion

- **Active** management
- **Current crisis** management

“German”

Rules

- **Autonomous** - no “ad hocery”
- **Future crisis** prevention

||| Ghost of Maastricht “Rhine Divide”

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1. Discretion

- **Active** management
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Straitjacket commitment

- **Commit future** to fix current crisis

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Safety/escape valves

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some debt restructuring

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not to exit currency union

international

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Manage capital flows!

“German”

Rules

- **Autonomous** - no “ad hocery”
- **Future crisis** prevention

Safety/escape valves

some debt restructuring

floating exchange rate



Free capital flow

international

|| Ghost of Maastricht “Rhine Divide”

“French”

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- **Active** management
- **Current crisis** management

Straitjacket commitment

- **Commit future** to fix current crisis

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“German”

Rules

- **Autonomous** - no “ad hocery”
- **Future crisis** prevention

Safety/escape valves

- some debt restructuring

- Commit to **currency peg/**
not to exit currency union

Autonomous
Monetary Policy

international

Fixed ex-
change rate

FRANCE
GERMANY

Free
capital flow

Trilemma

||| Ghost of Maastricht “Rhine Divide”

“French”

1. Discretion

2. Solidarity

- Fiscal union
- Illusion of default free bonds
- Eurobonds with joint liability
(sovereign debt is anyway default free)

“German”

Rules

Liability

No-bailout clause/No transfers
SDRM/insolvency procedure
Avoid any joint liability (ESBies)

||| Ghost of Maastricht “Rhine Divide”

“French”

1. Discretion
2. Solidarity

3. Liquidity

- multiple equilibria
“big bazooka”

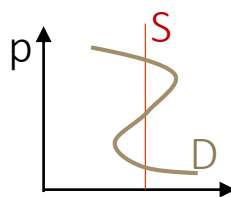
“German”

Rules

Liability

Solvency

$E[NPV] > 0$, at what discount rate?
“throw good money after bad”



Ghost of Maastricht “Rhine Divide”

“French”

1. Discretion
2. Solidarity
3. Liquidity

- multiple equilibria

“big bazooka”

Draghi speech

“German”

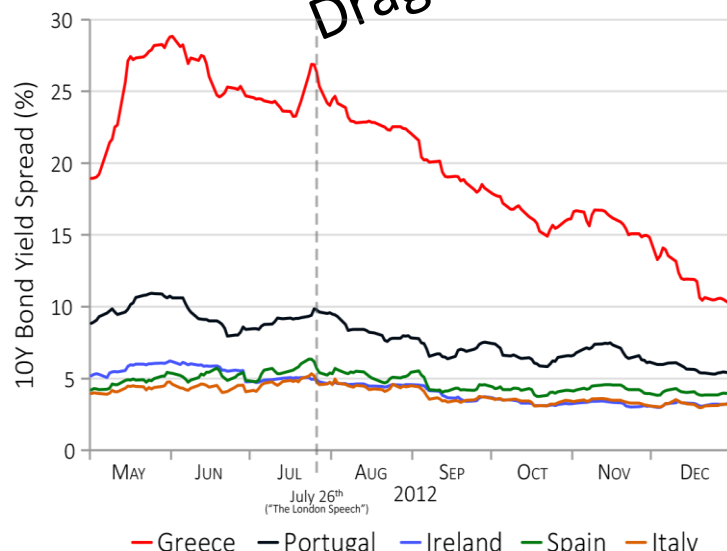
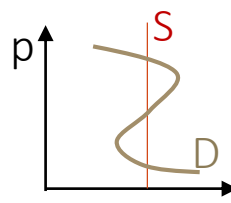
Rules

Liability

Solvency

$E[NPV] > 0$, at what discount rate?

“throw good money after bad”



Ghost of Maastricht “Rhine Divide”

Ideal types (Max Weber) White-black comparison to sharpen contrast

“French”



“German”



1. Straitjacket
Discretion

Safety valves
Rules

Autonomous
Monetary Policy

Fixed ex-
change rate

Free
capital flow

2. Solidarity
• Fiscal union

Liability
No-bailout clause/rule

3. Liquidity/contagion

Solvency

4. Keynesian Stimulus

Austerity/Reform

“Rhine-divide”

international

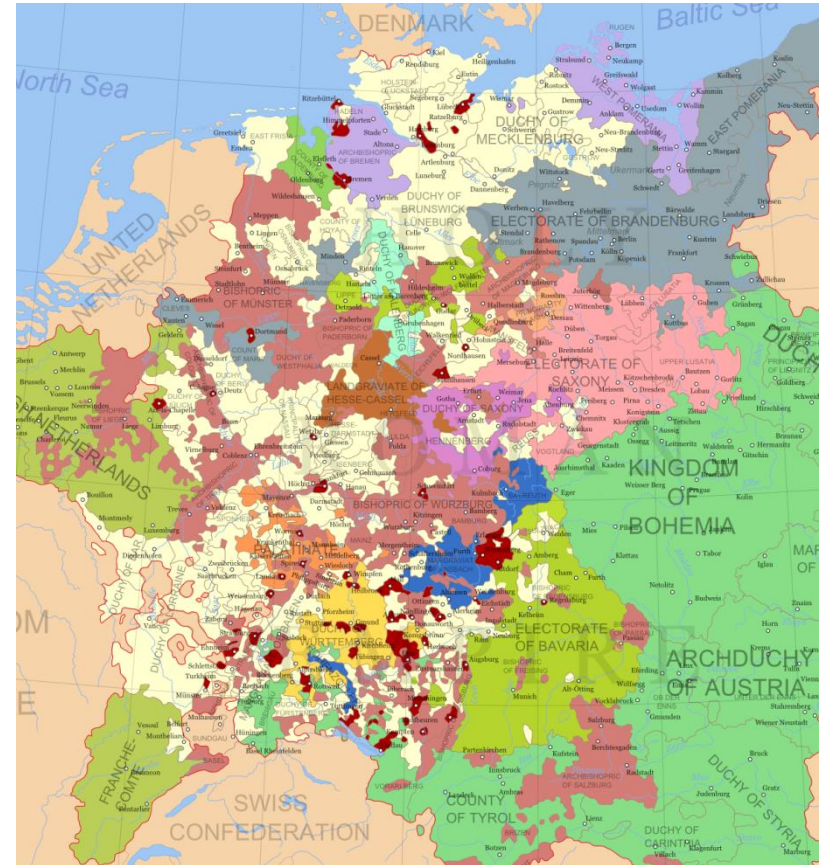
Is difference caste in stone? ... cultural?

■ “French” Absolutism/Centralism



- King Louis XIV, XV, XVI
 - 1643-1715, 1715-1774, 1774-1792 A.D.

■ “German” Federalism



- Holy Roman Empire

|| ... or fickle?

- Historic breaks and reversals after World War II

“France”

from **laissez-faire**
to **planisme**

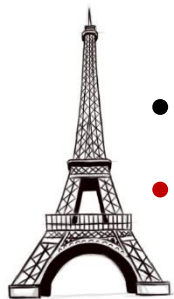
“Germany”

from **cameralism**/state tradition
to **Ordo-liberalism**

Overview

- Powershift
- Monetary and fiscal stability Maastricht's Ghost
- Financial stability Maastricht's Stepchild
- (Italy, Anglo-American, Global, IMF, ECB, ...)

Gov. debt: safe versus contingent



■ “French view”

- Almost never default
 - Straitjacket commitment
- **No risk weights**
- **Banks as hostage**
 - Default would destroy banks and economy

“Rhine-divide”

■ “German view”

- Default in tail events
 - “Safety valve”
- **Risk weights** on risky s-debt
- **Banks as insurance providers**



- ➔ Lowers interest rate
 - chance to get out of crisis,
- **Doubling up strategy,**
but ..

|| Maastricht's Stepchild: Financial Stability

“French”

1. Contagion, Spillovers and Systemic Risk

“German”

Solvency



|| Maastricht's Stepchild

“French”

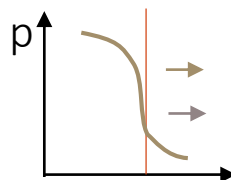
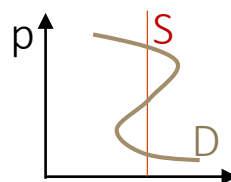
1. Contagion, Spillovers and Systemic Risk

- multiple equilibria

“big bazooka”

- amplification/spirals

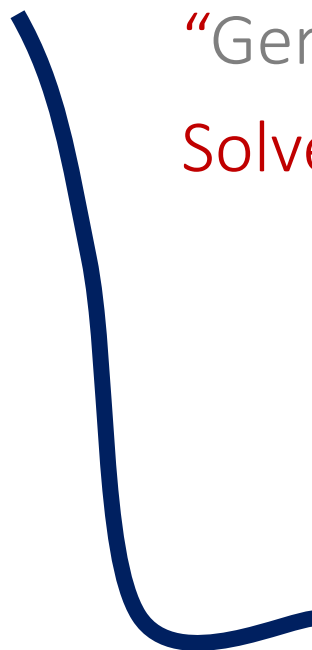
- $E[\text{NPV bailout}] > 0$
- $E[\text{PV bailout} - \text{PV no bailout}] > 0$



contagion/systemic risk

“German”

Solvency



Bail-out/LLR

- Countries
- Financial Sector

Bail-in

- Fire-walls

Cyprus

||| Maastricht's stepchild

1. Contagion, Spillover and Systemic Risk

- Bailout

Bail-in



2. Diabolic (Doom) Loop ← Gov. bond is not a safe asset

III Maastricht's stepchild

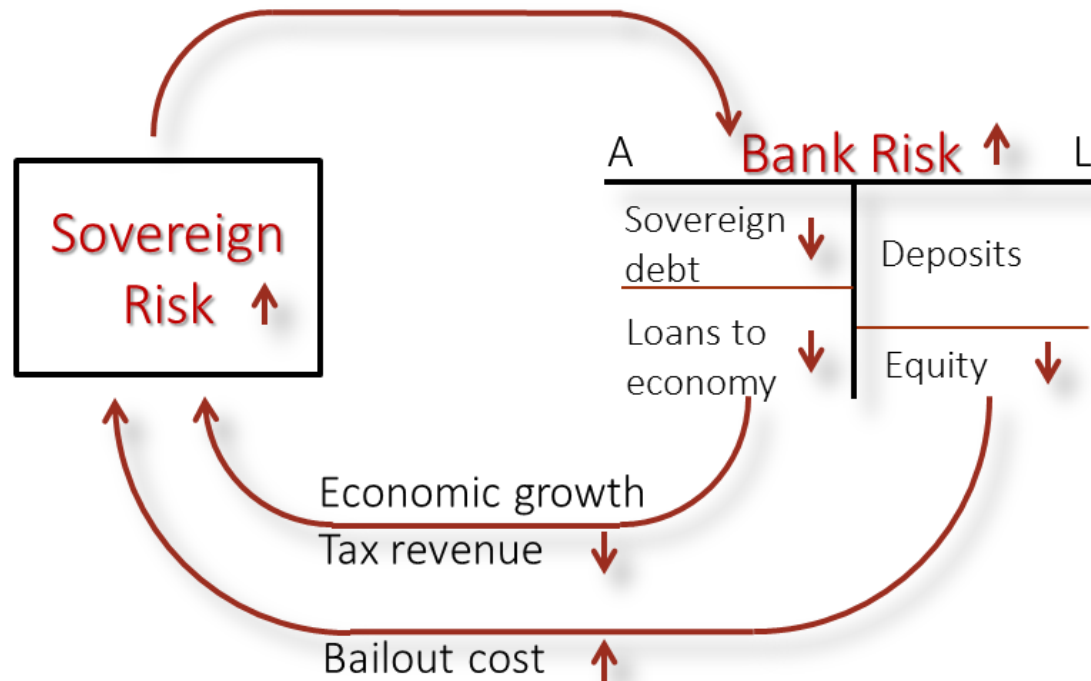
1. Contagion, Spillover and Systemic Risk

- Bailout

Bail-in



2. Diabolic (Doom) Loop ← Gov. bond is not a safe asset



||| Maastricht's stepchild

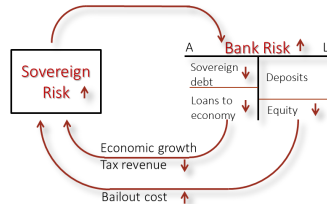
1. Contagion, Spillover and Systemic Risk

- Bailout

Bail-in



2. Diabolic (Doom) Loop ← Gov. bond is not a safe asset

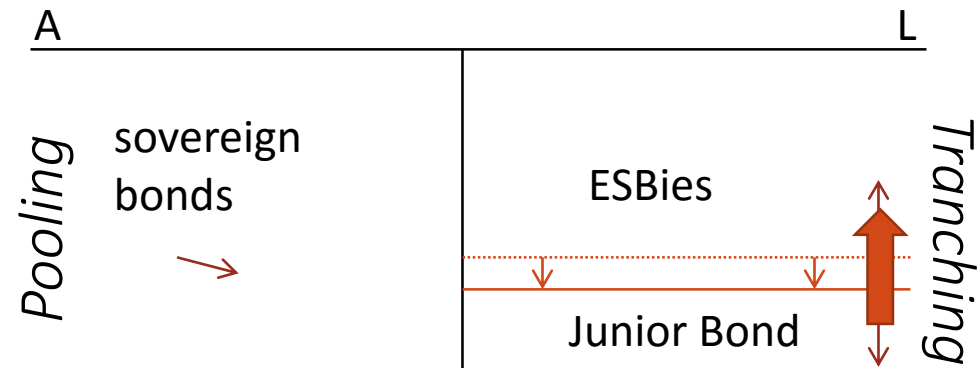


3. Cross-border Flight to safety

← no EA-wide safe asset



ESBies: Safe Asset



~~No Joint liability~~
~~No Eurobond!~~

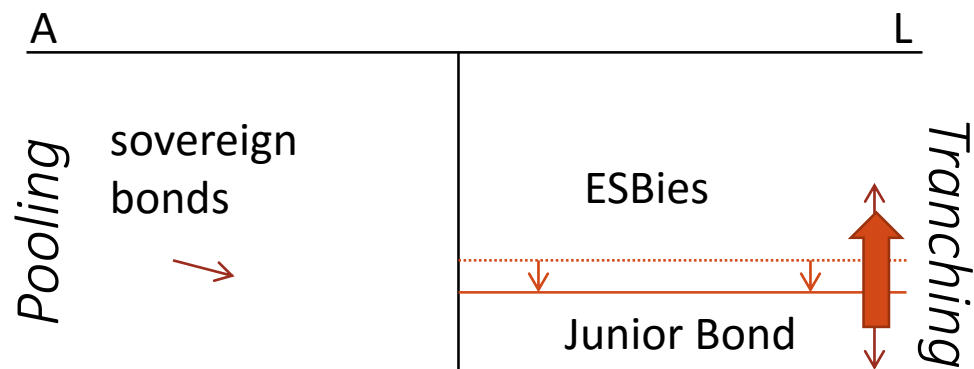
- Euro-nomics Group (2011)

ESBies: Safe Asset

■ Diabolic loop

- Sovereign-Banking Nexus

- Eliminated



~~No Joint liability~~
~~No Eurobond!~~

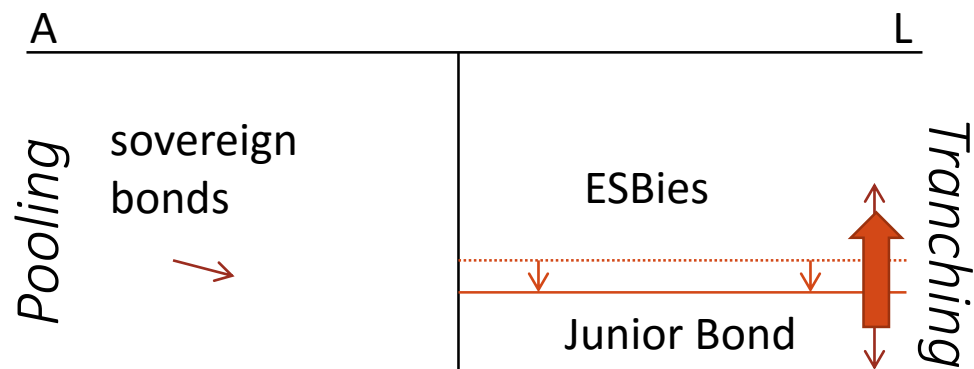
- Euro-nomics Group (2011)

ESBies: Safe Asset

- Diabolic loop
 - Sovereign-Banking Nexus
- Flight to safety
 - Cross-border



- Eliminated
- Re-channeled across two European bonds

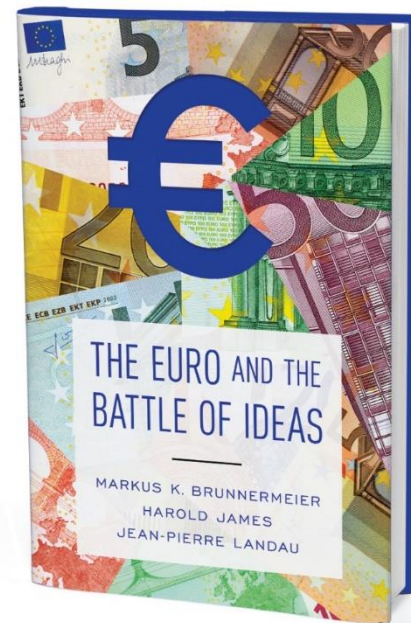


~~No Joint liability~~
~~No Eurobond!~~

- Euro-nomics Group (2011)

Conclusion

- Ideas matter! – not only interest/incentives
- Powershift in 2010
 - IMF, EFSF → Intergovernmental
 - Deauville → Paris-Berlin
- “Rhine Divide” – switching sides after WWII
 - Price and fiscal stability
 - Financial stability
- ECB’s philosophy and recap of banks vs. IMF perspective
- Proposals
 - European Safe Bond (ESBies)
 - Fire-walls & “Race away from the bottom”, ...





EXTRA ESBies slides
follow

Definition of Safe Asset

1. Safe = informationally insensitive
 - No decline in value due to asymmetric info

Holmström
& Gordon

2. Safe = risk-free for a particular horizon
 - E.g. holders are infinitely risk aversion
 - ... but inflation risk

Caballero & Farhi

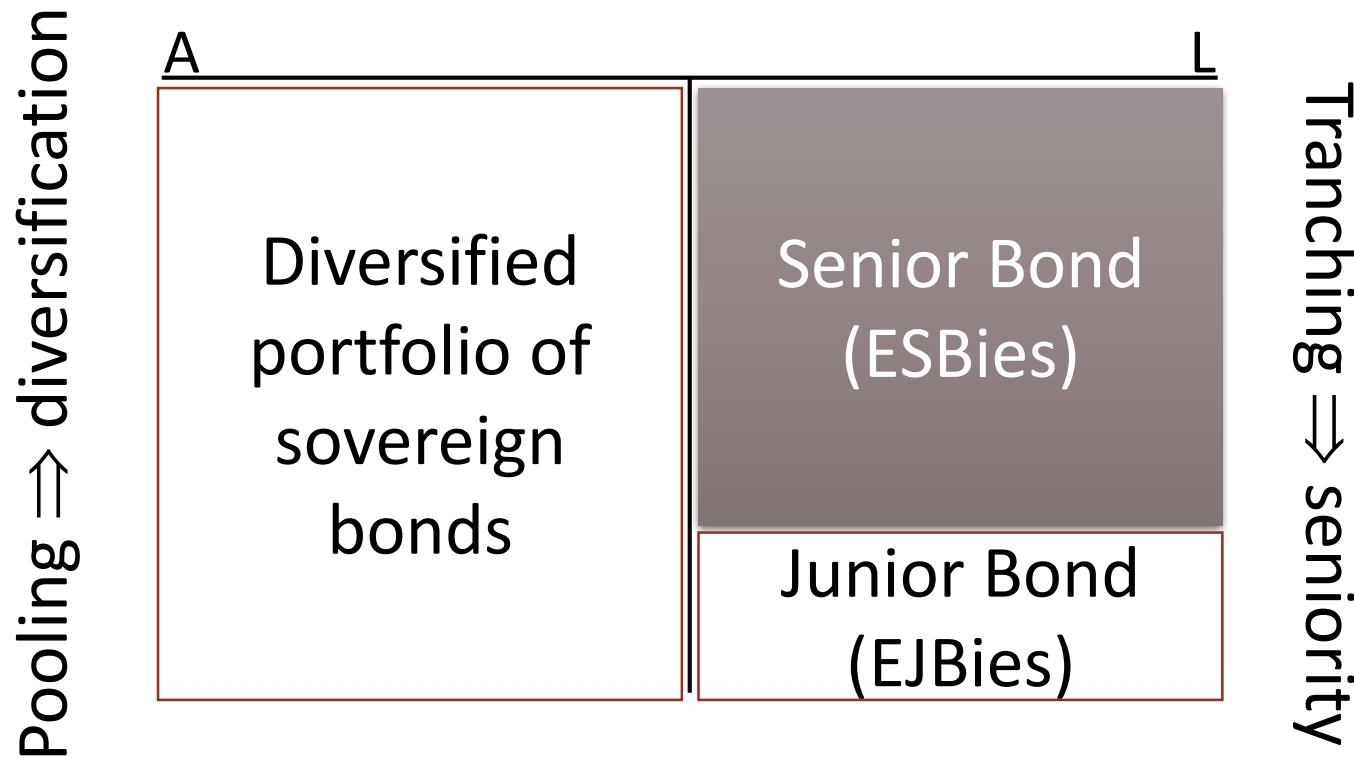
3. Safe = “Good friend analogy”
 - Safe for random horizon
 - Appreciates in times of crisis

Brunnermeier
& Haddad

Safe = “Safe Asset Tautology”

- Safe because perceived to be safe (multiple equilibria)
- Bubble

ESBies



- Proposed by Euronomics (2011)
 - Brunnermeier, Garicano, Lane, Pagano, Reis, Santos, Van Nieuwerburgh & Vayanos
 - + Langfied

ESBies Simulation

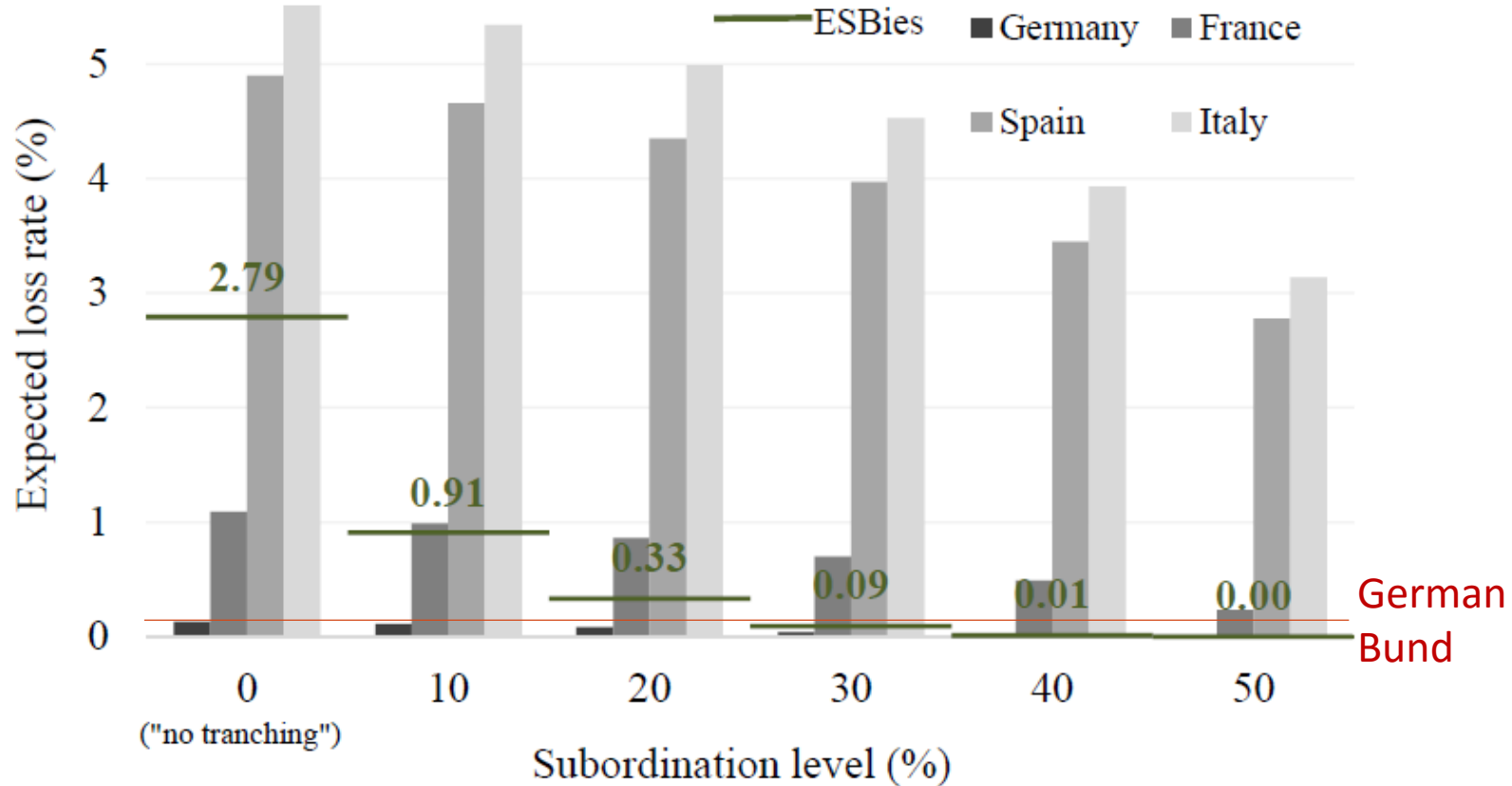
- Benchmark scenario
 - Stage 1: macro states
 - 5% crisis state
 - 25% mild recession
 - 70% good state
 - Stage 2:
 - Default probabilities calibrated on credit ratings & CDS spreads
- Compare status quo with
 - Pooling only,
 - Country-level tranching, and
 - ESBies (“pooling & tranching”)

Table 1: Simulation inputs

	(1) Rating	(2) Debt/GDP	(3) Weight	(4) pd1	(5) pd2	(6) pd3	(7) lgd1
Germany	1	71	28.16	5	0.5	0	40
Netherlands	1	65	6.61	10	1	0	40
Luxembourg	1	21	0.18	10	1	0	40
Austria	1.5	86	3.21	15	2	0	45
Finland	1.5	63	2.02	15	2	0	45
France	3	96	21.25	25	3	0.05	60
Belgium	3.5	106	3.93	30	4	0.1	62.5
Estonia	4.5	10	0.03	35	5	0.1	67.5
Slovakia	5	53	0.66	35	6	0.1	70
Ireland	6.5	94	1.80	40	6	0.12	75
Latvia	7	36	0.17	50	10	0.3	75
Lithuania	7	43	0.25	50	10	0.3	75
Malta	7.5	64	0.07	55	11	0.4	78
Slovenia	9	83	0.37	60	15	0.4	80
Spain	9	99	10.77	60	15	0.4	80
Italy	9.5	133	16.52	65	18	0.5	80
Portugal	12	129	1.77	70	30	2.5	85
Cyprus	13.5	109	0.19	75	40	10	87.5
Greece	19	177	2.01	95	75	45	95
Average	4.58	91		31.30	8.07	1.12	59.47

ESBies: 5 Year Expected Loss Rate

Figure 5: Senior tranches' five-year expected loss rates by subordination level

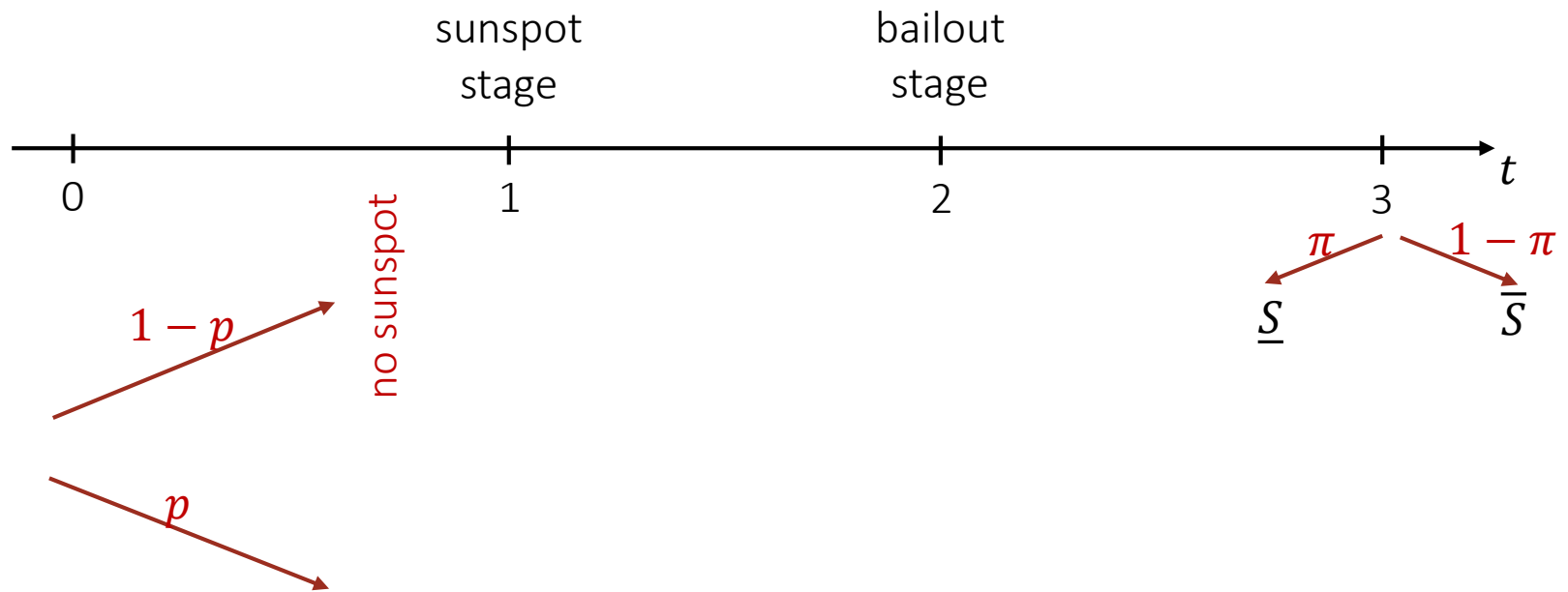


ESBies benefit from tranching more than national sovereign debt

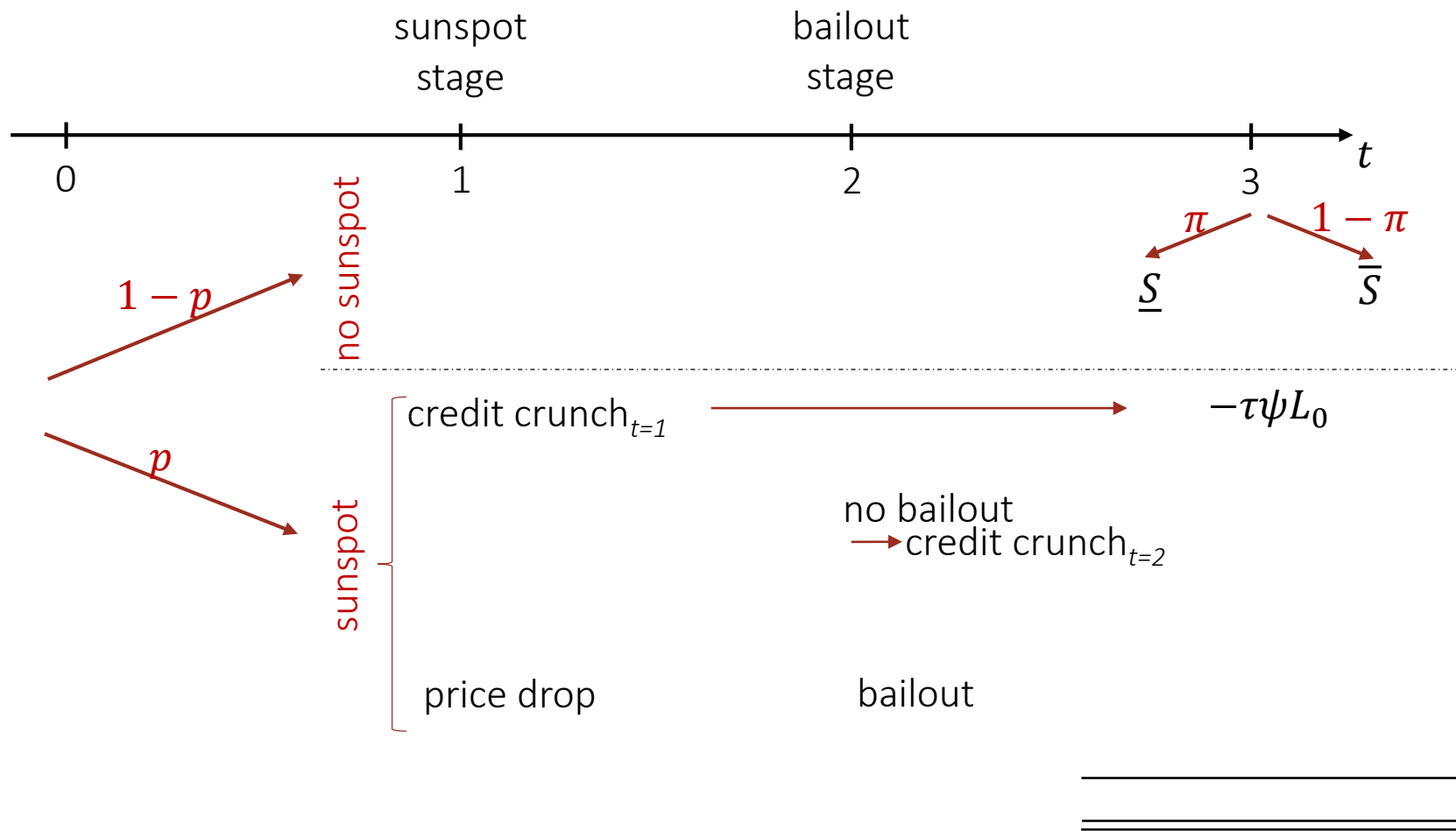
Can ESBies weaken the diabolic loop?

- So far, in simulations MM neutrality
 - ESBies just reallocate risk, do not reduce it
 - In the simulations all correlations were taken as given
- ~~MM~~ doesn't hold in model with endogenous risk
(ESBies do more than simply repackaging)
 - Endogenous risk due to diabolic loop
 - Sunspot triggers doubt in government debt → hurts banks → forces bailout
 - If banks hold ESBies instead of national government debt
→ diabolic loop less likely
 - **Default probability** may decline
 - **Cross-country correlation**
 - Contagion cost
 - Diversification benefit

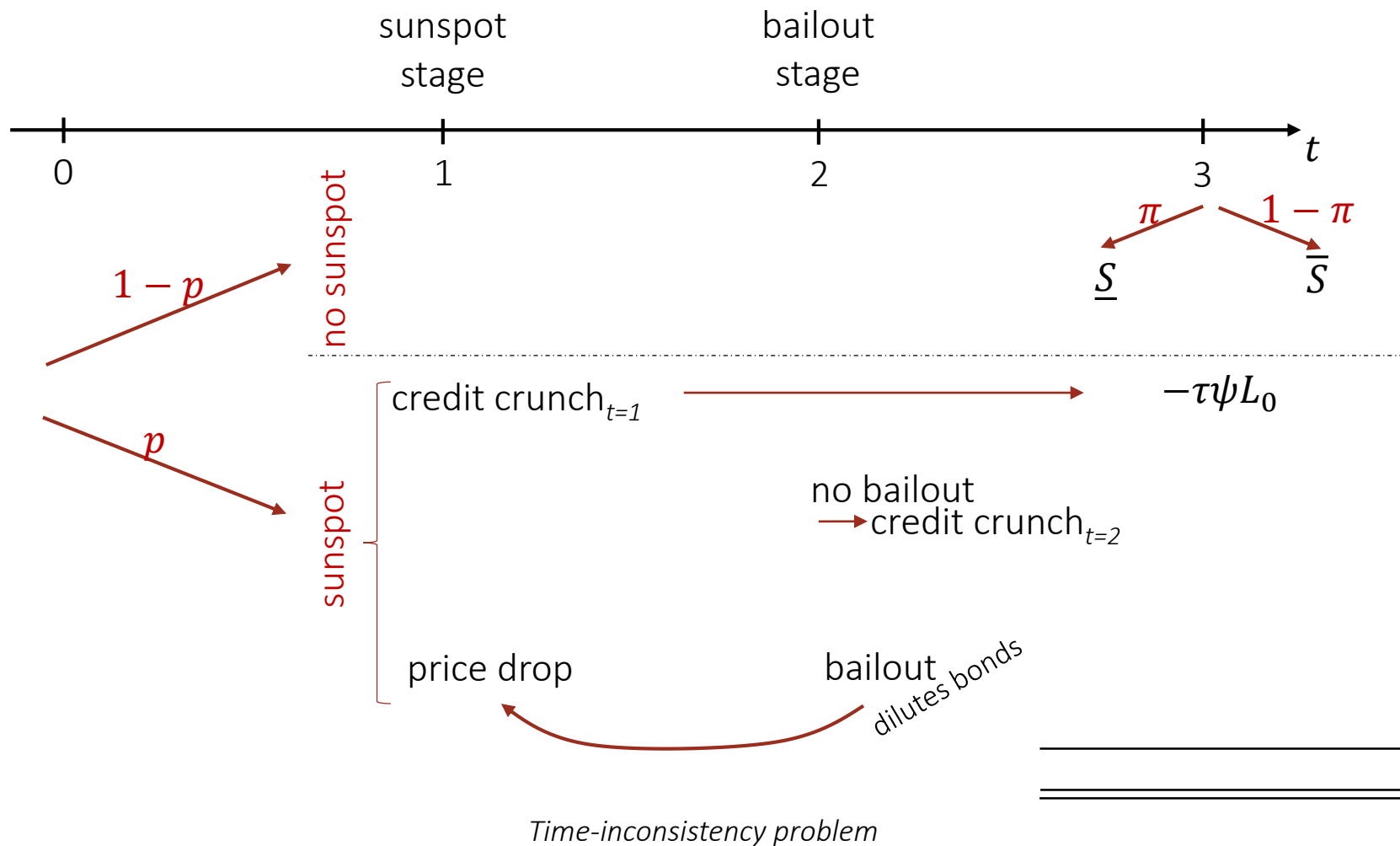
Model of Diabolic Loop



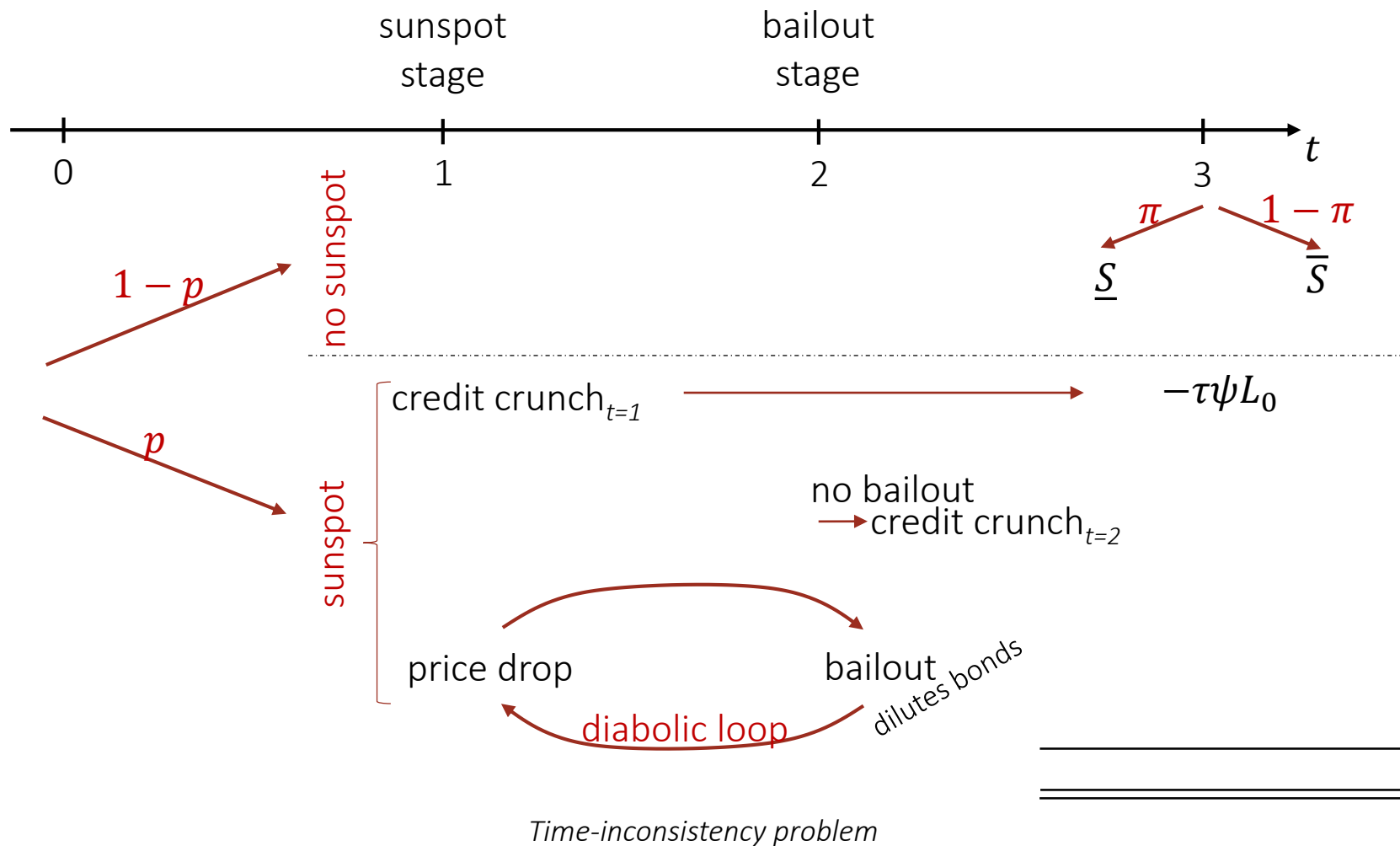
Model of Diabolic Loop



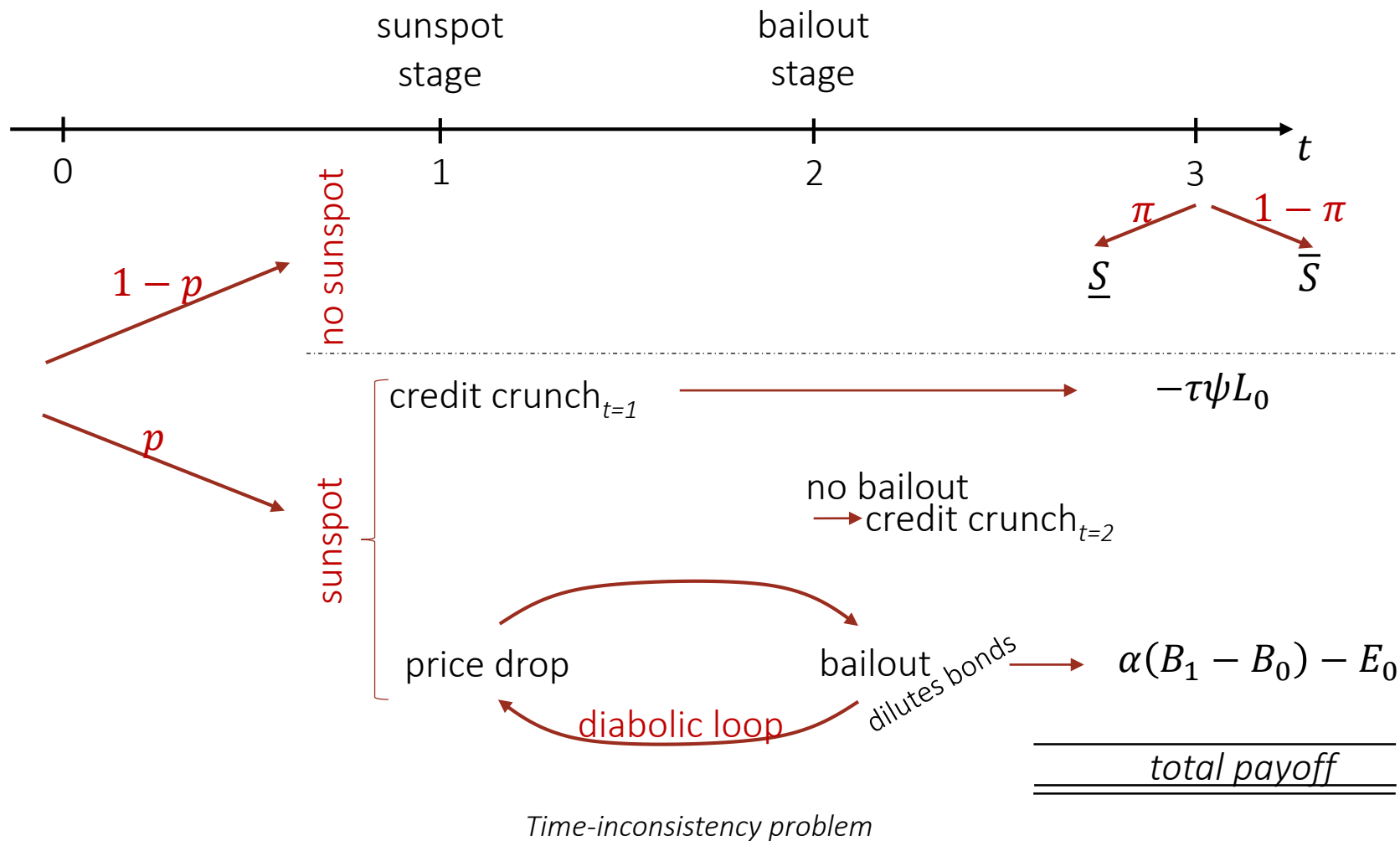
Model of Diabolic Loop



Model of Diabolic Loop



Model of Diabolic Loop



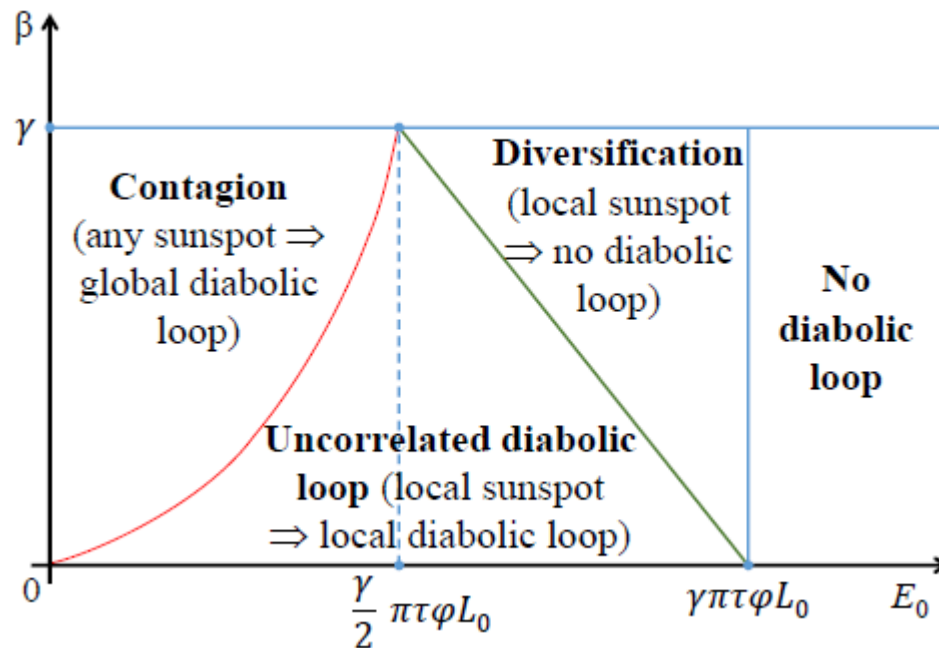
Diabolic loop with 2 countries

- 2 symmetric countries, sunspots with independent probability p
- In each country, banks hold
 - $\alpha \underline{S}$ domestic sovereign debt and
 - $\beta \underline{S}$ of a pooled security formed by a 50-50 mix of the two sovereign bonds:
 - $\gamma \underline{S} = (\alpha + \beta) \underline{S}$ is total sovereign portfolio held by banks
- Raising β has two opposite effects:
 - *diversification* effect
 - *contagion* effect

Contagion Cost vs. Diversification Benefit

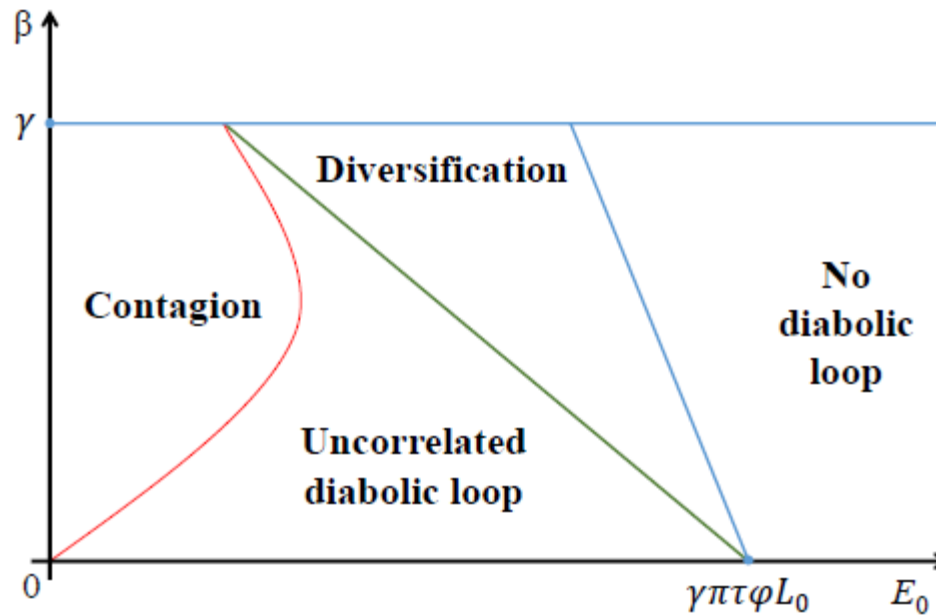
- β = degree of “international diversification” of bank sovereign portfolios (vertical axis)
- E_0 = bank equity on (horizontal axis)

- No tranching (only pooling)



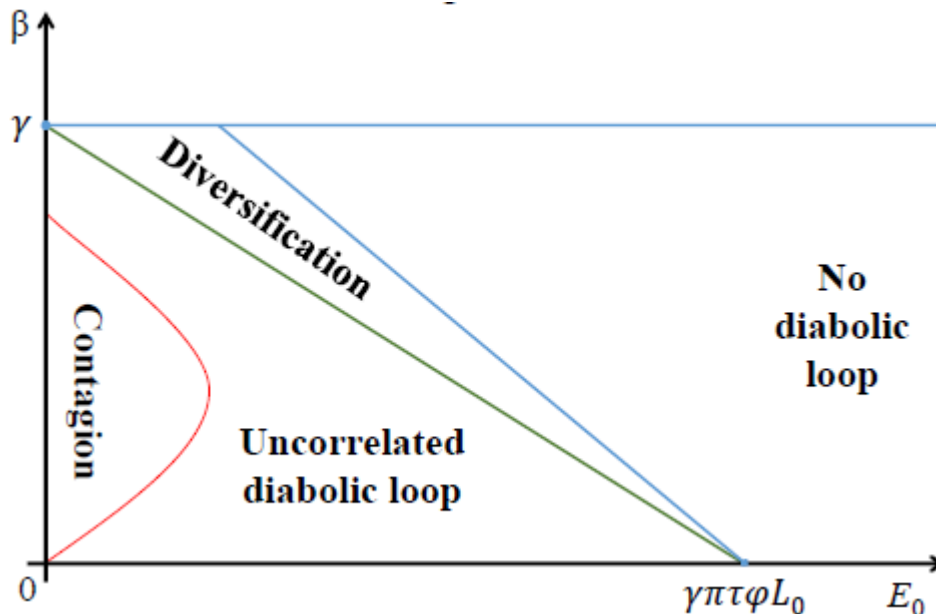
ESBies: Pooling and Tranching

- Low tranching point:



Intuition:
tranching shifts default risk to junior bond holders outside of the banking sector

- High tranching point:



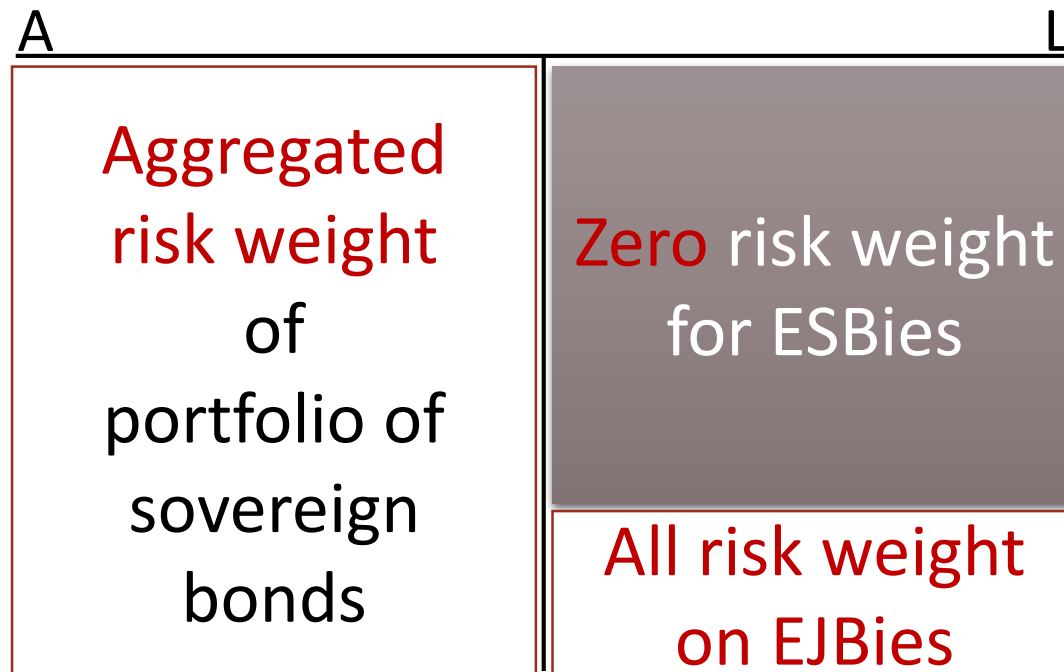
Note: in region with no diabolic loop, **also EJBs are safe!**

Details and Implementation

- Regulation of ESBies: “look through principle”
- ESBies Handbook
 - Standardization of ESBies (70:30, portfolio weights, ...)
 - Harmonizing national debt issuance (maturity, frequent issuances, ...)
 - Portfolio weights with “wiggle room”.
- ESBies issuer: public or certified private?
- EJBies’ embedded leverage advantage
- Governance structure in case of sovereign debt restructuring.
- Transition phase in 3 stages:
 1. Experimental phase
 2. Multi-dimensional Auction
 3. Grandfathering of risk weights for old holdings

Regulation

- Risk weights for risk, but safe asset is needed
- Exposure limits disadvantage small countries
 - Diversify simply holding large countries' debt
- How to regulate ESBies? “Look through principle”



ESBies' Handbook

■ Standardization of ESBies

- Same subordination/tranching point
- Same portfolio shares
 - GDP weight moving average (to avoid procyclicality)
 - k% rule to keep some sovereign debt afloat
- No maturity mismatch or “time tranching”

■ Coordination of national debt issuances (DMOs)

- Issuance of similar maturity
 - to reduce maturity mismatch
- Time of issuance (or frequent issuance)
 - to reduce warehousing risk and enable TBA securitization
- No countries issues bonds senior to ESBies

➡ Reduce
warehousing
risk

■ ESBies issuer can always buy on secondary market

- To avoid being squeeze

ESBies issuer: public or private (or both)

■ Public issuer:

ESM, ECB/Eurosystem, EIB, ... ?

- Danger: ensure independence of political interference
- Legal challenge
- Lower fee

■ Private issuer:

- Arm's length relationship
 - important in times of sovereign debt restructuring
- Competing ESBies issuers create market liquidity and help price discovery for national debt
 - Wiggle room of portfolio choice helps price discovery

Who would buy EJBies?

■ Modigliani-Miller fails

- EJBies are less risky than what simply “repacking” would imply
- Less endogenous risk since diabolic (doom) loop is reduced

■ Embedded leverage

- Build sovereign portfolio and lever it up 70% debt, 30% equity
- EJBies allow investor to borrow at the
 - Safe asset interest rate (of ESBies)
 - Big advantage!

ESBies governance during restructuring

- Temporary **exclusion** of
 - Program countries
 - Countries without reliable price discovery of sovereign debt
- **ESBies issuer** does **not** get **votes** (or veto power)
 - no concentration of power
 - Ensures arms length relationship
- **Second “look through principle”**
 - “votes” are distributed to ESBies and EJBies holders according to their share
 - Balance – conflict of interest
 - EJBies holders prefer to hold out (gamble for resurrection) more than ESBies holders

Transition phase: Introducing ESBies

- No downside risk – revert to square one
- Stage 1: Limited experimentation
 - Asset purchase in secondary market and only later in primary market
- Stage 2: Swap – auction mechanism
 - Submit multi-dimensional demand schedules & clear markets

$$\begin{pmatrix} x^{Bund} \\ x^{OAT} \\ x^{BTP} \\ \vdots \end{pmatrix} = f \begin{pmatrix} p^{Bund} \\ p^{OAT} \\ p^{BTP} \\ \vdots \end{pmatrix}$$

- Like “bundle auctions” for spectrum rights
- Stage 3: phase in new regulatory risk weights
 - Some front-running by market is ok
- Role of the ECB
 - Conduct MoPo (esp. OMO) with ESBies
 - Haircut-rules for ESBies