

A *European Stability Fund*
as a *Constrained Efficient Mechanism*

Based “On the Optimal Design of Financial Stability Fund” by
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Strengthening the EA: 4 related themes

- I. Risk-sharing and stabilization policies in normal times.**
 - II. Dealing with severe crises** (“a robust crisis management mechanism”).
 - III. Resolving a debt crisis** (the euro ‘debt overhang’).
 - IV. Developing ‘safe assets’.**
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Strengthening the EA: Current Proposals

I. Risk-sharing and stabilization policies in normal times.

A “Stabilisation Function” (EC) & “Risk-sharing” once we get more convergence (Presidents’ Reports)

II. Dealing with severe crises.

Transforming the ESM into a European Monetary Fund (EC)

Strengthening the EA: Our approach

Concentrate on

- I. Risk-sharing and stabilization policies in normal times.**



Strengthening the EA: Our approach

Interesting finding: Solving for a

- I. *Stability Fund* as a ‘constrained efficient risk-sharing mechanism’ also helps to:
 - II. deal with severe crises,
 - III. resolve a debt crisis, and
 - IV. develop ‘safe assets’.
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A basic principle:

The EU is a long-term self-enforcing partnership!

A basic principle:

**The EU is a long-term self-enforcing partnership,
but not a Federal State!**

Designing a *European Stability Fund*

- The EMU is a long-term self-enforcing partnership.
 - The ECB to address the problem of time-inconsistency in monetary policy (mainly: 'competitive devaluations').
 - The *ESF* to address the problem of time-inconsistency in fiscal policy (to follow pro-cyclical fiscal policies, i.e. primary surplus/GDP not sufficiently procyclical).
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Designing a *Stability Fund* – say, the *ESF* –

- Key element of **The *ESF* long-term contract** between the *ESF* and an EU country: it is based on a *risk-assessment* of the country.
 - **The *ESF* long-term contract** defines state-contingent transfers, in contrast to unconditional debt contracts.
 - **A *ESF* contract** induces countercyclical fiscal (primary deficit) policies (it is not a crisis resolution debt contract)
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Designing a *Stability Fund* – say, the *ESF* –

- Long-term contracts can provide risk-sharing and enhance borrowing & lending (and investment) opportunities.
 - Contingency is *ex-post*, in contrast with *ex-ante* eligibility conditions (e.g. ‘austerity program’ conditions).
 - Normal-times-transfers ‘build trust’, in contrast to crisis-relief-transfers which tend to create ‘stigma & resentment’.
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Designing the *Fund* accounting for 3+2 constraints:

The sovereignty constraint: The country is sovereign and can always '*exit*' (although it may be costly)

The redistribution constraint: risk-sharing transfers should not become *ex-post* permanent (Hayek's problem).

The moral hazard constraint: the severity of shocks may depend on which policies and reforms are implemented.

Designing the *Fund* accounting for 3+2 constraints:

The asymmetry constraint: there is no *ex-ante* 'veil of ignorance' and countries may start with large (debt) liabilities.

The funding constraint: the fund should be (mostly) self-funded (it can create a safe asset).

The *ESF* as a **'constrained efficient risk-sharing mechanism'** means

its contracts are optimal, subject to the 3+2 constraints!

Comparing **two alternative borrowing & lending regimes**

Incomplete markets with default (IMD) and a risk-free

rate r : $1/(1+r) \geq \beta$

- countries smooth shocks, and borrow and lend, with long-term non-contingent debt;
 - there can be default (full, in our case);
 - default is costly and the country has no access to international financial markets, temporarily;
 - by exerting costly effort, they can reduce the probability of adverse (government expenditure) shocks.
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Comparing **two alternative borrowing & lending regimes**

Financial Stability Fund (**Fund**) as a risk-neutral agent with discount $1/(1+r) \geq \beta$.

- a country could leave the Fund at any time, in which case it is like a country which defaults in an **IMD** regime;
 - persistent transfers are limited by the amount of redistribution that is mutually accepted;
 - there are incentives for countries to apply policies which reduce risks.
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The *ESF* contract has the following 5 properties:

Consumption smoothing: consumption is less volatile and less procyclical.

Countercyclical fiscal policies: primary surpluses are highly procyclical.

Government bond spreads are very low (& negative): the real spreads of *ESF* contracts (debts) are very low (& possibly negative).

The *ESF* contract has the following 5 properties:

High capacity to absorb severe shocks (& existing debts):

in a severe shock (a rare event) a country with an *ESF* contract disposes of a large line of credit.

Conditional transfers, not just *ex-ante*: credit in times of crisis is not given with *ex-ante* (austerity plan) conditionality, but conditionality is a *persistent* feature.

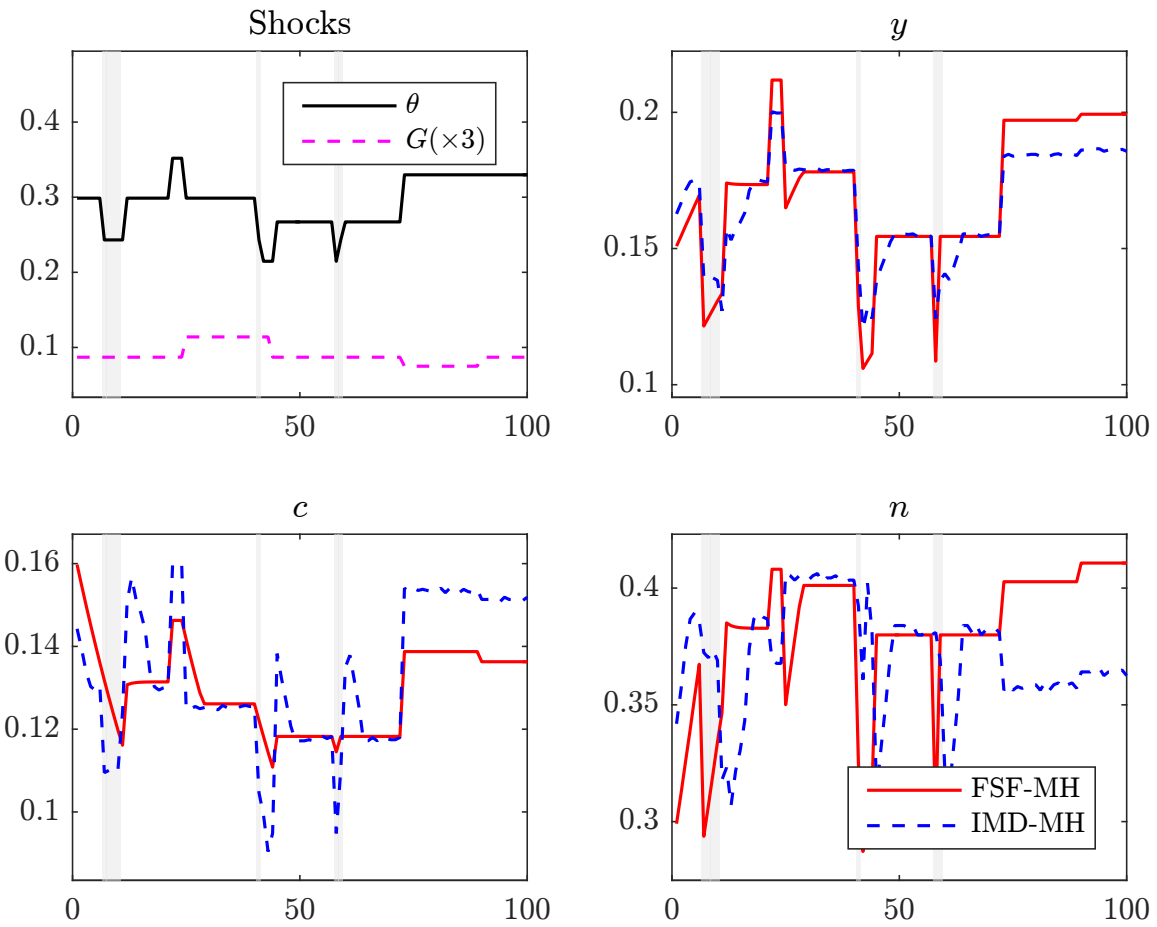
An *ESF* contract for the 5 EA 'stressed' countries (1980 - 2015)

1 st Moments	Data	IMD	Fund
Mean			
Debt to GDP ratio	77.29%	78.35%	175.2%
Real bond spread	3.88%	3.61%	-0.03%
G to GDP ratio	20.18%	19.34%	19.10%
Primary surplus to GDP ratio	-0.78%	1.70%	3.79%
Fraction of working hours	36.74%	37.23%	38.10%
Maturity	5.38	5.38	5.38

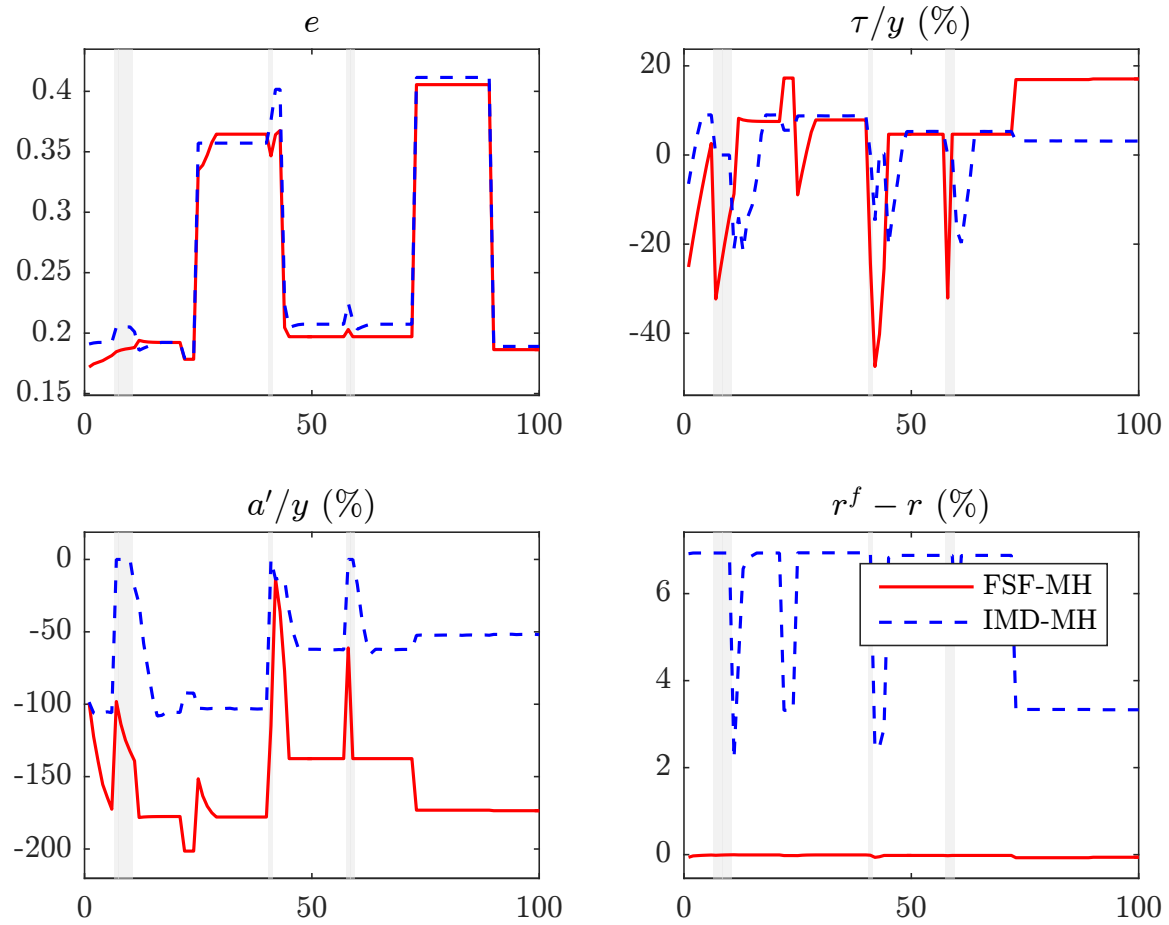
2^{nd} Moments	Data	IMD	Fund
Volatility			
$\sigma(C)/\sigma(Y)$	1.49	1.46	0.33
$\sigma(N)/\sigma(Y)$	0.92	0.70	0.62
$\sigma(G)/\sigma(Y)$	0.91	0.96	0.51
$\sigma(PS/Y)/\sigma(Y)$	0.65	0.81	0.94
$\sigma(\text{real spread})$	1.53%	0.97%	0.01%
Correlation			
$\rho(C, Y)$	0.88	0.74	0.59
$\rho(N, Y)$	0.67	-0.10	0.94
$\rho(PS/Y, Y)$	-0.29	0.13	0.95
$\rho(G, Y)$	0.35	0.08	0.03
$\rho(\text{real spread}, Y)$	-0.35	-0.30	0.24
$\rho(e, Y)$	n.a.	0.00	-0.20

Comparing the economies in normal times

IMD vs. Fund Business Cycle Paths: shocks and allocations



IMD vs. Fund Business Cycle Paths: shocks and assets

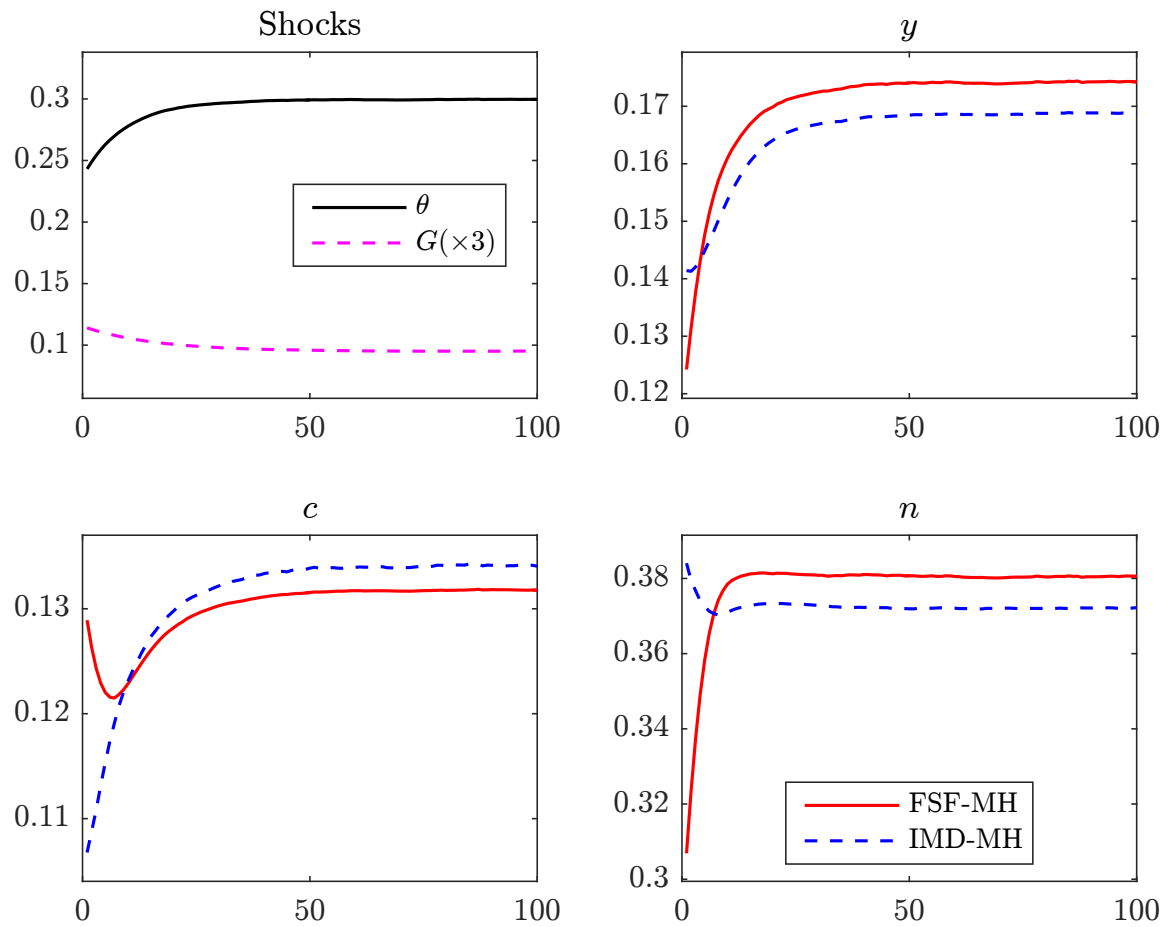


Contrasting paths...

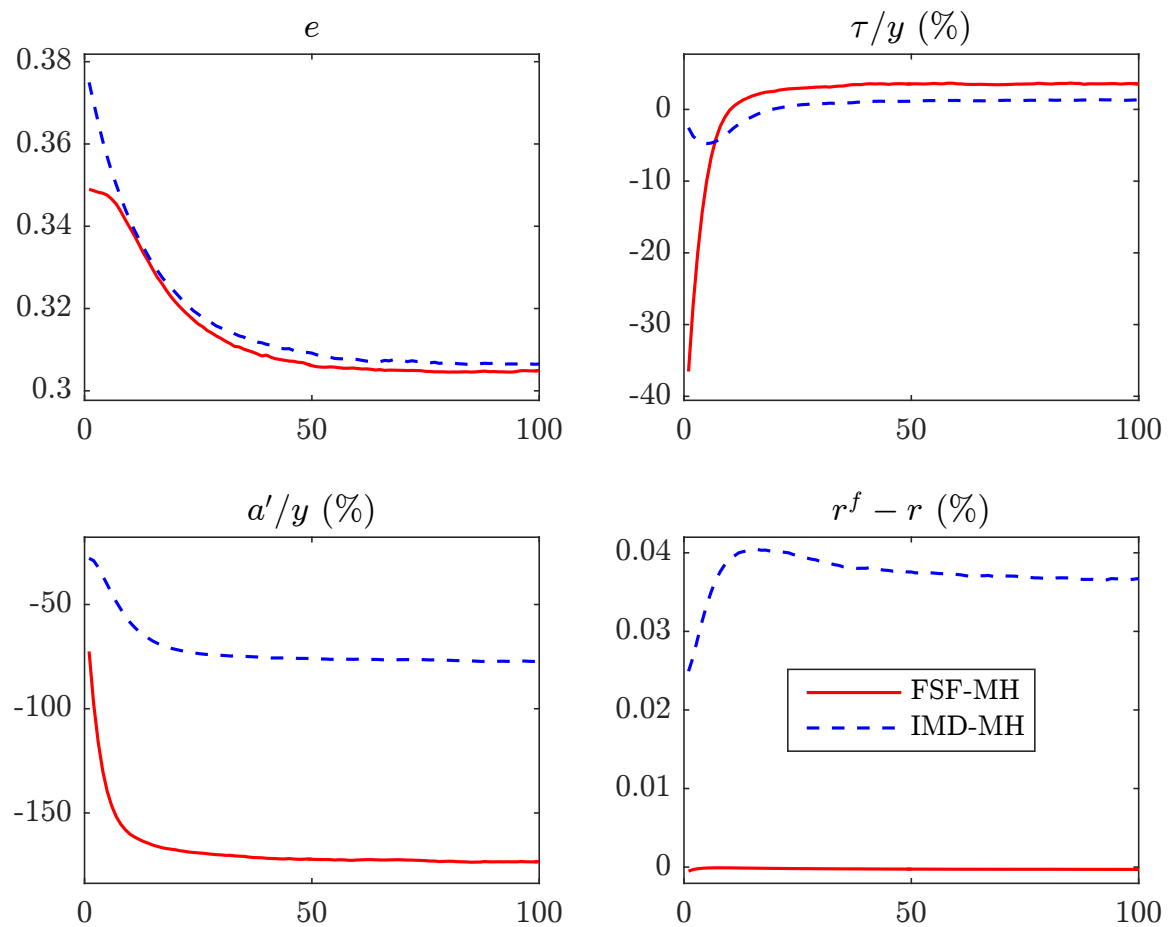
- Repeated defaults [in grey] in the **IMD** economy, no quits with the **Fund**.
 - **Positive spreads** 'anticipating' default when debt is relatively high, and just small episodes of **negative spreads**.
 - Default episodes mostly driven by productivity shocks: productivity drops + (relatively) large debt levels.
 - Larger amount of 'borrowing' with the **Fund**.
 - Fiscal policies (primary deficits) are more *counter-cyclical* with the **Fund**.
 - Smoother consumption and, correspondingly, more volatile asset holdings and primary deficits with the **Fund**.
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Comparing the economies in times of crisis

IMD vs. Fund: combined shock impulse-responses: allocations



IMD vs. Fund: combined shock impulse-responses: assets and effort



Contrasting severe crises...

- With an unexpected 'one-period' worst (θ, G) shock the **Fund** clearly dominates:
 - With a relatively large asset position (implicit insurance) the country can afford higher consumption with lower labour at the beginning (recall that the borrower is relatively more impatient),
 - even if at first there is a drop of output (larger than in the **IMD** economy) and later the asset position becomes negative (debt).
 - Effort increases to reduce the length of the crisis.
 - In contrast, there is a **a severe crisis with large spreads and higher effort in the IMD economy!**
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Welfare gains and absorbing capacity

Welfare gains and absorbing capacity

Shocks (θ, G_c)	Welfare Gain	$(b'/y)_{\max}$: M	$(b'/y)_{\max}$: F
$(\theta_l, G_h) = (0.148, 0.038)$	7.37	1.71	78.02
$(\theta_m, G_h) = (0.299, 0.038)$	6.35	107.61	170.05
$(\theta_h, G_h) = (0.456, 0.038)$	4.32	215.15	318.32
$(\theta_l, G_l) = (0.148, 0.025)$	6.51	1.84	78.81
$(\theta_m, G_l) = (0.299, 0.025)$	5.90	111.47	170.23
$(\theta_h, G_l) = (0.456, 0.025)$	4.12	214.78	316.75
Average	5.84		

- Welfare gains are expressed in consumption equivalent terms at $b = 0$ (%).
 - b^{max} is the maximum level of country indebtedness expressed as the percentage of GDP in a given financial environment (Markets or Fund).
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Strengthening the EA: as we have seen...

Solving for a

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Implementing the *ESF*

Light version

- ESM implements ESF contingent contract on crisis resolution contracts (existent and new)
 - ESF conditionality becomes *ex-post*
 - ESF is allowed to provide risk-sharing contracts (e.g. countries that may fail SGP conditions)
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Implementing the *ESF*

Full version

- Full risk-sharing, stabilization capacity integrated to its crisis-resolution capacity
 - ESF contracts become 'safe assets' in the ESF balance sheet
 - ESF becomes a proper Fund that can accommodate other EMU needs (Backstop for SRM, EUIS Fund,...?)
 - ESF allowed to issue a safe bond backed by its safe assets
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